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บริษัท ซันไรส์ พรอพเพอร์ตี้ จำกัด
SUN RISE PROPERTY CO., LTD.

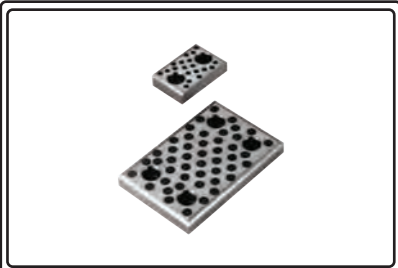
969 หมู่ 5 ถนนแพรกษา ต.แพรกษาใหม่

969 Moo 5 Preaksa Rd. Preaksa Mai.

อ.เมืองสมุทรปราการ จ.สมุทรปราการ 10280

Muang Samuthprakarn. Samuthprakarn 10280 Thailand.

Tel: 662-324-3184-89 Fax: 662-324-3190. 66-324-3103 Email: sun_rise@ksc.th.com



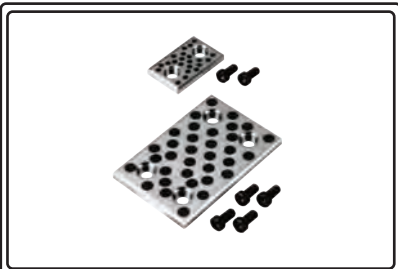
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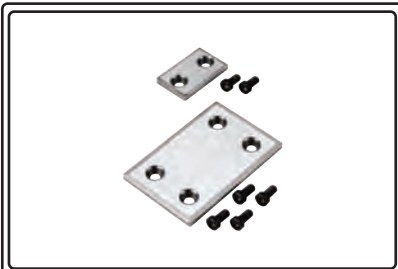
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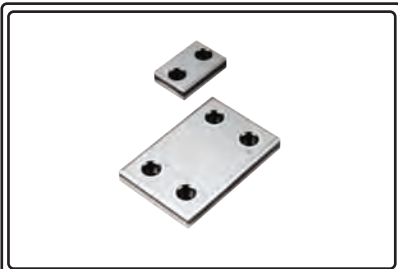
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 SWSD.....A3



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 STWD.....A4



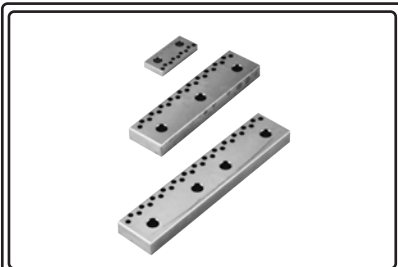
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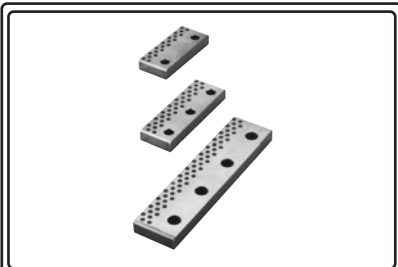
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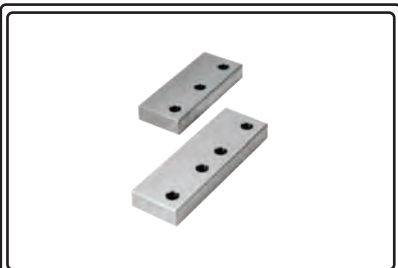
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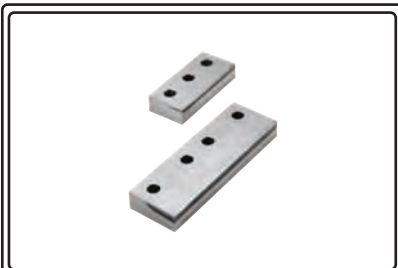
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 SCUF.....A8
 SCUI.....A8



CUPW.....A9
 CUPF.....A9
 CUPI.....A9



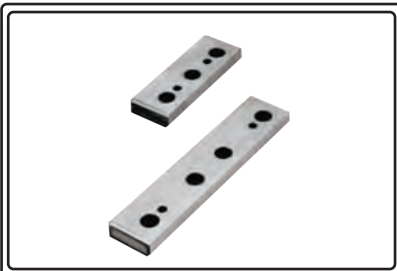
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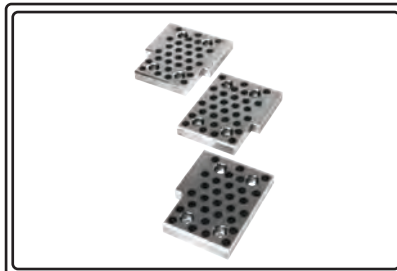
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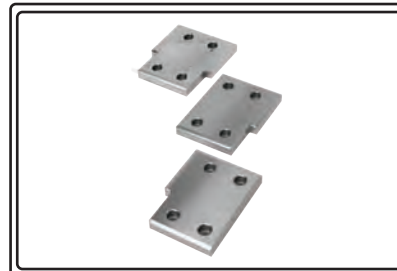
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SCPAH.....A12
 SCPH.....A12



CRPW.....A13
 CRPWL.....A13
 CRPWR.....A13



CRPS.....A13
 CRPSL.....A13
 CRPSR.....A13



SGPZ-T.....A14
 SGPZ.....A14
 SGPZF.....A15



SGWA.....A16
 SGWB.....A16



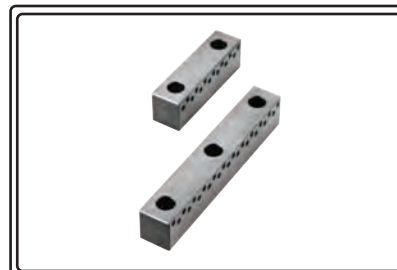
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 CGWL.....A18
 CGI.....A18
 CGIL.....A18



MSRGF.....A19
 MSRGW.....A19



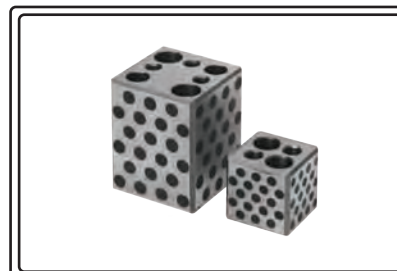
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 CKBI.....A20



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 SFCIB.....A21



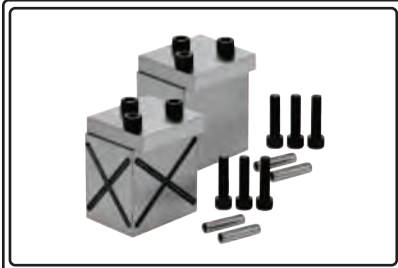
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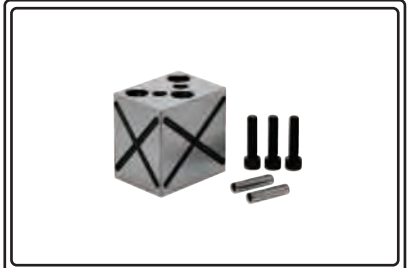
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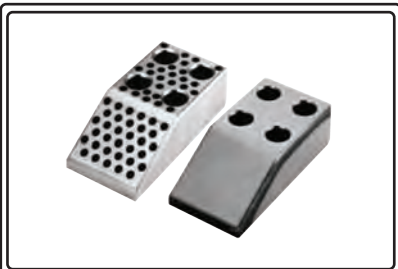
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SKPN.....A24
SKPNZ.....A24



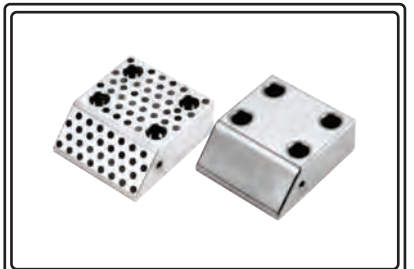
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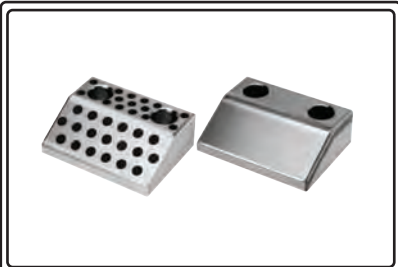
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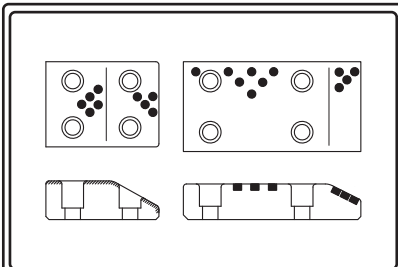
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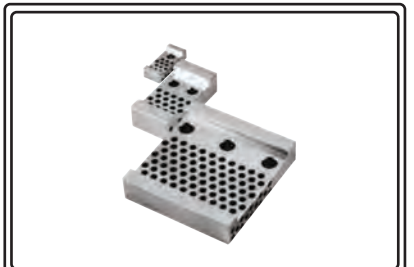
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CDPWL.....A29
CDPIL.....A29



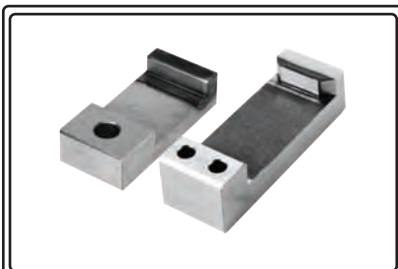
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CDPT-IA.....A30
CDPT-WB.....A30



CPGPW.....A31



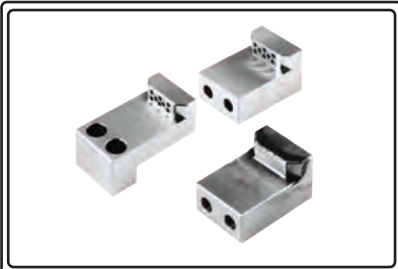
CPGBW.....A32
CPGCW.....A32



CPRI.....A33
CPRIH.....A33



CPRIE.....A34
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CKRZ.....A35
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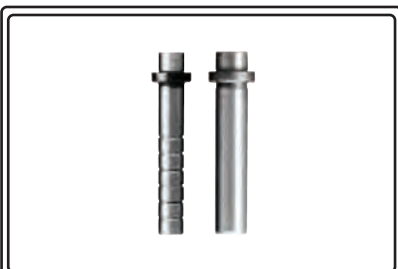
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 STOH.....A41



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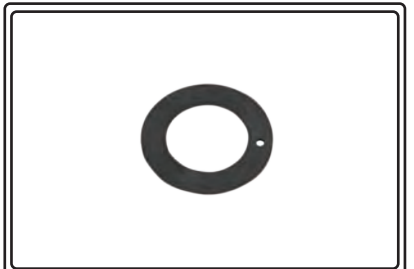
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FSBW.....A49



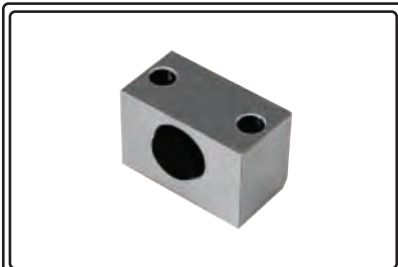
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SMB-F.....A52



CSTA.....A53
 UCST.....A53



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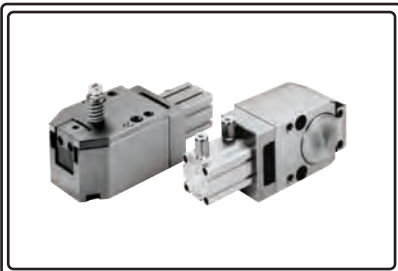
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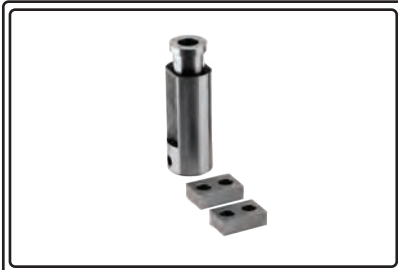
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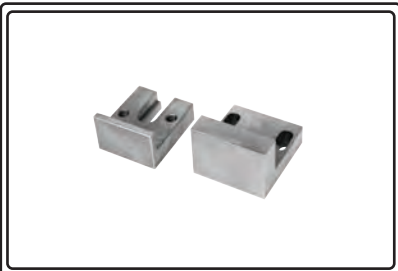
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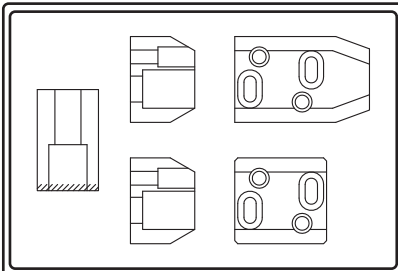
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SKIL-B.....A79
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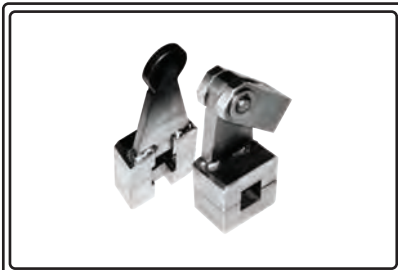
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SBCBA.....A80
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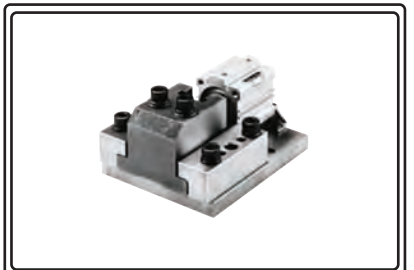
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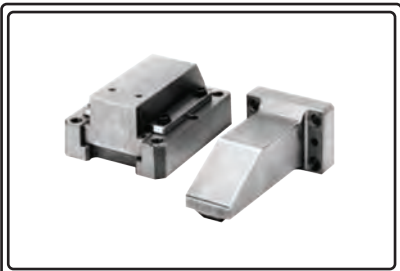
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SBCP.....A87
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SNGU-(R/L).....A96



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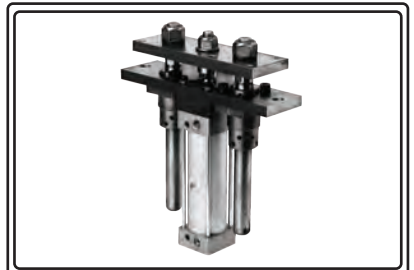
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บริษัท ซันไรส์ พรอพเพอร์ตี้ จำกัด
SUN RISE PROPERTY CO., LTD.

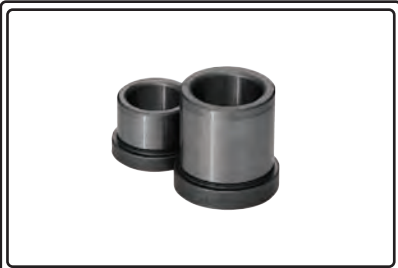
969 หมู่ 5 ถนนแพรกษา ต.แพรกษาใหม่

969 Moo 5 Preaksa Rd. Preaksa Mai.

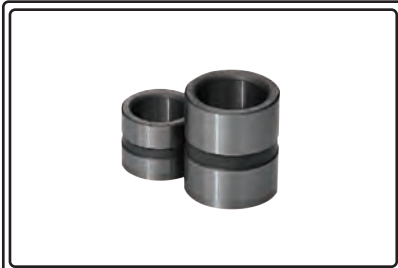
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Muang Samuthprakarn. Samuthprakarn 10280 Thailand.

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GBAS.....B1



GBBS.....B1



RGBF-W.....B2



RGB-W.....B2



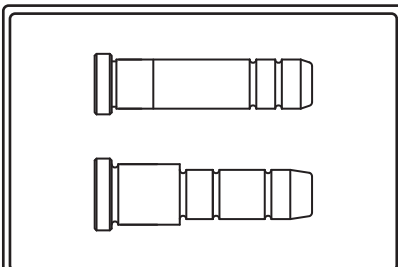
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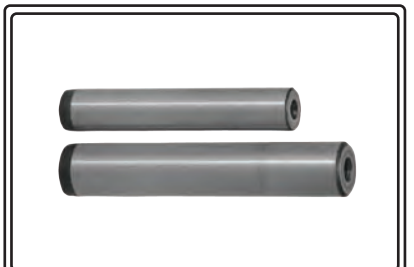
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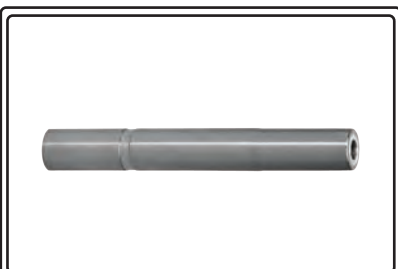
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GPLP.....B7



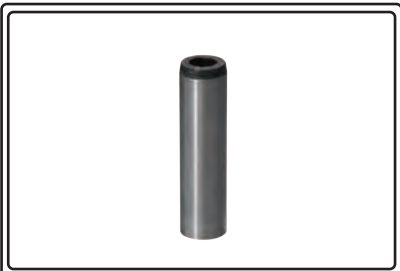
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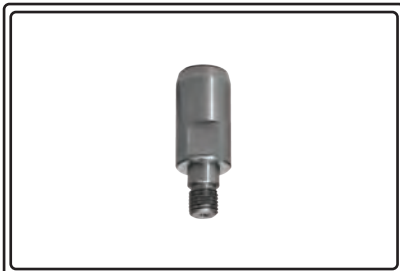
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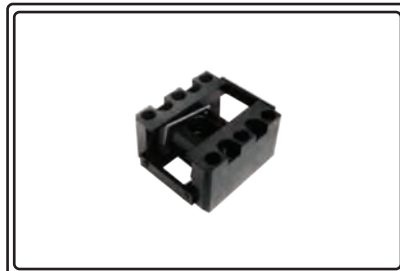
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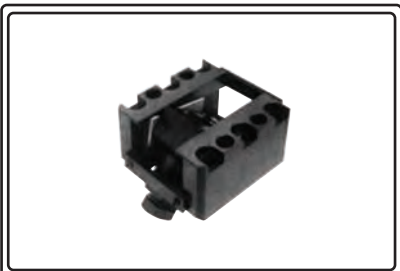
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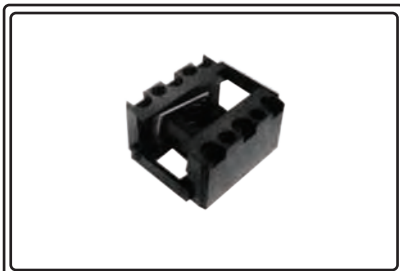
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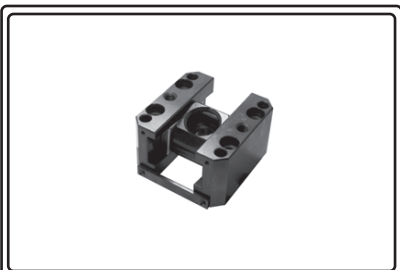
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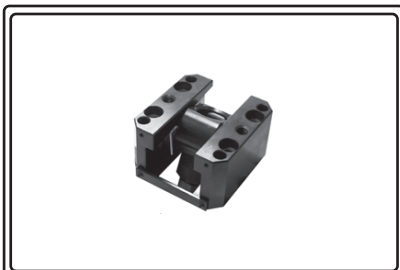
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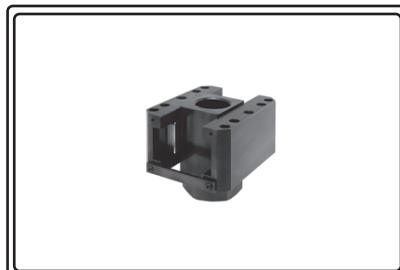
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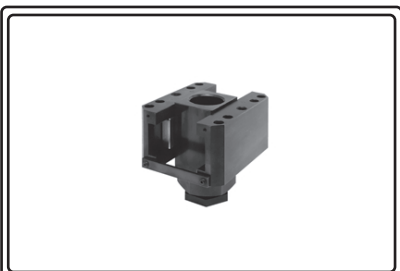
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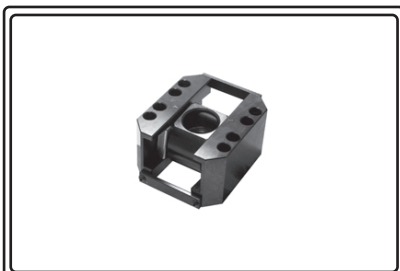
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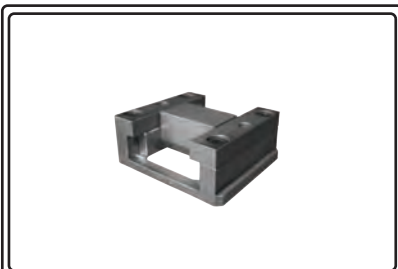
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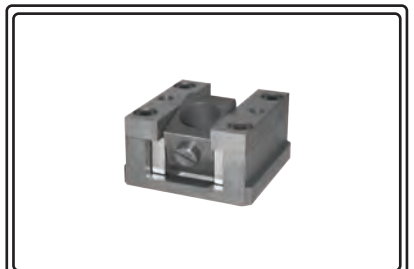
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RARS.....B25



SOCU-S-□/2.....B26



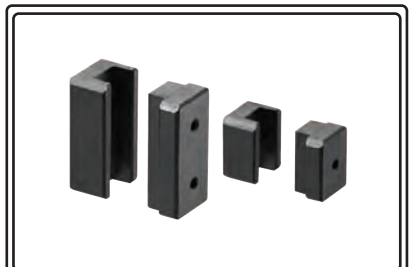
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TAPC.....B28



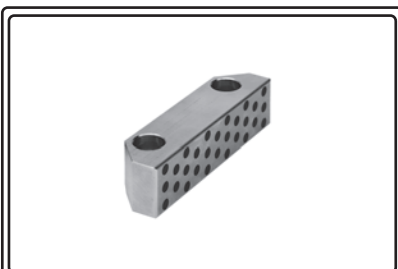
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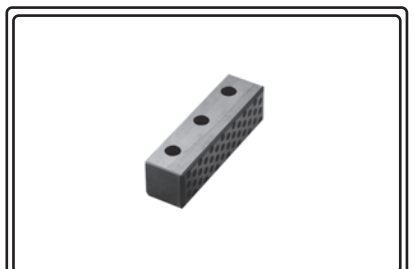
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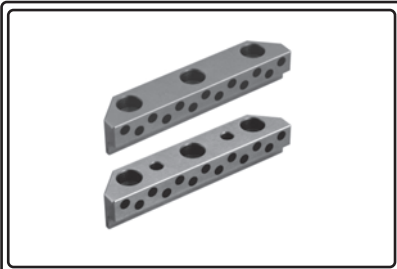
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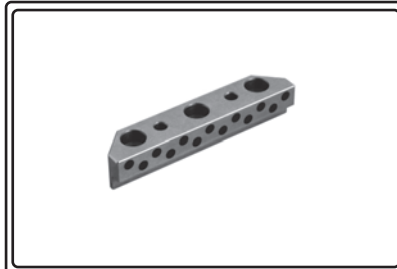
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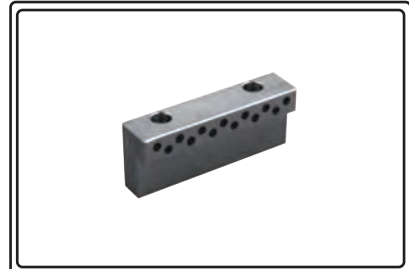
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 SGRWK.....B34



SGRWS.....B35



SGRLW.....B36



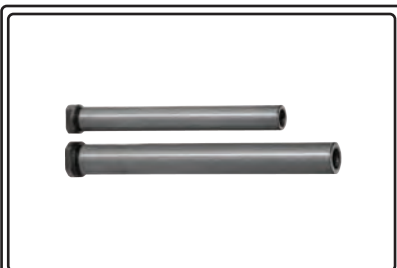
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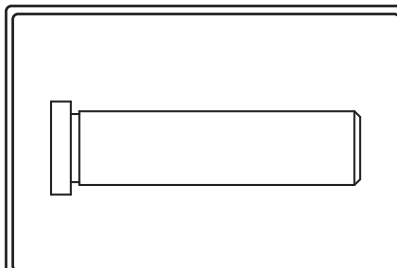
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 SPP-0.....B38



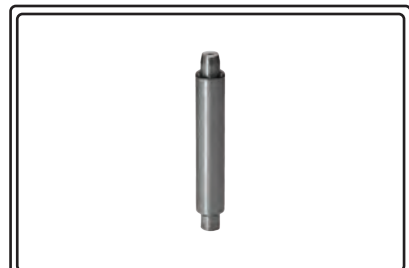
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 SPC-D.....B39



RT4T.....B40
 RT8T.....B40



RT-2M.....B41



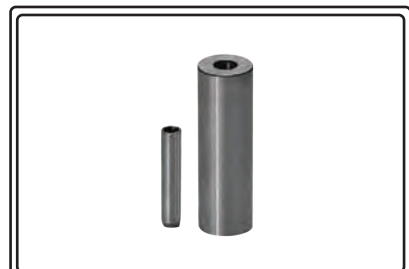
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EGDHE.....B43
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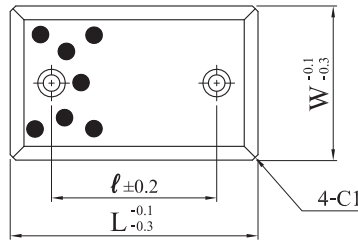
ETH.....B44
 ETHC.....B45
 ETHN.....B45



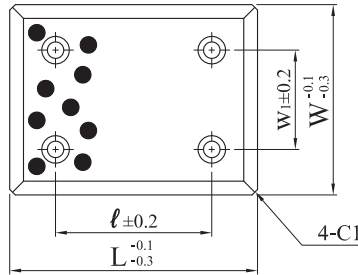
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 SPP-D.....B47
 SPP-F.....B47
 SPP-G.....B48



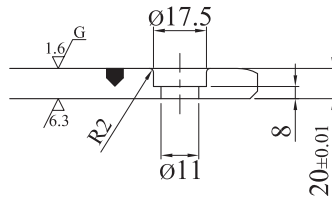
SWF
SWFD



SWF



Material : FC250
with Graphite

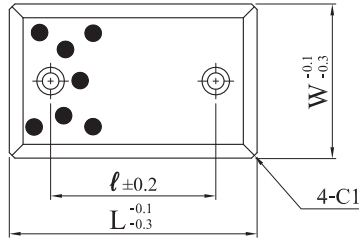


Type	W	L	l	Type	W	L	l	w ₁
SWF (2 Holes)	28	75	45	SWF (4 Holes)	100	100	50	50
		100	50			125	75	
		125	75			150	100	
		150	100			200	150	
		200	150			250	200	
	38	75	45		125	75	50	
		100	50		150	100		
		125	75		200	150		
		150	100		250	200		
		200	150		150	100		100
	48	75	45	200	150			
		100	50	250	200			
		125	75	300	250			
		150	100	200	150	150		
	58	75	45	250	200			
		100	50	300	250			
		125	75					
		150	100					
	75	75	25					
		100	50					
125		75						
150		100						
200		150						
SWFD (2 Holes)	100	100	50					
		125	75					
		150	100					
		200	150					
		250	200					
	125	125	75					
		150	100					
		200	150					
		250	200					
		150	100					
150	200	150						
	250	200						
	250	200						
	300	250						

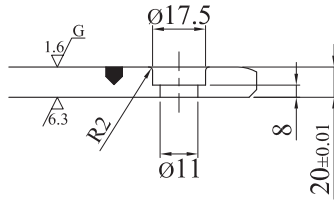
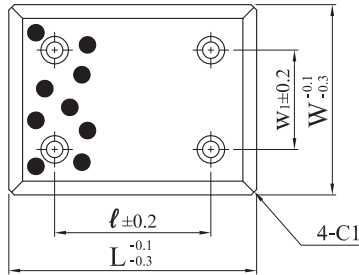
How to order : Type - W - L
Example : SWF 100 - 200
SWFD 100 - 100



SWW
 SWWD



SWW



**Material : Bronze
 with Graphite**

Type	W	L	l	Type	W	L	l	w ₁
SWW (2 Holes)	28	75	45	SWW (4 Holes)	100	100	50	50
		100	50			125	75	
		150	100			150	100	
	38	75	45			200	150	
		100	50			250	200	
		150	100			300	200	
	48	75	45		125	125	75	50
		100	50			150	100	
		125	75			200	150	
		150	100			250	200	
	58	75	45		150	300	200	100
		100	50			150	100	
		150	100	200		150		
	75	75	25	100	250	200		
		100	50		SWWD (2 Holes)	100	100	50
		125	75				125	75
150		100	150				100	
200		150	200				150	
100	100	50	125	250	200			
	125	75		150	150	100		
	150	100			200	150		
	200	150			250	200		
	250	200			150	150	100	
300	200	200	150					
125	75	250	200					
125	150	100	150	150	100			
	200	150		200	150			
	250	200		250	200			
	300	200		150	200	150		
	350	200			250	200		
150	150	100	250	200	150			
	200	150		250	200			
	250	200						

How to order : Type - W - L

Example : SWW 100 - 150

SWWD 100 - 125

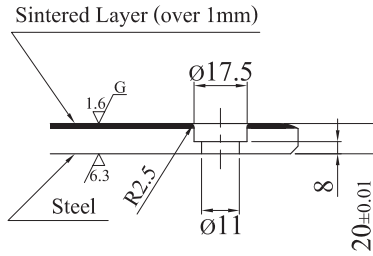
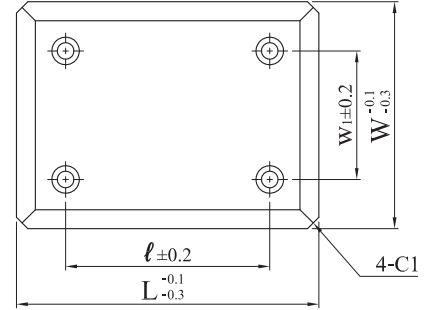
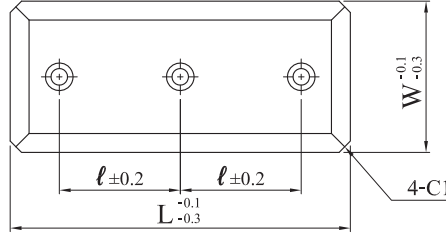
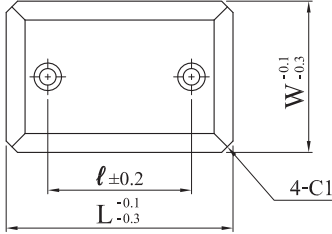


SWS (W 28 to 75)

SWS : 48-250, 75-250, 75-300

SWS (W 100 to 150)

SWSD (W 100 to 150)



Material : Sintered Alloy + Steel
 (Bronze Powder with Graphite)

Type	W	L	ℓ	Holes	Type	W	L	ℓ	w _i		
SWS	28	75	45	2	SWSD (2 Holes)	100	100	50	50		
		150	100				125	75			
		38	75				45	150		100	
	100		50				200	150			
	150		100				250	200			
	48	75	45				100	SWS (4 Holes)		125	125
		100	50			150					100
		125	75			200					150
		150	100			250				200	
		200	100			300				200	
	58	75	45			3	150	150		100	
		100	50					200		150	
		150	100					250		200	
	75	75	25			2	100	150		100	
		100	50					200		150	
		125	75					250		200	
150		100	100	3							
200		150									
250		100									
300		100									

How to order : Type - W - L

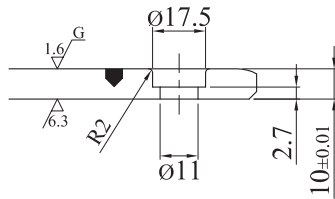
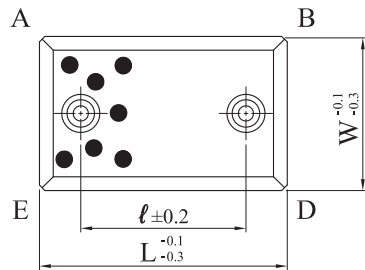
Example : SWS 100 - 150

SWSD 100 - 150

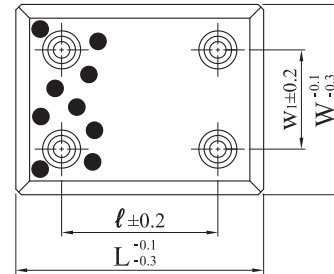


STWW (W 28 to 75)

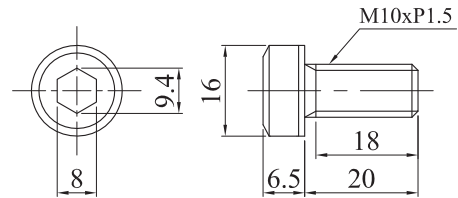
STWD (W 100 to 150)



STWW (W 100 to 150)



Material : Bronze
with Graphite
Accessory : Special Bolt MS-M10-20-1.5



Type	W	L	l
STWW (2 Holes)	28	75	45
		100	50
		125	75
		150	100
	38	75	45
		100	50
		125	75
		150	100
	48	75	45
		100	50
		125	75
		150	100
	58	75	45
		100	50
		150	100
	75	75	25
100		50	
125		75	
150		100	
STWD (2 Holes)	100	100	50
		125	75
		150	100
		200	150
	125	150	100
		200	150
		250	200
	150	150	100
		200	150
		250	200

Type	W	L	l	w ₁
STWW (4 Holes)	100	100	50	50
		125	75	
		150	100	
		200	150	
	125	150	100	50
		200	150	
150	150	100	100	
	200	150		

Alteration	Corner	Specification	
		W	C
	A	28	10
	B	38	13
	D	48	
	E	58	
	4C (4 corners)	75	17
		100	
		125	
		150	

How to order : Type - W - L - Alteration (Corner)

Example : STWW 100 - 150

STWD 100 - 150

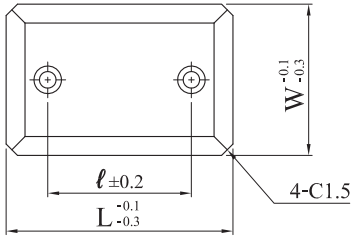
STWD 100 - 150 - B

125 - 150 - AD

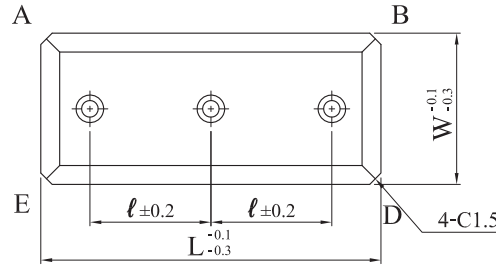
150 - 150 - 4C



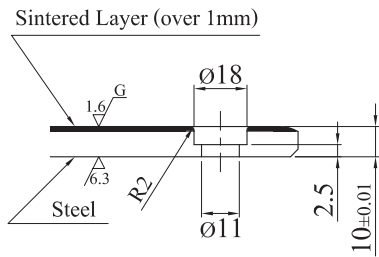
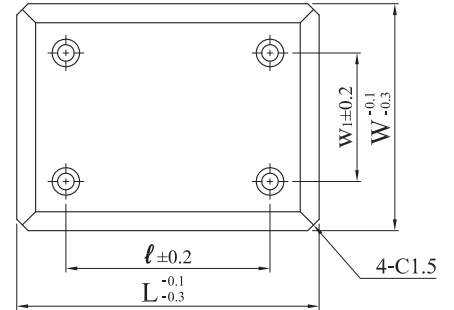
STWS (W 28 to 75)



STWS : 48-250, 75-250, 75-300

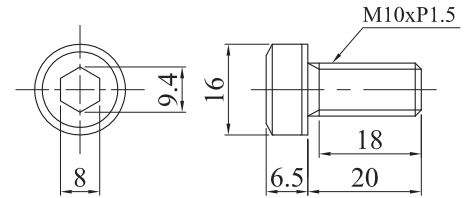


STWS (W 100 to 150)



Material : Sintered Alloy + Steel
(Bronze Powder with Graphite)

Accessory : Special Bolt MS-M10-20-1.5



Type	W	L	l	Holes	
STWS	28	75	45	2	
		100	50		
		125	75		
		150	100		
	38	75	45		
		100	50		
		125	75		
		150	100		
	48	75	45		3
		100	50		
		125	75		
		150	100		
		200	100		
	75	75	25		2
100		50			
125		75			
150		100			
200		150			
250		100			
	300	100	3		

Type	W	L	l	w ₁
STWS (4 Holes)	100	100	50	50
		125	75	
		150	100	
		200	150	
		250	200	
		300	200	
	125	125	75	75
		150	100	50
		200	150	
		250	200	
	150	150	100	
		200	150	
250		200		

How to order : Type - W - L - Corner - C

Example : STWS 75 - 150

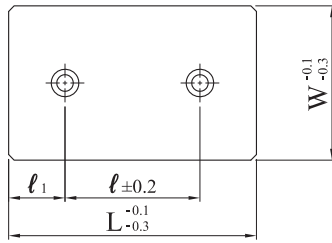
STWS 100 - 200 - A - C8

STWS 125 - 125 - 4C - C12

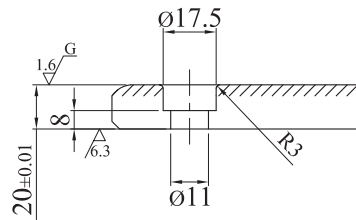
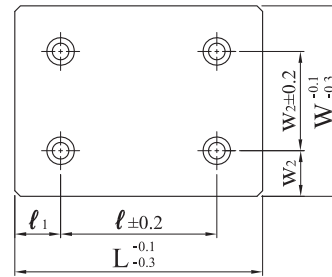
Alteration	Corner	Specification
	A	order chamfering C6 to C17 on corner (A,B,D,E) (C6 ≤ C ≤ C17)
	B	
	D	
	E	
	4C	
	(4 corners)	

SLSPH

W = 38 to 75



W = 100 or more



Material : S45C
Hardness: ≥ 55 HRC
Induction Treatment

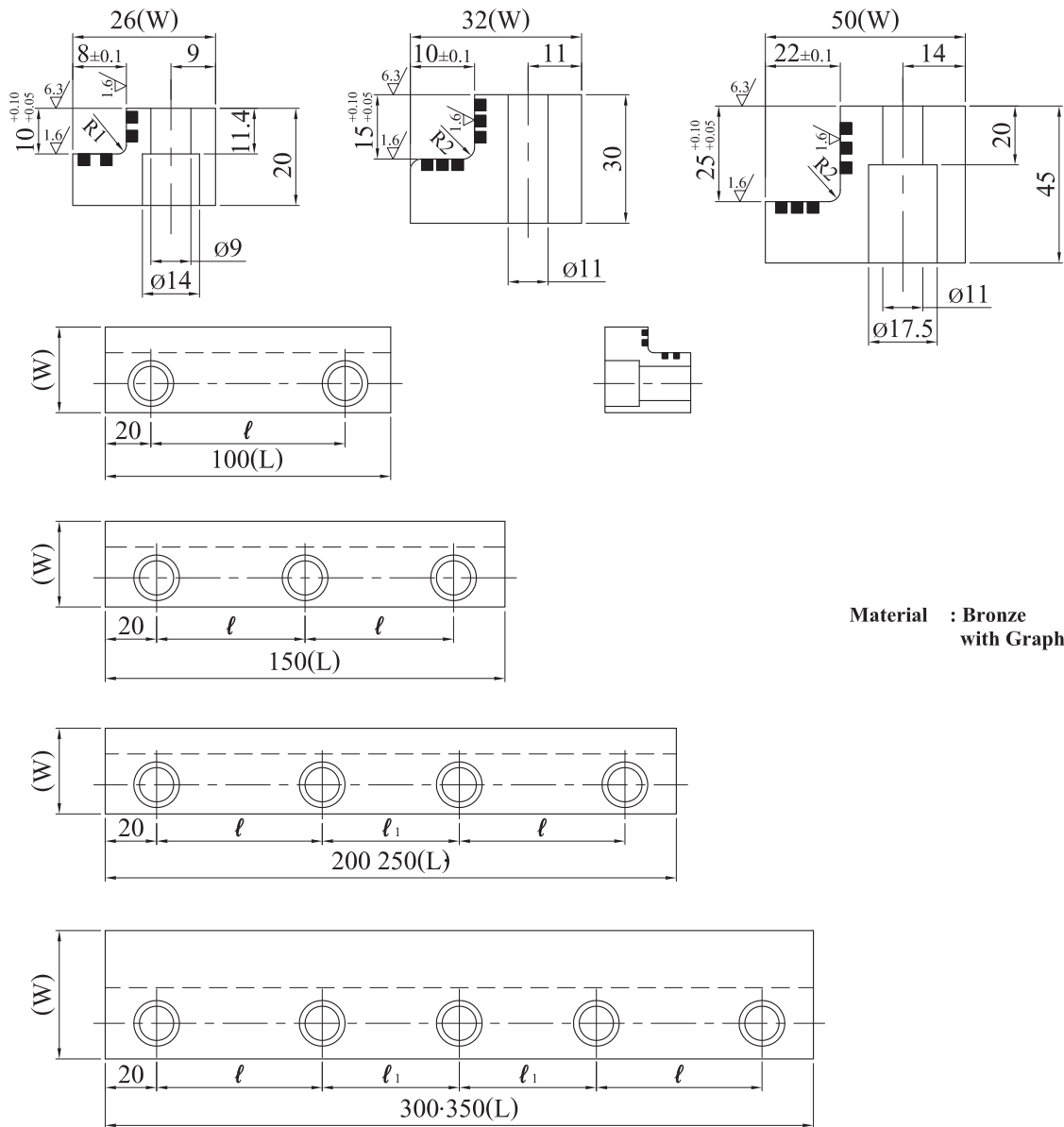
Type	W	L	W ₁	W ₂	l	l ₁		
SLSPH	38	75	-	-	45	15		
		100			50	25		
		150			100			
	48	75			45	15		
		100			50	25		
		125			75			
		150			100			
		200			150			
	250	200						
	75	75			25	25		
		100			50			
		125			75			
		150			100			
		200			150			
		250			200			
	100	100			25	50	50	25
		125					75	
		150					100	
		200					150	
		250					200	
	125	125			37.5	50	75	25
		150					100	
		200					150	
		250					200	
150	150	25	100	100	25			
	200			150				
	250			200				

How to order : Type - W - L

Example : SLSPH 100 - 150



SOLW



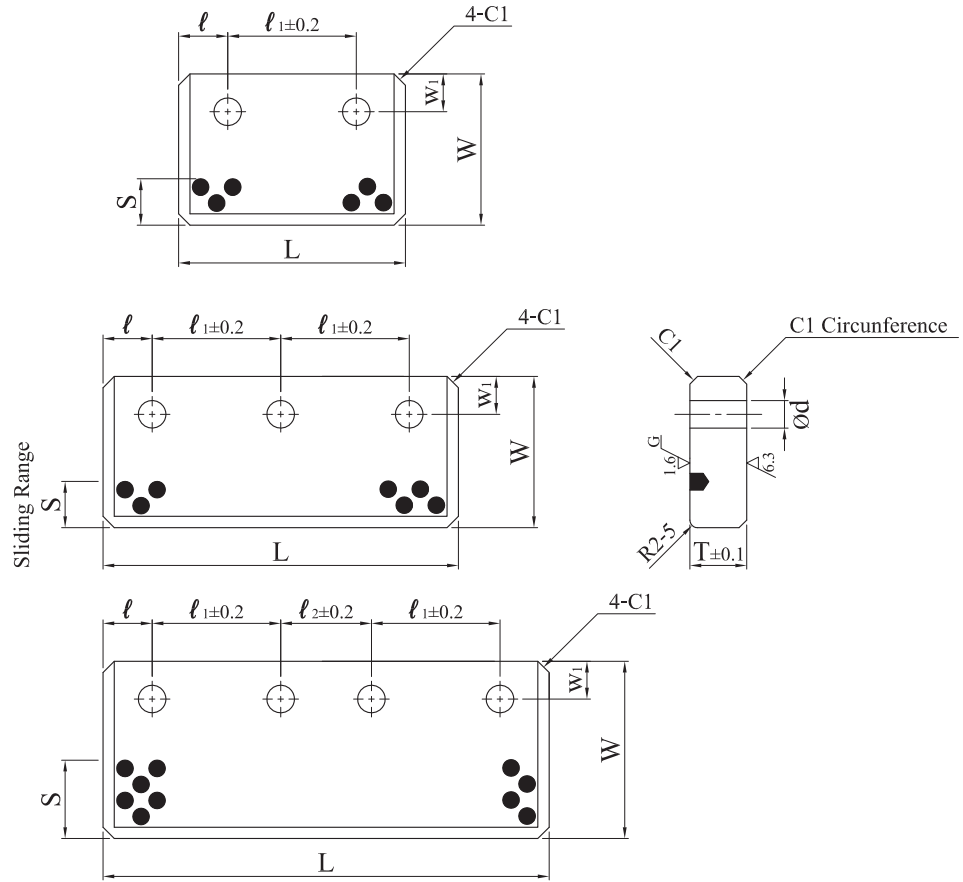
Type	W	L	ℓ	ℓ_1
SOLW	26	100	60	—
		150	55	—
		200	55	50
	32	100	60	—
		150	55	—
		200	55	50
		250	70	70
	50	200	55	50
		250	70	70
		300	65	65
		350	80	75

How to order : Type - W - L

Example : SOLW 32 - 250



- SCUW (Bronze with graphite)
- SCUF (FC250 with graphite)
- SCUI (S45C with graphite)
(Induction Heat Treatment)



Type	W	L	T	l	l ₁	l ₂	w ₁	S	d	Holes
SCUW	25	75	10	15	45	-	8	7.5	9	2
		100		25	50					
		125		75						
	33	75		15	45					
		100		50						
		125		75						
		150		100						
		200		75						
SCUW SCUF SCUI	52	100	20	50	25	50	20	13	13	2
		150		3						
		200		4						
		250		2						
	72	100	30	50		-	22	3		
		150		4						
		200		3						
	77	150	35	50		-	27	4		
		200		3						
		250		4						
	82	150	40	50		-	32	3		
		200		4						
250		3								
SCUW SCUF	105	150	40	50	-	32	3			
		200		4						
		250		4						

Code	Specification
C20	<p>(only W ≥ 52)</p>

How to order : Type - W - L - C20
 Example : SCUF 72 - 250
 SCUW 52 - 200 - C20

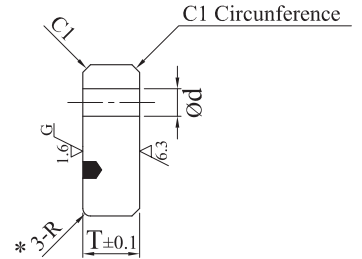
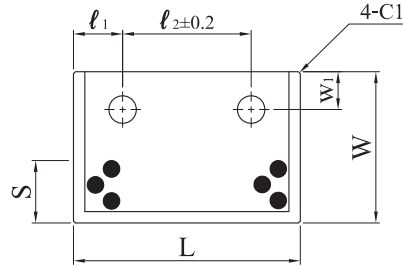


CUPW (Bronze with graphite)

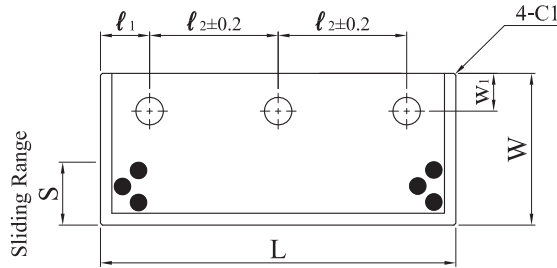
CUPF (FC250 with graphite)

CUPI (S45C with graphite)
 (Induction Heat Treatment)

L = 160,180

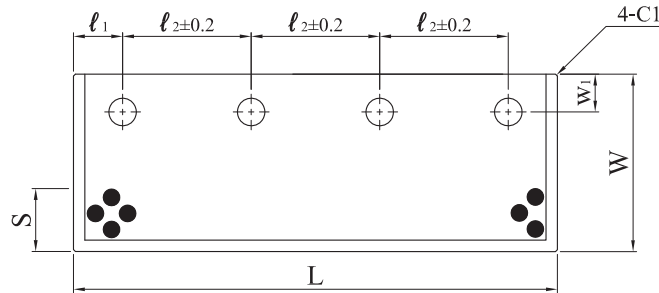


L = 200,240



* (CUPF,CUPW R = 1)
 (CUPI R = 2)

L = 300,350



Type	W	L	T	w ₁	l ₁	l ₂	d	S	Holes					
CUPF	55	180	25	17.5	30	120	18	24	2					
CUPW	70	160		20	25	110		25						
		200				75		30						
		240				90		30						
CUPF	85	200	28	25	25	75	22	30	3					
CUPI		240			30	90				40				
		300			80	90				40				
CUPF		100			200	30			30	25	75	22	30	4
					240					30	90			3
	300		80	90										
CUPI	100	350	30	30	40	90	22	30	4					

How to order : Type - W - L - C20

Example : CUPW 70 - 200

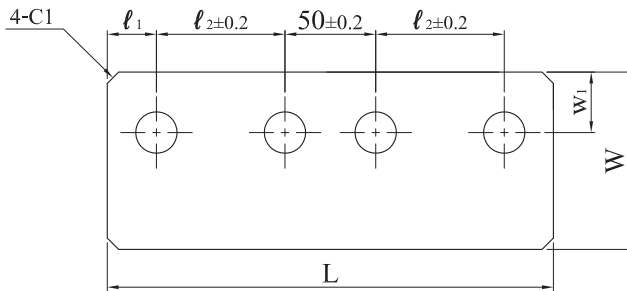
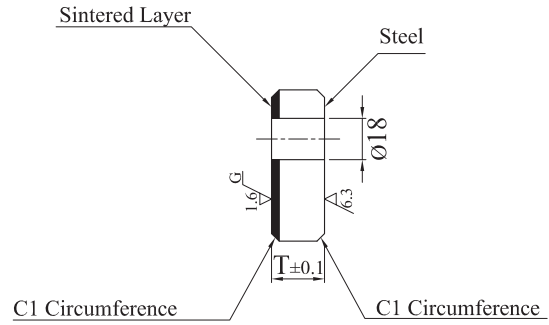
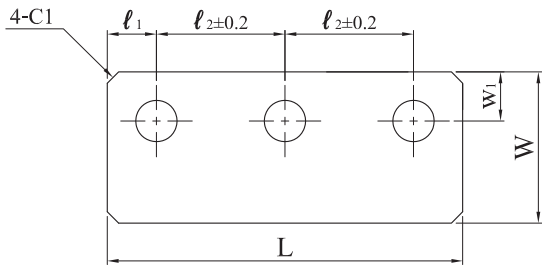
CUPI 100 - 240 - C20

Code	Specification
C20	



CUPS (T = 25)

SCUS (T = 30)



Material : Sintered Alloy + Steel
(Bronze Powder with Graphite)

Type	W	L	T	l_1	l_2	w_1	Holes
CUPS	70	160	25	30	50	20	3
		200			70		
		240			85		
SCUS	82	150	30	25	50	25	3
		200			75		
		250					4

How to order : Type - W - L

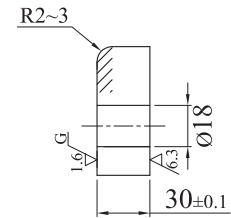
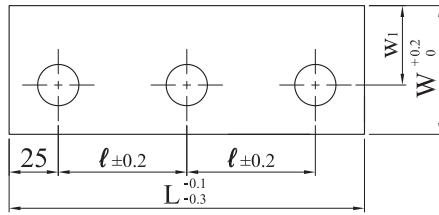
Example : CUPS 70 - 200

SCUS 82 - 250

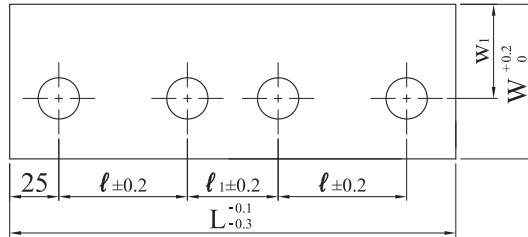


CUPH

L 150,200



L 250



Material : S45C
Hardness : Induction Hardened
≥ 55HRC

Type	W	L	w ₁	l	l ₁
CUPH	67	150	42	50	—
		200		75	50
		250			
	82	150	57	50	—
		200		75	50
		250			

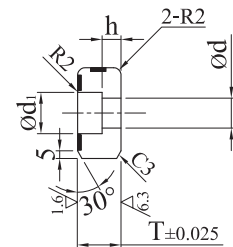
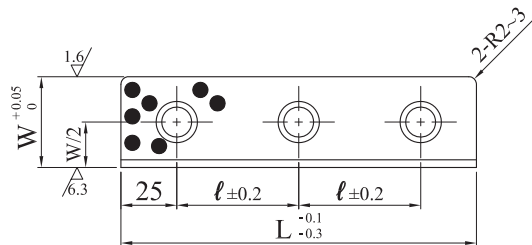
How to order : Type - W - L

Example : CUPH 82 - 200

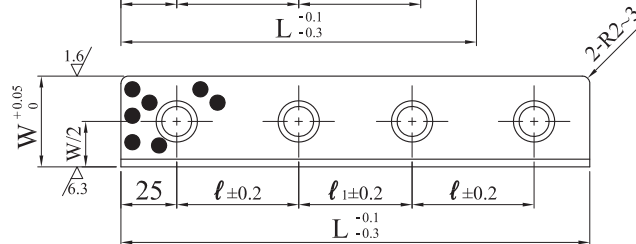
{ CAM SLIDE PLATE }

CSDPW

L 150,200



L 250



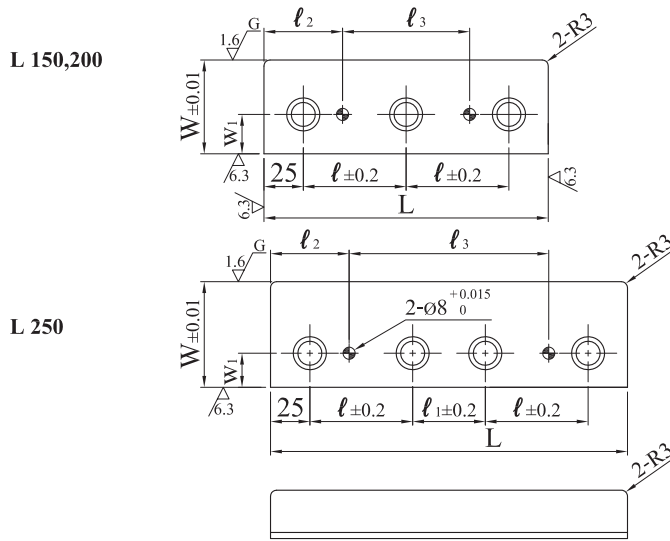
Material : Bronze with Graphite

Type	W	L	T	l	l ₁	d	d ₁	h	
CSDPW	50	150	20	50	—	11	17.5	8	
		200		75	50				
		250							
		75	150	35	50	—	13	20	20
			200		75	50			
			250						
	75	150	20	50	—	11	17.5	8	
				200	75				50
				250					
		250	35	50	—	13	20	20	
				200	75				50
				250					

How to order : Type - W - L - T

Example : CSDPW 50 - 250 - T35

SCPAH



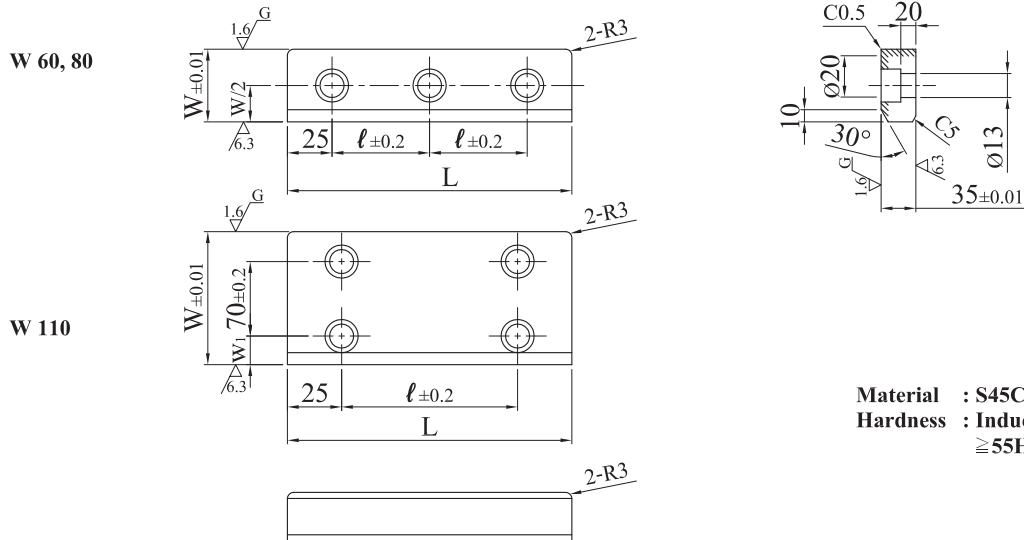
Material : S45C
Hardness : Induction Hardened
≧55HRC

Type	W	L	T	l	l ₁	l ₂	l ₃	w ₁	t	d ₁	d ₂
SCPAH	55	150	20	50	—	45	60	20	8	11	18
		200		75			110				
		250		50			160				
	80	150	35	50	—	50	50	25	21	13	20
		200		75			100				
		250		50			150				
	95	150	50	50	—	55	40	35	32	18	26
		200		75			90				
		250		50			140				

How to order : Type - W - L

Example : SCPAH 80 - 250

SCPH

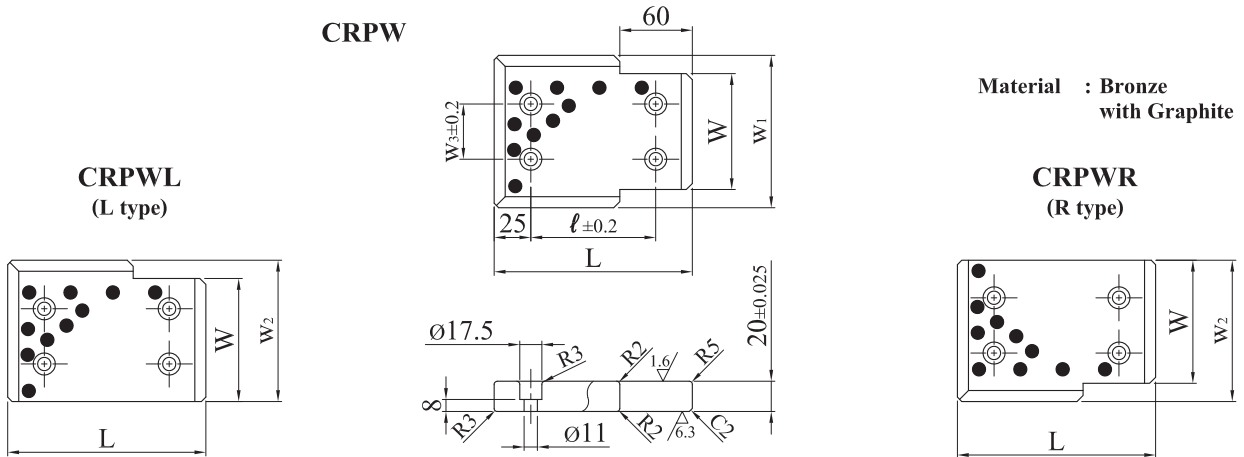


Material : S45C
Hardness : Induction Hardened
≧55HRC

Type	W	L	l	w ₁
SCPH	60	150	50	—
		200	75	
		250	100	
	80	150	50	—
		200	75	
		250	100	
	110	150	100	20
		200	150	
		250	200	

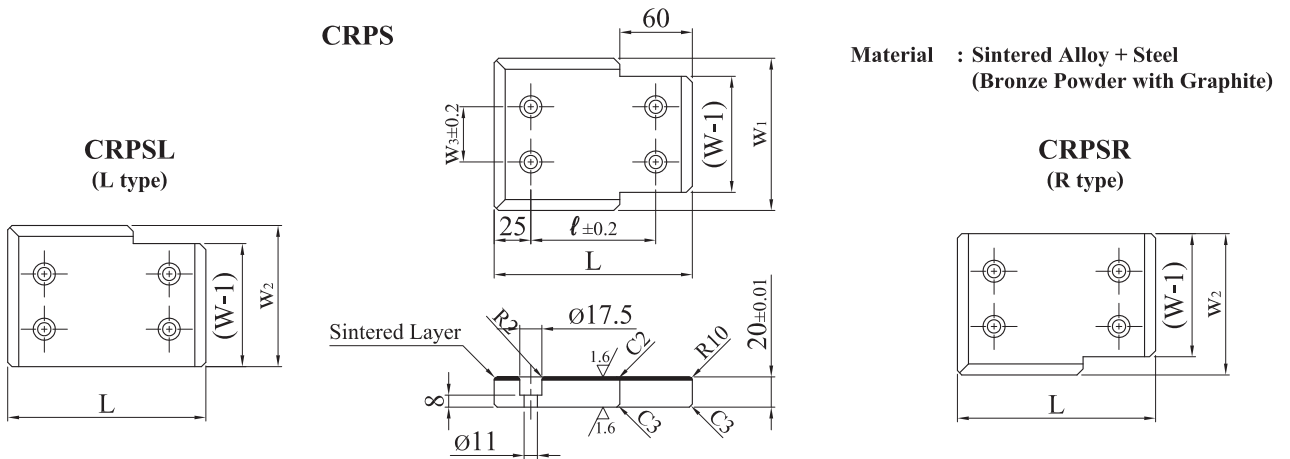
How to order : Type - W - L

Example : SCPH 80 - 200



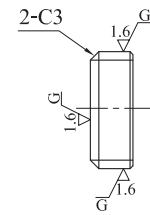
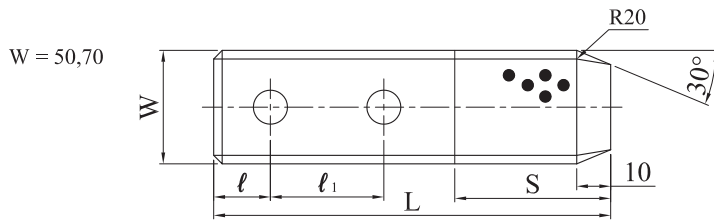
Type	W	L	w ₁	w ₂	w ₃	l
CRPW	100	125	130	115	50	75
		150				100
CRPWL	125	150	155	140	75	100
		200				150
CRPWR	150	250	180	165	100	200
		200				150
		250				200

How to order : Type - W - L
 Example : CRPW 100 - 125
 CRPWL 125 - 250

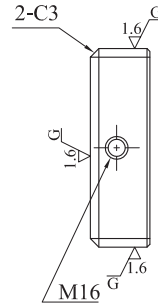
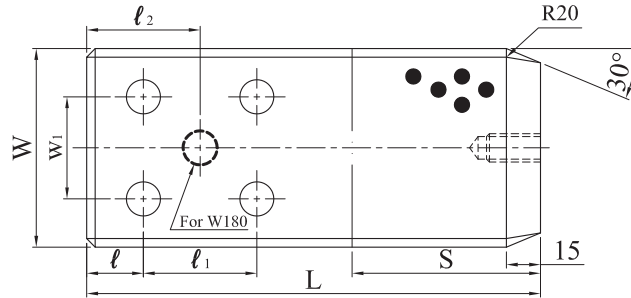


Type	W	L	w ₁	w ₂	w ₃	l
CRPS	75	100	100	87	40	100
		125				125
		150				150
		200				200
CRPSL	100	250	125	112	50	100
		150				150
CRPSR	150	200	150	137	90	200
		150				100
		200				150

How to order : Type - W - L
 Example : CRPS 100 - 150
 CRPSR 150 - 200



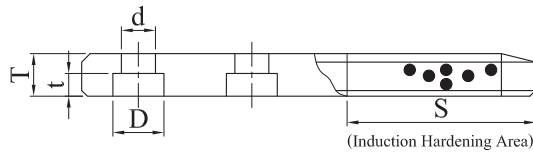
W = 100,120,150,180



SGPZ-T



SGPZ



Material : S45C with Graphite
Hardness : ≥ 40 HRC

Type	W		L	T	S	l	l ₁	l ₂	w ₁	d	D	t
SGPZ-T SGPZ	50	0 -0.025	160	30	60	20	50	-	-	18	26	18
			200		120		50					
			260		120		80					
	70	0 -0.030	230	35	100	25	60					
			260		160		60					
			300		160		75					
			350		150		150					
	100	0 -0.035	230	45	100	30	60					
			280		160		60					
			330		160		100					
			390		200		120					
	120	0 -0.035	230	45	100	30	60					
			280		160		60					
			330		160		100					
			390		200		120					
	150	0 -0.040	280	50	160	30	60					
			330		190		80					
			390		190		140					
			430		190		180					
	180	0 -0.040	280	55	160	30	60	60	-	22	32	22
330			190		80		70					
390			190		140		100					
430			190		180		120					
480			200		200		130					
550			250		225		142.5					

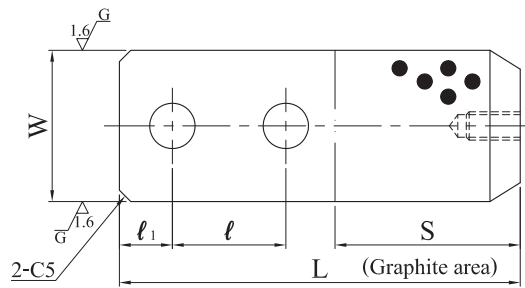
How to order : Type - W - L

Example : SGPZ 120 - 330

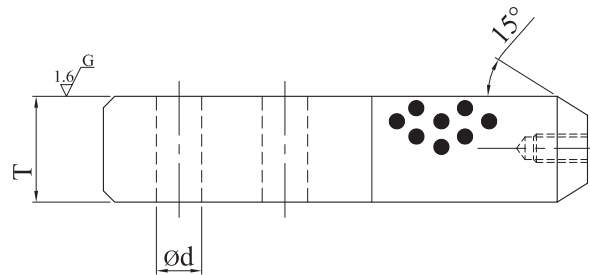
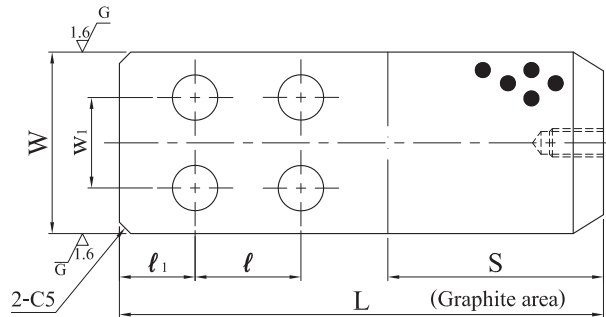


SGPF

W = 80, 90



W = 120, 130, 150
160, 180, 190

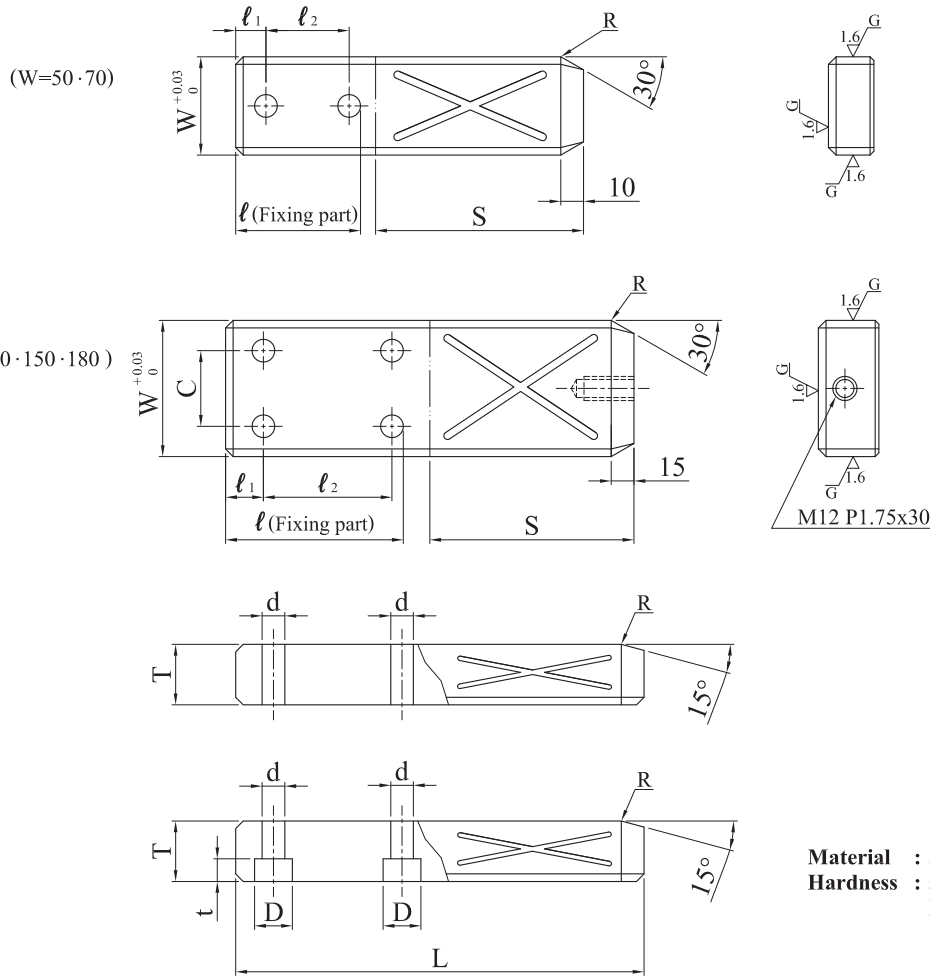


Material : FC250
with Graphite

Type	W		L	T	w ₁	l	l ₁	S	d	
SGPF	80	0	220	40	-	60	25	80	22	
			260			70				
			300			70				
	90	-0.025	220	60	70	80	120	130	26	
			260							80
			300							100
	120	0	280	60	70	80	30	140	26	
			340			80				
			380			100				
	130	-0.035	280	75	100	80	90	120	26	
			340			110				
			380			130				
	150	0	340	75	100	110	30	130	26	
			380			130				
			430			130				
	160	-0.040	340	90	120	130	30	140	26	
			380							130
			430							130
180	0	340	90	120	130	30	140	26		
		380							130	
		430							130	
190	-0.046	340	90	120	130	30	140	26		
		380							130	
		430							130	

How to order : Type - W - L

Example : SGPF 120 - 380



SGWA

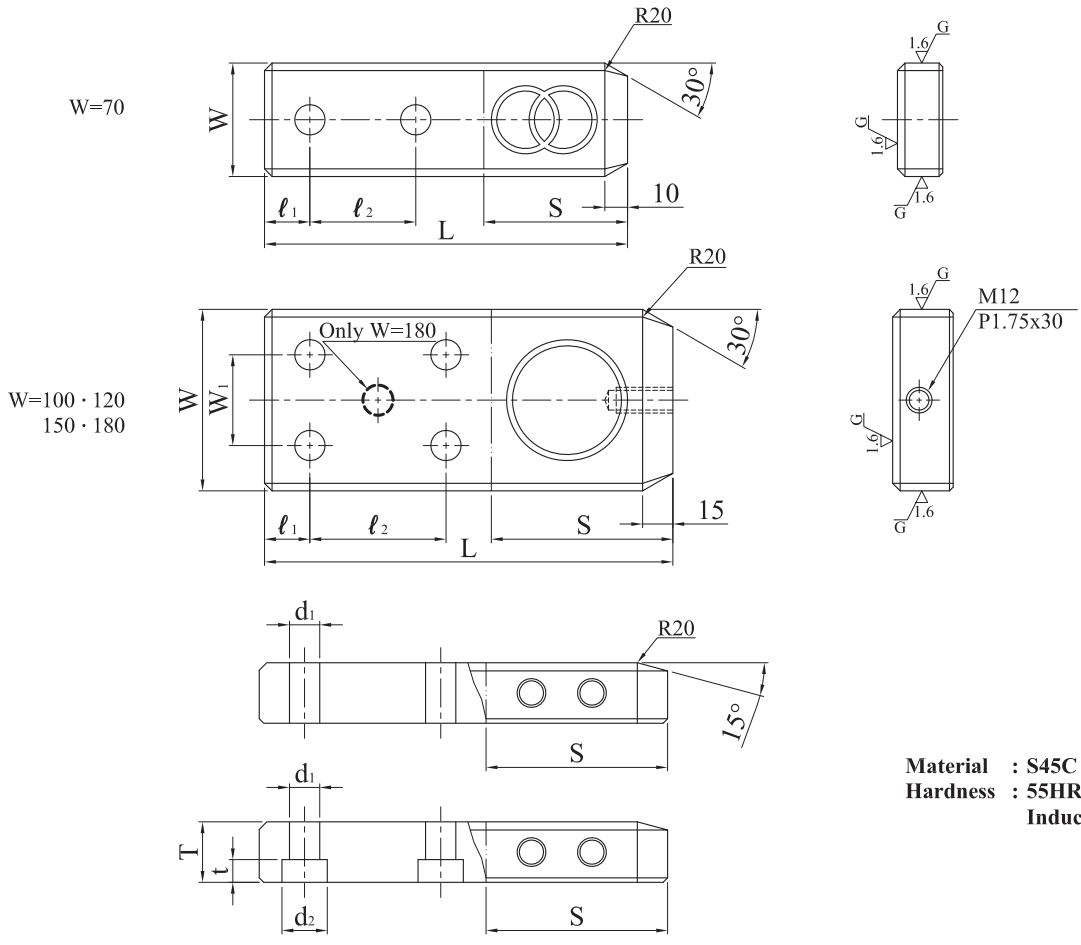
SGWB

Material : S45C
Hardness : 55HRC
Induction (slide part)

Type	W	S	L 10 mm increments	T	ℓ	ℓ ₁	ℓ ₂	C	d	D	t
SGWA SGWB	50	60	150 ~ 180	30	90	20	50	—	18	26	18
		90	190 ~ 250								
	70	90	200 ~ 250	35	110	25	60	—			
		120	230 ~ 350								
	100	120	270 ~ 320	45	150	30	90	60			
		180	330 ~ 400								
	130	150	300 ~ 380	50	150	30	90	80			
		210	390 ~ 500		180		120				
	150	180	180	340 ~ 450	60	160	35	90	100		
			240	460 ~ 550		220		150			
180	200	380 ~ 470		180		110	120				

How to order : Type - W - S - L

Example : SGWB 180 - 200 - 400



Material : S45C
Hardness : 55HRC
Induction (slide part)

Type	W		S	L	T	l ₁	l ₂	W ₁	d ₁	d ₂	t	Oil groove			
												Front		Side	
												Q'ty	D ₁	Q'ty	D ₂
SGOA SGOB	70	0 -0.030	100	230	35	25	60	—	18	26	18	2	50	each2	20
			160	260			60					2	50	each3	20
			160	300			75								
	100	0 -0.035	100	230	45	30	60	60	22	32	22	1	63	each2	20
			160	280			60					2	63	each3	20
			160	330			100								
	120	0 -0.035	100	230	45	30	60	60	22	32	22	2	50	each2	20
			160	280			60					4	50	each3	20
			160	330			100								
			200	390			120								
	150	0 -0.040	160	280	50	30	60	90	22	32	22	4	50	each4	20
			190	330			80					4	63	each3	20
190			390	140											
180	0 -0.040	160	280	55	30	60	120	22	32	22	5	50	each3	20	
		190	330			80									
		190	390			140									
		190	430			180									

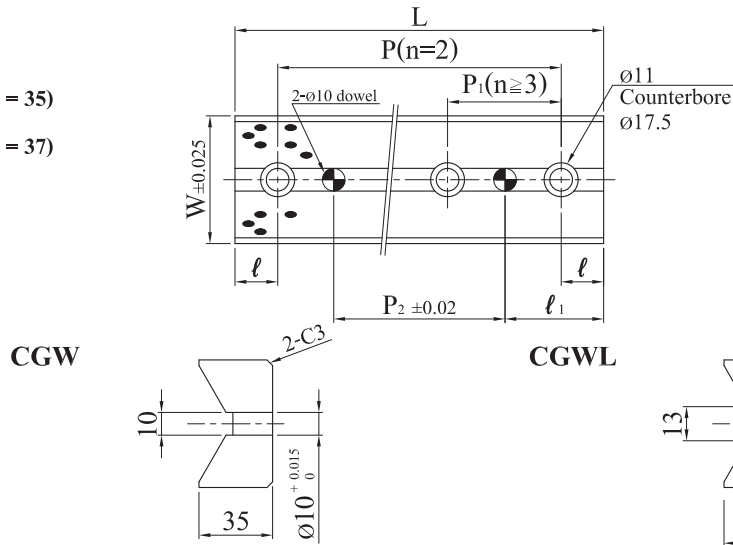
How to order : Type - W - S - L

Example : SGOA 100 - 160 - 280

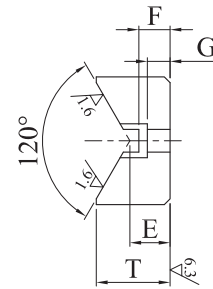


CGW (T = 35)

CGWL (T = 37)



(Cam Bottom Guide Plate)

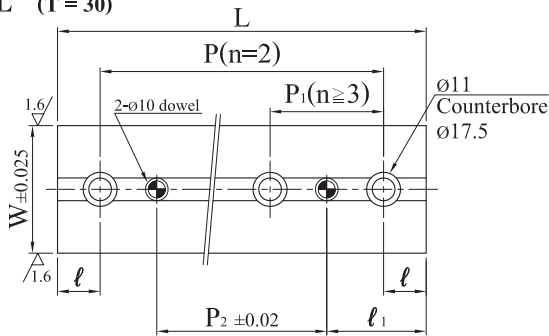


Material : Bronze with Graphite

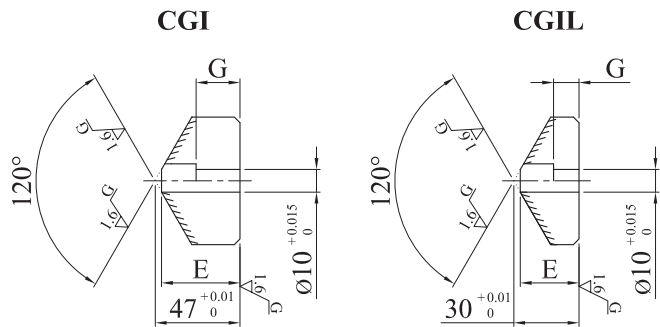
Type	W	L	T	l	l ₁	P	P ₁	Bolt Holes n	P ₂	E	F	G					
CGW	65	100	35	20	40	60	—	2	20	18	15	8					
		3						50									
		4		100													
		5		150													
		6		200													
CGWL	65	100	37	20	40	60	—	2	20	20	20	10					
		75				25											
		100		50													
		—		75	3	50											
		—		100		100											
		—		125		150											
					300									200			

CGI (T = 47)

CGIL (T = 30)



(Cam Bottom Slide Plate)



Material : S45C
Hardness: ≧ 55 HRC

Type	W	L	T	l	l ₁	P	P ₁	Bolt Holes n	P ₂	E	G				
CGI	65	100	47	20	40	60	—	2	20	44	20				
		3						50							
		4		100											
		5		150											
		6		200											
CGIL	65	100	30	20	40	60	—	2	20	26	10				
		75				25									
		100		50											
		—		75	3	50									
		—		100		100									
		—		125		150									
					300								200		

How to order : Type - W - L

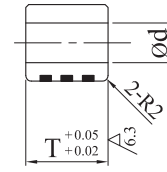
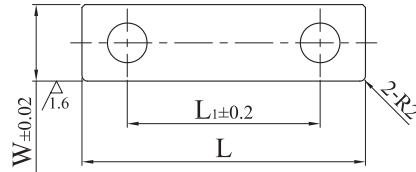
Example : CGI 65 - 150

CGW 65 - 150

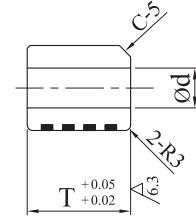
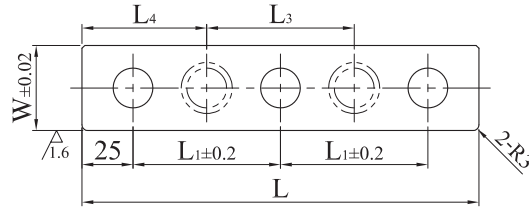


MSRGF (FC250 with graphite)
MSRGW (Bronze with graphite)

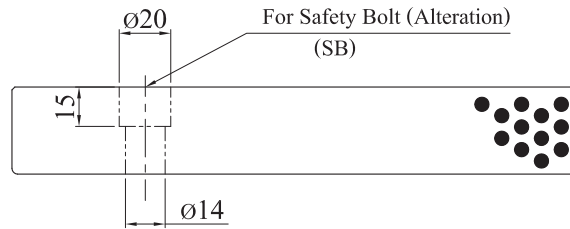
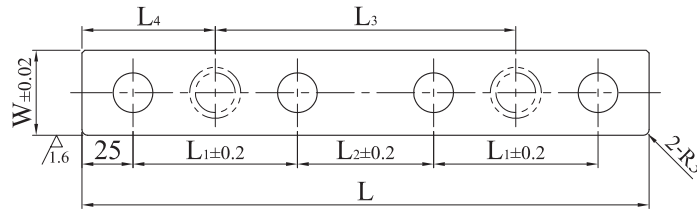
W = 25 (only)
L = 75, 100, 125, 150



W = 40, 50
L = 150, 200



W = 40, 50
L = 250



Type	W	L	T	L ₁	L ₂	d
MSRGF (only)	25	75	25	45	—	11
		100		50		
		125		75		
		150		100		
MSRGF MSRGW	40	150	30	50	—	14
		200		75		
		250	40	50	—	
		150		75	50	
	50	150	45	50	—	20
		200		75	50	
		250	55	50	—	
		150		75	50	
		200	60	50	—	
		250		75	50	
		150	70	50	—	
		200		75	50	
250	75	50				

How to order : Type - W - L - T - Alteration

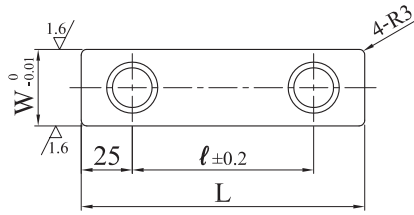
Example : MSRGF 25 - 100 - 25

MSRGW 40 - 250 - 40

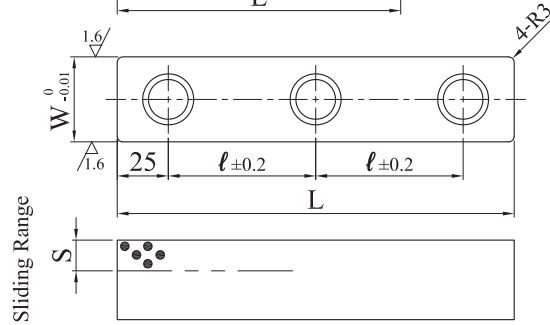
MSRGF 50 - 250 - 60 - SB

Alteration	Specification		
SB for W 40, 50	L	L ₃	L ₄
	150	50	50
	200	75	62.5
	250	125	62.5

CKB L = 150, 200



L = 250, 300



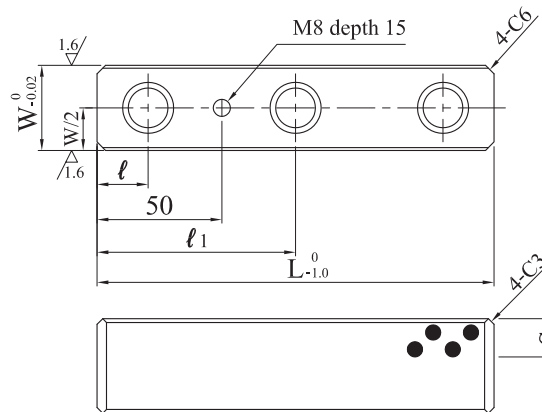
Material : FC250
with graphite

Type	W	L	T	l	S	d	d ₁	H
CKB	40	150	45	100	15	13	20	30
		200		150				
		250		100				
	60	150	60	100				
		200		150				
		250		100				
		300		125				

How to order : Type - W - L

Example : CKB 60 - 200

CKBF (FC250 with graphite)
CKBI (S55C with graphite)
(40 - 45 HRC)



Sliding Range
(CKBI is Induction Hardened.)

Type	W	L	T	l	l ₁	S	
CKBF	30	100	30	25	—	15	
		150			—		
		200			100		
		250			125		
		300			150		
		350			175		
	CKBI	40	100		40	—	20
			150			—	
			200			100	
			250			125	
			300			150	
			350			175	

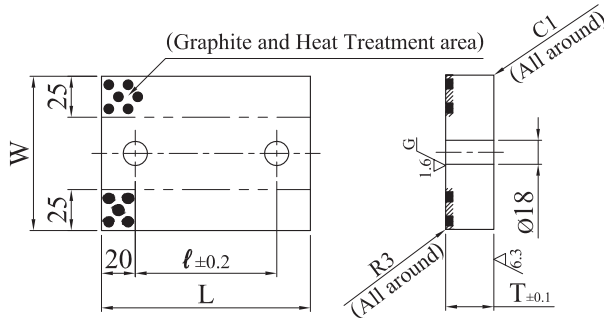
How to order : Type - W - L - T

Example : CKBF 30 - 300 - 30

CKBI 40 - 250 - 30

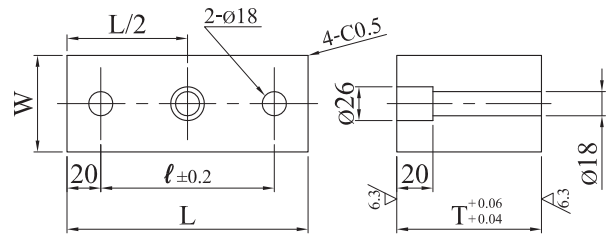


SFCI



Material : S45C with Graphite
≥40HRC

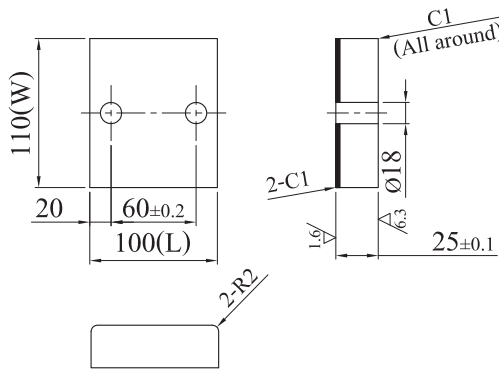
SFCIB



Material : SS400

Type	W	L	T	l
SFCI	120	100	25	60
		150		110
SFCIB	50	100	80	60
		150		110

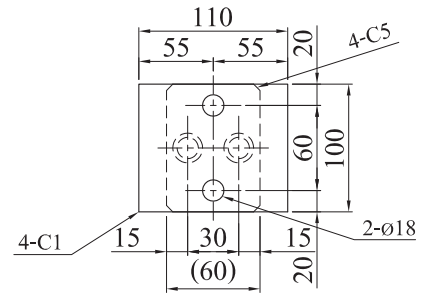
SFCS



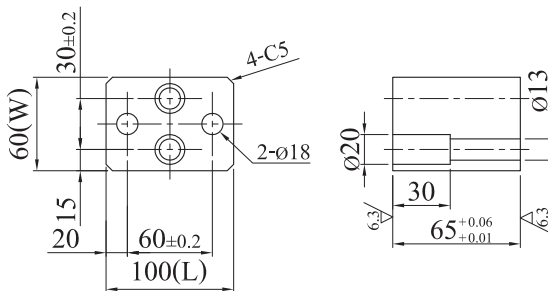
Material : Sintered Alloy + Steel
(Bronze Powder with Graphite)

Center Gib Set

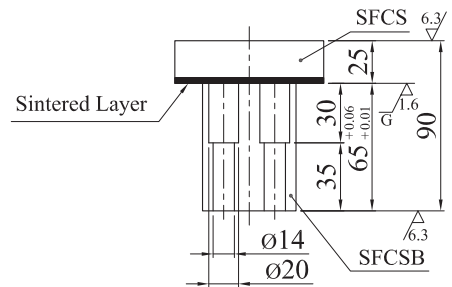
SFCS-S



SFCSB

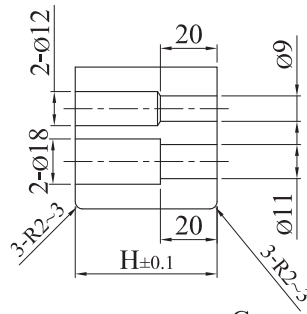
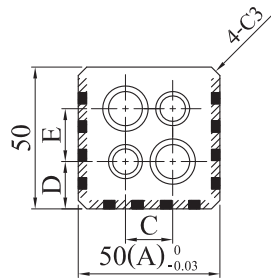


Material : SS400

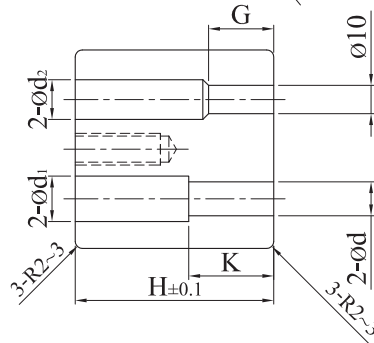
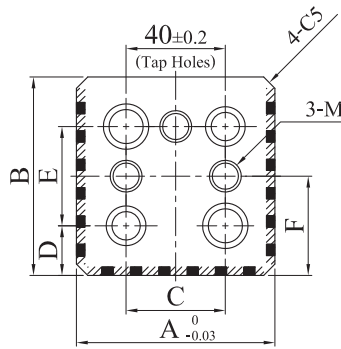


- How to order : Type - W - L
- Example : SFCI 120 - 150
- SFCIB 50 - 150
- SFCS 110 - 100
- SFCSB 60 - 100
- SFCS-S 100 - 110

PGBAF
(Pad Guide Block)

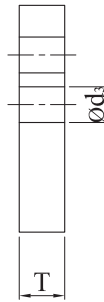
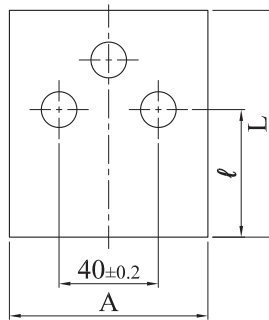


Material : FC250 with Graphite

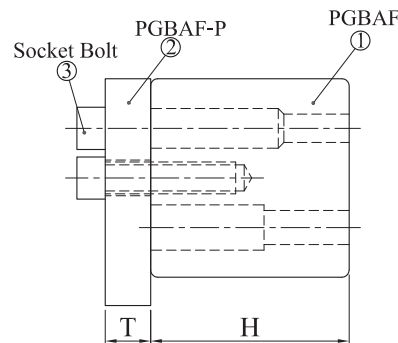
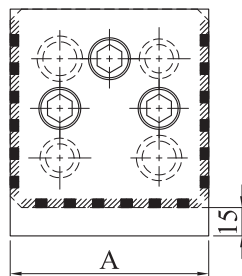


PGBAF-P
(Keeper Plate)

Material : S45C
(for A = 70,100 only)



PGBAF-S
(Pad Guide Block Set)
(PGBAF+PGBAF-P+Socket Bolt)



Type	A	H	T	B	C	D	E	F	G	K	d	d ₁	d ₂	M	d ₃	ℓ	L	Socket Bolt
PGBAF	50	50,60	—	50	20	15	20	—	—	—	—	—	—	—	—	—	—	—
PGBAF-P	70	50,70,90	10,15	70	40	15	40	35	25	30	13	20	16	M12	14	50	85	M12x40
PGBAF-S	100	70,90		80	60	17.5	45	40	40	40	18	26	18	M16	18	55	95	M16x50

How to order : Type - A - H - T

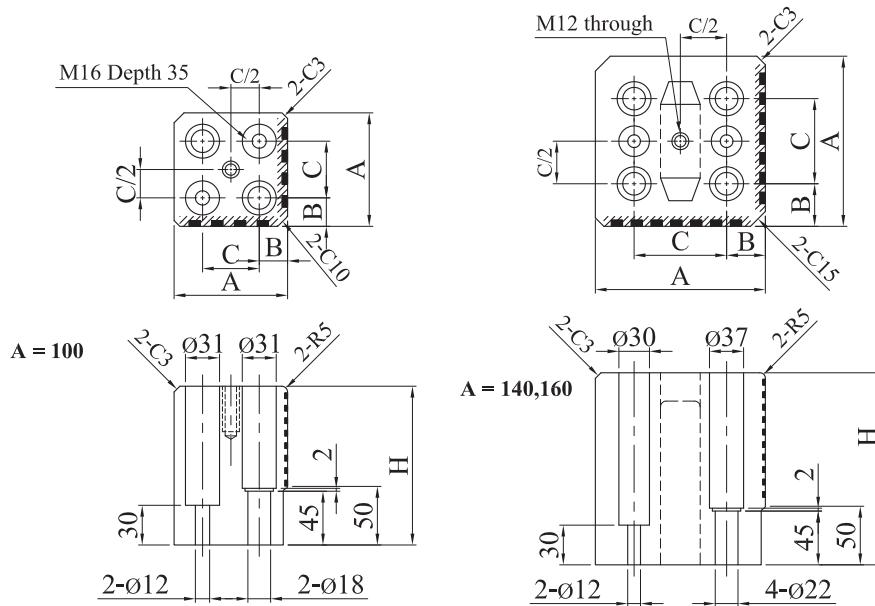
Example : PGBAF 70 - 70

PGBAF-P 70 - 15

PGBAF-S 70 - 70 - 15



PGBBF
(Corner Guide Type)



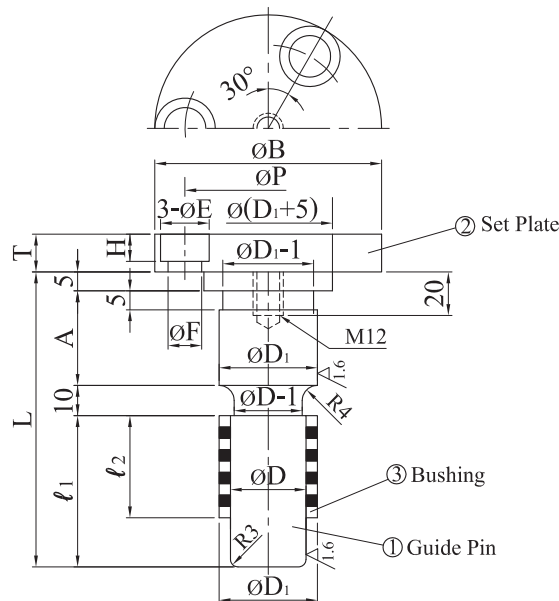
Material : FC250
with Graphite

Type	A	B	C	H
PGBBF	100	25	50	150
	140	30	80	180
	160	30	100	200

How to order : Type - A

Example : PGBBF - 160

PGPS



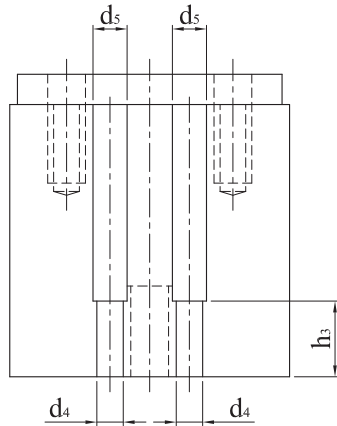
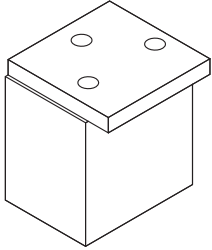
Material : ① S45C HRC 55~
② SS400
③ FC250 with Graphite

Type	D	L	Guide Pin				Bushing			Set Plate						
			D	l ₁	A	D ₁	D	l ₂	B	T	P	E	F	H		
PGPS	30	100	30	-0.10	50	35	38	0 -0.03	30	50	80	15	59	18	12	11
		120			70											
	50	135	50	-0.15	100	50	62									
		165			150											
		215														
	80	195	80	-0.10	100	80	96		0 -0.04	80	100		145			
245		150														

How to order : Type - D - L

Example : PGPS 50 - 2

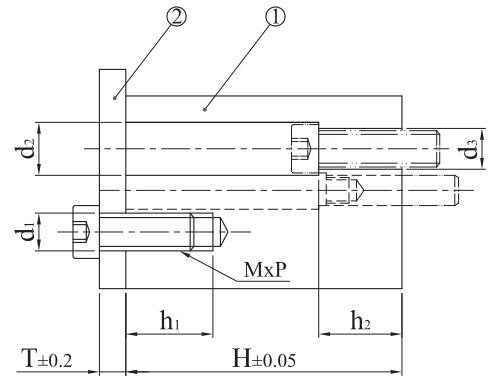
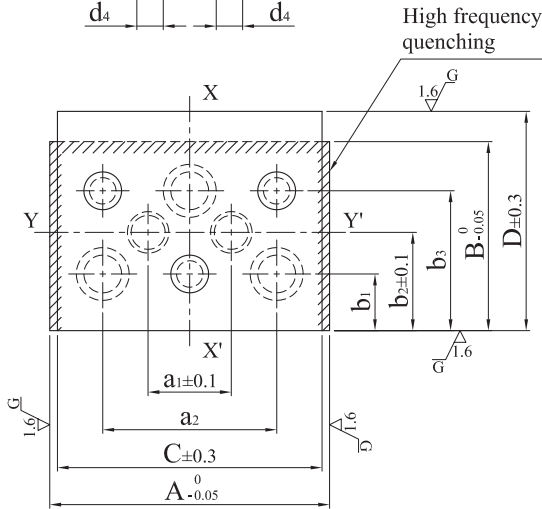
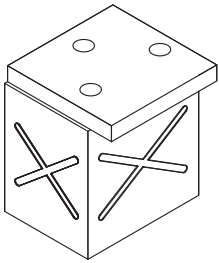
SKPN



① Material : S45C
Hardness : 40-55 HRC
(High frequency quenching)

② Material : S45C

SKPNZ (With oil groove)



① Installation block													② Plate							
A	B	a ₁	a ₂	b ₁	b ₂	b ₃	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂	h ₃	M x P	C	D	a ₂	b ₁	b ₃	d ₅
80	60	25	50	15	30	45	11	18	11	9.8	25	30	20	10 x 1.5	76	75	50	15	45	12
100	70	30	60	20	35	50	13	20	13	12.8	30		25	12 x 1.75	96	85	60	20	50	15

Type	A	H	T	Alterations	Code	Spec.
SKPN	80	50 60	10		HC	Dimension H alteration $H_{min} < HC < H_{max}$ 1 mm increments Available for SKPN and SKPNZ For other dimensions, refer to the tables above.
		70 80 100	15			
		120	15			
SKPNZ	100	60	10		NC	In order to detach j a mounting block and k a plate as one-piece, three holes for bolts and 2 holes for dowel pins are machined on k.
		70 80 100	15			
		120	20			

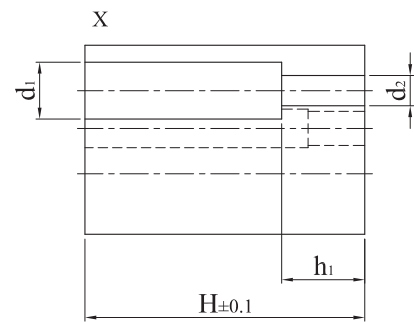
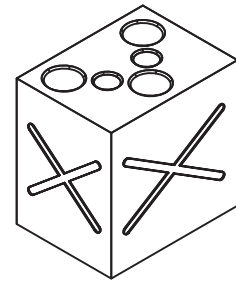
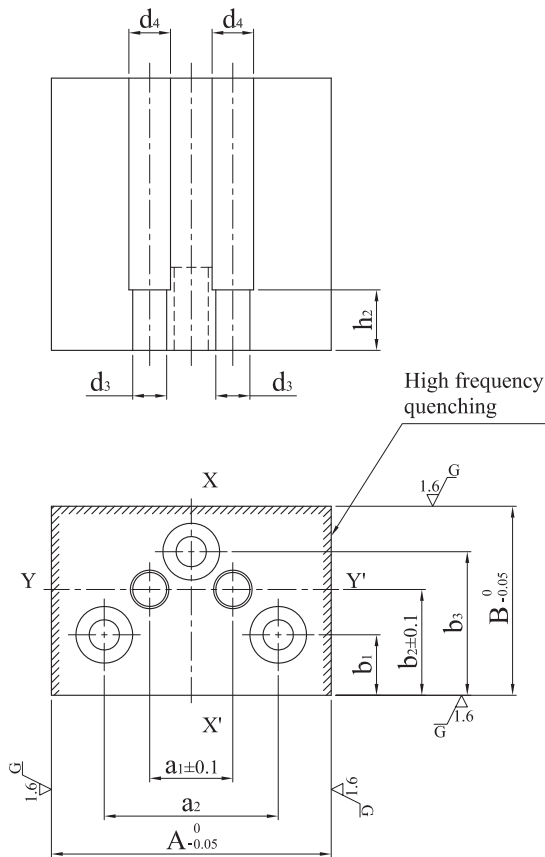
How to order : Type - A - H(HC) - T - (NC)

Example : SKPN 80 - 50 - 10 - NC

SKPNZ 80 - HC45 - 10



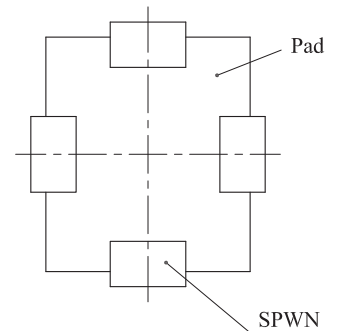
SPWN



Material : S45C
Hardness: 40~45 HRC

Type	A	H					B	a ₁	a ₂	b ₁	b ₂	b ₃	d ₁	d ₂	d ₃	d ₄	h ₁	h ₂
SPWN	80	50	60															
		70	80	100														
					120													
	100	60																
70		80	100															
				120														

Alterations	Code	Spec.	
	HC	Dimension H alteration $H_{min} < HC > H_{max}$ 1 mm increments For other dimensions refer to the tables	
	CC	Changes 4 corners of C chamfering to C5	

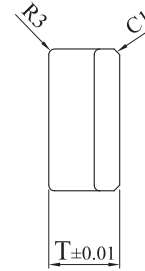
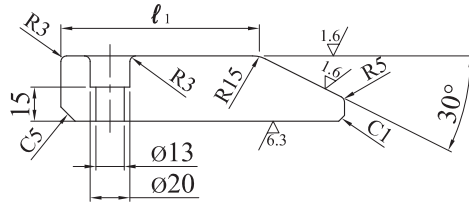
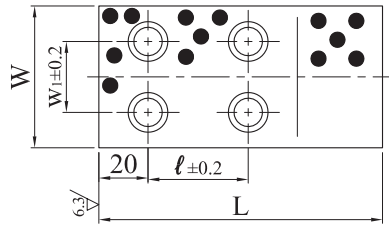


How to order : Type - A - H(HC) - (CC)

Example : SPWN 80 - 50

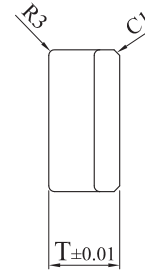
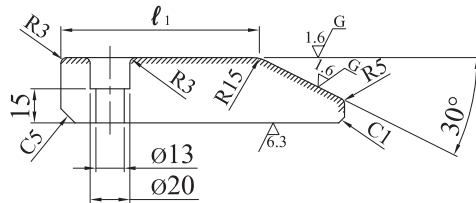
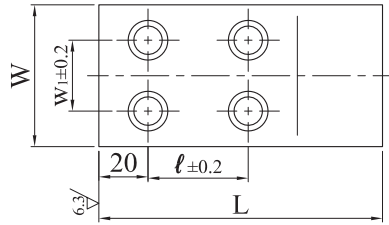


CDPW



Material : Bronze
with Graphite

CDPI



Material : S45C
Hardness: ≥ 55 HRC

Type	W	L	T	w ₁	l	l ₁
CDPW CDPI	75	130	30	40	50	95
		150	45		45	90
		170	60		75	120
	100	130	30	60	50	95
		150	45		45	90
		170	60		75	120
	125	130	30	85	50	95
		150	45		45	90
		170	60		75	120
	150	130	30	110	50	95
		150	45		45	90
		170	60		75	120

How to order : Type - W - L

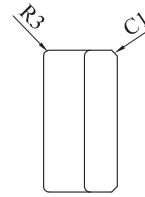
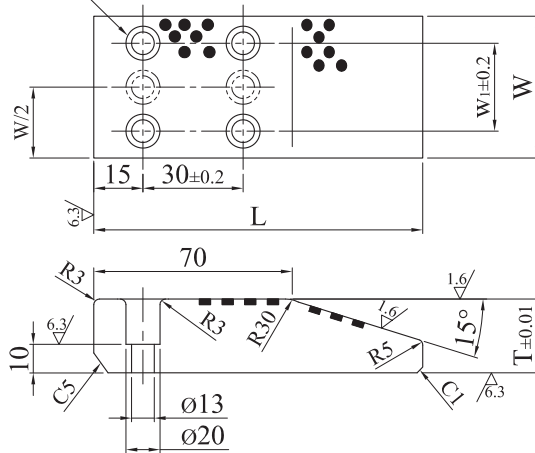
Example : CDPW 100 - 170

CDPI 100 - 170



CDPWS

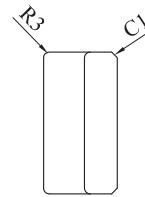
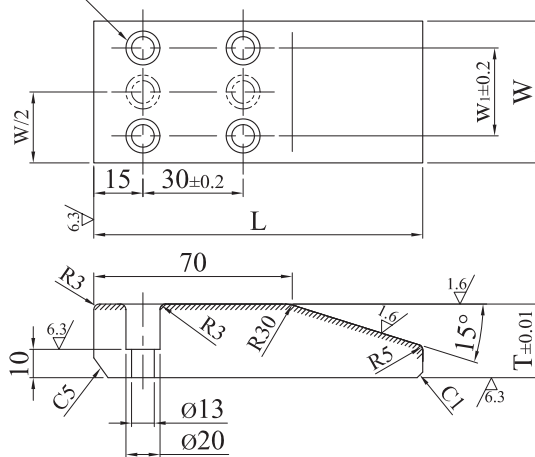
Width 50 only
Two installation holes



**Material : Bronze
with Graphite**

CDPIS

Width 50 only
Two installation holes



**Material : S45C
Hardness: ≥ 55 HRC
(Induction)**

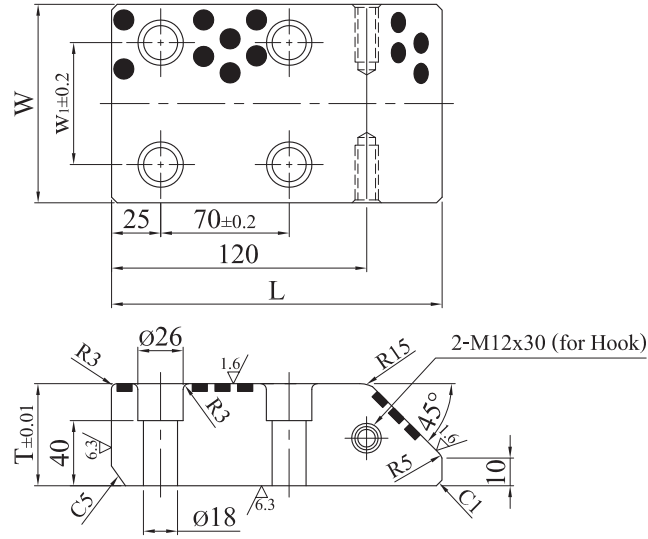
Type	W	L	T	W ₁
CDPWS CDPIS	50	110	25	—
		130	30	
		150	35	
	75	110	25	40
		130	30	
		150	35	
100	110	25	60	
	130	30		
	150	35		

How to order : Type - W - L

Example : CDPWS 75 - 110

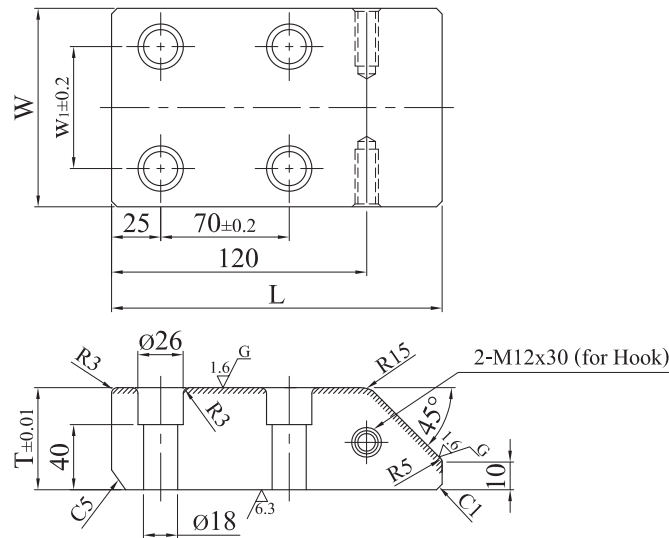
CDPIS 75 - 150

CDPQW



Material : Bronze with Graphite

CDPQI



**Material : S45C
 Hardness: ≥ 55 HRC
 (Induction)**

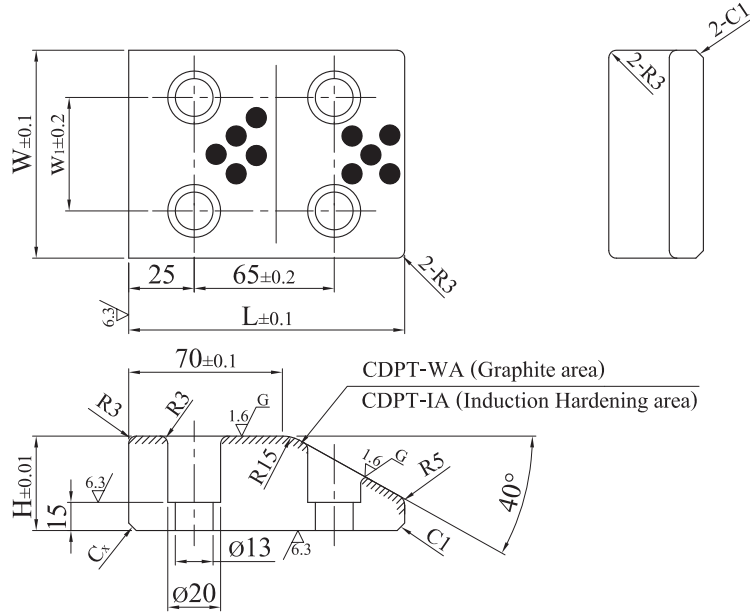
Type	W	L	T	w_1
CDPQW	150	170	60	100
		200	90	
CDPQI	200	170	60	140
		200	90	

How to order : Type - W - L
 Example : CDPQW 200 - 170



CDPT-WA
 (Bronze with graphite)

CDPT-IA
 (S45C, Induction Hardening
 ≥ 55 HRC)

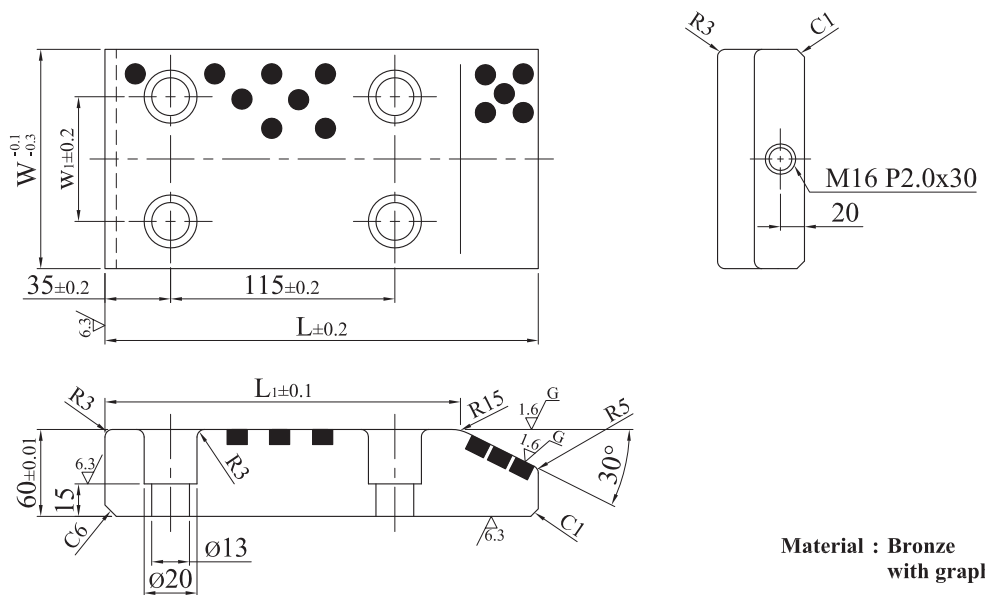


Type	W	H	L	w ₁	C _x
CDPT-WA	100	80	150	50	C5-C12
CDPT-IA	150	60	125	100	
	200	60	125	150	

How to order : Type - W - H - L - C_x

Example : CDPT-WA 150 - 60 - 125 - C5

CDPT-WB



Material : Bronze
 with graphite

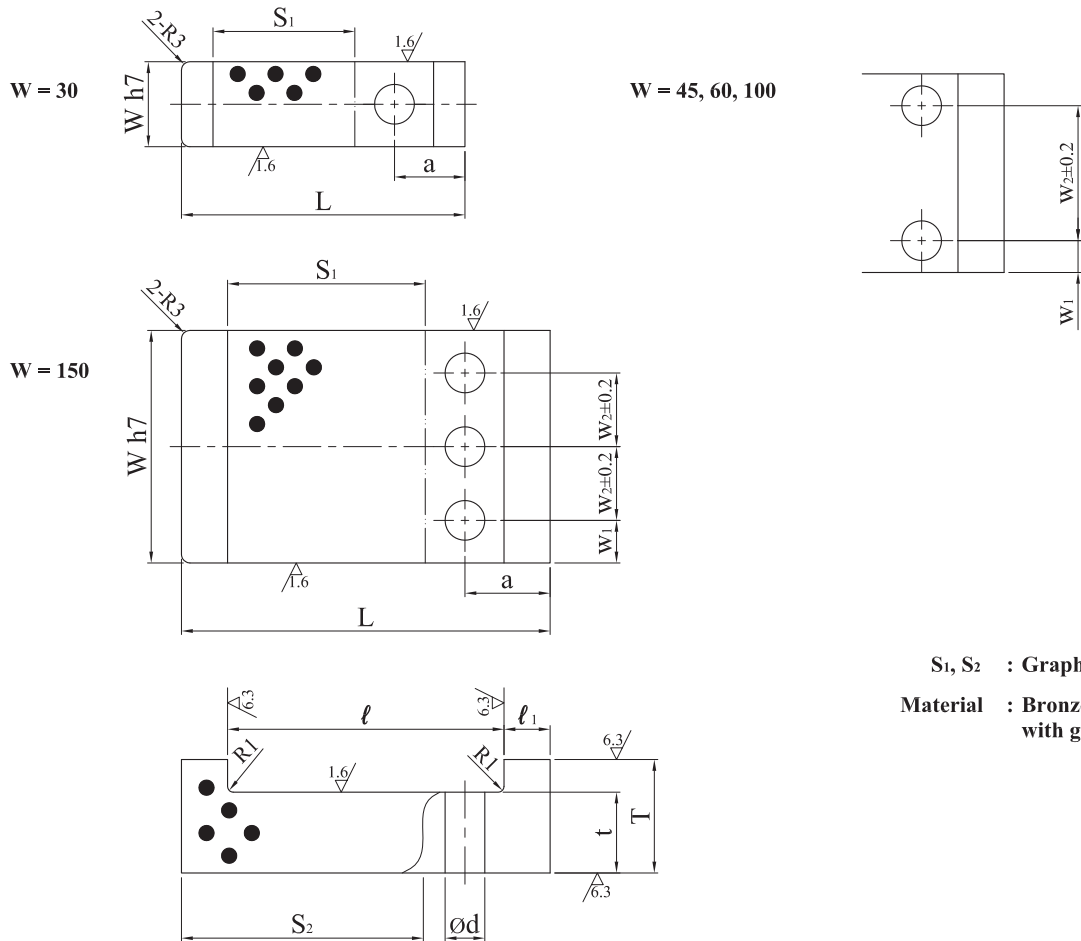
Type	W	W	w ₁	L ₁
CDPT-WB	125	225	85	175
		250		200
	150	225	110	175
		250		200
	200	225	160	175
		250		200

How to order : Type - W - L

Example : CDPT-WB 125 - 250



CPGPW

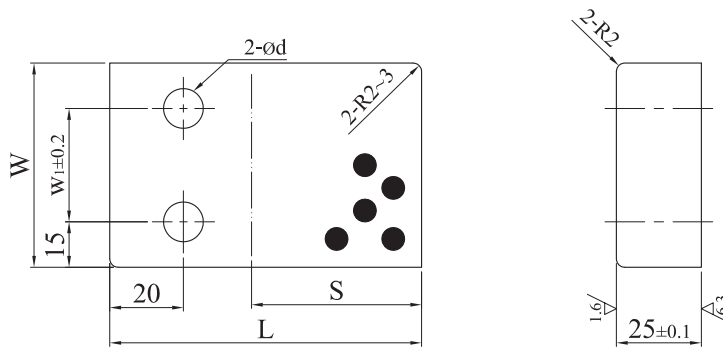


Type	W	L	T	W h7	w_1	w_2	ℓ	ℓ_1	t	a	d	S_1	S_2	
CPGPW	30	70	17	30	0 -0.021	—	—	50	10	12	20	11	30	40
		90											50	60
	45	70	25	45	0 -0.025	11.5	22	50		15			30	40
		90											50	60
	60	120	35	60	0 -0.030	15	30	80	20	25	40	18	40	60
		140						60					80	
		160						80					100	
	100	120	35	100	0 -0.035	15	70	80	20	25	40	18	40	60
		140						60					80	
		160						80					100	
	150	120	35	150	0 -0.040	15	60	80	20	25	40	18	40	60
		140						60					80	
		160						80					100	
		180						100					120	

How to order : Type - W - L

Example : CPGPW 100 - 160

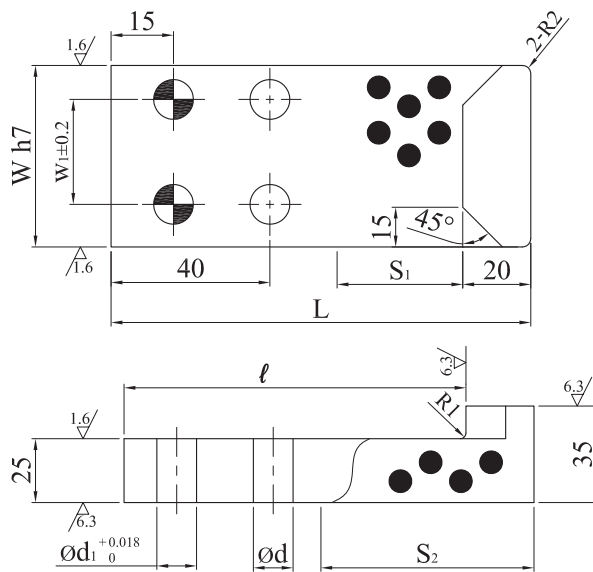
CPGBW



S : Graphite area
Material : Bronze
with graphite

Type	W	L	S	w ₁	d
CPGBW	60	80	40	30	13
		100	60		
		120	80		
	100	80	40	70	18
		100	60		
		120	80		
	150	80	40	120	
		100	60		
		120	80		

CPGCW



S₁, S₂ : Graphite area
Material : Bronze
with graphite

Type	W h7		L	ℓ	S ₁	S ₂	w ₁	d	d ₁
CPGCW	60	0	120	100	40	60	30	13	13
		-0.030	140	120	60	80			
			160	140	80	100			
	100	0	120	100	40	60	70	18	16
		-0.035	140	120	60	80			
			160	140	80	100			
	150	0	120	100	40	60	120		
		-0.040	140	120	60	80			
			160	140	80	100			

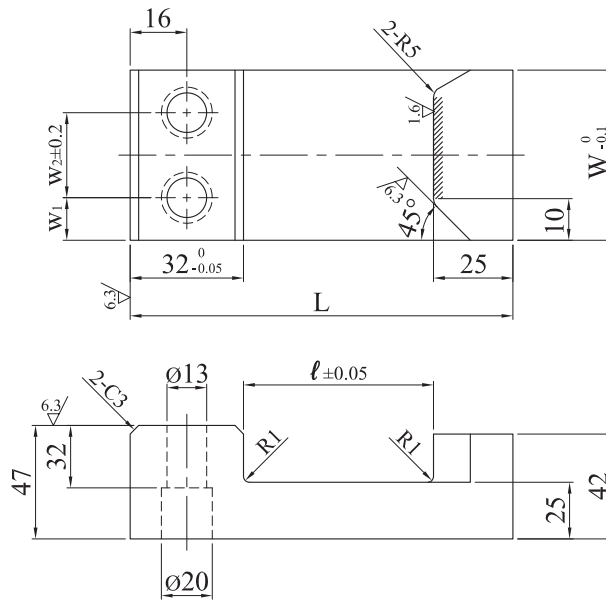
How to order : Type - W - L

Example : CPGBW 100 - 100

CPGCW 100 - 140



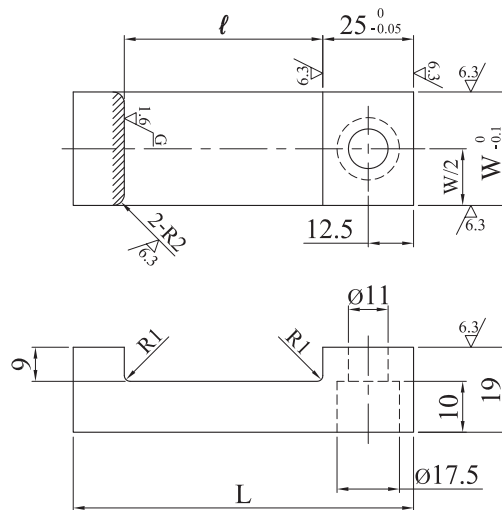
CPRI



Material : S45C
Hardness : ≥ 55 HRC
(Induction)

Type	W	L	l	w ₁	w ₂
CPRI	60	171	114	15	30
		191	134		
	80	171	114	20	40
		191	134		

CPRIH



Material : S45C
Hardness : ≥ 55 HRC
(Induction)

Type	W	L	l
CPRIH	30	67.5	32.4
	35	77.5	42.4

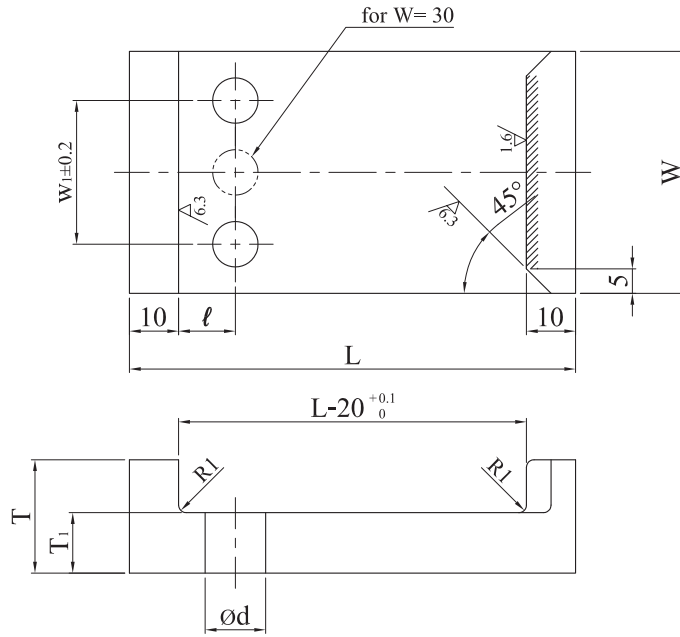
How to order : Type - W - L

Example : CPRI 60 - 191

CPRIH 35 - 77.5



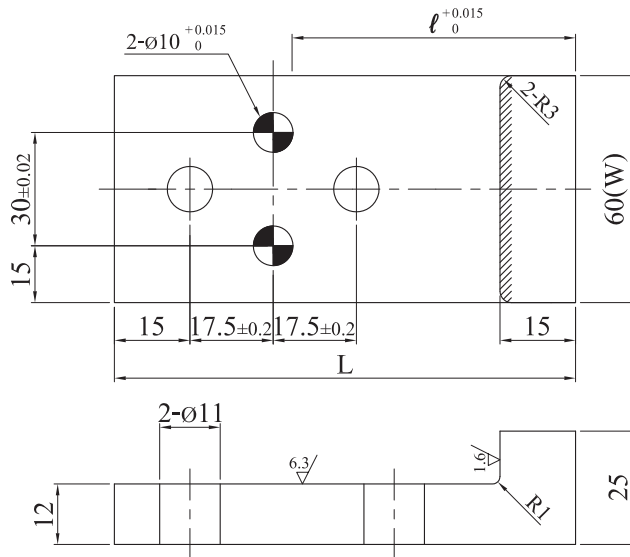
CPRIE



Material : S45C
Hardness : ≥55 HRC
(Induction)

Type	W	L	w ₁	l	d	T	T ₁	No. of Bolt Holes
CPRIE	30	55	—	7.5	10	16	8	1
		75						
	50	65	30	10	12	18	10	2
		85						
		105						
	80	65	50	10	12	18	10	2
85								
105								

CPRIF



Material : S45C
Hardness : ≥55 HRC
(Induction)

Type	W	L	l
CPRIF	60	100	52.5
		120	72.5

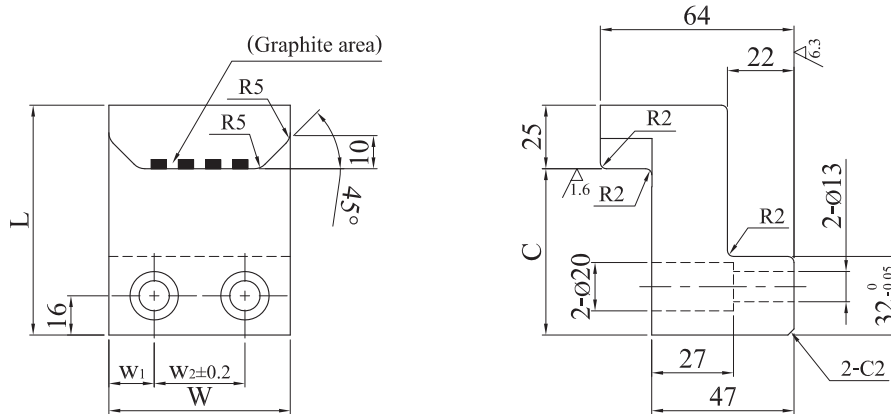
How to order : Type - W - L

Example : CPRIE 80 - 105

CPRIF 60 - 100



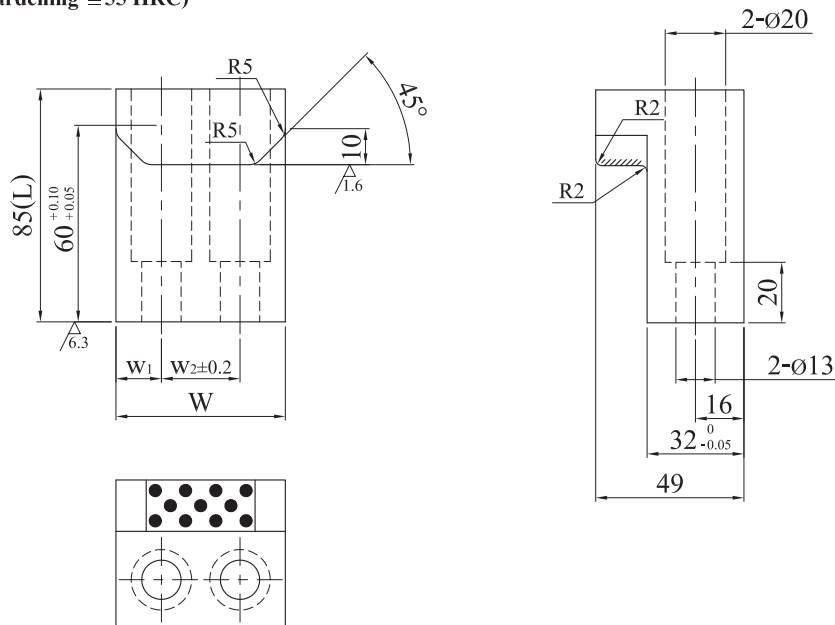
CKRZ (Bronze with graphite)



Type	W	L	w ₁	w ₂	C
CKRZ	60	82	15	30	57
		102			77
		112			87
	80	82	20	40	57
		102			77
		112			87

CKRL (Bronze with graphite)

CKRLI (S45C, Induction Hardening ≥55 HRC)



Type	W	L	w ₁	w ₂
CKRL	60	85	15	30
CKRLI	80		20	40

How to order : Type - W - L

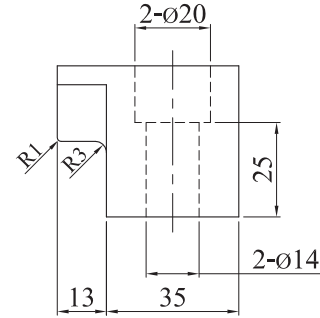
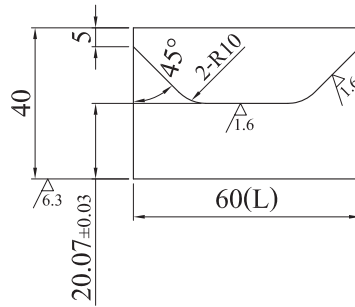
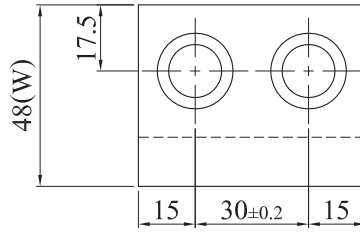
Example : CKRZ 80 - 102

CKRL 60 - 85



CPKW (Bronze)

CPKI (SS400)



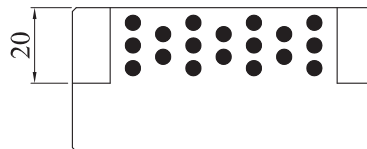
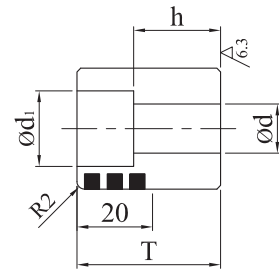
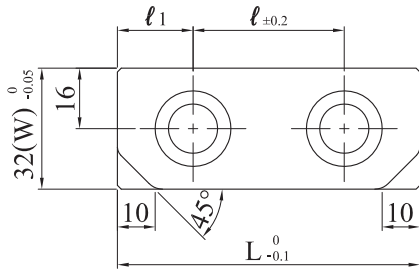
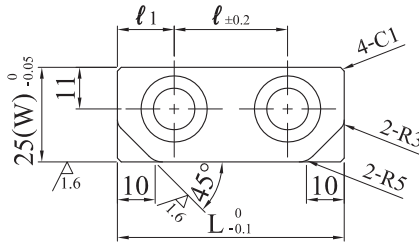
How to order : Type - W - L

Example : CPKW 48 - 60

CPKI 48 - 60

CPBW (Bronze with graphite)

CPBWS (Bronze)



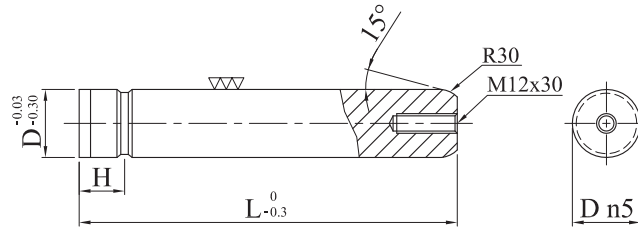
Type	W	L	T	l	l ₁	d	d ₁	h
CPBW	25	60	30	30	15	11	17.5	18
CPBWS	32	60	38	40	20	13	20	23
		80						

How to order : Type - W - L

Example : CPBW 32 - 80



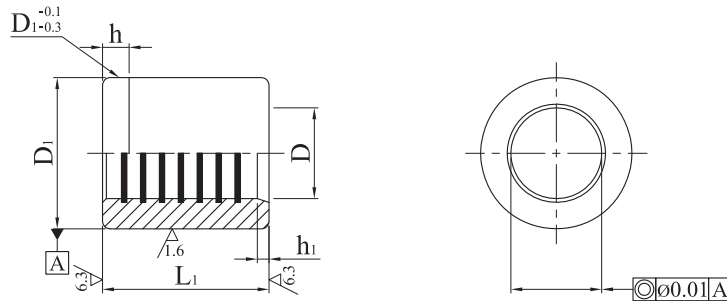
GPME



Material : S45C
Hardness : ~55HRC

Type	D n5		L (↑10mm)	H	M
GPME	32	+0.028 +0.017	90-250	20	—
	38		110-300	50	—
	50		160-350	65	—
	60	+0.033	180-400	75	M12
	80	+0.020	250-450	100	M12

GBMF



Material : FC250
with graphite

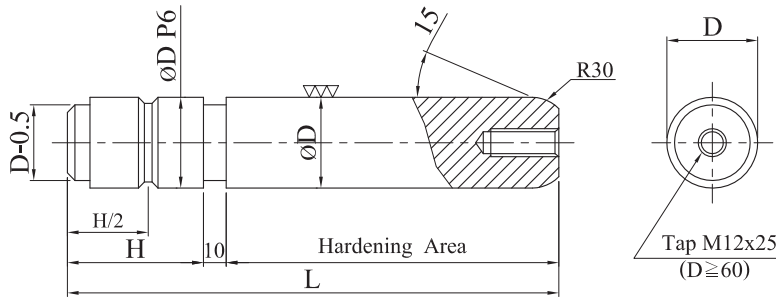
Type	D		D ₁	h	h ₁	L ₁
GBMF	32	+0.047 +0.037	52	8	4	48
	38	+0.049 +0.037	60	10	5	55
	50	+0.052 +0.037	70	15	10	75
	60	+0.061 +0.043	80	20		90
	80	+0.063 +0.043	100	25	120	

How to order : Type - D - L

Example : GPME 60 - 350

GPME 60

GP



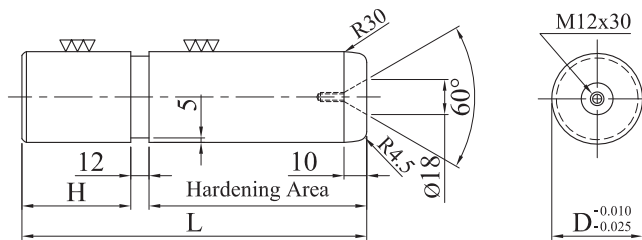
Material : S45C
Hardness : ≈55 HRC

Type	D		L	D P6		H	M
GP	30	-0.005 -0.015	100 , 120 , 140 , 160 , 180	30	+0.035 +0.022	40	—
	40		120 , 140 , 160 , 180 , 200	40	+0.042 +0.026	50	—
	50		160 , 180 , 200 , 250 , 300	50		70	—
	60	-0.010 -0.020	200 , 220 , 250 , 300 , 350	60	+0.051 +0.032	90	12
	80	-0.010 -0.025	250 , 300 , 350 , 400	80		120	12
	100		300 , 350 , 400 , 450 , 500	100	+0.059 +0.037	150	12
	120		400 , 450 , 500 , 550	120		180	12

How to order : Type - D - L

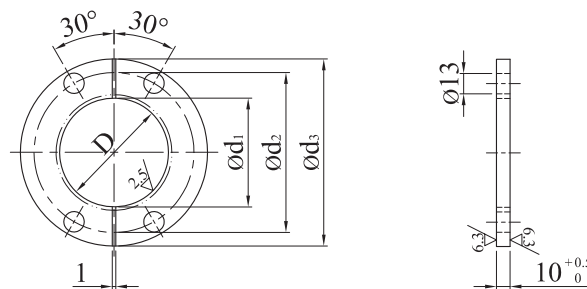
Example : GP 60 - 200

SGPOB
(Guide Post)



Material : S45C
Hardness : ≈55 HRC

SGPSB
(Stopper)



Material : S45C

Type	D		L	H	d ₁	d ₂	d ₃			
SGPOB (Guide Post)	80	-0.010 -0.025	350	100	72	110	130			
			400							
SGPSB (Stopper)	100		350	120				92	130	150
			400							
			450							
SGPSB (Stopper)	120		450	150				112	156	177.8
		500								

How to order : Type - D - L

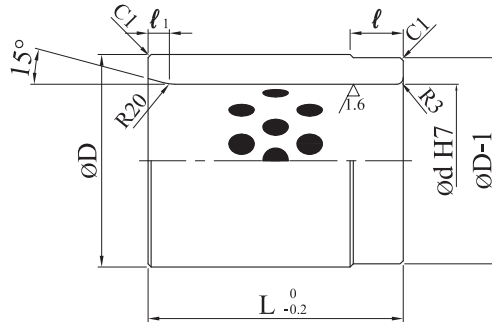
Example : SGPOB 80 - 350

SGPSB 80



SGBF (FC250 with graphite)

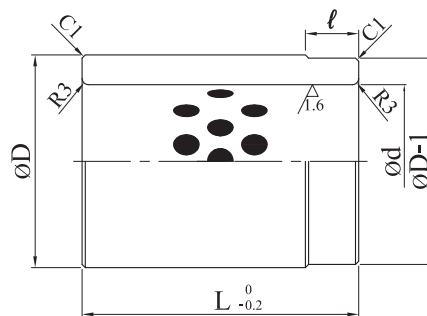
SGBW (Bronze with graphite)



Type	d H7		L	D		ℓ	ℓ_1
SGBF SGBW	25	+0.021	40	40	±0.008	10	5
	30	0	50	50			
	35	+0.025	55	60	±0.0095	15	
	40		60				
	50	0	75	70	±0.011	15	10
	60	+0.030	90	80			
	80	0	120	100	±0.0125	20	
	100	+0.035	150	120			
120	0	180	140	25			

STGF (FC250 with graphite)

STGW (Bronze with graphite)



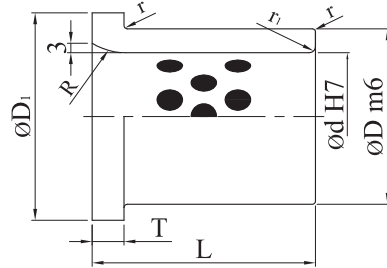
Type	d		L	D		ℓ
STGF	30	+0.039	60	50	±0.008	10
	40		80	60		
STGW	50	0	100	70	±0.0095	15

How to order : Type - d

Example : SGBF 60

STGW 50

SGFW



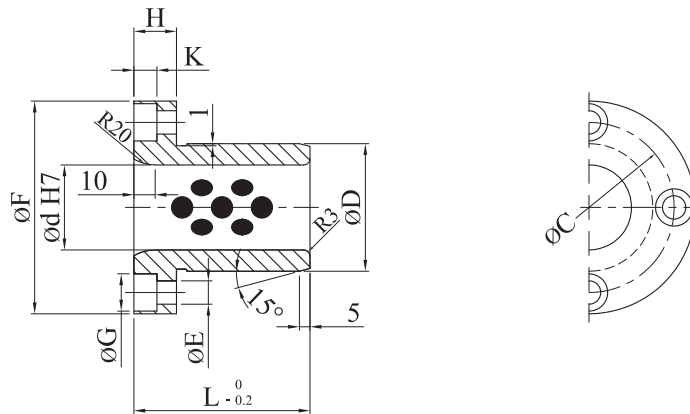
Material :Bronze
with graphite

Type	d H7		L	D m6		D ₁	T	R	r	r ₁	
SGFW	25	+0.021	40	35	+0.025	45	7	10	1	2	
	30	0	50	40	+0.009	50					
	40	+0.025	70	55	+0.030 +0.011	65	10	20	2		
	50	0	80	65		75					75
	60	+0.030 0		75		80					85
	65		120	100	+0.035 +0.013	90					
	80		100			100					110
	100	+0.035 0	140			120					130

How to order : Type - D - L

Example : SGFW 65 - 80

HBF



Material : FC250
with graphite

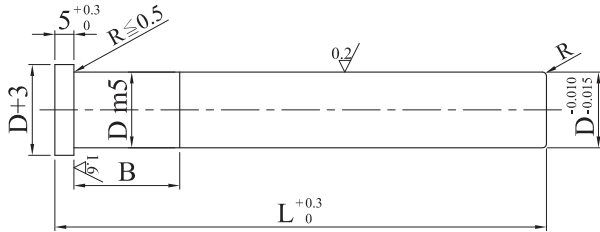
Type	d H7		L	D	F	H	C	E	G	K
HBF	30	+0.021 0	50	50	±0.008	20	70	11	17.5	10.8
	40	+0.025 0	65	60	±0.0095		80			
	50		80	75			100			
	60	+0.030 0	100	85	±0.011	110				
	80		130	110		135				
	100		+0.035 0	160		130	±0.0125			

How to order : Type - d

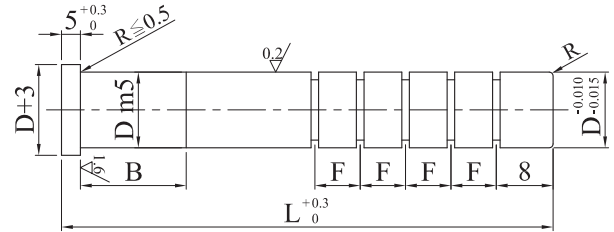
Example : HBF 60



STPH



STOH



Material : SUJ 2
Hardness : 55 HRC

Type	D m5		L												R	B
STPH STOH	8	+0.012	40	50	60	70	80								1.0	10
	10	+0.006	40	50	60	70	80	90	100						1.5	13
	13	+0.015	40	50	60	70	80	90	100	110	120			16		
	16	+0.007			50	60	70	80	90	100	110	120	130	140	20	
	20	+0.017				60	70	80	90	100	110	120	130	140	2.0	25
	25	+0.008						70	80	90	100	110	120	130		140

Alterations	Code	Specification	Alterations	Code	Specification																															
	LC	STPH : $20 \leq LC < L$ STOH: $40 \leq LC < L$ ↑ 0.5mm		TC	$2 \leq TC < 5$ ↑ 0.1mm																															
	LL	Extra long type <table border="1"> <thead> <tr> <th>D</th> <th>LL</th> <th>↑ 0.5mm</th> </tr> </thead> <tbody> <tr><td>8</td><td>$80 < LL \leq 120$</td><td></td></tr> <tr><td>10</td><td>$100 < LL \leq 150$</td><td></td></tr> <tr><td>13</td><td>$120 < LL \leq 180$</td><td></td></tr> <tr><td>16</td><td>$140 < LL \leq 200$</td><td></td></tr> <tr><td>20</td><td>$140 < LL \leq 200$</td><td></td></tr> <tr><td>25</td><td>$140 < LL \leq 200$</td><td></td></tr> </tbody> </table>	D	LL	↑ 0.5mm	8	$80 < LL \leq 120$		10	$100 < LL \leq 150$		13	$120 < LL \leq 180$		16	$140 < LL \leq 200$		20	$140 < LL \leq 200$		25	$140 < LL \leq 200$			GC	Tapering on the pin tip. <table border="1"> <thead> <tr> <th>D</th> <th>Y</th> </tr> </thead> <tbody> <tr><td>8</td><td rowspan="2">3</td></tr> <tr><td>10</td></tr> <tr><td>13</td><td rowspan="3">5</td></tr> <tr><td>16</td></tr> <tr><td>20</td></tr> <tr><td>25</td></tr> </tbody> </table>	D	Y	8	3	10	13	5	16	20	25
D	LL	↑ 0.5mm																																		
8	$80 < LL \leq 120$																																			
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13	$120 < LL \leq 180$																																			
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13	5																																			
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25																																				
	BC	$0 \leq BC \leq D \times 2$ ↑ 1mm		TKC	$\begin{matrix} +0.3 \\ 0 \end{matrix} \Rightarrow \begin{matrix} +0.02 \\ 0 \end{matrix}$																															
				RC	<table border="1"> <thead> <tr> <th>D</th> <th>R</th> <th>RC</th> </tr> </thead> <tbody> <tr><td>8 - 10</td><td>1.0</td><td>1.5 - 2.0</td></tr> <tr><td>13 - 16</td><td>1.5</td><td>2.0 - 2.5</td></tr> <tr><td>20 - 25</td><td>2.0</td><td>2.5 - 3.0</td></tr> </tbody> </table>	D	R	RC	8 - 10	1.0	1.5 - 2.0	13 - 16	1.5	2.0 - 2.5	20 - 25	2.0	2.5 - 3.0																			
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8 - 10	1.0	1.5 - 2.0																																		
13 - 16	1.5	2.0 - 2.5																																		
20 - 25	2.0	2.5 - 3.0																																		

How to order : Type - D - L - Alterations

Example : STPH 80 - 70

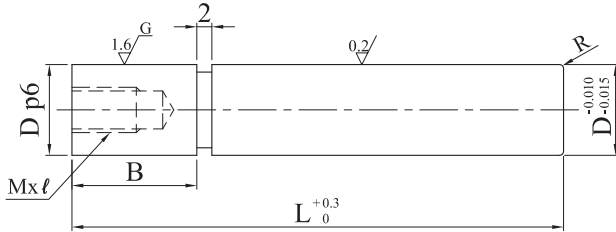
STOH 80 - 90 - LC87

D \ L	Number of grooves (n) (STOH)						
	40~	50~	70~	80~	90~	160~	180~
8	2	3	4	5	6	—	—
10	2	3	4	5	6	—	—
13	2	3	4	5	6	7	8
16	2	3	4	5	6	7	8
20	2	3	4	5	6	7	8
25	2	3	4	5	6	7	8

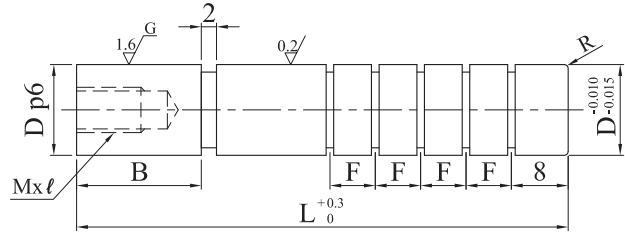
* L40 ~ 119.5 → F = 8
L120 ~ L(C)max. → F = 10



STPN



STON



Material : SUJ 2
Hardness : 58 HRC

Type	D p6		L								M x l Pitch	R	B			
STPN	8	+0.024	40	50	60	70	80				M5 x 12 P0.8	1.0	10			
	10	+0.015	40	50	60	70	80	90	100				13			
STON	13	+0.029	40	50	60	70	80	90	100	110	120	M6 x 15 P1.0	1.5	16		
	16	+0.018	50		60	70	80	90	100	110	120			20		
	20	+0.035	60			70	80	90	100	110	120	130	140	M8 x 20 P1.25	2.0	25
	25	+0.022	70			80	90	100	110	120	130	140	28			

Alterations	Code	Specification																					
	LC	STPN : $20 \leq LC < L$ STON : $40 \leq LC < L$ ↑ 0.5mm																					
	LL	Extra long type <table border="1"> <thead> <tr> <th>D</th> <th>LL</th> <th>↑ 0.5mm</th> </tr> </thead> <tbody> <tr><td>8</td><td>$80 < LL \leq 120$</td><td></td></tr> <tr><td>10</td><td>$100 < LL \leq 150$</td><td></td></tr> <tr><td>13</td><td>$120 < LL \leq 180$</td><td></td></tr> <tr><td>16</td><td>$140 < LL \leq 200$</td><td></td></tr> <tr><td>20</td><td>$140 < LL \leq 200$</td><td></td></tr> <tr><td>25</td><td>$140 < LL \leq 200$</td><td></td></tr> </tbody> </table>	D	LL	↑ 0.5mm	8	$80 < LL \leq 120$		10	$100 < LL \leq 150$		13	$120 < LL \leq 180$		16	$140 < LL \leq 200$		20	$140 < LL \leq 200$		25	$140 < LL \leq 200$	
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	BC	$0 \leq BC \leq D \times 2$ ↑ 1mm																					

Alterations	Code	Specification														
	DKC	D p6 ⇔ D m5 STON : Not available <table border="1"> <thead> <tr> <th>D</th> <th>Y</th> </tr> </thead> <tbody> <tr><td>8</td><td>+0.012</td></tr> <tr><td>10</td><td>+0.006</td></tr> <tr><td>13</td><td>+0.012</td></tr> <tr><td>16</td><td>+0.006</td></tr> <tr><td>20</td><td>+0.012</td></tr> <tr><td>25</td><td>+0.006</td></tr> </tbody> </table>	D	Y	8	+0.012	10	+0.006	13	+0.012	16	+0.006	20	+0.012	25	+0.006
D	Y															
8	+0.012															
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	GC	Tapering on the pin tip. <table border="1"> <thead> <tr> <th>D</th> <th>Y</th> </tr> </thead> <tbody> <tr><td>8</td><td>3</td></tr> <tr><td>10</td><td></td></tr> <tr><td>13</td><td></td></tr> <tr><td>16</td><td>5</td></tr> <tr><td>20</td><td></td></tr> <tr><td>25</td><td></td></tr> </tbody> </table>	D	Y	8	3	10		13		16	5	20		25	
D	Y															
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8 - 10	1.0	1.5 - 2.0														
13 - 16	1.5	2.0 - 2.5														
20 - 25	2.0	2.5 - 3.0														

How to order : Type - D - L - Alterations

Example : STPN 16 - 80

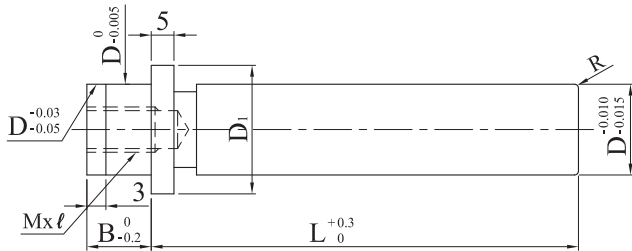
STON 20 - 100 - BC35

D \ L	Number of grooves (n) (STON)						
	40~	50~	70~	80~	90~	160~	180~
8	2	3	4	5	6	—	—
10	2	3	4	5	6	—	—
13	2	3	4	5	6	7	8
16	2	3	4	5	6	7	8
20	2	3	4	5	6	7	8
25	2	3	4	5	6	7	8

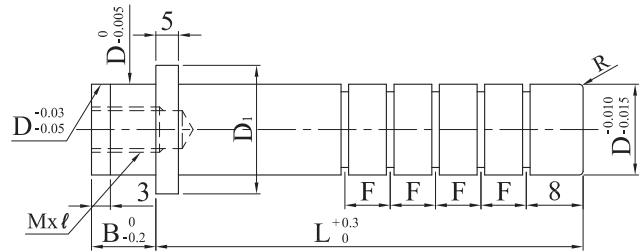
* L40 ~ 119.5 → F = 8
L120 ~ L(C)max. → F = 10



STGR



STOR



Material : SUJ 2
Hardness : 58 HRC

Type	D	L						M x l Pitch	D ₁	R	B	
STGR	8	30	40	50	60	70	M5 x 12 P0.8	13	1.0	8		
	10	30	40	50	60	70		80			16	
STOR	13	40	50	60	70	80	90	100	M6 x 15 P1.0	20	1.5	10
	16	40	50	60	70	80	90	100		110		
	20	50	60	70	80	90	100	110	120	M8 x 20 P1.25	27	2.0
25	60	70	80	90	100	110	120	32	16			

Alterations	Code	Specification														
	BC	$5 \leq BC < B$ ↑ 1mm														
	GC	Tapering on the pin tip. <table border="1"> <thead> <tr> <th>D</th> <th>Y</th> </tr> </thead> <tbody> <tr><td>8</td><td>3</td></tr> <tr><td>10</td><td>3</td></tr> <tr><td>13</td><td>5</td></tr> <tr><td>16</td><td>5</td></tr> <tr><td>20</td><td>5</td></tr> <tr><td>25</td><td>5</td></tr> </tbody> </table>	D	Y	8	3	10	3	13	5	16	5	20	5	25	5
D	Y															
8	3															
10	3															
13	5															
16	5															
20	5															
25	5															
	RC	<table border="1"> <thead> <tr> <th>D</th> <th>R</th> <th>RC</th> </tr> </thead> <tbody> <tr><td>8 - 10</td><td>1.0</td><td>1.5 - 2.0</td></tr> <tr><td>13 - 16</td><td>1.5</td><td>2.0 - 2.5</td></tr> <tr><td>20 - 25</td><td>2.0</td><td>2.5 - 3.0</td></tr> </tbody> </table>	D	R	RC	8 - 10	1.0	1.5 - 2.0	13 - 16	1.5	2.0 - 2.5	20 - 25	2.0	2.5 - 3.0		
D	R	RC														
8 - 10	1.0	1.5 - 2.0														
13 - 16	1.5	2.0 - 2.5														
20 - 25	2.0	2.5 - 3.0														

Alterations	Code	Specification																					
	LC	Overall length alteration $30 \leq LC < L$ ↑ 0.5mm																					
	LL	Overall length alteration (Long type LL) <table border="1"> <thead> <tr> <th>D</th> <th>LL</th> <th>↑ 0.5mm</th> </tr> </thead> <tbody> <tr><td>8</td><td>$70 < LL \leq 80$</td><td></td></tr> <tr><td>10</td><td>$80 < LL \leq 100$</td><td></td></tr> <tr><td>13</td><td>$100 < LL \leq 120$</td><td></td></tr> <tr><td>16</td><td>$120 < LL \leq 140$</td><td></td></tr> <tr><td>20</td><td>$120 < LL \leq 140$</td><td></td></tr> <tr><td>25</td><td>$120 < LL \leq 140$</td><td></td></tr> </tbody> </table>	D	LL	↑ 0.5mm	8	$70 < LL \leq 80$		10	$80 < LL \leq 100$		13	$100 < LL \leq 120$		16	$120 < LL \leq 140$		20	$120 < LL \leq 140$		25	$120 < LL \leq 140$	
D	LL	↑ 0.5mm																					
8	$70 < LL \leq 80$																						
10	$80 < LL \leq 100$																						
13	$100 < LL \leq 120$																						
16	$120 < LL \leq 140$																						
20	$120 < LL \leq 140$																						
25	$120 < LL \leq 140$																						

How to order : Type - D - L - Alterations

Example : STGR 10 - 80

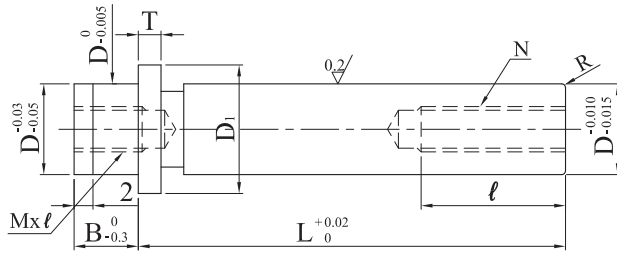
STOR 20 - 100 - GC

D \ L	Number of grooves (n)				
	30~	40~	50~	70~	80~
8	2	3	4	5	—
10	2	3	4	5	6
13	2	3	4	5	6
16	2	3	4	5	6
20	2	3	4	5	6
25	2	3	4	5	6

* L40 ~ 119.5 → F = 8
L120 ~ L(C)max. → F = 10



STPW



Material : SUJ 2
Hardness : 58 HRC

Type	D	L \uparrow 5mm	M x l Pitch	N Pitch	l	D ₁	R	T	B
STPW	8	25 - 70	M4 x 12 P0.7	M4 P0.7	8 - 13	12	1.0	3	8
	10					14			
	13	30 - 75	M5 x 15 P0.8	M5 P0.8	10 - 15	17	1.5	5	10
	16	40 - 100	M6 x 15 P1.0	M6 P1.0		23			
	20	60 - 120	M8 x 20 P1.25	M8 P1.25	16 - 21	27	2.0		
	25					32		16	

Alterations	Code	Specification	Alterations	Code	Specification
	BC	$5 \leq BC < B$ \uparrow 1mm		LC	D 8-13 $20 \leq LC < L$ \uparrow 0.5mm D 16-25 (Lmin -5) $\leq LC < L$

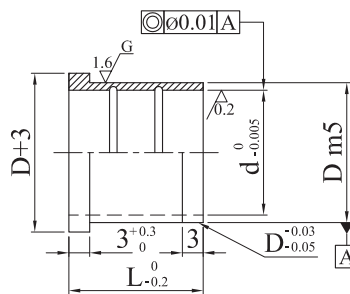
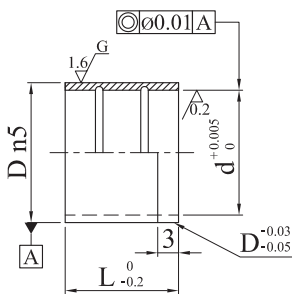
How to order : Type - D - L - Alterations

Example : STPW 10 - 80 - BC8

STPW 20 - 100

SPBA

SPBH



Material : SUJ 2
Hardness : 58 HRC

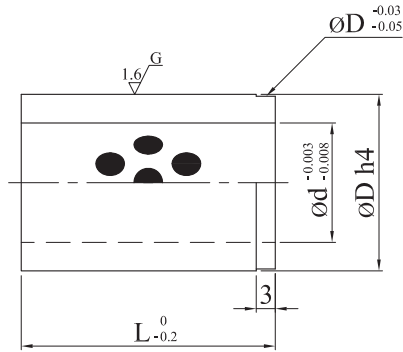
Type	D	L	D n5	Type	D	L	D m5	
SPBA	8	10 13 16 20	12	SPBH	8	10 13 16 20	12	
	10	10 13 16 20 25	14		10	10 13 16 20 22 25	14	+ 0.015 + 0.007
	13	13 16 20 25	18		13	13 16 20 22 25 30 35	18	
	16	16 20 25 30	22		16	13 16 20 22 25 30 35	22	+ 0.017 + 0.008
	20	20 25 30	25		20	16 20 22 25 30 35	25	
	25	25 30 35	32		25	20 22 25 30 35	32	+ 0.020 + 0.009

How to order : Type - D - L

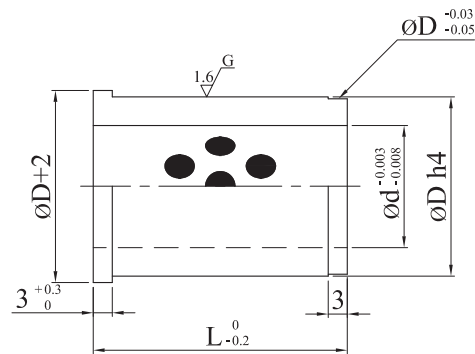
Example : SPBA 10 - 20



STSW (Straight type)



STFW (Flange type)



Material : Bronze
with graphite

Type	d	L	D h7	
STSW STFW	13	20	20	0 -0.006
		25		
		30		
	16	20	24	
		25		
		30		
		35		
	20	20	28	
		25		
		30		
		35		
	25	20	34	
25				
30				
35				
40				

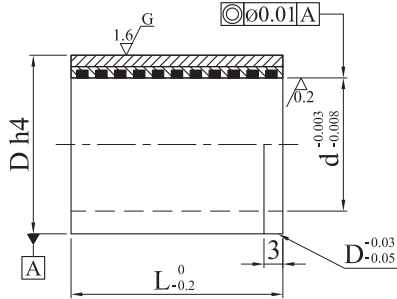
How to order : Type - d - L

Example : STSW 16 - 30

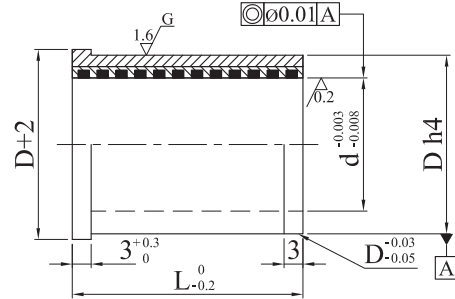
STFW 20 - 40



SGCC

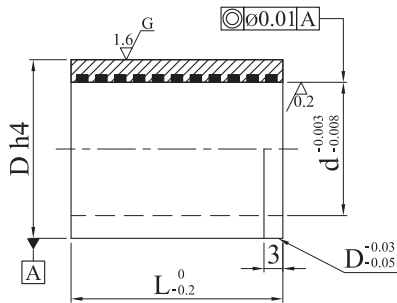


SGFC

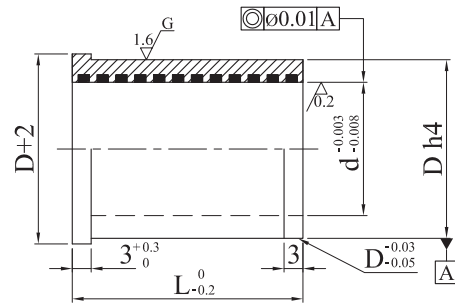


Material : SUJ-2 + Copper Alloy MoS₂
Hardness : 45 HRC

SGBC



SGHC



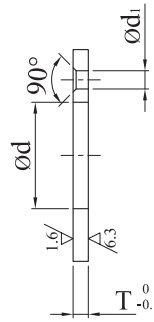
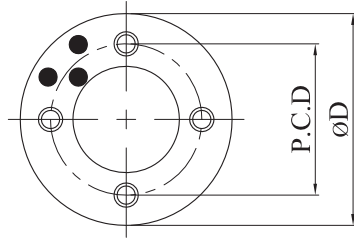
Material : FC250
MoS₂

Type	d	L							D h4		
SGCC	10	10	13	16	20	22	25	16	⁰ -0.005		
	13		13	16	20	22	25	20	⁰ -0.006		
SGBC	16			16	20	22	25	30		35	24
SGFC	20				20	22	25	30	35	28	
SGHC	25				20	22	25	30	35	34	⁰ -0.007

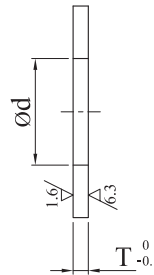
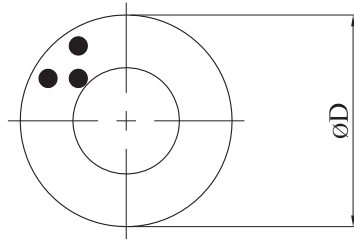
How to order : Type - d - L

Example : SGCC 13 - 20

WSBW



WSBW-N
 (without Bolt Holes)



Material : Bronze
 with graphite

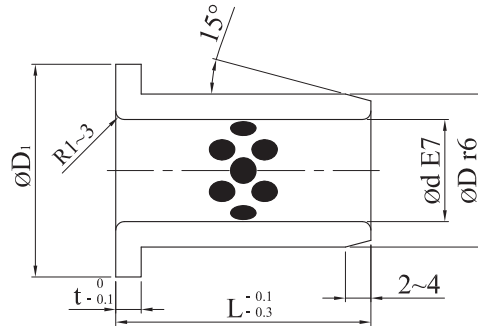
Type	No.	d	D	T	P.C.D	Number of Holes	Flat head screw	d ₁		
WSBW WSBW-N	10	10.2	30	3	20	2	M3	3.5		
	12	12.2	40		28					
WSBW	13	13.2							50	35
	14	14.2								
	15	15.2								
WSBW WSBW-N	16	16.2	55		5				40	M5
WSBW	18	18.2								
WSBW WSBW-N	20	20.2	60	7	60	M6	7			
WSBW	25	25.2						70	67.5	
	30	30.2								
	35	35.2	80	8	75	M8	9			
40	40.2	100						90		
45	45.3									
WSBW	50		50.3	110	10	85	M10		11	
	55	55.3	120					95		
	60	60.3								130
	65	65.3		140						
	70	70.3	150							
	75	75.3			170					
80	80.3	190		120						
90	90.5		200			175				
100	100.5									
120	120.5									

How to order : Type - No.

Example : WSBW 45

WSBW-N 16

FSBW



Material : Bronze
with graphite

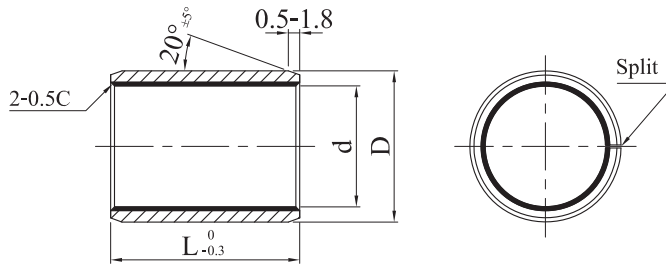
Type	d E7		D r6	L						D ₁	t		
FSBW	8	+0.040	12	10	15					20	2		
	10	+0.025	14	12	15					22			
	12	+0.050 +0.032	18	15							25	3	
	13		19	15	17	20					26		
	14		20	15	20	25	30				27		
	15	21	+0.041 +0.028	15	20						28	3	
	16	22		15	20	25	40				29		
	18	24		20	25	30					32		
	20	+0.061 +0.040	30	15	18	20	23	25	30	35	40	40	5
	25		35	15	20	30	40	50				45	
	30	+0.075 +0.050	40	20	25	30	35	40	50			50	5
	31.5		45	20	25	30	35	40	50			60	
	35		50	20	25	30	35	40	50			65	
	40	+0.060 +0.041	55	20	25	30	35	40	50	60		70	7.5
	45		60	20	25	30	35	40	50	60		75	
	50	+0.090 +0.060	65	30	35	40	60					80	10
	55		75	30	35	40	50	80				90	
	60		85	50	80	67.5						85	
	63	+0.073 +0.051	90	50	80							105	10
	70		100	60	80							110	
	75	+0.107 +0.072	110	60	80							120	10
	80		120	60	80							130	
	90		140	80	100								
	100				80	100						170	
120													

How to order : Type - d - D - L

Example : FSBW 20 - 30 - 30



SMB



Material : Steel bronze powder
with PTFE

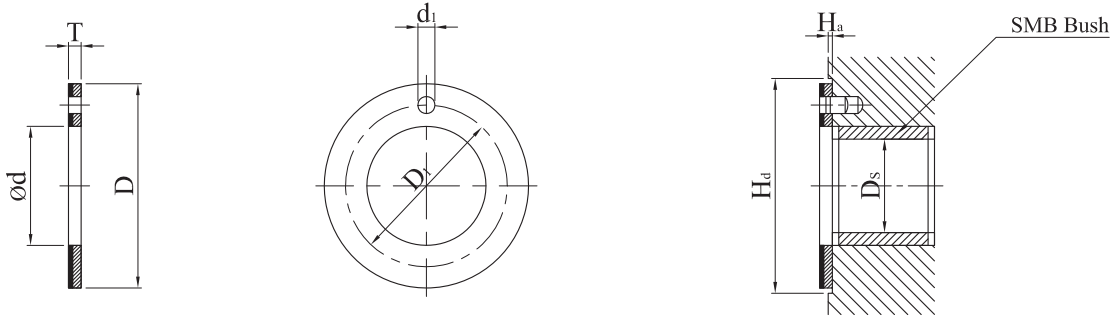
Type	d	D	L					Shaft Diameter	Housing Die				
SMB 006	6	8	6	8	10		6	-0.010 -0.022	8	+0.015 0			
SMB 008	8	10	6	8	10	12	15		10				
SMB 010	10	12	6	8	10	12	15	20	12				
SMB 012	12	14	6	8	10	12	15	20	25				
SMB 013	13	15			10		20		13	+0.018 0			
SMB 014	14	16			10	12	15	20	25				
SMB 015	15	17			10	12	15	20	25				
SMB 016	16	18			10	12	15	20	25				
SMB 017	17	19			10	12		20	17				
SMB 018	18	20			10	12	15	20	25				
SMB 020	20	23			10	12	15	20	25	30	+0.021 0		
SMB 022	22	25			10	12	15	20	25	30			
SMB 024	24	27				15	20	25	30				
SMB 025	25	28			10	12	15	20	25	30	40	50	
SMB 028	28	32				15	20	25	30	40			
SMB 030	30	34			12	15	20	25	30	40			
SMB 032	32	36				20		30	40				
SMB 035	35	39			12	15	20	25	30	40	50		
SMB 038	38	42				15		30	40				
SMB 040	40	44			12		20	25	30	40	50		
SMB 045	45	50					20	25	30	40	50		
SMB 050	50	55				20		30	40	50	60		
SMB 055	55	60					30	40	50	60			
SMB 060	60	65					30	40	50	60	70		
SMB 065	65	70					30	40	50	60	70		
SMB 070	70	75					40	50	60	70	80		
SMB 075	75	80					30	40	50	60	70	80	
SMB 080	80	85					40	50	60	70	80	100	
SMB 085	85	90					40		60	80	100		
SMB 090	90	95					40	50	60	80	100		
SMB 095	95	100						50	60	80	100		
SMB 100	100	105						50	60	80	115	100	
SMB 105	105	110							60	80	115	105	
SMB 110	110	115							60	80	115	110	
SMB 120	120	125							60	80	100	120	
SMB 125	125	130							60		100	115	125
SMB 130	130	135							60	80	100	130	
SMB 140	140	145							60	80	100	140	
SMB 150	150	155							60	80	100	150	
SMB 160	160	165							60	80	100	115	160
SMB 180	180	185								80	100	180	
SMB 190	190	195								80	100	190	
SMB 200	200	205						60	80	100	200		
SMB 220	220	225								80	100	220	
SMB 250	250	255								80	100	250	
SMB 260	260	265								80	100	260	
SMB 280	280	285								80	100	280	
SMB 300	300	305								80	100	300	

How to order : Type - L

Example : SMB008 - 15



SMB-W



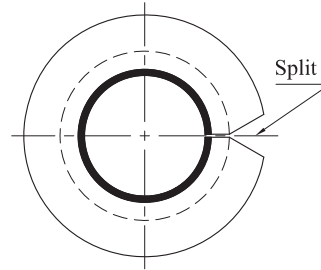
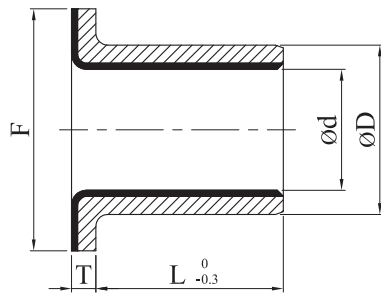
Material : Steel bronze powder
with PTFE

Shaft for SMB Bush (Ds)	Type	$d \begin{smallmatrix} +0.25 \\ 0 \end{smallmatrix}$	$D \begin{smallmatrix} 0 \\ -0.25 \end{smallmatrix}$	$T \begin{smallmatrix} 0 \\ -0.05 \end{smallmatrix}$	$D_1 \pm 0.125$	$d \begin{smallmatrix} +0.4 \\ d_{1+0.1} \end{smallmatrix}$	$H_a \pm 0.2$	$H_d \begin{smallmatrix} +0.12 \\ 0 \end{smallmatrix}$
8	SMB-W 10	10	20	1.5	15	1.5	1	20
10	SMB-W 12	12	24		18			24
12	SMB-W 14	14	26		20			26
14	SMB-W 16	16	30		23	30		
16	SMB-W 18	18	32		25			32
18	SMB-W 20	20	36		28	3		36
20	SMB-W 22	22	38		30			38
22	SMB-W 24	24	42		33			42
24	SMB-W 26	26	44		35			44
26	SMB-W 28	28	48		38	4		48
30	SMB-W 32	32	54		43			54
36	SMB-W 38	38	62		50			62
40	SMB-W 42	42	66		54			66
46	SMB-W 48	48	74		61			74
50	SMB-W 52	52	78	65	78			
60	SMB-W 62	62	90	76		90		

How to order : Type

Example : SMB-W 12

SMB-F



Material : Steel bronze powder
with PTFE

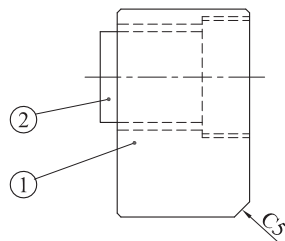
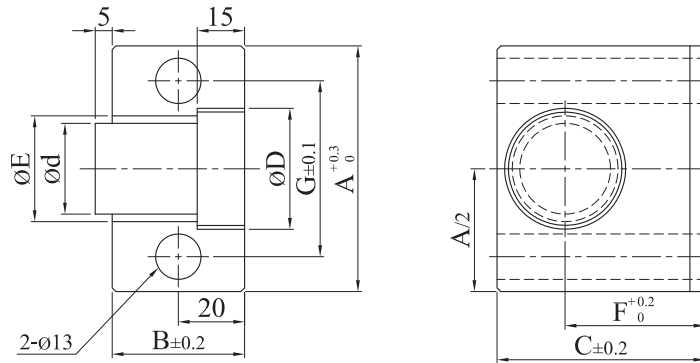
Type	d	L	F	D	T	Shaft Diameter	Housing Die
SMB-F	3	3	7	4.6	0.8	3	4.6
	4	4	9	5.6		4	5.6
	5	4 5	10	7	1	5	7
	6	5 6 7	12	8		6	8
	7	5 7	13	9		7	9
	8	6 8	15	10		8	10
	10	6 7 8 10 12 15	18	12		10	12
	12	6 8 10 12 15	20	14		12	14
	14	10 12 15	22	16		14	16
	15	10 12 15 20	23	17		15	17
	16	15 20	24	18		16	18
	18	10 12 15 20	26	20		18	20
	20	10 12 15 20 25	31	23	1.5	20	23
	22	10 12 15 20	33	25		22	25
	24	15 20 25	35	27		24	27
	25	10 12 15 20 25	36	28		25	28
	26	15 20	38	30		26	30
	28	12 15 20	40	32		28	32
	30	12 15 20 25 30	42	34	2	30	34
	31	25	45	35		31	35
	32	20 25 30	46	36		32	36
	35	12 20 25 30 40	49	39		35	39
	38	20	52	42		38	42
	40	12 20 25 30 40	54	44		40	44
45	20 25 30 40	60	50	2.5	45	50	
50	20 30 40	65	55		50	55	
55	30 40	70	60		55	60	
60	30 40	75	65		60	65	

How to order : Type - d - L - F

Example : SMB-F 20 - 25 - 31



CSTA



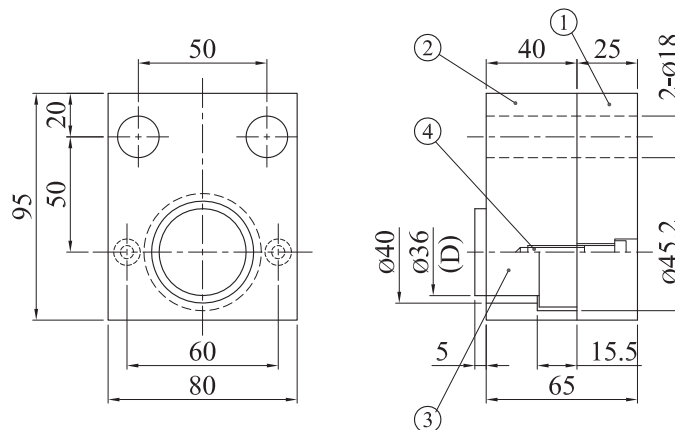
Part No. ① SS400
② Urethane A90

Type	d	A	B	C	D	E	F	G	Load (N)
CSTA	27	70	40	60	35	30	40	50	5200
	36	80	40	70	45	40	45	60	9800

How to order : Type - d

Example : CSTA 36

UCST



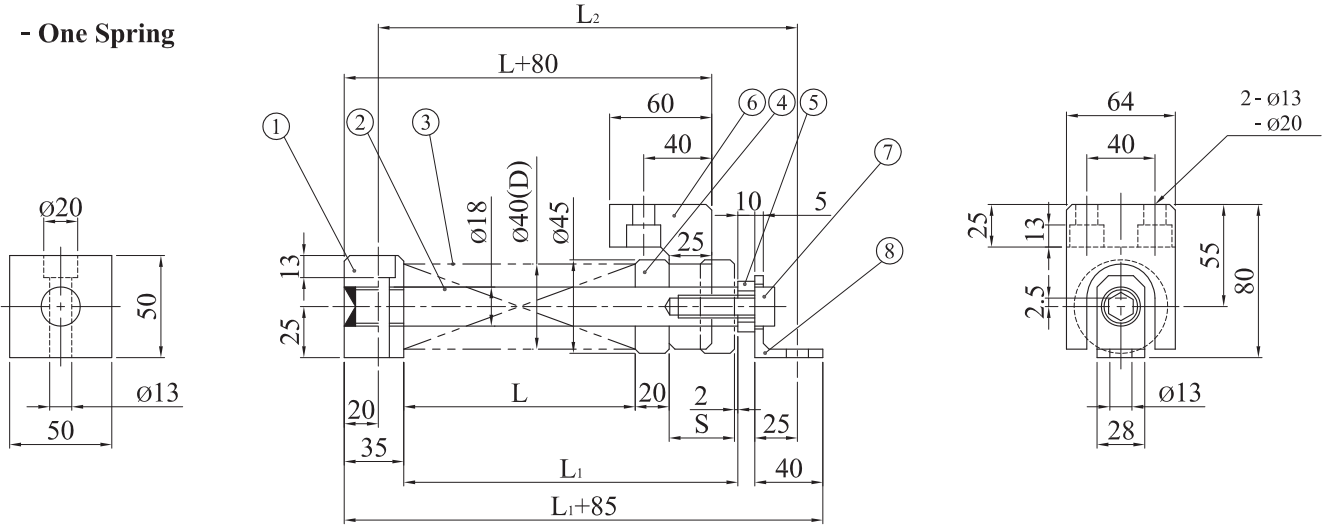
No.	Description and Material	
1	Set Plate	SS400
2	Holder Plate	SS400
3	Urethane Stopper	A90
4	Socket Bolt	M6x30

How to order : Type - D

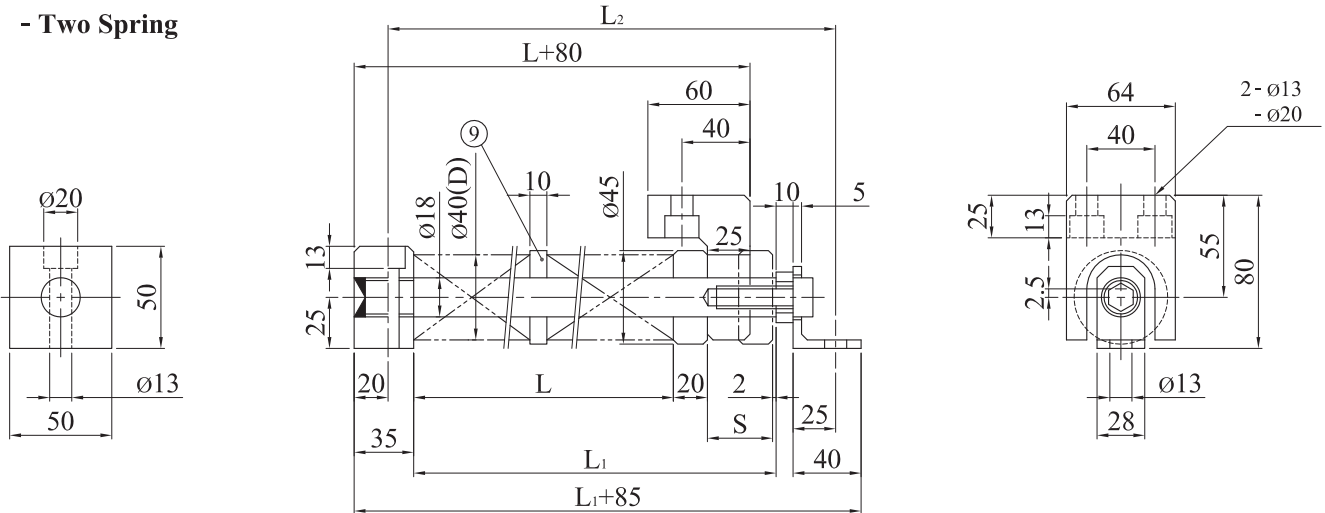
Example : UCST 36

SUL 40
SUM 40

- One Spring



- Two Spring



No.	Description and Material	
1	Spring Block	SS400
2	Spring Guide Pin	S45C 55HRC
3	Spring	TL40-, TM40-
4	Spring Retainer	FC250
5	Washer	SS400

No.	Description and Material	
6	Return Plate	SS400
7	Socket Bolt	M12x40
8	Angle	SS400
9	Collar	FC250



Type	D	S	L	L ₁	L ₂	Spring Type (Qty)	Load N (kgf)	
							min	max
SUL	40	20	68	110	160	TL40-100 (1)	635	(64.8)
		25	85	132	182	TL40-125 (1)	632	(64.4)
		30	102	154	204	TL40-150 (1)	635	(64.8)
		35	102	159	209	TL40-150 (1)	459	(46.8)
		40	119	181	231	TL40-175 (1)	485	(49.5)
		45	136	203	253	TL40-200 (1)	503	(51.3)
		50	170	242	292	TL40-250 (1)	647	(66.0)
		55	170	247	297	TL40-250 (1)	539	(55.0)
		60	214	296	346	TL40-150 (2)	627	(63.9)
		65	214	301	351	TL40-150 (2)	547	(55.8)
		70	248	340	390	TL40-175 (2)	633	(64.5)
		75	248	345	395	TL40-175 (2)	562	(57.3)
		80	282	384	434	TL40-200 (2)	635	(64.8)
		85	282	389	439	TL40-200 (2)	568	(57.9)
		90	282	394	444	TL40-200 (2)	503	(51.3)
		95	282	399	449	TL40-200 (2)	436	(44.5)
		100	350	472	522	TL40-250 (2)	647	(66.0)
		105	350	477	527	TL40-250 (2)	593	(60.5)
110	350	482	532	TL40-250 (2)	539	(55.0)		
SUM	40	20	93	135	185	TL40-125 (1)	940	(95.8)
		25	111	158	208	TL40-150 (1)	914	(93.2)
		30	149	201	251	TL40-200 (1)	1,027	(104.7)
		35	168	225	275	TL40-225 (1)	957	(97.6)
		40	186	248	298	TL40-250 (1)	938	(95.7)
		45	224	291	341	TL40-300 (1)	1,012	(103.2)
		50	270	342	392	TL40-175 (2)	1,119	(114.1)
		55	270	347	397	TL40-175 (2)	979	(99.9)
		60	308	390	440	TL40-200 (2)	1,027	(104.7)
		65	308	395	445	TL40-200 (2)	905	(92.3)
		70	344	436	486	TL40-225 (2)	1,001	(102.1)
		75	382	479	529	TL40-250 (2)	1,039	(106.0)
		80	382	484	534	TL40-250 (2)	941	(96.0)
							2,510	(255.9)

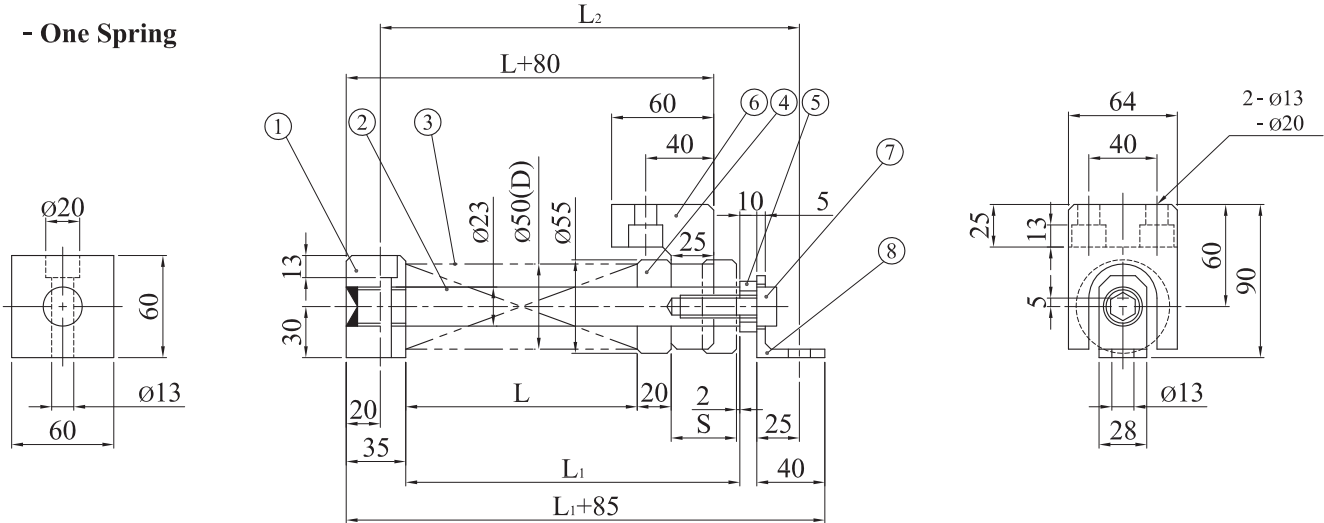
How to order : Type - D - S

Example : SUL 40 - 40

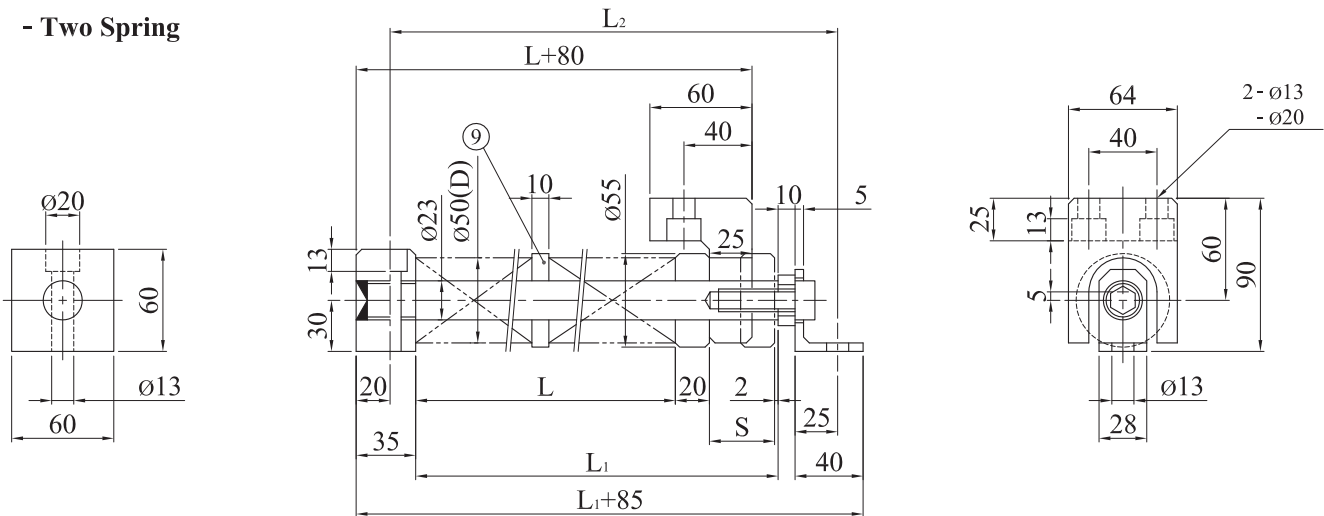
SUM 40 - 70

SUL 50
 SUM 50

- One Spring



- Two Spring



No.	Description and Material	
1	Spring Block	SS400
2	Spring Guide Pin	S45C 55HRC
3	Spring	TL50-, TM50-
4	Spring Retainer	FC250
5	Washer	SS400

No.	Description and Material	
6	Return Plate	SS400
7	Socket Bolt	M12x40
8	Angle	SS400
9	Collar	FC250



Type	D	S	L	L ₁	L ₂	Spring Type (Qty)	Load N (kgf)	
							min	max
SUL	50	20	68	110	160	TL50-100 (1)	1,020 (104.0)	2,700 (275.3)
		25	85	132	182	TL50-125 (1)	1,020 (104.0)	
		30	102	154	204	TL50-150 (1)	1,080 (110.1)	
		35	102	159	209	TL50-150 (1)	728 (74.2)	
		40	119	181	231	TL50-175 (1)	768 (78.3)	
		45	136	203	253	TL50-200 (1)	798 (81.4)	
		50	170	242	292	TL50-250 (1)	1,020 (104.0)	
		55	170	247	297	TL50-250 (1)	850 (86.7)	
		60	204	286	336	TL50-300 (1)	1,010 (103.0)	
		65	204	291	341	TL50-300 (1)	868 (88.5)	
		70	204	296	346	TL50-300 (1)	728 (74.2)	
		75	248	345	395	TL50-175 (2)	888 (90.6)	
		80	282	384	434	TL50-200 (2)	1,010 (103.0)	
		85	282	389	439	TL50-200 (2)	903 (92.1)	
		90	282	394	444	TL50-200 (2)	798 (81.4)	
		95	282	399	449	TL50-200 (2)	693 (70.7)	
		100	350	472	522	TL50-250 (2)	1,020 (104.0)	
		105	350	477	527	TL50-250 (2)	935 (95.3)	
		110	350	482	532	TL50-250 (2)	850 (86.7)	
		115	350	487	537	TL50-250 (2)	765 (78.0)	
		120	418	560	610	TL50-300 (2)	1,010 (103.0)	
		125	418	565	615	TL50-300 (2)	938 (95.6)	
		130	418	570	620	TL50-300 (2)	868 (88.5)	
		135	418	575	625	TL50-300 (2)	798 (81.4)	
140	418	580	630	TL50-300 (2)	728 (74.2)			
145	418	585	635	TL50-300 (2)	658 (67.1)			
150	418	590	640	TL50-300 (2)	588 (60.0)			
SUM	50	20	93	135	185	TL50-125 (1)	1,470 (149.9)	3,920 (400.0)
		25	111	158	208	TL50-150 (1)	1,428 (145.7)	
		30	149	201	251	TL50-200 (1)	1,607 (163.9)	
		35	168	225	275	TL50-225 (1)	1,496 (152.6)	
		40	186	248	298	TL50-250 (1)	1,470 (149.9)	
		45	224	291	341	TL50-300 (1)	1,580 (161.1)	
		50	261	333	383	TL50-350 (1)	1,705 (173.8)	
		55	261	338	388	TL50-350 (1)	1,486 (151.5)	
		60	298	380	430	TL50-200 (2)	1,990 (202.9)	
		65	298	385	435	TL50-200 (2)	1,799 (183.4)	
		70	334	426	476	TL50-225 (2)	1,904 (194.2)	
		75	372	469	519	TL50-250 (2)	1,929 (196.8)	
		80	372	474	524	TL50-250 (2)	1,776 (181.1)	

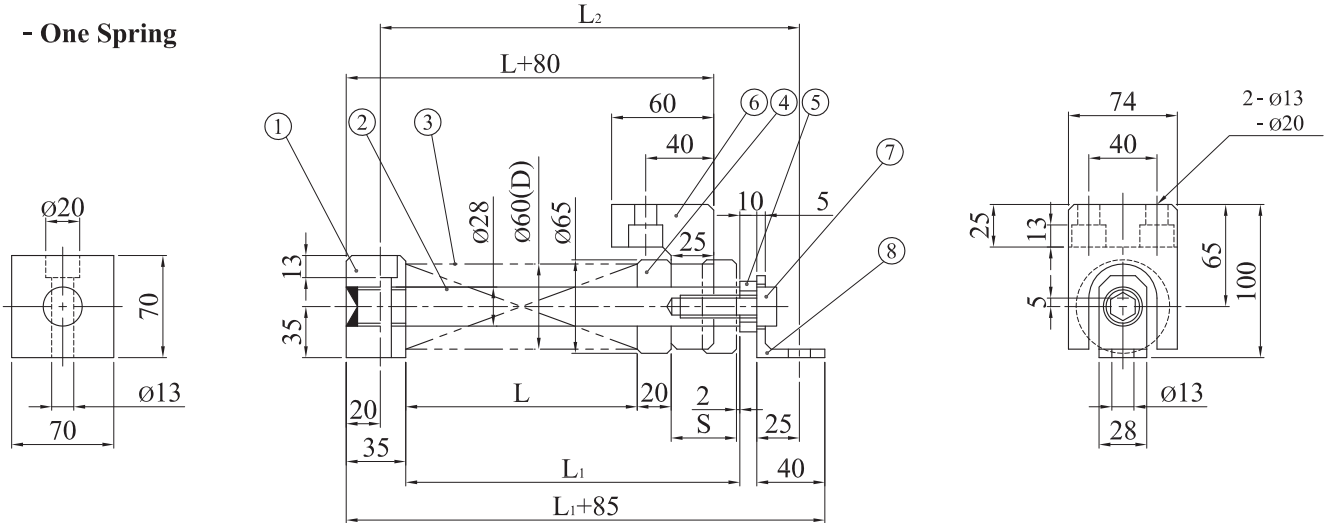
How to order : Type - D - S

Example : SUL 50 - 40

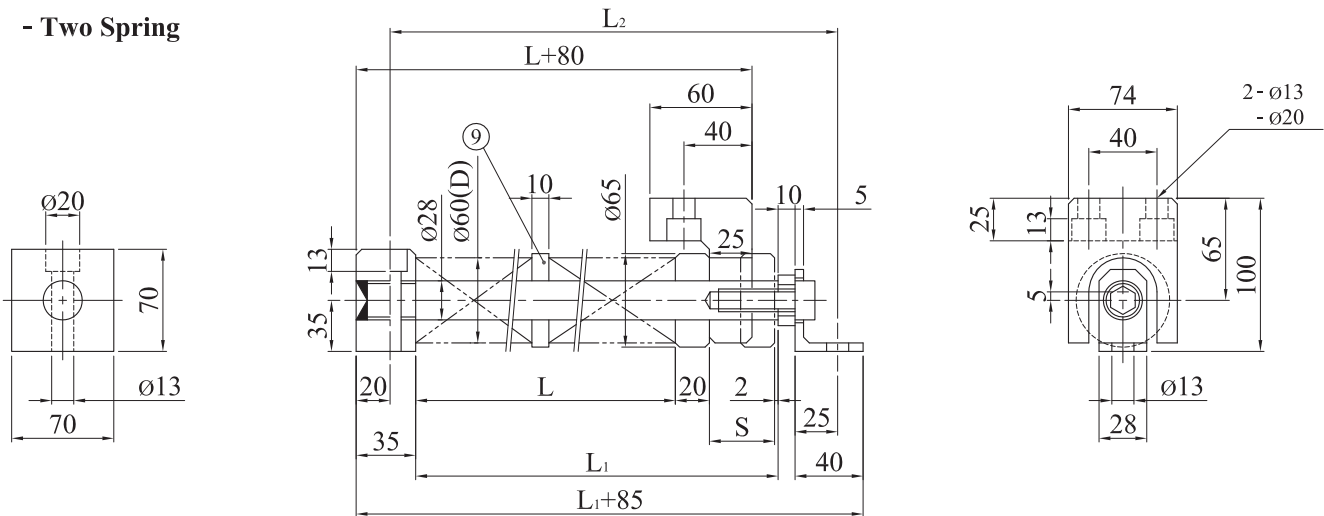
SUM 50 - 70

SUL 60
SUM 60

- One Spring



- Two Spring



No.	Description and Material	
1	Spring Block	SS400
2	Spring Guide Pin	S45C 55HRC
3	Spring	TL60-, TM60-
4	Spring Retainer	FC250
5	Washer	SS400

No.	Description and Material	
6	Return Plate	SS400
7	Socket Bolt	M12x40
8	Angle	SS400
9	Collar	FC250



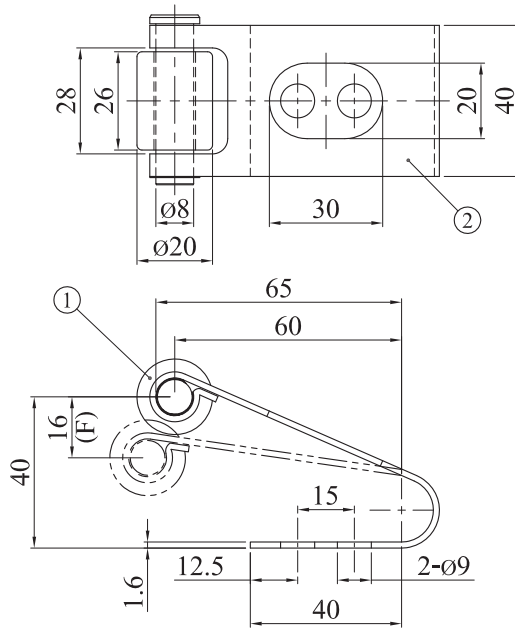
Type	D	S	L	L ₁	L ₂	Spring Type (Qty)	Load N (kgf)	
							min	max
SUL	60	20	68	110	160	TL60-100 (1)	1,464	(149.3)
		25	85	132	182	TL60-125 (1)	1,455	(148.4)
		30	102	154	204	TL60-150 (1)	1,458	(148.7)
		35	102	159	209	TL60-150 (1)	1,053	(107.4)
		40	119	181	231	TL60-175 (1)	1,104	(112.6)
		45	136	203	253	TL60-200 (1)	1,159	(118.2)
		50	170	242	292	TL60-250 (1)	1,470	(149.9)
		55	170	247	297	TL60-250 (1)	1,225	(124.9)
		60	204	286	336	TL60-300 (1)	1,476	(150.5)
		65	204	291	341	TL60-300 (1)	1,271	(129.6)
		70	204	296	346	TL60-300 (1)	1,066	(108.7)
		75	248	345	395	TL60-175 (2)	1,276	(130.1)
		80	282	384	434	TL60-200 (2)	1,464	(149.3)
		85	282	389	439	TL60-200 (2)	1,331	(135.7)
		90	282	394	444	TL60-200 (2)	1,159	(118.2)
		95	282	399	449	TL60-200 (2)	1,006	(102.6)
		100	350	472	522	TL60-250 (2)	1,470	(149.9)
		105	350	477	527	TL60-250 (2)	1,347	(137.4)
		110	350	482	532	TL60-250 (2)	1,225	(124.9)
		115	350	487	537	TL60-250 (2)	1,103	(112.5)
		120	418	560	610	TL60-300 (2)	1,476	(150.5)
		125	418	565	615	TL60-300 (2)	1,373	(140.0)
		130	418	570	620	TL60-300 (2)	1,271	(129.6)
		135	418	575	625	TL60-300 (2)	1,168	(119.1)
140	418	580	630	TL60-300 (2)	1,066	(108.7)		
145	418	585	635	TL60-300 (2)	963	(98.2)		
150	418	590	640	TL60-300 (2)	861	(87.9)		
SUM	60	20	93	135	185	TL60-125 (1)	2,116	(215.7)
		25	111	158	208	TL60-150 (1)	2,057	(209.7)
		30	149	201	251	TL60-200 (1)	2,313	(235.9)
		35	168	225	275	TL60-225 (1)	2,154	(219.6)
		40	186	248	298	TL60-250 (1)	2,114	(215.6)
		45	224	291	341	TL60-300 (1)	2,275	(232.0)
		50	261	333	383	TL60-350 (1)	2,454	(250.2)
		55	261	338	388	TL60-350 (1)	2,139	(218.1)
		60	298	380	430	TL60-200 (2)	2,864	(292.1)
		65	298	385	435	TL60-200 (2)	2,589	(264.0)
		70	334	426	476	TL60-225 (2)	2,741	(279.6)
		75	372	469	519	TL60-250 (2)	2,775	(283.0)
		80	372	474	524	TL60-250 (2)	2,555	(260.6)
							3,890 (396.7)	
							5,640 (575.0)	

How to order : Type - D - S

Example : SUL 60 - 40

SUM 60 - 70

PSLHS (Steel Type)
PSLHP (Resin Type)
 (Plate Spring Type)



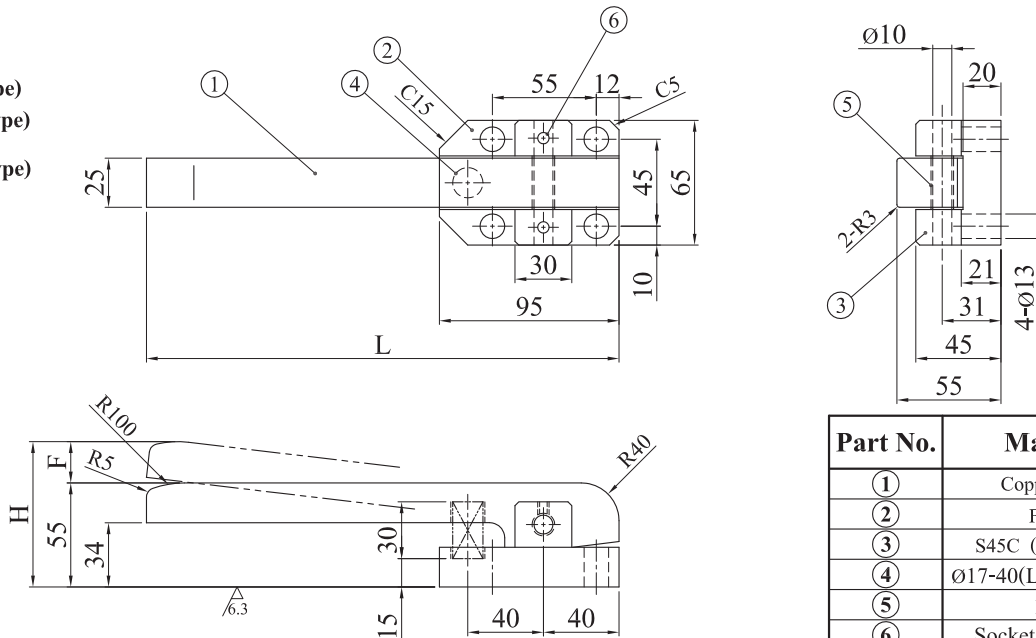
- ① Roller (Steel)
material : S45C HRC45
- Roller (Resin)
material : POM
- ② Plate Spring SK5
with Hexagon socket Bolt
M8x20 - 2pcs

Type	(F) max	Spring Constant	
		(N/mm)	(kgf/mm)
PSLHS PSLHP	16	8.43	0.86

How to order : Type - F

Example : PSLHS 16

BSPL (Light Load Type)
BSPH (Heavy Load Type)
 (Bronze Support Bar Type)



Part No.	Material
①	Copper Alloy
②	FC250
③	S45C (23-28 HRC)
④	Ø17-40(L), Ø16-40(H)
⑤	Bush
⑥	Socket Bolt M6x8

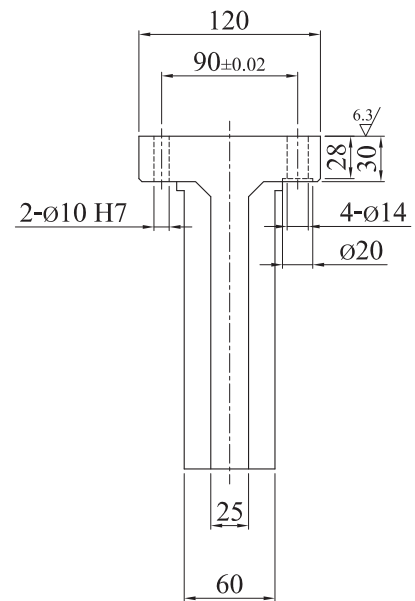
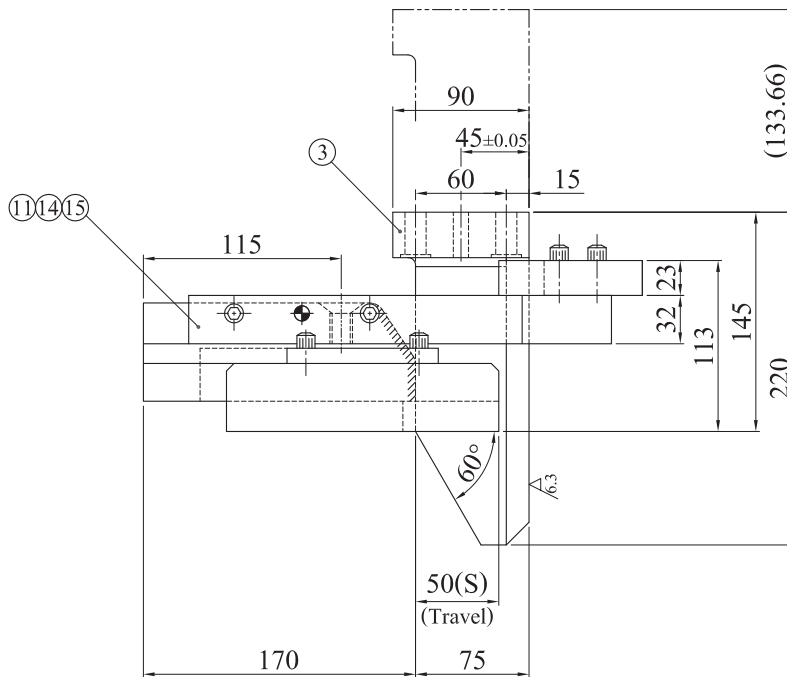
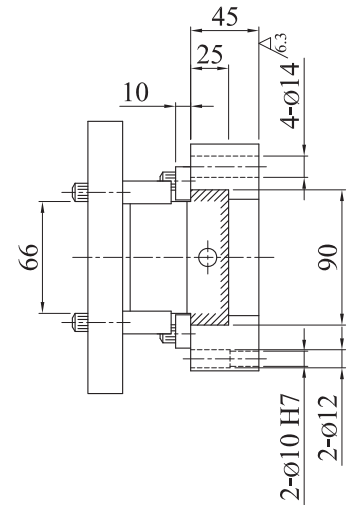
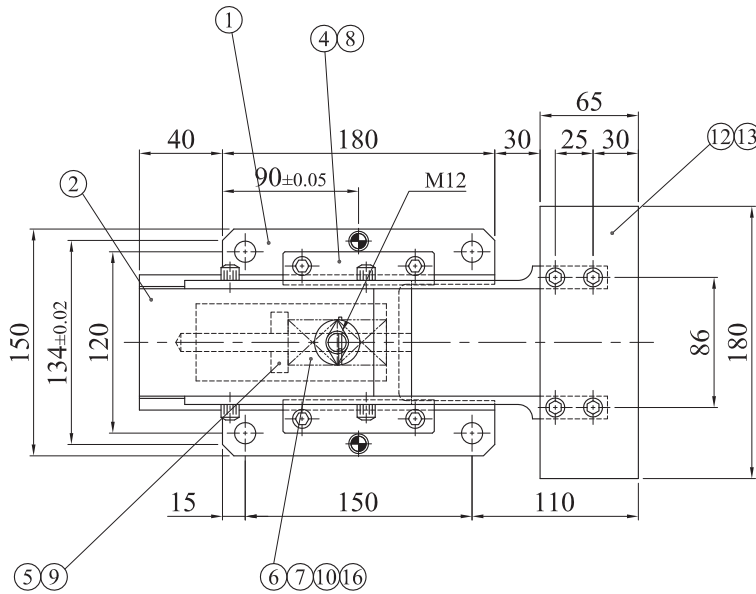
Type	L	H	F	Spring load (N)	
				Installation	Final
BSPL	250	73.3	18.3	57	95
	250			240	400
BSPH	300	85.1	30.1	223	439

How to order : Type - L

Example : BSPH 250



CSTC



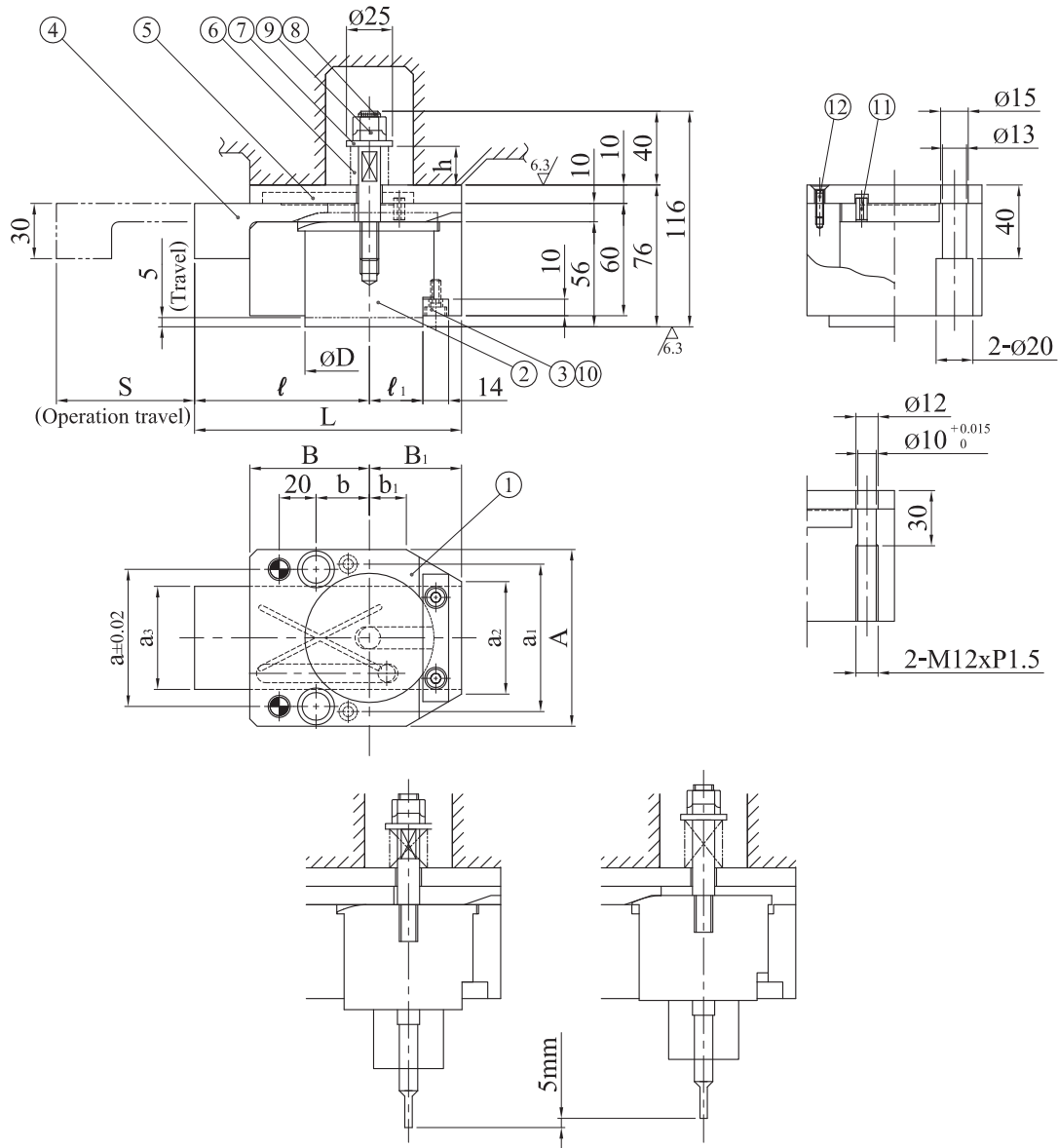
No.	Description and Material	No.	Description and Material
1	Base FC250	9	Set Screw M6x10
2	Slider FC250 Oil Free Type	10	Dowel Pin 6x30
3	Driver FC250	11	Arm SS400
4	Upper Plate SS400	12	Plate SS400
5	Spring Stopper SS400	13	Socket Bolt M10x45
6	Guide Pin SS400	14	Socket Bolt M12x35
7	Spring TF30-65	15	Dowel Pin 10x40
8	Socket Bolt M10x25	16	Washer S45C

How to order : Type - S

Example : CSTC 50



RPRUH



No.	Description and Material	
1	Slide Casing	S45C HRC 25-28
2	Float Pin	SS400
3	Key	S45C HRC 40-45
4	Slide Plate	S45C HRC 55-60
5	Backing Plate	S45C HRC 25-28
6	Spring	SWY20.5-35

No.	Description and Material	
7	Washer	SS400
8	Stud Bolt	S45C $\phi 12 \times 80$
9	Hand Lock Nut	M10
10	Socket Head Bolt	M6x15
11	Spring Pin	SUP $\phi 6 \times 12$
12	Cross-recessed Head Countersunk Head Screw	M5x16

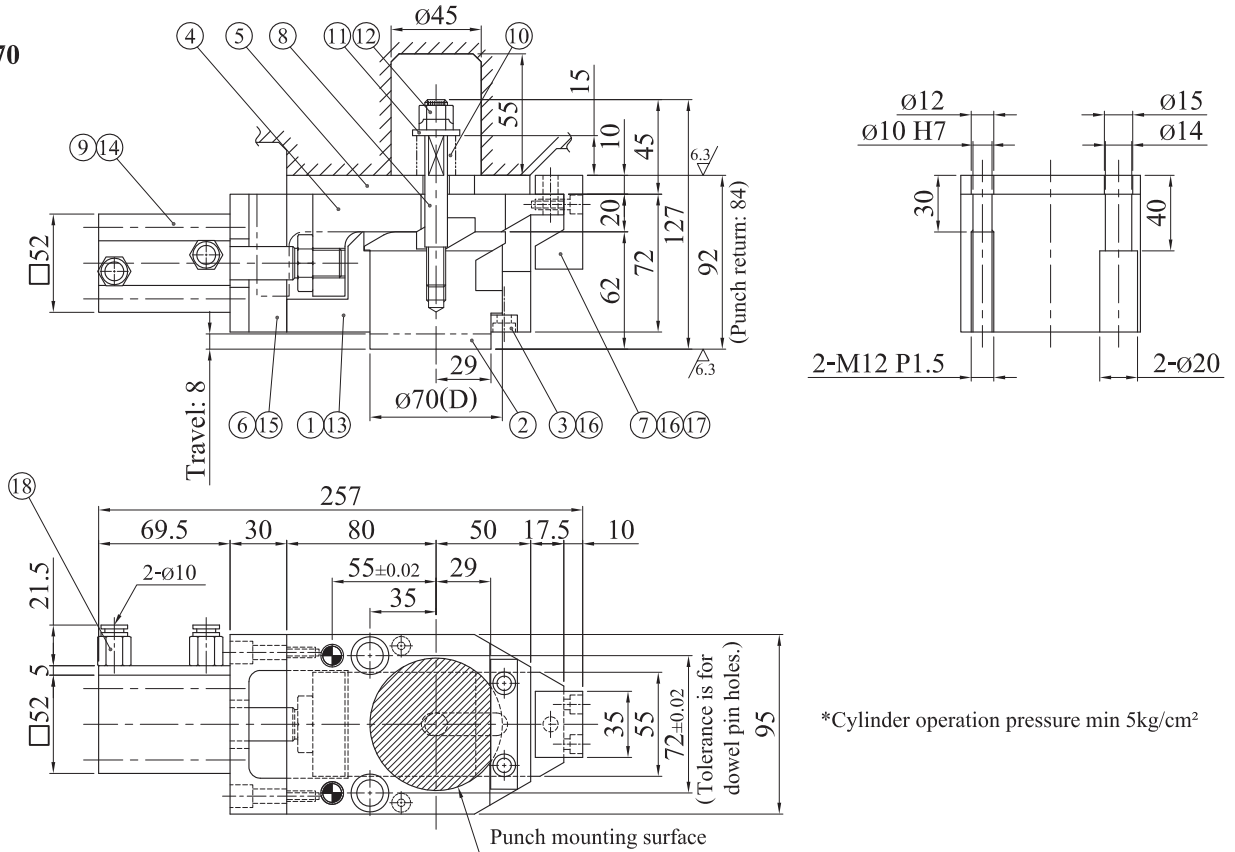
Type	D	L	ℓ	ℓ_1	h	A	a	a_1	a_2	a_3	B	B_1	b	b_1	Spring		Cylinder Travel
															Initial Load N	Final Load N	
RPRUH	55	133	90	24	23	80	58	66	45	40	60	43	30	13	33	72	60
	70	145	95	29	21	95	72	80	60	55	65	50	35	18	38	76	75

How to order : Type - D

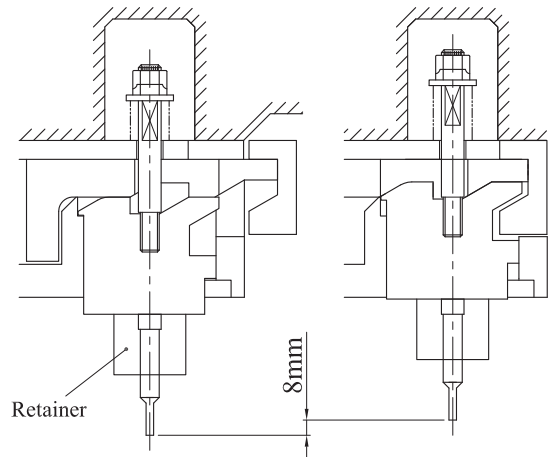
Example : RPRUH 55



RPRUG 70



No.	Description and Material	
1	Slide Casing	S45C HRC 25-28
2	Float Pin	S45C
3	Key	S45C HRC 40-45
4	Slide Plate	S45C HRC 55-60
5	Backing Plate	S45C HRC 25-28
6	Block	SS400
7	Positive Return	S45C HRC 55-60
8	Stud Bolt	SS400
9	Cylinder	SSD-L-40-30-N By CKD
10	Spring	TR21-30
11	Washer	SS400
12	Hard Lock Nut	M10
13	Cross-recessed Head Countersunk Head Screw	M5x16
14	Socket Head Bolt	M5x75



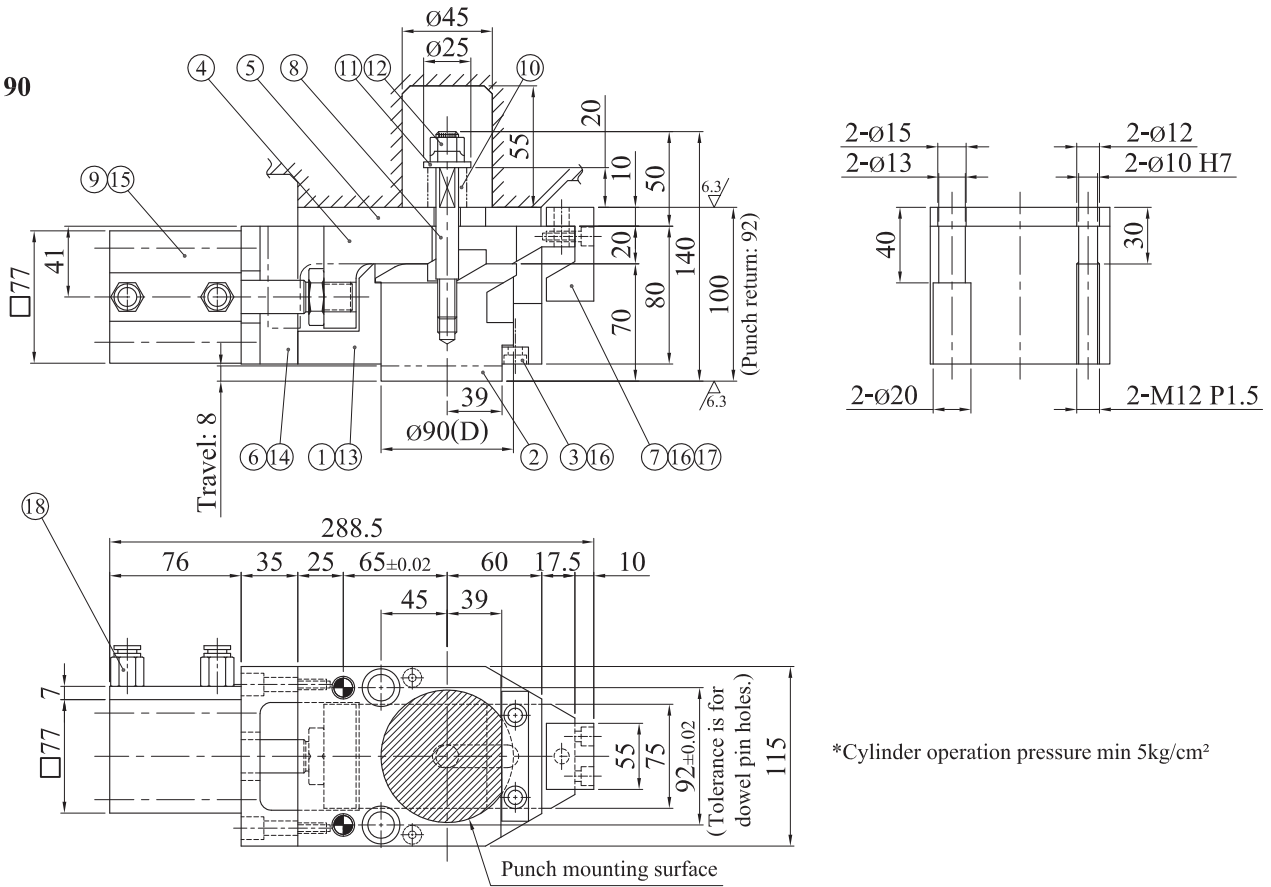
No.	Description and Material	
15	Socket Head Bolt	M8x30
16	Socket Head Bolt	M6x15
17	Dowel Pin	ø8x18
18	Male Connector	GWS10-6 By CKD

Type	D	Spring		Cylinder Travel
		Initial Load N	Final Load N	
RPRUG	70	96	206	30

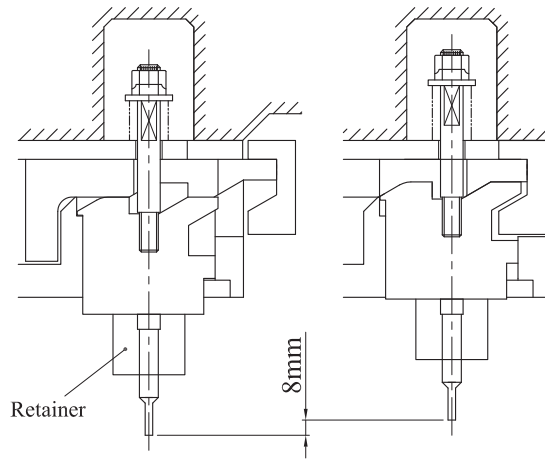
How to order : Type - D

Example : RPRUG 70

RPRUG 90



No.	Description and Material	
1	Slide Casing	S45C HRC 25-28
2	Float Pin	S45C
3	Key	S45C HRC 40-45
4	Slide Plate	S45C HRC 55-60
5	Backing Plate	S45C HRC 25-28
6	Block	SS400
7	Positive Return	S45C HRC 55-60
8	Stud Bolt	SS400
9	Cylinder	SSD-L-63-30-N By CKD
10	Spring	TR21-40
11	Washer	SS400
12	Hard Lock Nut	M10
13	Cross-recessed Head Countersunk Head Screw	M5x16
14	Socket Head Bolt	M8x30



No.	Description and Material	
15	Socket Head Bolt	M8x80
16	Socket Head Bolt	M6x16
17	Dowel Pin	ø8x18
18	Male Connector	GWS10-8 By CKD

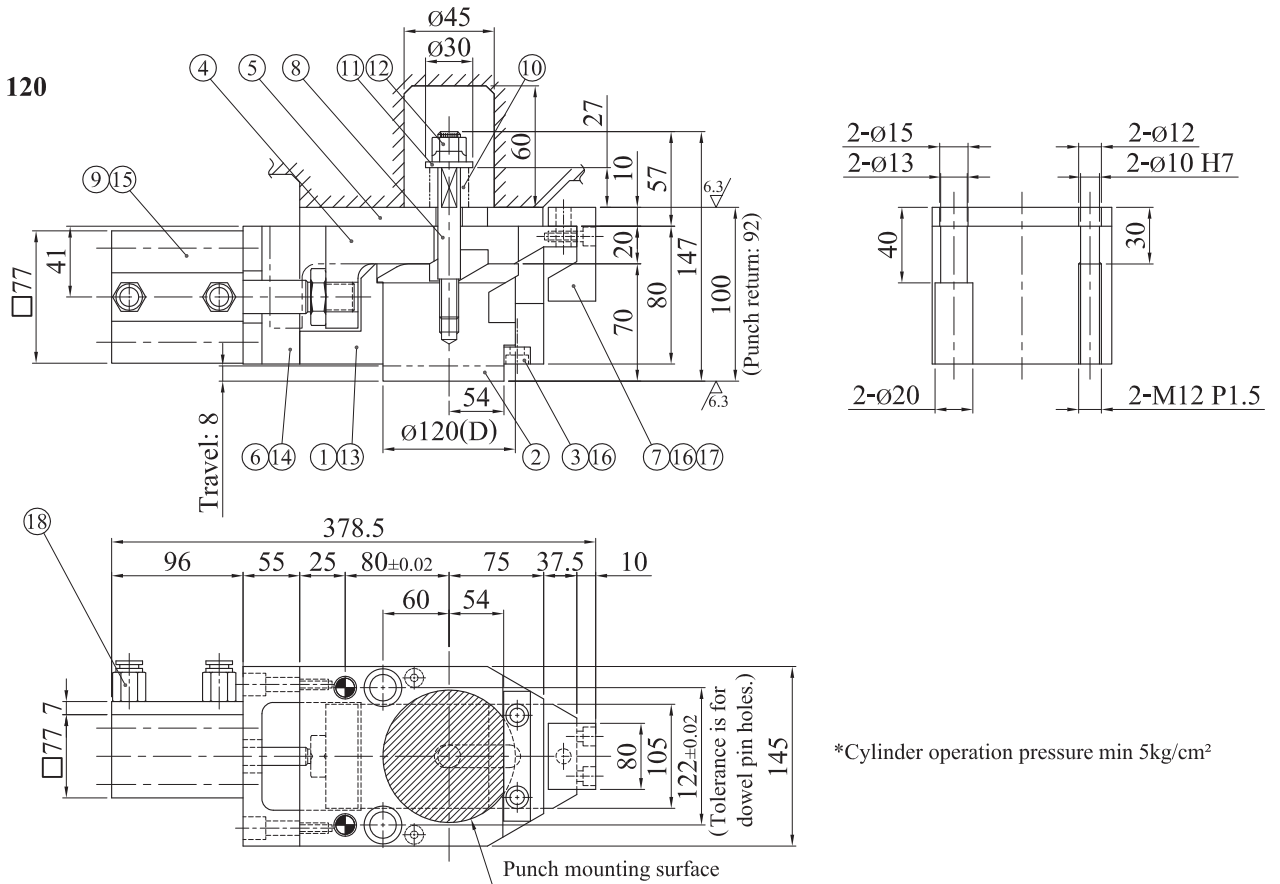
Type	D	Spring		Cylinder Travel
		Initial Load N	Final Load N	
RPRUG	90	124	206	30

How to order : Type - D

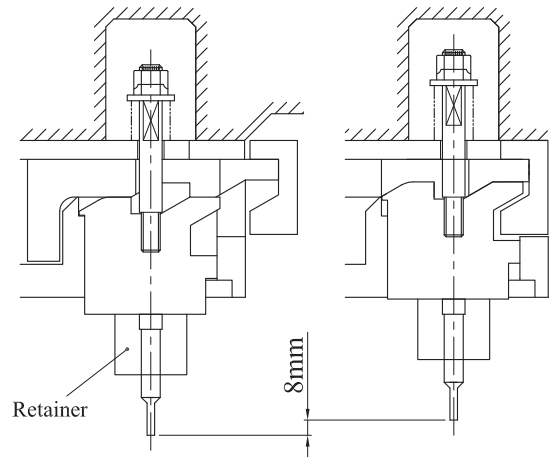
Example : RPRUG 90



RPRUG 120



*Cylinder operation pressure min 5kg/cm²



No.	Description and Material	
1	Slide Casing	S45C HRC 25-28
2	Float Pin	S45C
3	Key	S45C HRC 40-45
4	Slide Plate	S45C HRC 55-60
5	Backing Plate	S45C HRC 25-28
6	Block	SS400
7	Positive Return	S45C HRC 55-60
8	Stud Bolt	SS400
9	Cylinder	SSD-L-63-50-N By CKD
10	Spring	TF25-45
11	Washer	SS400
12	Hard Lock Nut	M10
13	Cross-recessed Head Countersunk Head Screw	M5x16
14	Socket Head Bolt	M8x55

No.	Description and Material	
15	Socket Head Bolt	M8x95
16	Socket Head Bolt	M6x15
17	Dowel Pin	$\phi 8 \times 18$
18	Male Connector	GWS10-8 By CKD

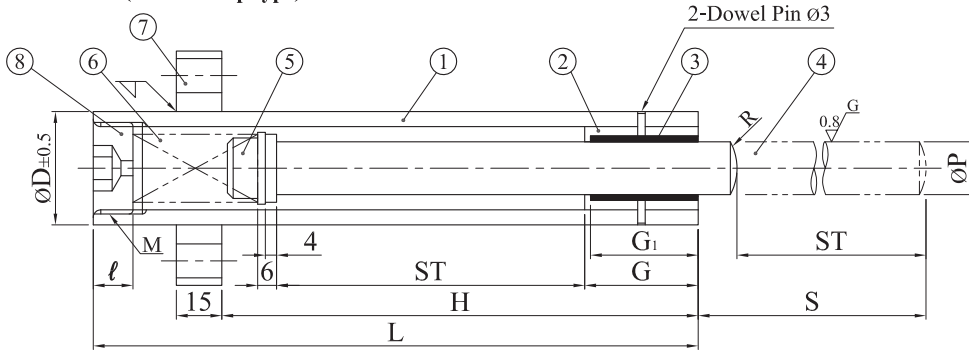
Type	D	Spring		Cylinder Travel
		Initial Load N	Final Load N	
RPRUG	120	218	392	50

How to order : Type - D

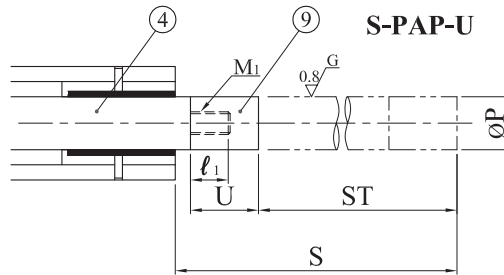
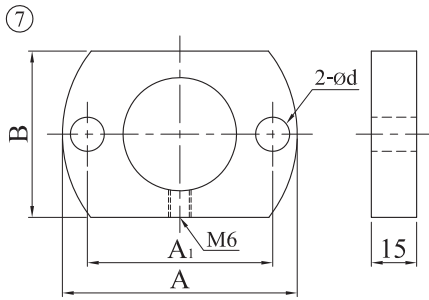
Example : RPRUG 120

S-PAP (steel tip type)
S-PAP-U (urethane tip type)

Part No. ①,②,⑤,⑦ material : SS400



- ③ Oil Free Bush
- ④ Pin SKD61 , 40-50 HRC 900 HV
- ⑥ Spring , SWP-A
- ⑧ Screw Plugs (washer short type)
- ⑨ Urethane , A90



Type	P	S	L (↑10mm)	H (↑1mm)	FL	spring constant K N/mm (Kgf/mm)	Maximum	
							Flexure fmax.	Load N(Kgf)
S-PAP	13	100	150-250	$0 \leq H \leq L-20$	125	0.45 (0.046)	87.5	39.2 (4)
		150			0.37 (0.038)	105		
		175			0.32 (0.033)	122.5		
		200			0.27 (0.028)	140		
		250			0.23 (0.023)	175		
	16	100	150-350	$0 \leq H \leq L-20$	125	0.55 (0.056)	87.5	
		150			0.47 (0.048)	105		
		175			0.39 (0.040)	122.5		
		200			0.34 (0.035)	140		
		250			0.28 (0.029)	175		
S-PAP-U	20	100	180-500	$0 \leq H \leq L-20$	90	0.95 (0.097)	63	58.8 (6)
		150			0.57 (0.058)	105		
		175			0.48 (0.049)	123		
		200			0.42 (0.043)	140		
		250			0.33 (0.034)	175		
		300			0.28 (0.029)	210		
		350			0.24 (0.024)	245		
		400			0.21 (0.021)	280		
		425			0.20 (0.020)	298		
		450			0.19 (0.019)	315		
500	0.17 (0.017)	350						

P	part No.①					part No.④				part No.⑦			
	D	G	G ₁	ℓ	M	R	U	M ₁	ℓ ₁	A	A ₁	B	d
13	27.2	22	20	10	22	20	15	M6	9	70	52	40	11
16	34.0	27	25	10	26	25	20	M8	12	80	60	50	11
20	42.7	32	30	12	33	30	25	M8	12	90	70	60	13

How to order : Type - P - S - L - H - FL

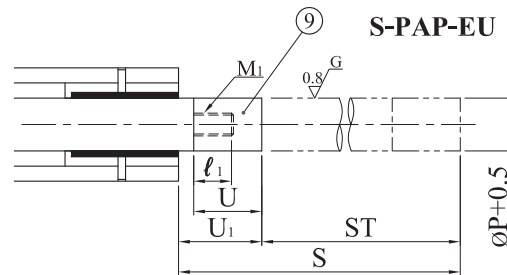
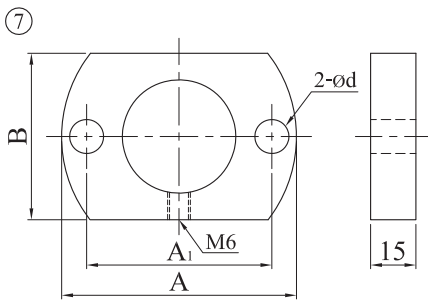
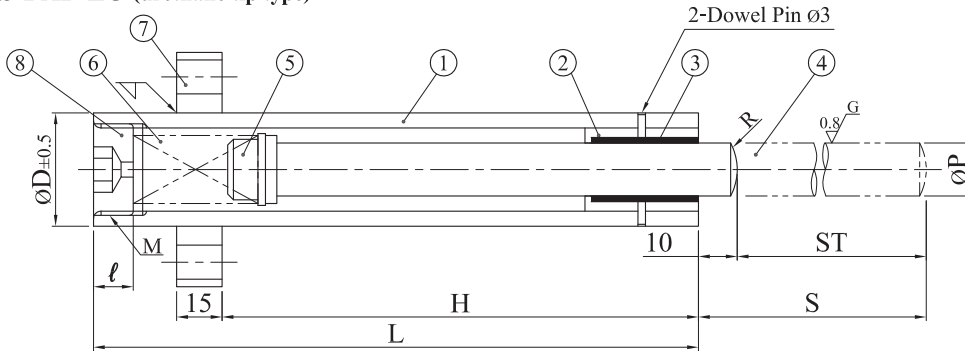
Example : S-PAP 16 - 200 - 280 - 220 - 250



S-PAP-E (steel tip type)
S-PAP-EU (urethane tip type)

Part No. ①,②,⑤,⑦ material : SS400

- ③ Oil Free Bush
- ④ Pin SKD61 , 40-50 HRC 900 HV
- ⑥ Spring , SWP-A
- ⑧ Screw Plugs (washer short type)
- ⑨ Urethane , A90



Type	P	ST	H (↑1mm)	S		L	FL	spring constant K N/mm (Kgf/mm)	N (Kgf)	
				S-PAP-E	S-PAP-EU				Initial Load	Max Load
S-PAP-E	13	50	0 - 95	60	70	115	90	0.63 (0.064)	7.8 (0.8)	39.2 (4.0)
		100	0 - 170	110	120	190	175	0.32 (0.033)		
		150	0 - 250	160	170	270	270	0.21 (0.021)		
	16	50	0 - 100	60	75	120	90	0.80 (0.082)	9.8 (1.0)	49.0 (5.0)
		100	0 - 175	110	115	195	175	0.39 (0.040)		
		150	0 - 255	160	175	275	270	0.26 (0.027)		
S-PAP-EU	20	200	0 - 330	210	225	350	350	0.20 (0.020)	8.8 (0.9)	58.8 (6.0)
		50	0 - 110	60	80	130	90	0.95 (0.097)	9.8 (1.0)	
		100	0 - 185	110	130	205	175	0.48 (0.049)		
		150	0 - 260	160	180	280	260	0.32 (0.033)		
		200	0 - 340	210	230	360	350	0.23 (0.024)		
250	0 - 410	260	280	430	425	0.20 (0.020)	8.8 (0.9)			

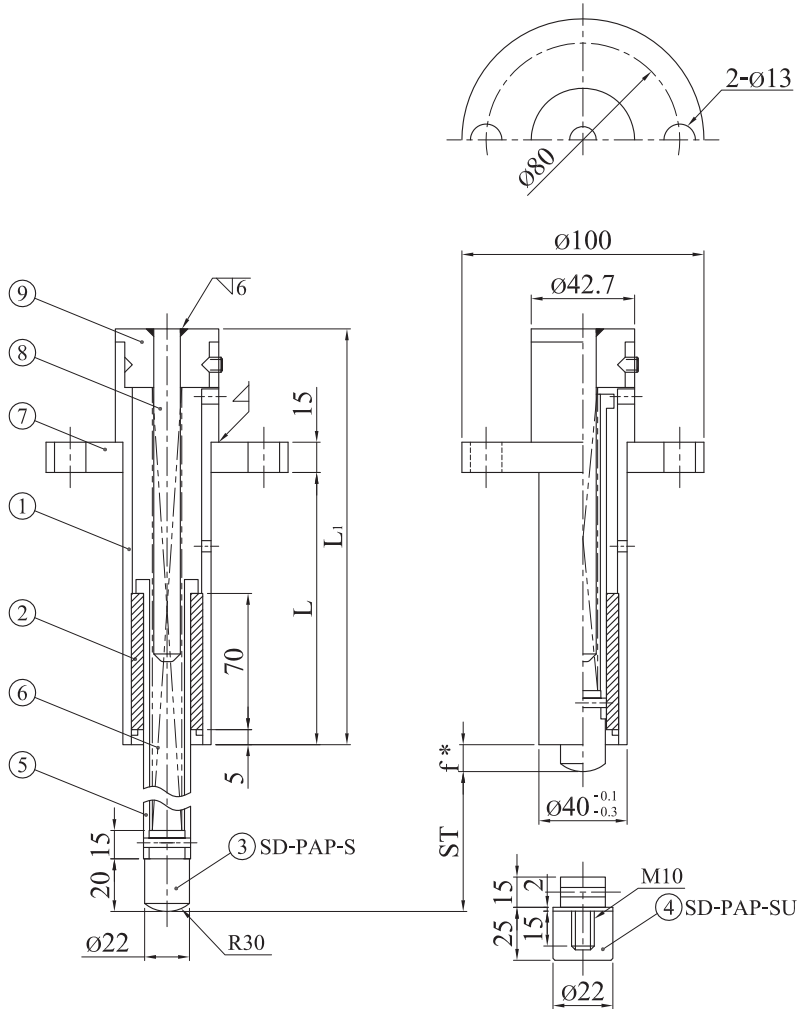
P	part No.①			part No.④					part No.⑦			
	D	ℓ	M	R	U	U ₁	M ₁	ℓ ₁	A	A ₁	B	d
13	27.2	10	22	20	15	20	M6	9	70	52	40	11
16	34.0	10	26	25	20	25	M8	12	80	60	50	11
20	42.7	12	33	30	25	30	M10	15	90	70	60	13

How to order : Type - P - S - L

Example : S-PAP-EU 16 - 100 - 150

SD-PAP-S (steel tip type)
SD-PAP-SU (urethane tip type)

- | | |
|--------------------|---------------------|
| Part No. ①,⑤ | STPA 22 |
| ② Bush | Bronze |
| ③ Pin | S45C 55HRC |
| ④ Urethane | A90 |
| ⑥ Spring | SWP-A (CS-A 14x1.6) |
| ⑦ Flange | SS400 |
| ⑧ Spring guide pin | S45C |
| ⑨ Stopper Pin | SS400 |



f	
SD-PAP-S	f = 10
SD-PAP-SU	f = 15

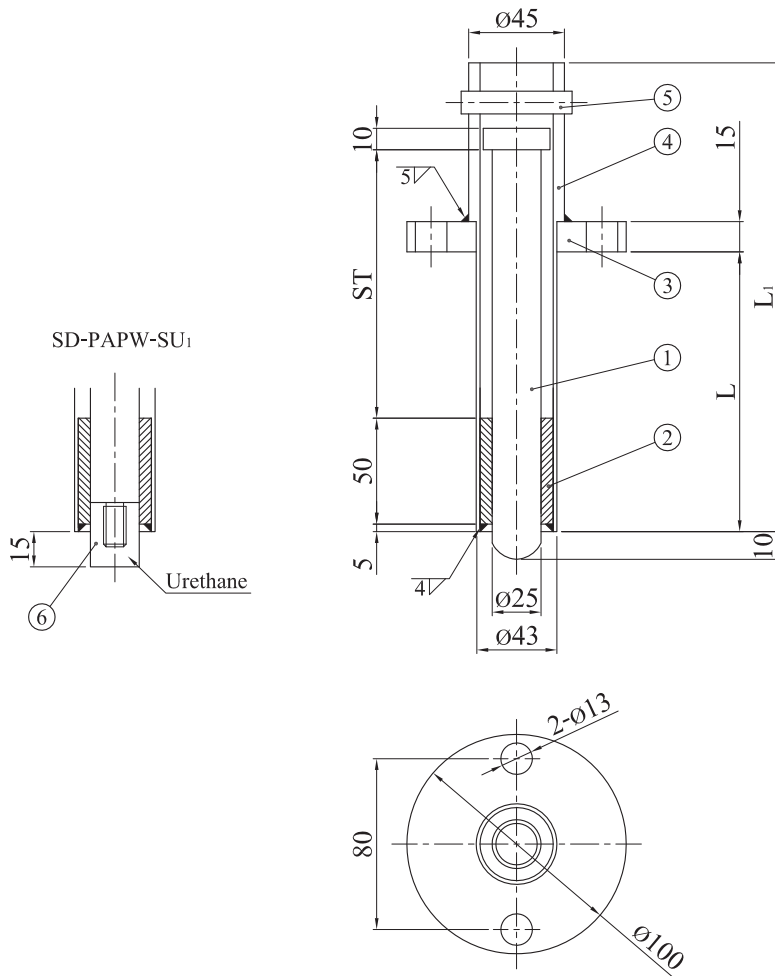
Type	ST	L (±1mm)	L ₁	Spring Load (N)	
				Initial Load	Final Load
SD-PAP-S	200	90 - 260	312	10.0	67
	220	90 - 290	338	10.0	67
SD-PAP-SU	250	90 - 310	364	8.5	67
	270	90 - 340	390	8.7	67
	300	90 - 360	414	6.3	67

How to order : Type - ST - L
 Example : SD-PAP-S 220 - 280



SD-PAPW-S₁ (steel tip type)
SD-PAPW-SU₁ (urethane tip type)

- Part No. ① Spring Guide Pin S45C 55HRC
② Bush SS400
③ Flange SS400
④ Holder STPA - 22
⑤ Stopper Pin $\phi 10 \times 50$
⑥ Urethane A90



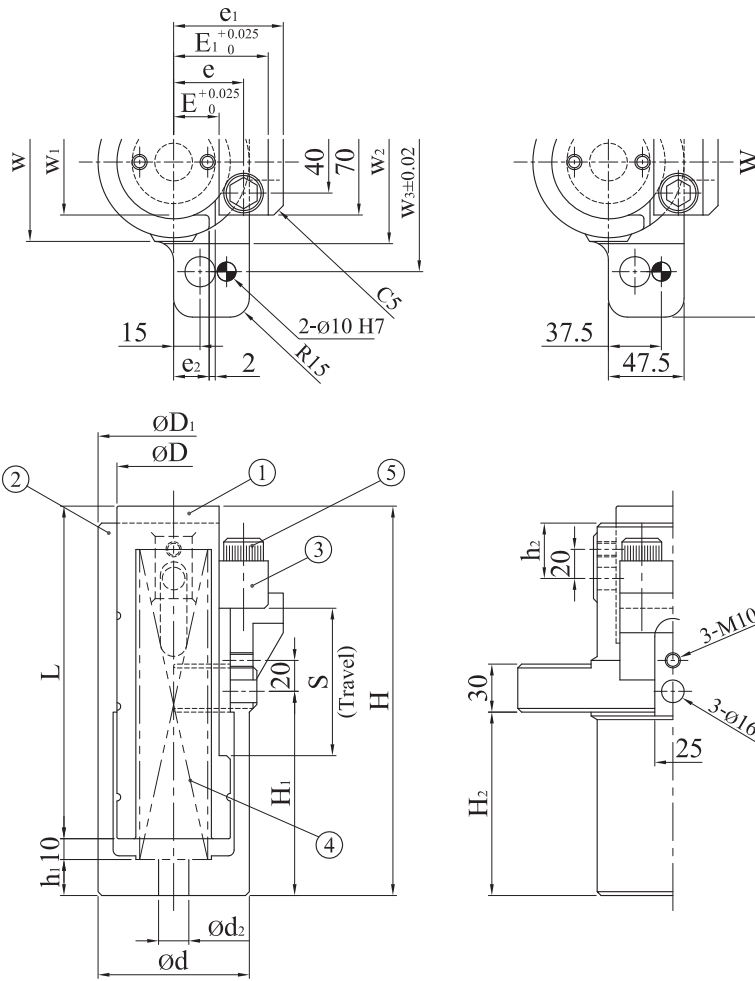
Type	ST	L (1mm)	L ₁	Spring Guide Pin Weight (grams)
SD-PAPW-S ₁	200	10 - 250	295	1,050
	220	10 - 270	315	1,130
	250	10 - 300	345	1,250
SD-PAPW-SU ₁	270	10 - 320	365	1,320
	300	10 - 350	395	1,440

How to order : Type - ST - L

Example : SD-PAPW-SU₁ 250 - 280

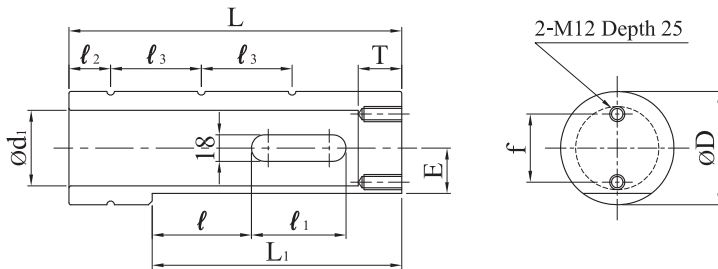


SD-SBLS-B



Part No. 1 (Slide Pin)

SBGP-B



No.	Description and Material	
1	Slide Pin	FCD450
2	Casing	FC250
3	Stopper	FC250 with graphite
4	Spring	Die Spring
5	Socket Bolt	M16x50

Type	S	D ₁	d	d ₂	H	H ₁	H ₂	h ₁	h ₂	E	e	E ₁	e ₁	e ₂	W	w	w ₁	w ₂	w ₃	spring
SD-SBLS-B	60	80	65	20	150	67.5	55	15	40	25	40	55	65	20	155	82	55	84	125	TF40-200
	80	85	70	20	185	97.5	75	15	40	25	40	55	65	20	160	87	60	89	130	D340-250
	120	95	80	30	240	122.5	95	20	45	30	45	60	70	25	170	97	70	99	140	TF50-350

Type	S	D	d ₁	L	L ₁	T	l	l ₁	l ₂	l ₃	f
SBGP-B (Slide Pin)	60	60	42	135	110	30	42	32	12.5	40	30
	80	65	43	170	130	25	47	47	20.0	50	30
	120	75	52	220	170	30	72	57	25.0	60	40

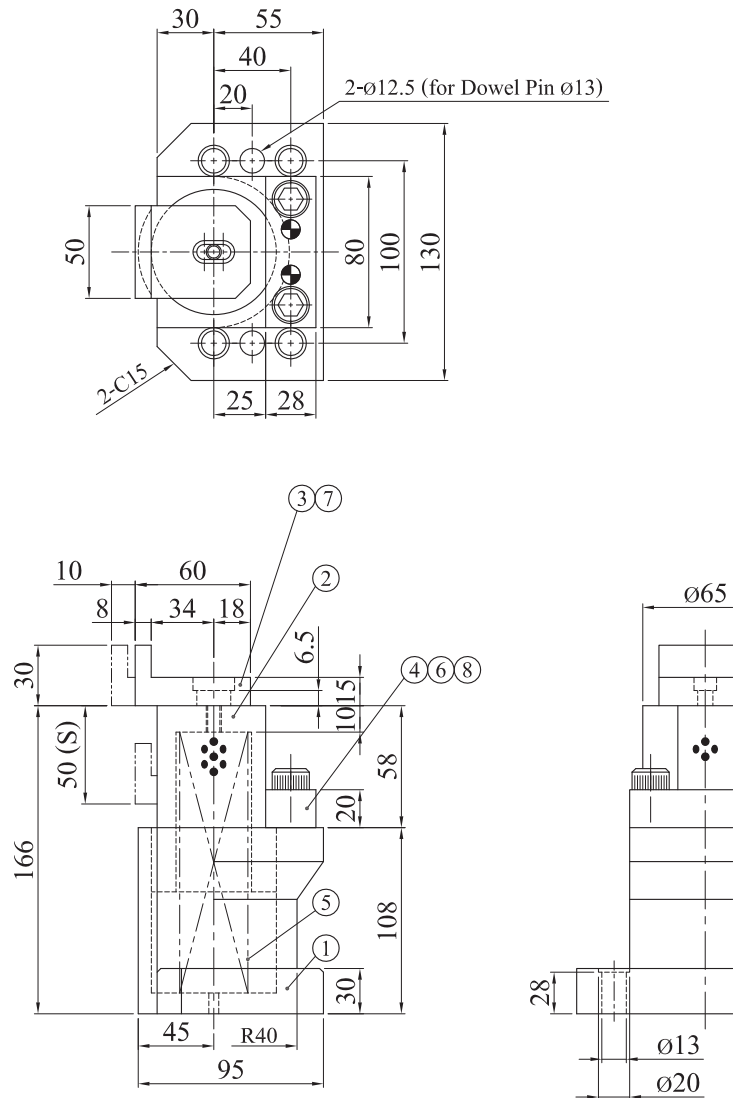
How to order : Type - S

Example : SD-SBLS-B 80

SBGP-B 120



SFLV 50

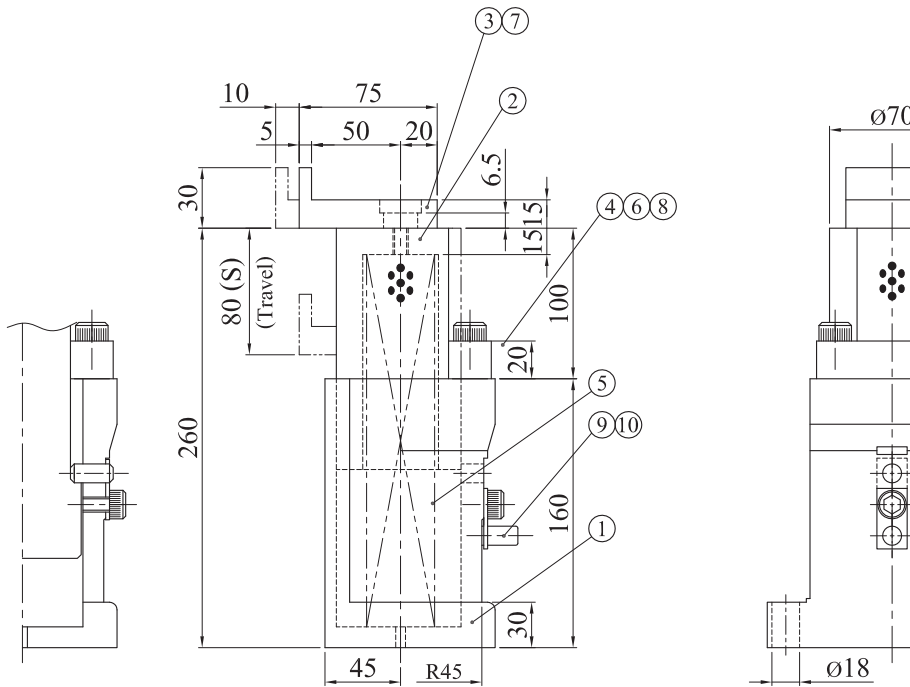
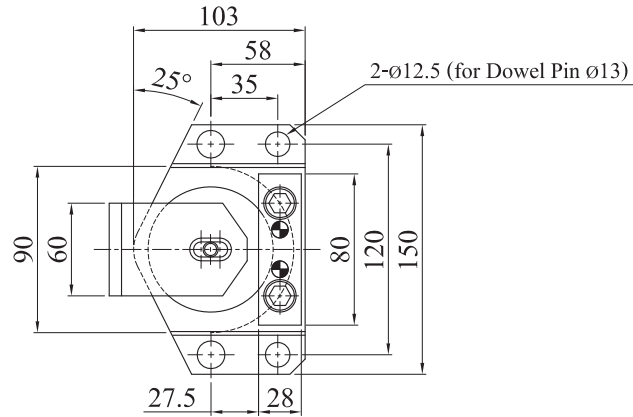


Type	S	Part No.	Description and Material
SFLV	50 (Travel) (mm)	1	Casing FC250
		2	Slide Pin S45C with graphite
		3	Life Block S45C
		4	Stopper S45C HRC 40-45
		5	Spring TF 35-150
		6	Socket Bolt M12x40
		7	Socket Bolt M8x20
		8	Dowel Pin 8x30

How to order : Type - S

Example : SFLV 50

SFLV 80



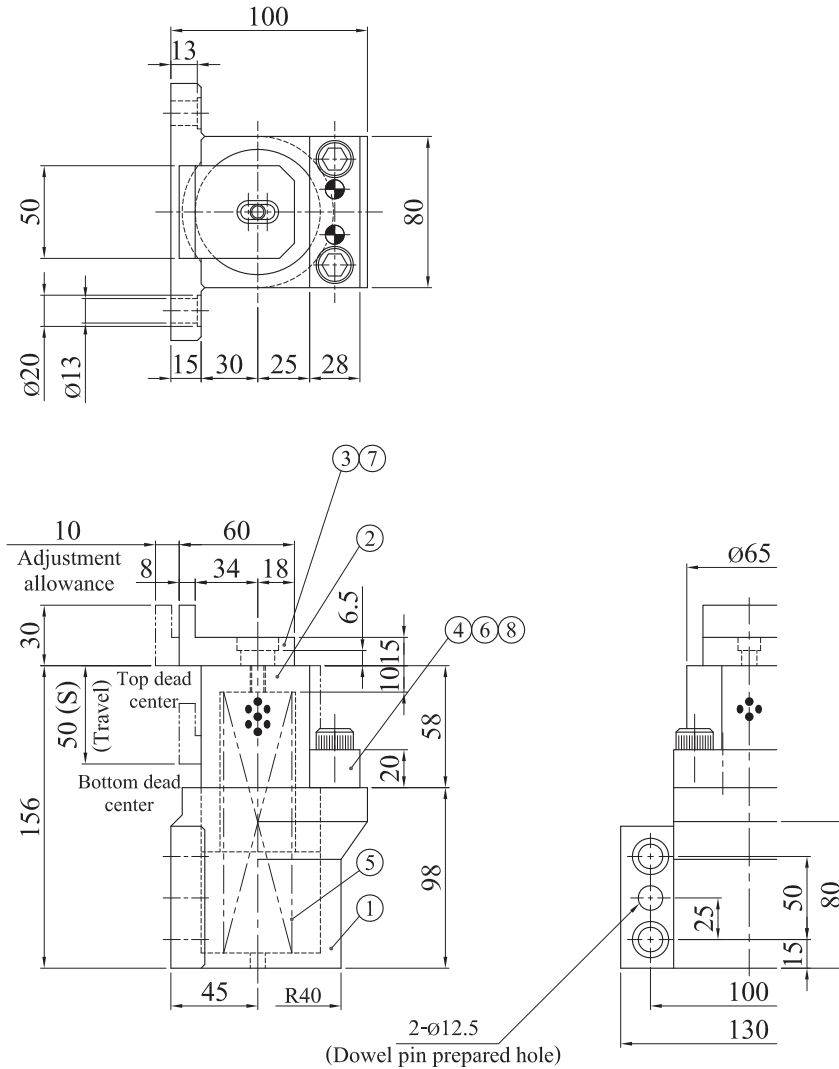
Type	S	Part No.	Description and Material
SFLV	80 (Travel) (mm)	1	Casing FC250
		2	Slide Pin S45C with graphite
		3	Life Block S45C
		4	Stopper S45C HRC 40-45
		5	Spring TF 40-250
		6	Socket Bolt M12x40
		7	Socket Bolt M8x20
		8	Dowel Pin 8x40
		9	Lock Pin SS400
		10	Socket Bolt M10x16

How to order : Type - S

Example : SFLV 80



SFLH 50



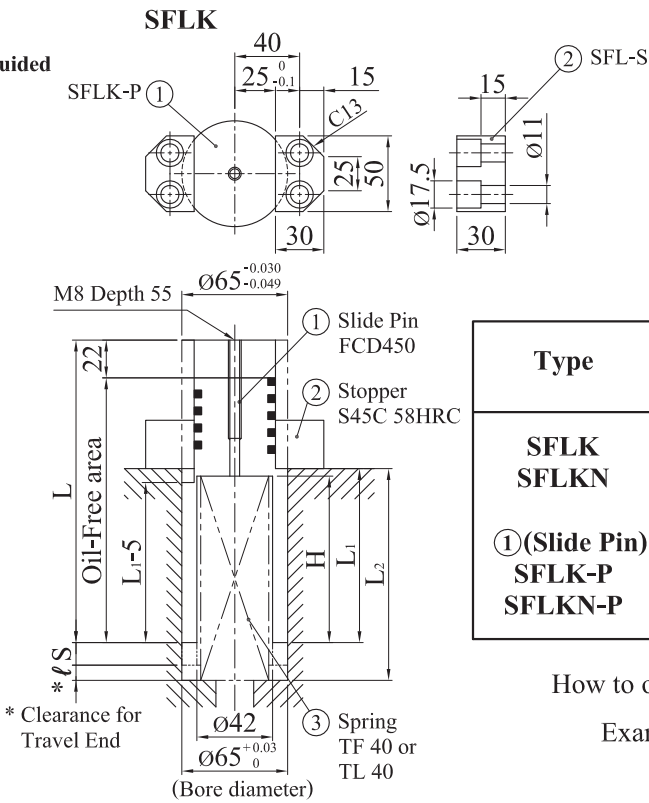
Type	S	Part No.	Description and Material
SFLH	50	1	Casing FC250
		2	Slide Pin S45C with graphite
		3	Life Block S45C
		4	Stopper S45C HRC 40-45
		5	Spring TF 35-150
		6	Socket Bolt M12x40
		7	Socket Bolt M8x20
		8	Dowel Pin 8x30

How to order : Type - S

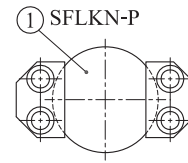
Example : SFLH 50



Double guided
lifter
(Set)



SFLKN



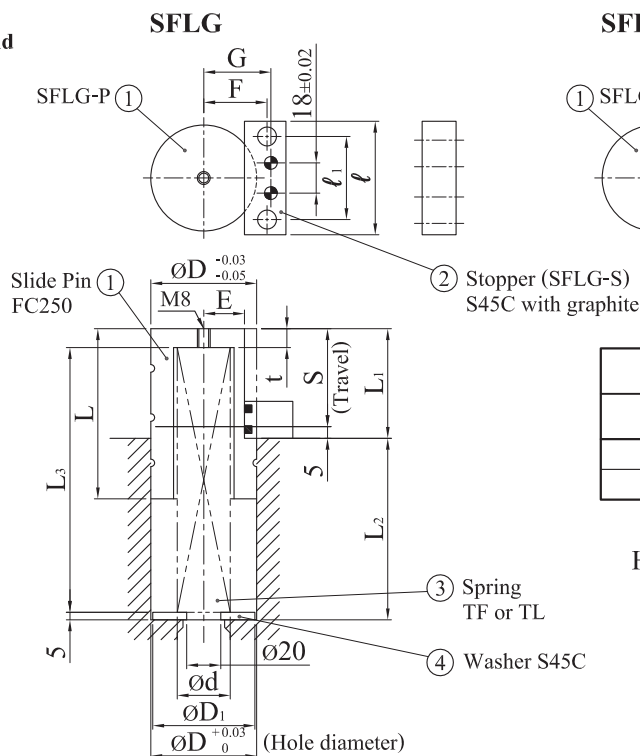
Type	S	Spring Type	FL	for TF		for TL		H	L	L ₁
				L ₂	ℓ	L ₂	ℓ			
SFLK SFLKN	15	TF	150	125	10	125	10	96	170	100
	40		125			10	75			
	60		200			140	25			55
① (Slide Pin) SFLK-P SFLKN-P	80	TL	250	155	10	205	60	120	200	65
	90									55
	100									45

How to order : Type - S - Spring Type

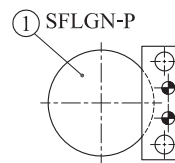
Example : SFLK 80 - TF

SFLK-P 40

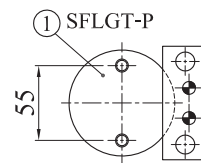
Embedded and
oilgroove
(Set)



SFLGN



SFLGT (D=80 only)



SFLG-S					
D	w	ℓ	h	ℓ ₁	d ₁
65	25	68	20	48	13
80	30	80	30	54	18

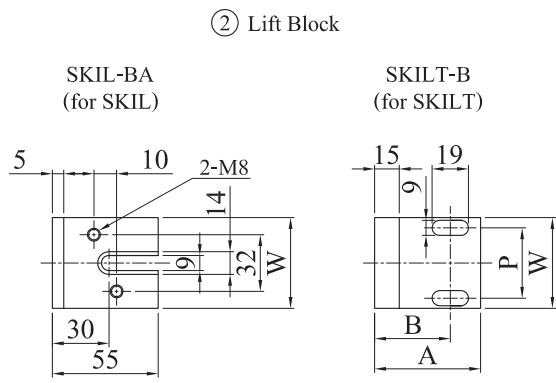
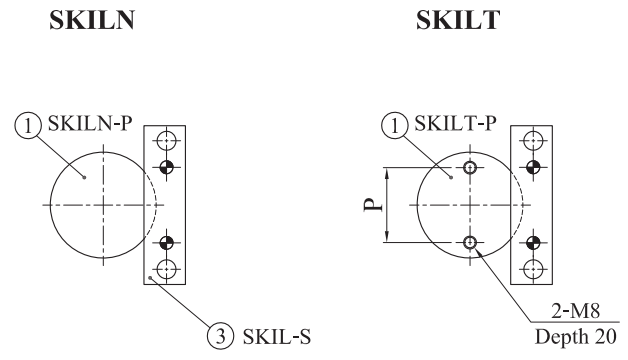
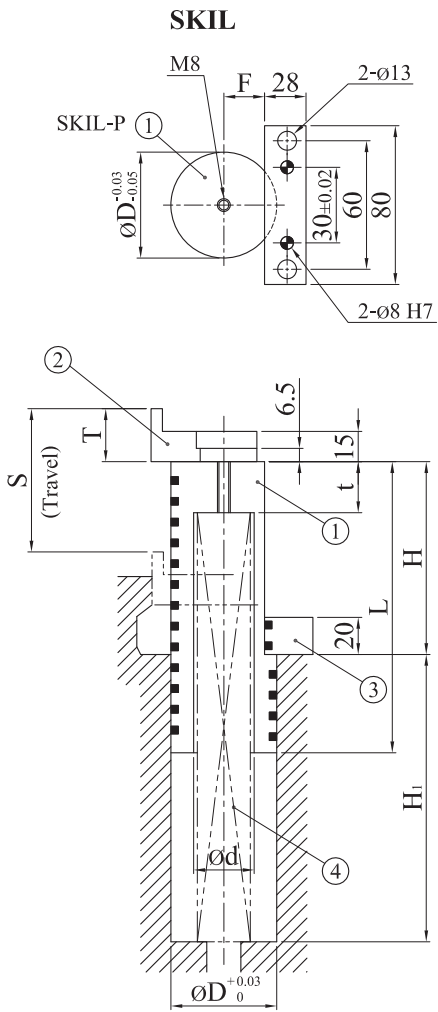
How to order : Type - D - S - Spring Type

Example : SFLG 80 - 80 - TL

SFLGN-P 65 - 80

SFLG-S 80

Type	D	S	Spring Type	O.D. Spring	for TF		for TL		L	L ₁	t	d	E	F	G
					L ₂	L ₃	L ₂	L ₃							
SFLG SFLGN SFLGT ① (Slide Pin) SFLG-P SFLGN-P SFLGT-P	65	50	TF	35	115	155	115	155	90	55	10	37	25	39	40
					165	230	165	230	140	85	15	53	32	49	49
	80	120	TL	50	195	285	240	330	180	125	30	53	32	49	49



*SKILN is not attached to lift block

- Part No. ① Slide Pin S45C with graphite
 ② Lift Block S45C
 ③ Stopper S45C
 ④ Coil Spring TF or TL

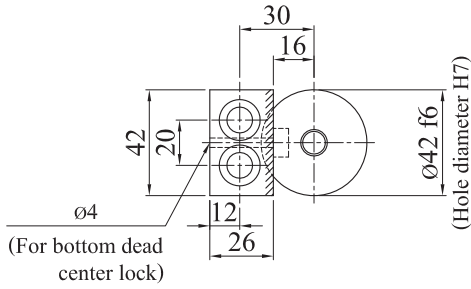
Type	D	S	Coil Spring	L	d	F	t	H	H ₁	P
SKIL SKILN SKILT	50	50	TF 30x175 or TL 30x175	110	33	19	25	75	105	39
① (Slide Pin) SKIL-P SKILN-P SKILT-P	60	80	TF 40x250 or TL 40x250	160	43	25	30	105	155	48
③ (Stopper) SKIL-S	75	100	TF 50x300 or TL 50x300	200	53	30	40	125	195	55

Type (lift block)	W	Slide Pin (D)	T	A	B	P
SKILN-B (for SKILN)	45	50	30	-	-	-
	50	60				
	60	75				
SKILT-B (for SKILT)	52	50	40	58	40	39
	62	60		64	40	48
	75	75		80	55	55

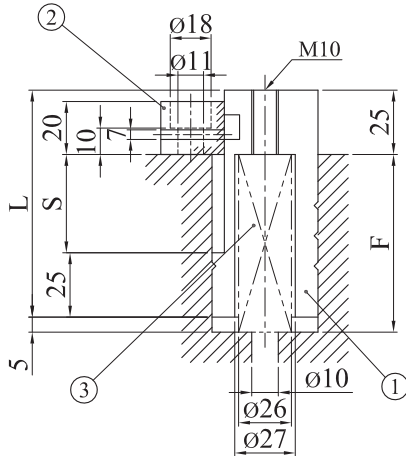
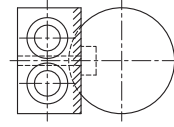
How to order : Type - D - S - Coil Spring Type
 Example : SKIL 60 - 80 - TL
 SKILT-P 75 -100
 SKIL-S

(Embedded)

LGIL



LGILN

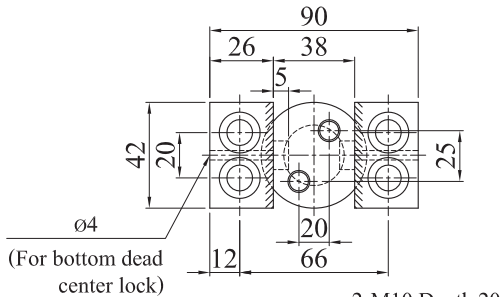


- Part No. ① Slide Pin S45C
 ② Stopper S45C 50HRC
 ③ Coil Spring TR 26

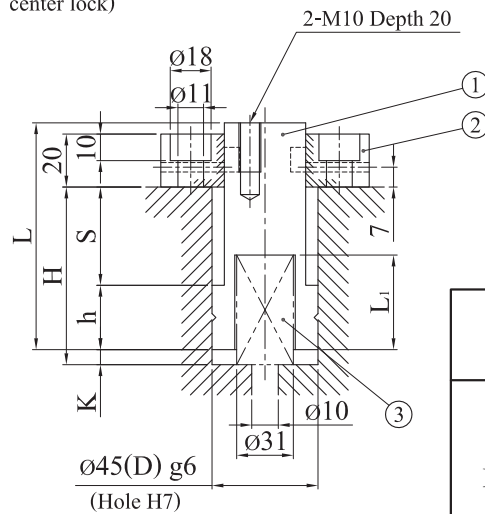
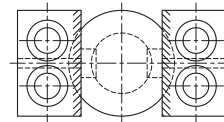
Type	D	S	Spring Type	F	L
LGIL	42	40	TR 26-125	70	90
LGILN		60	TR 26-175	90	110

(For Progressive Die)

PGLI



PGLIN



- Part No. ① Slide Pin S45C
 ② Stopper S45C 50HRC
 ③ Coil Spring TR 30

Type	D	S	Spring Type	H	K	L	L ₁	h
PGLI	45	40	TR 30-125	74	9	90	60	25
PGLIN		60	TR 30-150	92.5	7.5	110	75	25
		80	TR 30-200	120	5	140	105	35

How to order : Type - D - S

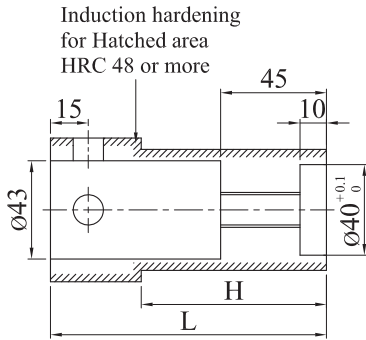
Example : PGLI 45 - 60

LGILN 42 - 40

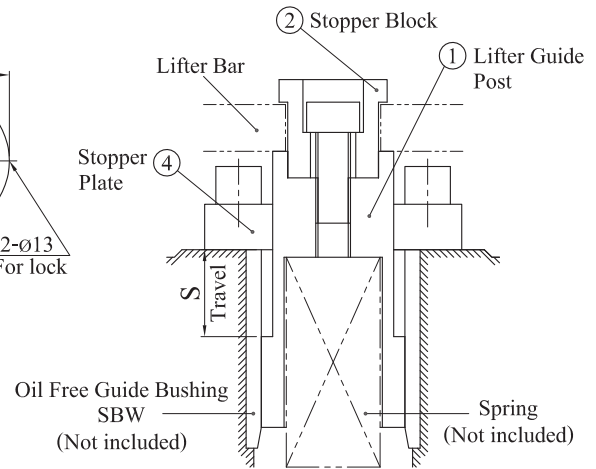
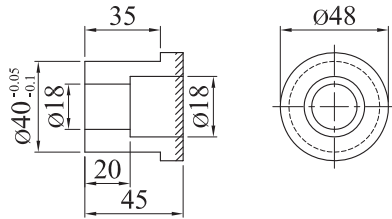
LGPS (LGP-P + LGP-T + LGPP-T - 2pcs)

(Floating type)(①, ②, ④ - 2pcs)

Part ①
LGP-P
Lifter guide Post
(S45C, >48HRC)



Part ②
LGP-T
Stopper Block
(S45C)

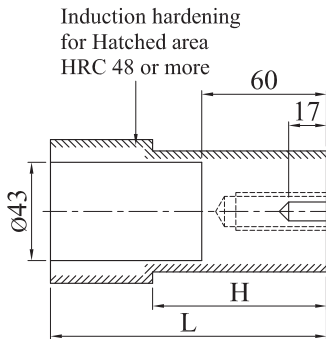


Type	S	L	H	Oil Free Bush
LGPS	40	120	80	SBW 60 74 60
	60	140	100	SBW 60 74 80
LGPP-P	80	160	120	SBW 60 74 100

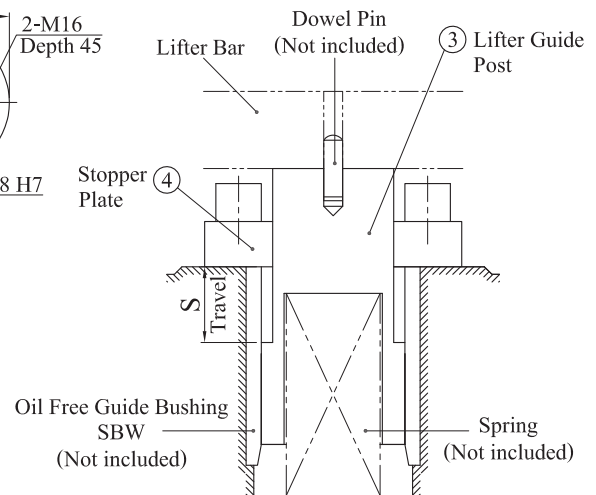
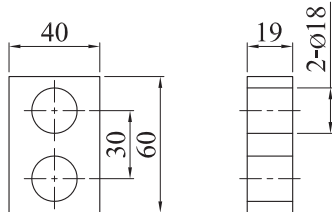
LGPPS (LGPP-P + LGPP-T - 2pcs)

(Dowel Pin location type)(③, ④ - 2pcs)

Part ③
LGPP-P
Lifter guide Post
(S45C, >48HRC)



Part ④
LGPP-T
Stopper Plate
(S45C)

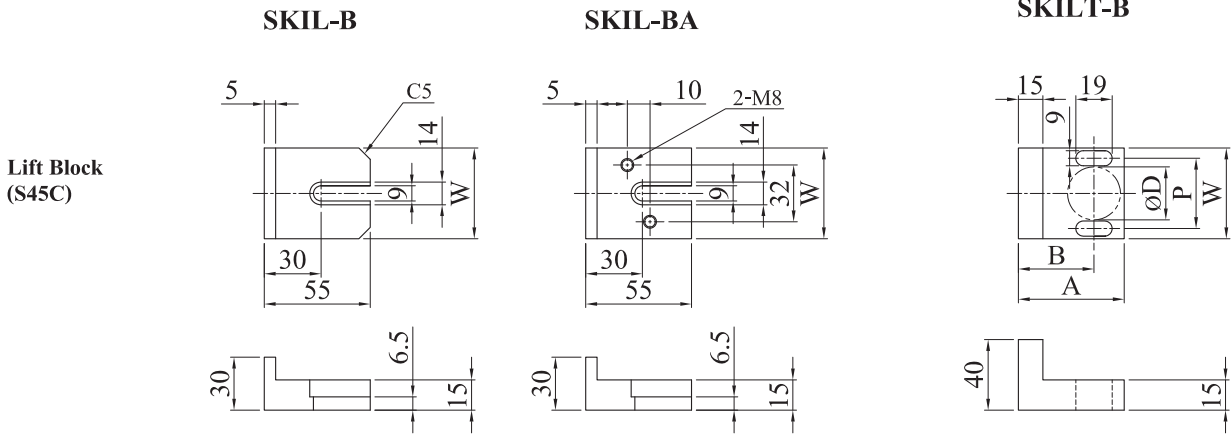


Type	S	L	H	Oil Free Bush
LGPPS	40	140	80	SBW 60 74 60
	60	160	100	SBW 60 74 80

How to order : Type - S

Example : LGPS 60

LGPP-P 40



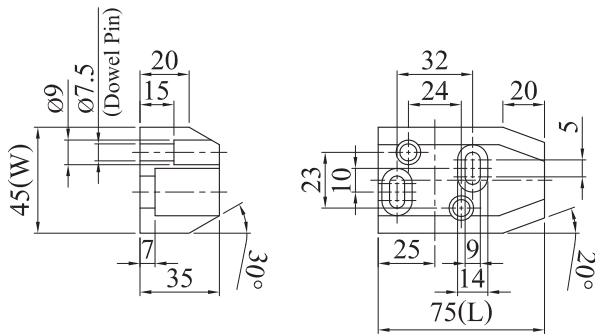
How to order : Type - W

Example : SKIL-B 50

SKILT-B 62

Type	W	A	B	P	D
SKIL-B	45	-	-	-	-
SKIL-BA	60				
SKILT-B	52	58	40	39	26
	62	64	40	48	35
	75	80	55	55	42

Side Gauge
SFSG
(S45C)

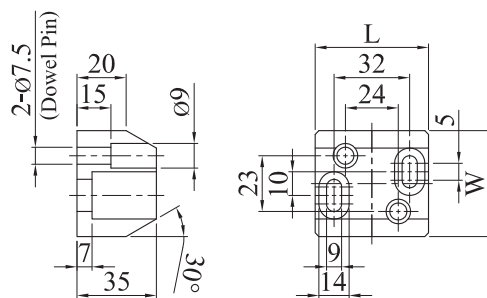


How to order : Type - W - L

Example : SFSG 45 - 75

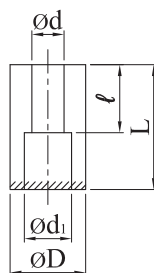
SFRG 45 - 55

Rear Gauge
SFRG
(S45C)



Type	W	L
SFRG	45	50
		55
		60

Advance Pin
SFLPA
(S45C, Induction hardened)

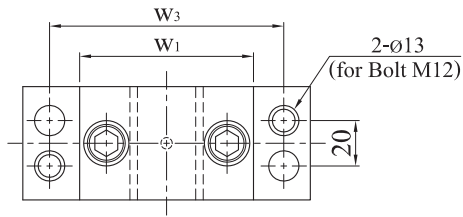


Type	D	L	ℓ	d	d₁
SFLPA	25	40 - 60	20	9	14
		70 - 100	40		
	30	50 - 60	25	13	20
		70 - 100	45		
	35	110 - 150	65		

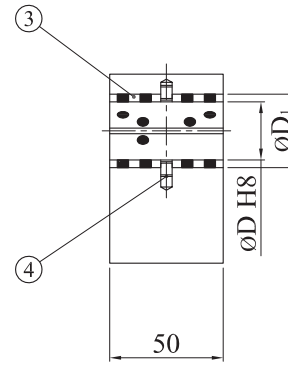
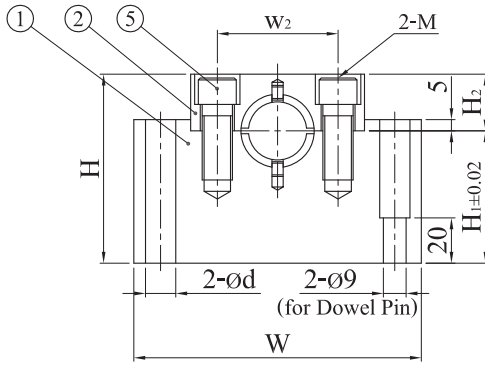
How to order : Type - D - L

Example : SFLPA 30 - 60

SBCBA
(for center pin)

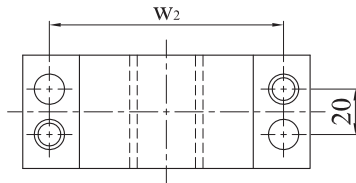


- Part No. ① Case Body SS400
 ② Cap SS400
 ③ Bush Bronze with graphite
 ④ Dowel Pin 5x10
 ⑤ Socket Bolt

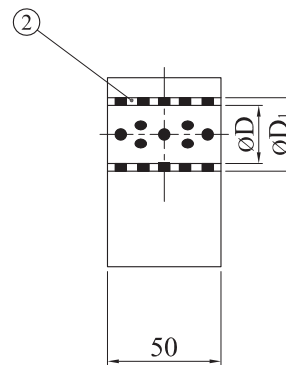
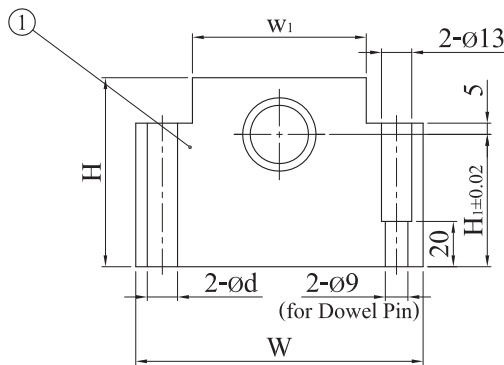


Type	D H8		W	w ₁	w ₂	w ₃	H	H ₁	H ₂	D ₁	d	M
SBCBA	25	$\begin{matrix} +0.033 \\ 0 \end{matrix}$	130	80	55	105	85	60	25	33	13	12
	35	$\begin{matrix} +0.039 \\ 0 \end{matrix}$	170	110	75	140	105	70	35	44	18	16
	45	$\begin{matrix} +0.039 \\ 0 \end{matrix}$	180	120	85	150	120	80	40	56		

SBCBB
(for both ends)



- Part No. ① Case Body SS400
 ② Bush Bronze with graphite



Type	D		W	w ₁	w ₂	H	H ₁	D ₁	d
SBCBB	25	$\begin{matrix} +0.025 \\ 0 \end{matrix}$	130	80	105	85	60	33	13
	35	$\begin{matrix} +0.030 \\ 0 \end{matrix}$	170	110	140	105	70	44	18
	45	$\begin{matrix} +0.030 \\ 0 \end{matrix}$	180	120	150	120	80	56	

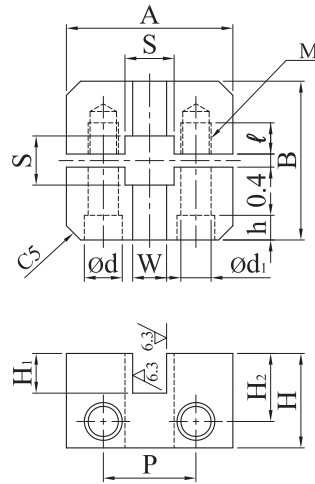
How to order : Type - D

Example : SBCBA 35

SBCBB 25



SBCBC
(Arm Block)



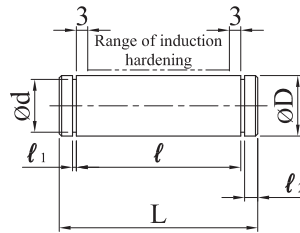
Material : SS400

Type	S	A	B	W	d	d ₁	h	M	ℓ	H	H ₁	H ₂	P		
SBCBC	28	^{+0.013} / ₀	75	70	20	^{+0.052} / ₀	20	13	13	12	25	50	20	35	50
	38	^{+0.016} / ₀	90	80	30						30	55	25	40	65
	50		110	100	40	^{+0.062} / ₀	26	18	18	16	35				80

How to order : Type - S

Example : SBCBC 38

SBCJP
(Joint Pin)



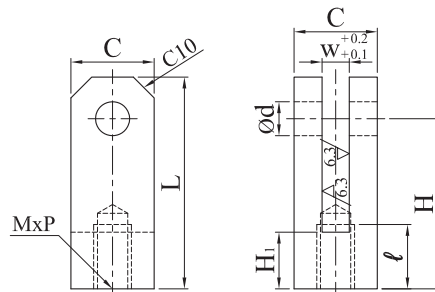
Material : S45C
≧ 55 HRC

Type	D	d	L	ℓ	ℓ ₁	ℓ ₂			
SBCJP	16	⁰ / _{-0.027}	15.2	⁰ / _{-0.11}	53	46.5	1.15	^{+0.014} / ₀	2.7
	20	⁰ / _{-0.033}	19.0	⁰ / _{-0.21}	65	56.5	1.35	^{+0.014} / ₀	2.9

How to order : Type - D

Example : SBCJP 20

SBCJ
(Joint)



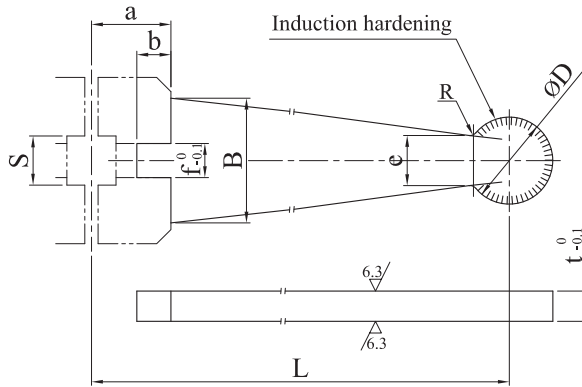
Material : SS400

Type	C	M	P	R/L	ℓ	L	H	H ₁	d	W	
SBCJ	40	18	1.5	R (Right hand thread)	30	95	75	25	16	^{+0.018} / ₀	16
		20	2.5								
	50	22	1.5	L (Left hand thread)	45	110	85	35	20	^{+0.021} / ₀	20
		24	3.0								
		27	1.5								
			3.0								

How to order : Type - C - M - P - R/L

Example : SBCJ 40 - M20 - P2.5 - R

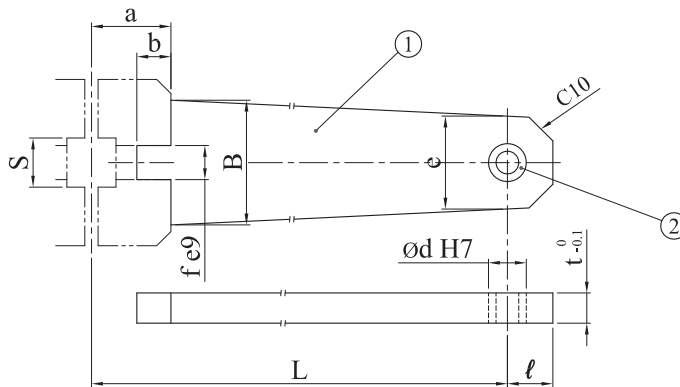
SBCL
(Lifter Arm)



Material : S45C
≧ 55 HRC

Type	S	L ↑10mm	a	b	B	e	f	D	R	t
SBCL	28	L ≦ 100	35	15	60	25	20	40	10	15
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
	38	L ≦ 100	40	15	80	30	30	50	20	20
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
	50	L ≦ 100	50	20	100	30	40	50	20	20
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
		310 ≦ L ≦ 400								
		410 ≦ L ≦ 500								
	510 ≦ L ≦ 600									

SBCS
(Shaft Arm)



Part No. ① SS400
② Bronze with graphite

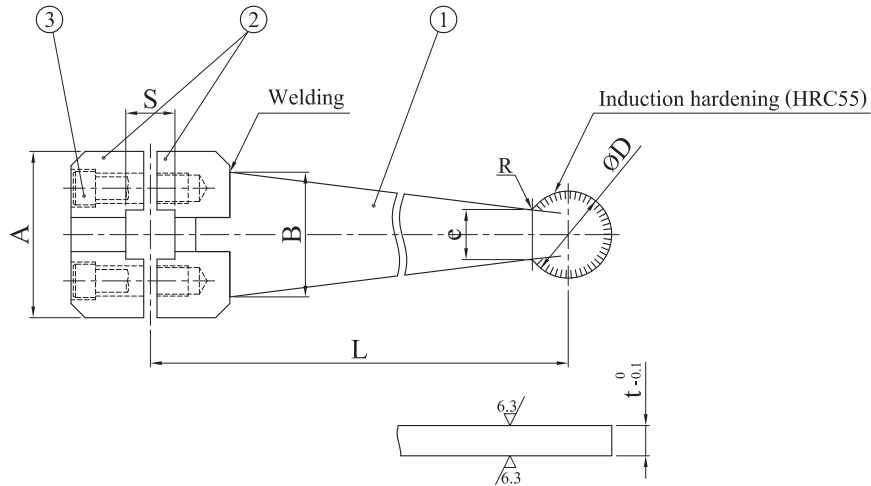
Type	S	L ↑10mm	a	b	B	e	f e9	d H7	ℓ	t
SBCS	28	L ≦ 100	35	15	60	40	20	22	20	16
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
	38	L ≦ 100	40	15	80	45	30	28	22.5	20
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
	50	L ≦ 100	50	20	100	50	40	28	25	20
		110 ≦ L ≦ 200								
		210 ≦ L ≦ 300								
		310 ≦ L ≦ 400								
		410 ≦ L ≦ 500								
	510 ≦ L ≦ 600									

How to order : Type - S - L

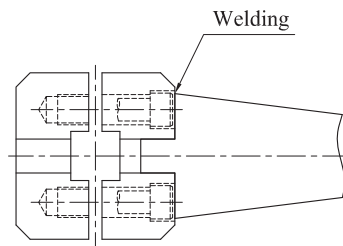
Example : SBCL 28 - 220

SBCS 38 - 180

SBCLA



SBCLB



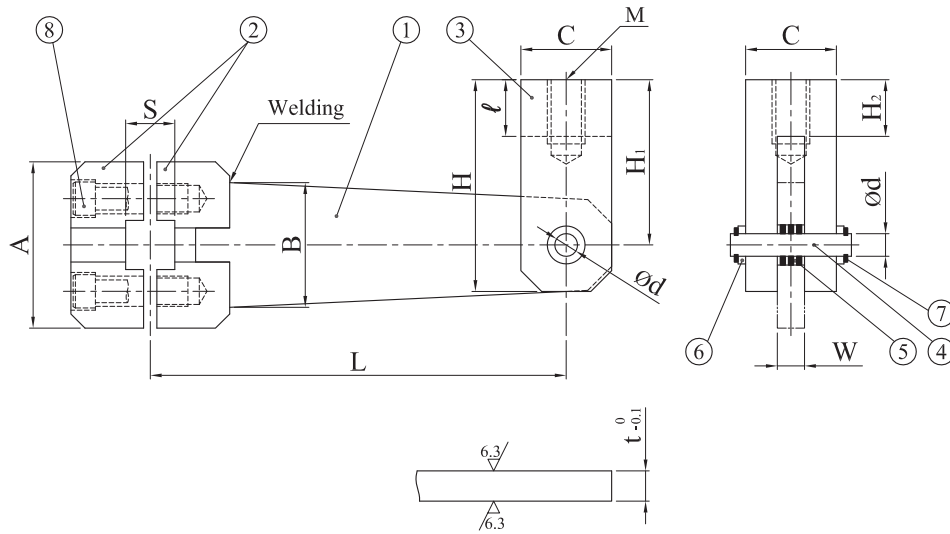
- Part No. ① Lifter Arm S45C
 ② Arm Block SS400
 ③ Socket Bolt

Type	S	L \uparrow 10mm	A	B	D	e	R	t
SBCLA	28	L \leq 100	75	60	40	25	10	15
		110 \leq L \leq 200						
		210 \leq L \leq 300						
	38	L \leq 100	90	80	50	30	20	20
		110 \leq L \leq 200						
		210 \leq L \leq 300						
SBCLB	50	310 \leq L \leq 400	110	100	50	30	20	20
		L \leq 100						
		110 \leq L \leq 200						
		210 \leq L \leq 300						
		310 \leq L \leq 400						
410 \leq L \leq 500								
510 \leq L \leq 600								

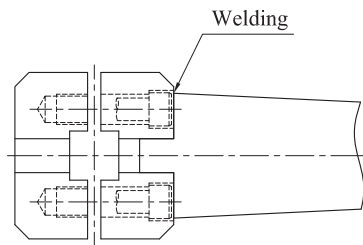
How to order : Type - S - L

Example : SBCLA 38 - 250

SBCSA



SBCSB



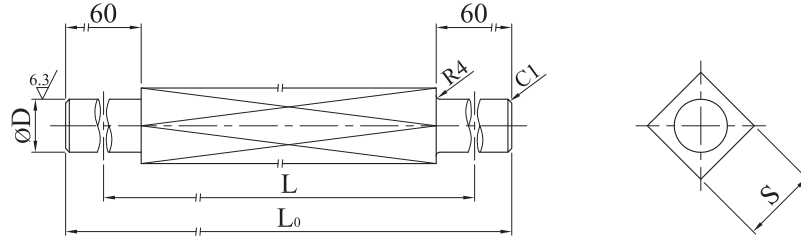
No.	Description and Material		No.	Description and Material	
1	Shaft Arm	SS400	5	Oil Free Bush	Bronze with graphite
2	Arm Block	SS400	6	Washer	
3	Joint	S45C	7	Retaining Ring	C-type
4	Joint Pin	S45C	8	Socket Bolt	

Type	S	L \uparrow 10mm	A	B	C	H	H ₁	H ₂	ℓ	d	W	M	t
SBCSA	28	L \leq 100	75	60	40	95	75	25	30	16	16	20	15
		110 \leq L \leq 200											
		210 \leq L \leq 300											
SBCSB	38	L \leq 100	90	80	50	110	85	35	40	20	20	24	20
		110 \leq L \leq 200											
		210 \leq L \leq 300											
SBCSB	50	L \leq 100	110	100	50	110	85	35	40	20	20	27	20
		110 \leq L \leq 200											
		210 \leq L \leq 300											
		310 \leq L \leq 400											
		410 \leq L \leq 500											
510 \leq L \leq 600													

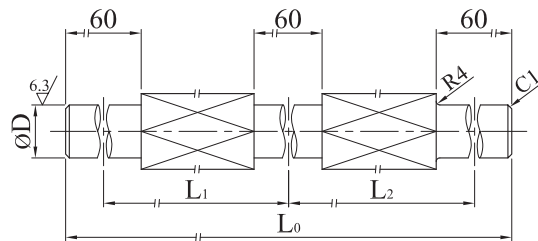
How to order : Type - S - L

Example : SBCSA 38 - 350

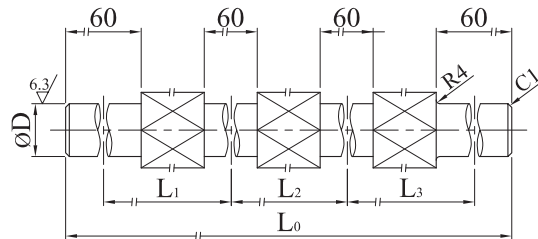
SBCHA



SBCHB



SBCHC



Material : SS400

Type	S		D		L, L ₁ , L ₂ , L ₃
	SBCHA	SBCHB	SBCHA	SBCHB	
SBCHA	28	0	25	-0.065	(increment of 1mm) SBCHA, L ₀ ≤ 1600 SBCHB, L ₀ ≤ 2000 SBCHC, L ₀ ≤ 2000
SBCHB	38	-0.2	35	-0.117	
SBCHC	50	0 -0.2	45	-0.080 -0.142	

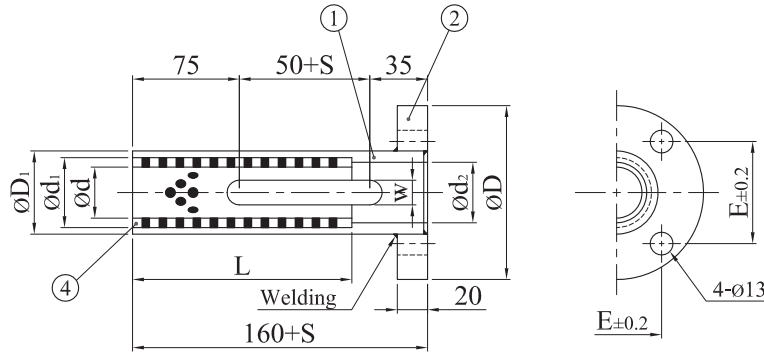
How to order : Type - S - L - L₁ - L₂ - L₃

Example : SBCHA 38 - 1200

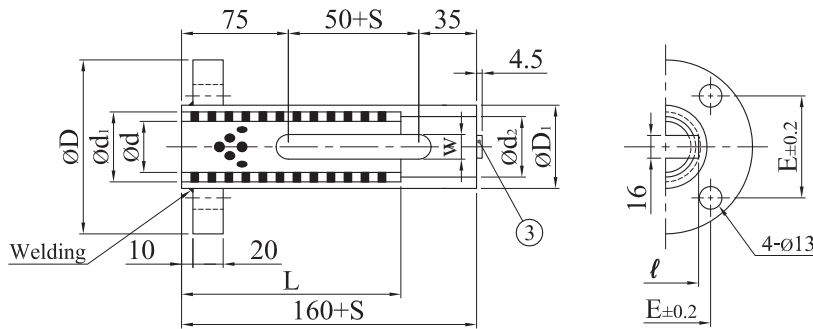
SBCHB 28 - 450 - 500

SBCHC 50 - 500 - 500 - 650

SBCBHA



SBCBHB



* S refers to travel

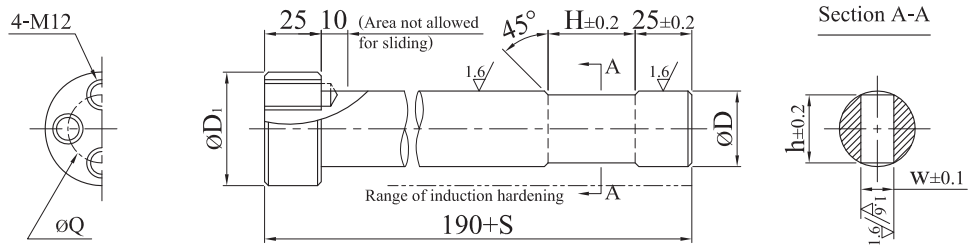
- Part No. ① STB33
② , ③ SS400
④ FC250 with graphite

Type	d		S (increment of 1mm)	D	D ₁	d ₁	d ₂	L		w	E	ℓ
								S ≤ 200	200 ≤ S ≤ 350			
SBCBHA	35	+0.10	S ≤ 350	116	54	44	40	150	200	18	64	45
SBCBHB	50	+0.05		135	62	62	60.2					

How to order : Type - d - S

Example : SBCBHB 35 - 140

SBCP



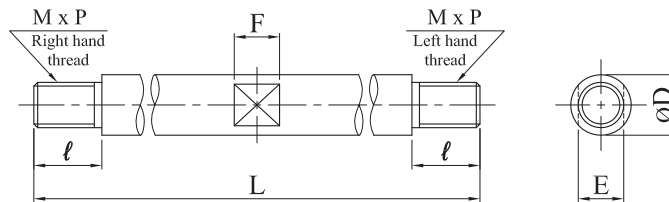
Material : S45C
≧ 55 HRC

Type	D		S (increment of 1mm)	D ₁	Q	H	w	h
SBCP	35	-0.050	S ≤ 400	50	30	40.5	16	30
	50	-0.112		65	45	50.5	21	42

How to order : Type - D - S

Example : SBCP 50 - 150

SBCCR



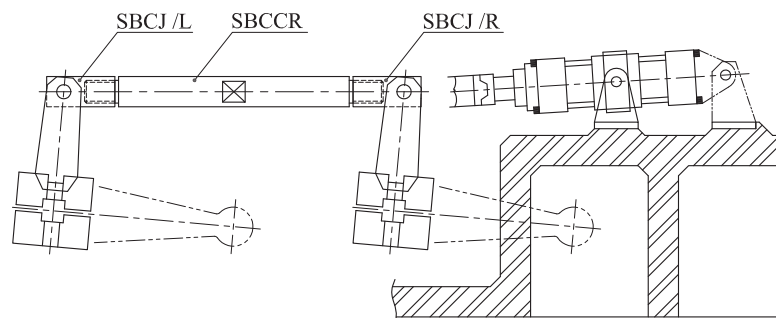
Material : SS400

Type	M		L (increment of 1mm)	D	E	F
SBCCR	M20	P2.5 x 30ℓ	L ≤ 350	25	19	20
	M24	P3.0 x 40ℓ		30	24	25
	M27	P3.0 x 40ℓ		35	30	30

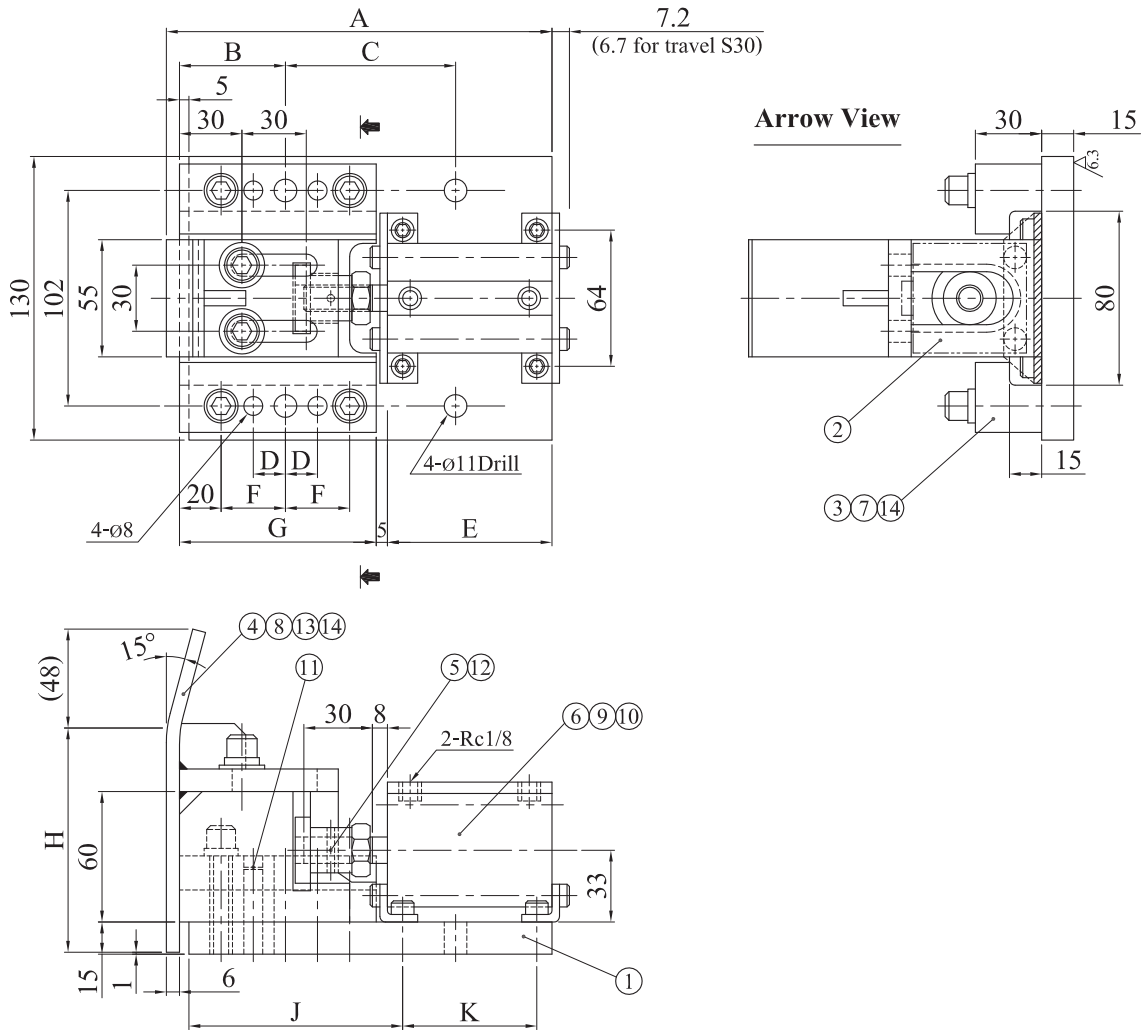
How to order : Type - M - L

Example : SBCCR M24- 200

Application



SGAD



No.	Description and Material		No.	Description and Material	
1	Base Plate	SS400	8	Socket Bolt	M10x25
2	Slide Holder	FC250 with Graphite	9	Socket Bolt	M6x16
3	Guide Plate	Bronze with Graphite	10	Spring Washer	For M6
4	Gauge Plate	SS400	11	Spring Pin	ø8x40
5	Pusher Boss	S45C	12	Split Pin	ø4x30
6	Air Cylinder	CQ2L40 by SMC	13	Spring Washer	For M10
7	Socket Bolt	M10x45	14	Washer	For M10

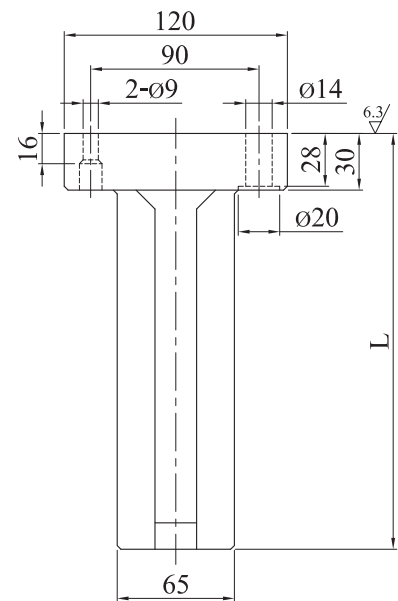
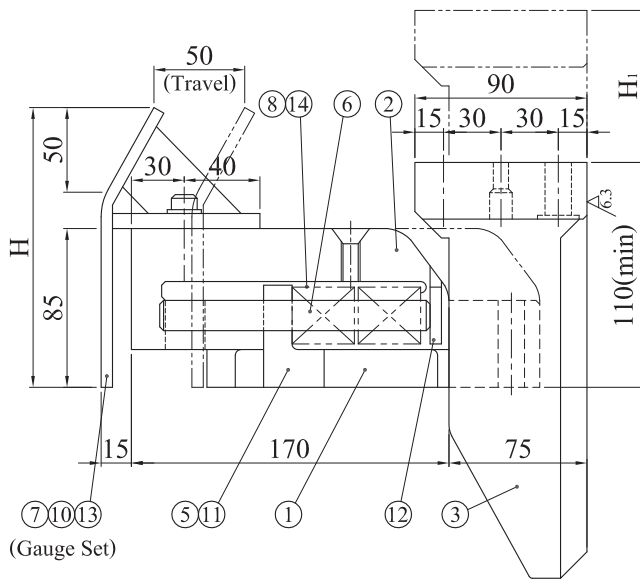
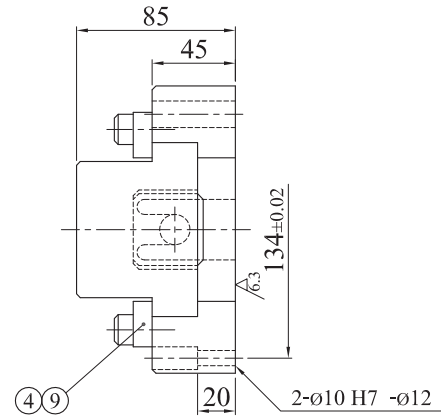
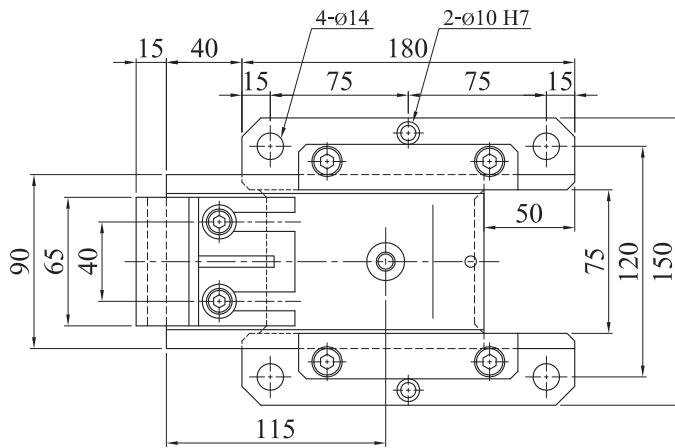
Type	Cylinder Travel (S)	H	A	B	C	D	E	F	G	J	K
SGAD	30	75	163	50	60	15	60	30	92	100	43.5
		100									63.5
	50	150	183	80	20	115	35	122	130	98.5	
		200									
	75	250	248	55	100	115	35	122	130	98.5	
		300									

How to order : Type - S - H

Example : SGAD 50 - 200



SGCT



No.	Description and Material		No.	Description and Material	
1	Base	FC250	8	Spring	TF 30-65
2	Slider	FC250 with Graphite	9	Socket Bolt	M10x25
3	Driver	FC250	10	Socket Bolt	M8x20
4	Upper Plate	SS400	11	Set Bolt	M6x10
5	Spring Stopper	SS400	12	Dowel Pin with Female thread	ø6x30
6	Spring Guide Pin	SS400	13	Washer	For M8
7	Gauge Plate	SS400	14	Washer	S45C

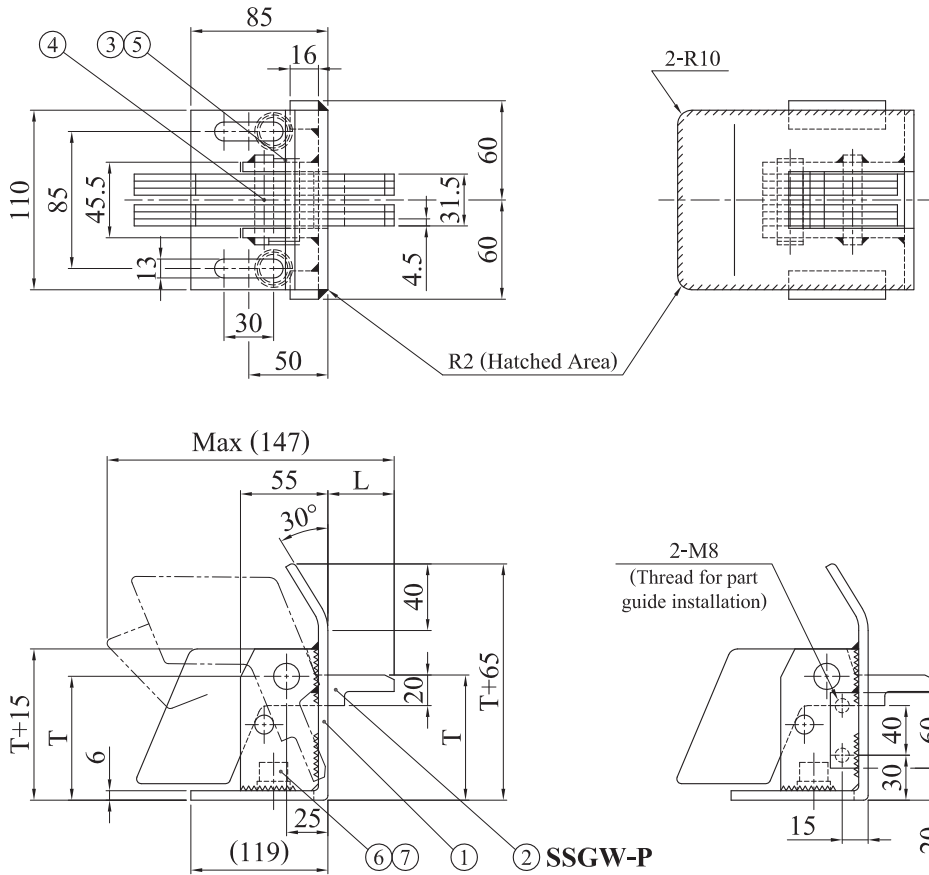
Type	L	H	w/o	H ₁	Spring	
					initial load	final load
SGCT	220	150	without gauge set	168.66	50 N	630 N
		200				
		250				
	300	150	(part ⑦,⑩,⑬)	248.66		
		200				
250						

How to order : Type - L - H - w/o

Example : SGCT 300 - 200

SGCT 220 - w/o

SSGW



No.	Description and Material	
1	Gauge	SPC
2	Support Plate	SPC
3	Support Point Hinge Pin	S45C
4	Collar	SGP

No.	Description and Material	
5	Retaining Ring C-Type	For shaft $\phi 16$
6	Socket Bolt	M12x30
7	Washer	For M12

Type	T	L
SSGW	90	20 or 40
	120	
	150	
	180	
SSGW-P	—	

How to order : Type - T - L

Example : SSGW 120 - 40

SSGW-P - 20



- Non Hard Chrome plated type

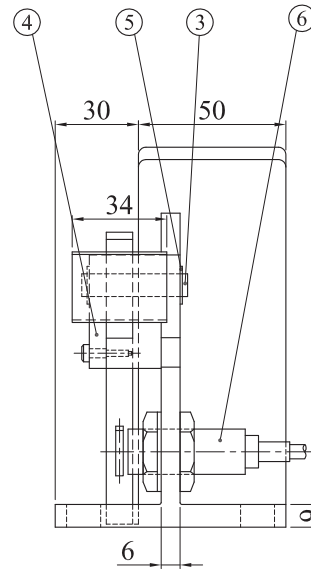
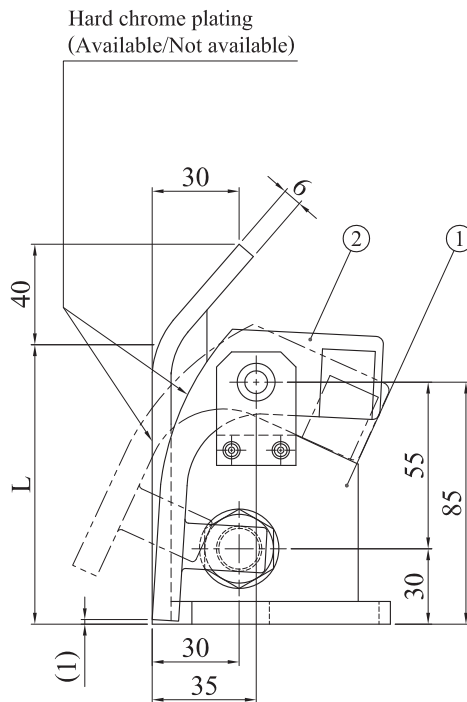
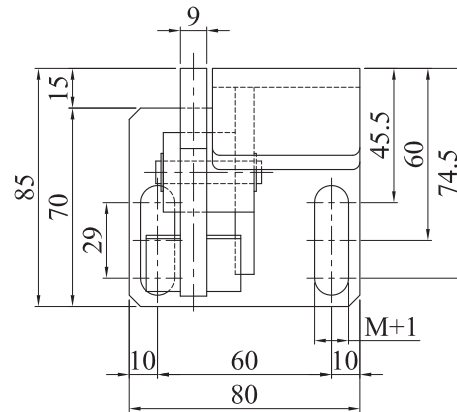
PADG-AR (Right hand)

PADG-AL (Left hand)

- Hard Chrome plated type

PADG-BR (Right hand)

PADG-BL (Left hand)



No.	Description and Material	
1	Front gauge proper	SS400
2	Panel input detecting lever	SS400
3	Lever Pin	S45C

No.	Description and Material	
4	Support Plate	SS400
5	Type E Ring	
6	Panel input detector (cable length 5m)	AC 100V (OMRON) : E2E - X5Y1

Type	L	Mounting bolt hole for M	w/o
PADG-AR PADG-AL	75	M10 M12	Without part⑥
	100		
PADG-BR PADG-BL	150		

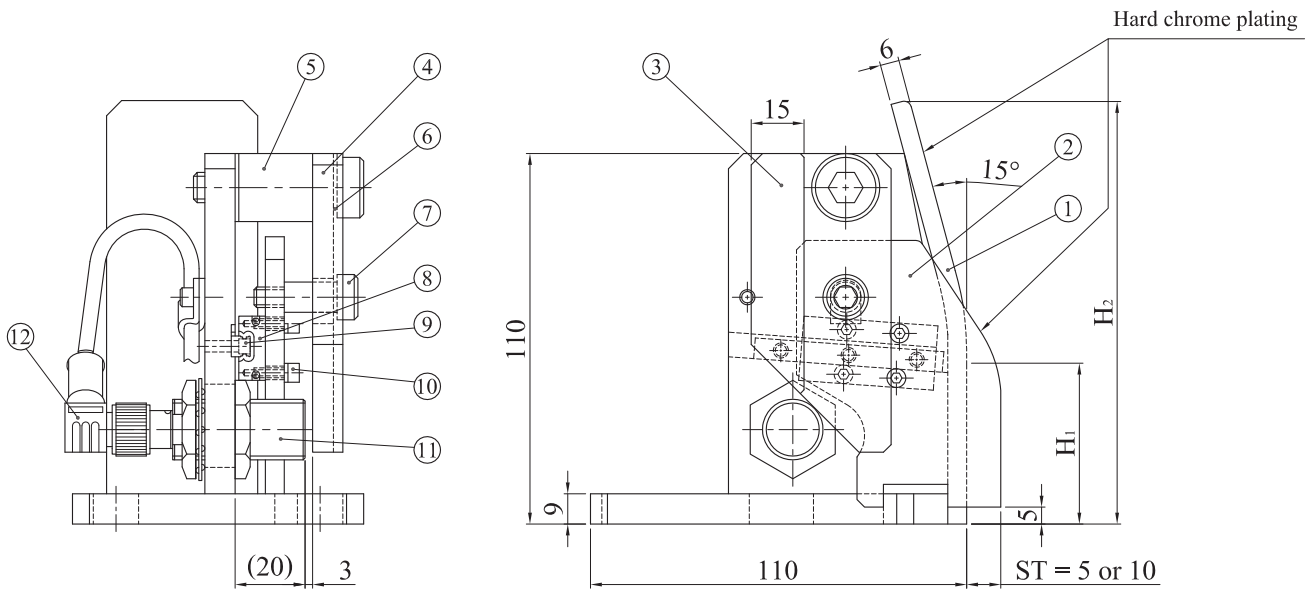
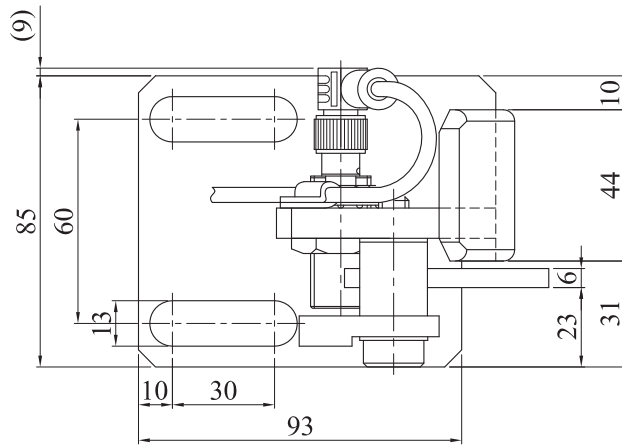
How to order : Type - L - M - w/o

Example : PADG-AL 100 - M12 - w/o

PADG-BR 75 - M10

HKFS-AR
HKFS-AL

This figure shows AR,
AL is symmetric.



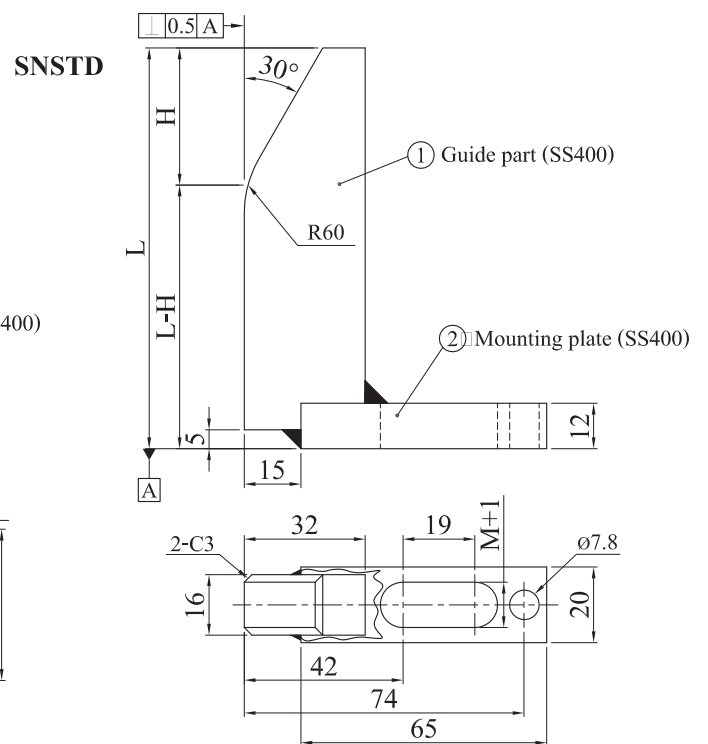
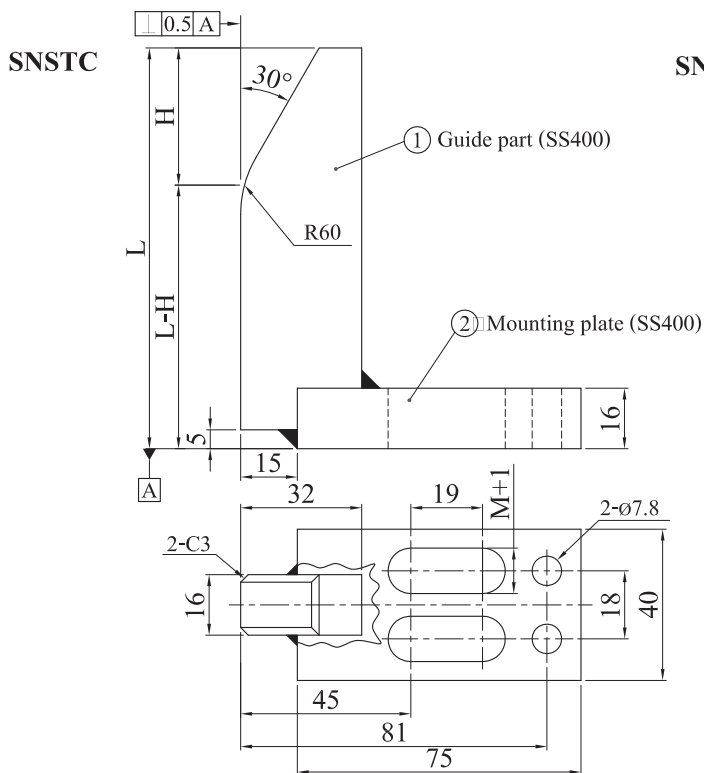
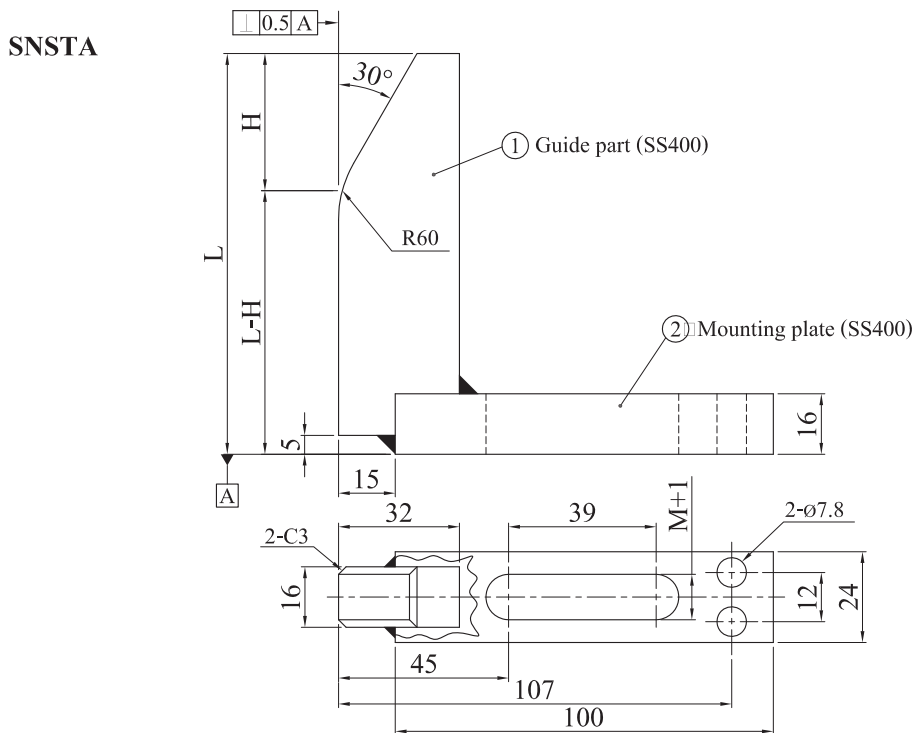
No.	Description and Material	No.	Description and Material
1	Gauge main body SS400	8	Linear guide
2	Detecting lever SS400	9	Hexagon socket head bolt M3-10
3	Detecting plate SS400	10	Spring washer CBW 3
4	Shoulder type bolt for detecting plate MSB 12-30	11	Limit switch (OMPON) E2E - X5Y1
5	Spacer for detecting plate SS400	12	Cable connector (5m or 10m) WWAKW 4T-5 or 10
6	Oil Free bush	13	Cable clamp UC - 0.5
7	Shoulder type bolt MSB 8-15	14	Socket bolt M4-10

Type	H ₁	H ₂	ST	Cable length (L)	w/o
HKFS-AR	50	125	5	5 meter	Without limit switch sets (Do not include part ①,②,③,④)
	70	150			
		175			
HKFS-AL	90	175	10	10 meter	
		200			
		225			

How to order : Type - H₁ - H₂ - ST - L - w/o

Example : HKFS-AL 50 - 125 - 10 - w/o

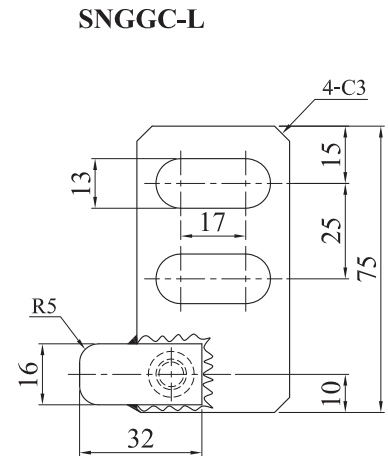
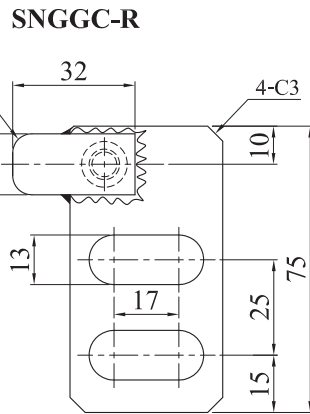
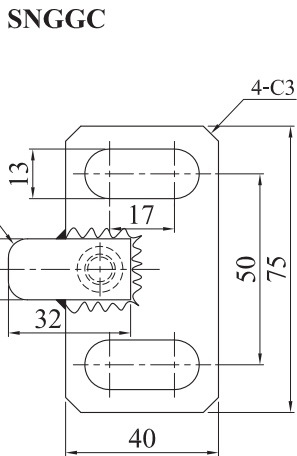
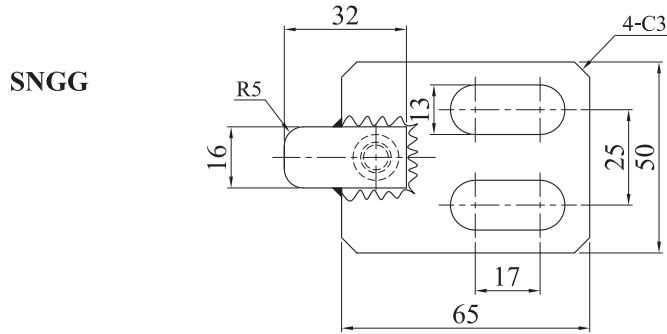
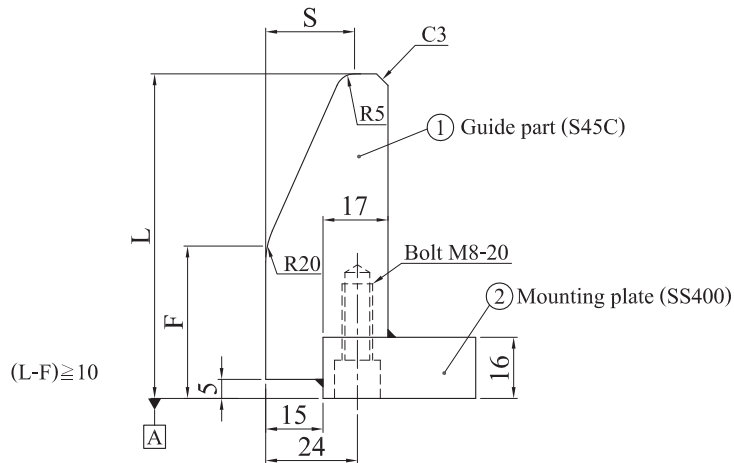
HKFS-AR 50 - 125 - 10 - 5



Type	L (↑ 5mm.)	H (↑ 5mm.)	M
SNSTA	65 -100	20-40	M10 M12 (for SNSTA only)
SNSTC	105-150		
SNSTD	155-200		

How to order : Type - L - H - M

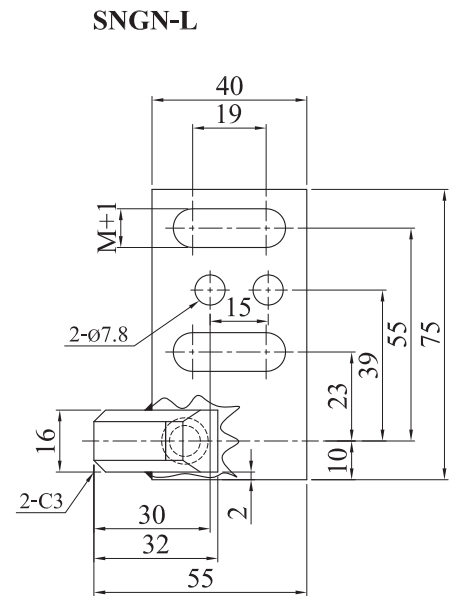
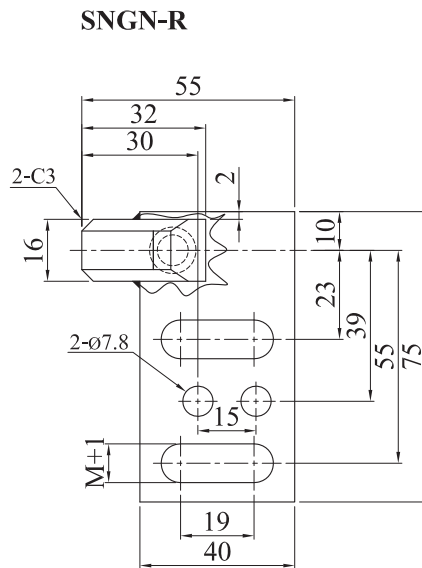
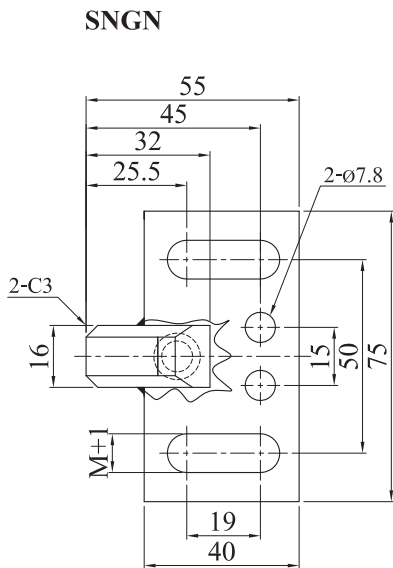
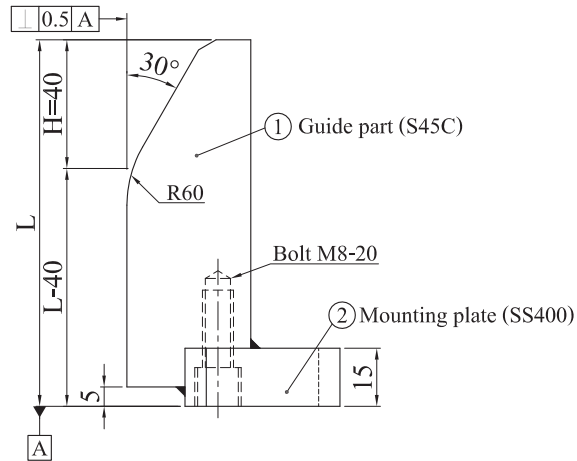
Example : SNSTA 165 - H30 - M10



TYPE	L	F \uparrow 10mm.	S	L	F \uparrow 10mm.	S
SNGG	60	20 - 50	15	140	20 - 130	15
SNGGC	80	20 - 70		160	20 - 150	
SNGGC-R	100	20 - 90	20	180	20 - 170	20
SNGGC-L	120	20 - 110		200	20 - 190	

How to order : Type - L - F - S

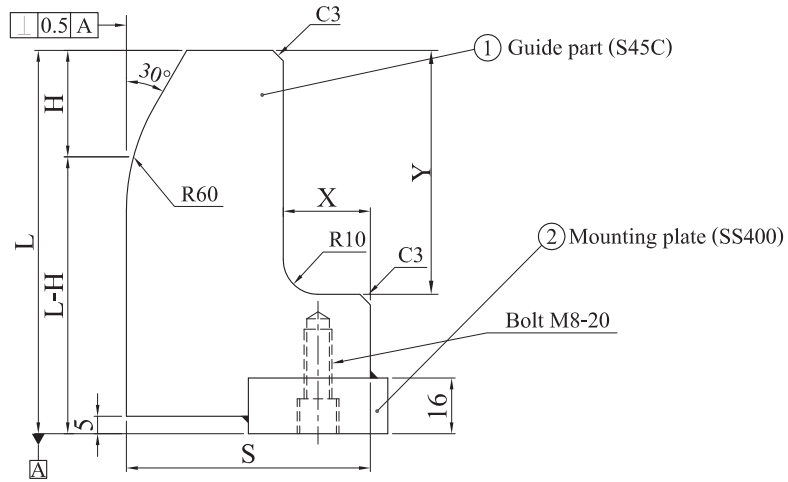
Example : SNGG 80 - 50 - 15



TYPE	L (↑ 5mm.)	H (↑ 5mm.)	M	
SNGN	65 - 100	20 - 40	M10	
	105 - 150			
SNGN-R	155 - 200			
	205 - 250			
SNGN-L	255 - 300			M12
	305 - 350			

How to order : Type - L - H - M

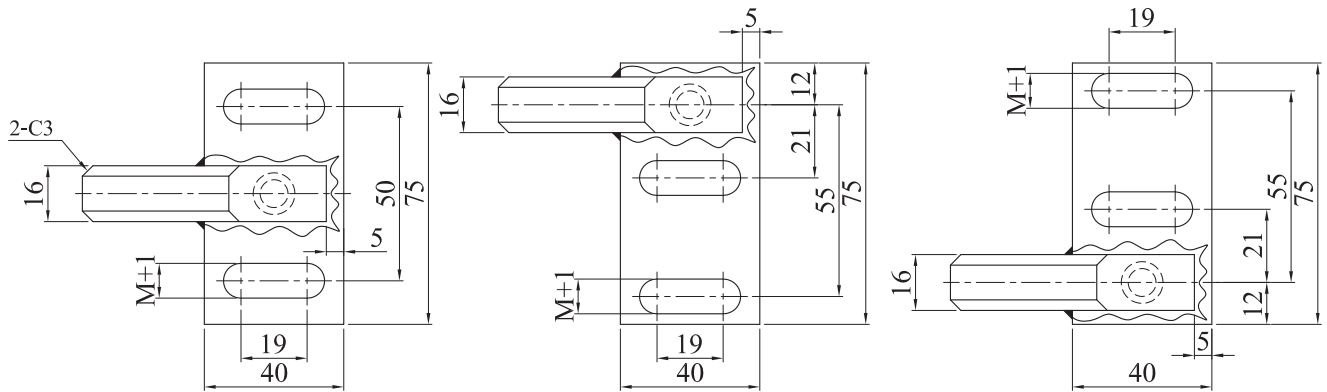
Example : SMGM-R 215 - H35 - M10



SNGU

SNGU-R

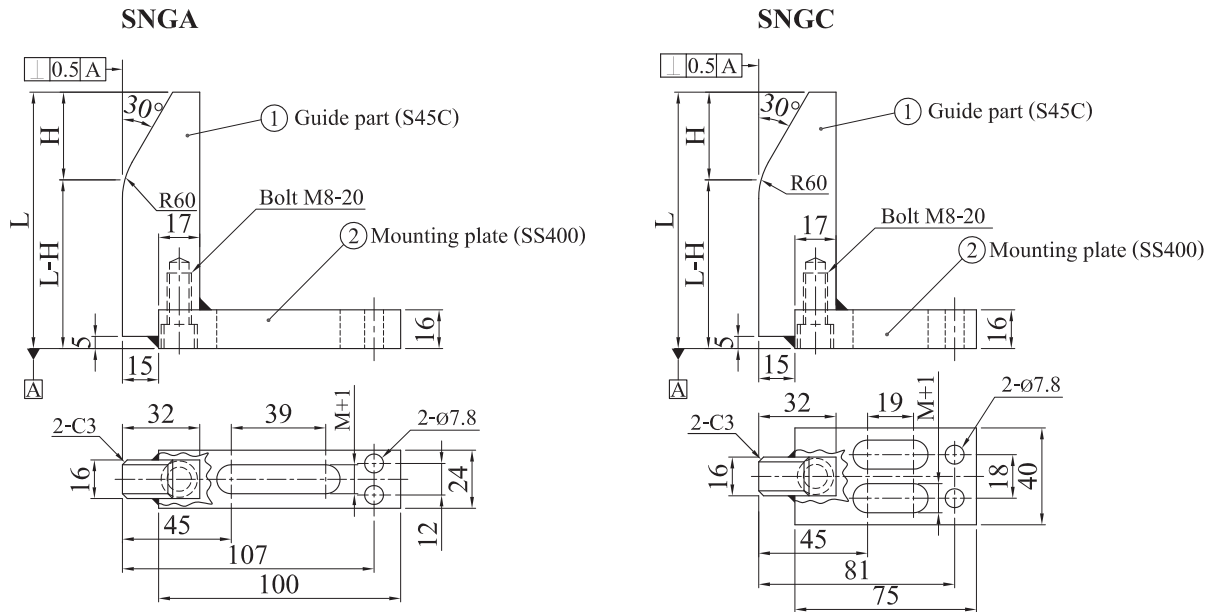
SNGU-L



TYPE	5 mm increments					M
	L	H	S	X	Y	
SNGU	75 - 100	20 - 40	50 - 100	20 - 70	35 - 60	M10
SNGU-R	105 - 150				65 - 110	M12
SNGU-L	155 - 200				115 - 160	M12

How to order : Type - L - H - S - X - Y - M

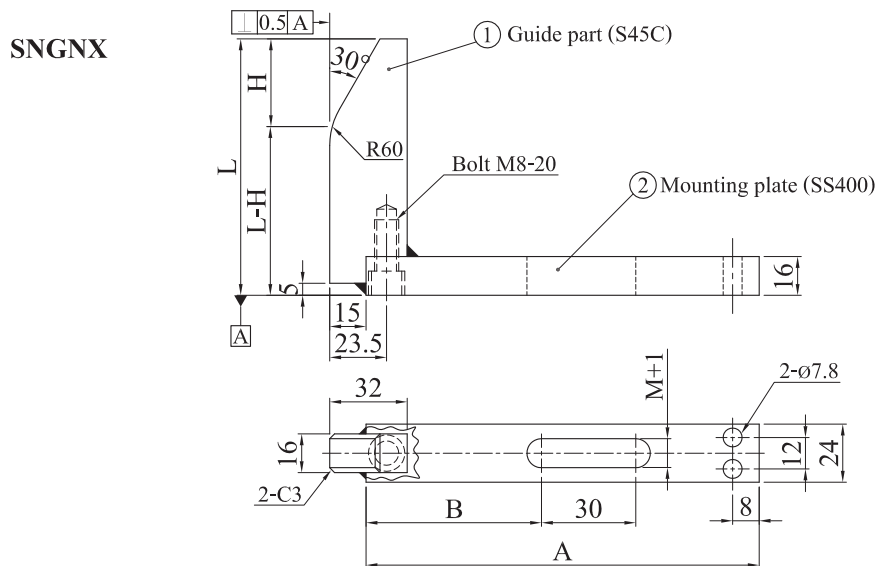
Example : SNGU 100 - 40 - S50 - X40 - Y40 - M12



TYPE	L (↑ 5mm.)	H (↑ 5mm.)	M
SNGA	65 -100	20-40	M 10 M12 (SNGA only)
SNGC	105-150		
	155-200		

How to order : Type - L - H - M

Example : SNGA 105 - 20 - M12



TYPE	L (↑ 5mm.)	H (↑ 5mm.)	A (↑ 10mm.)	B (↑ 5mm.)	M
SNGNX	65 -100	20-40	100-200	$35 \leq B \leq A-50$	M 10
	105-150				
	155-200				M12

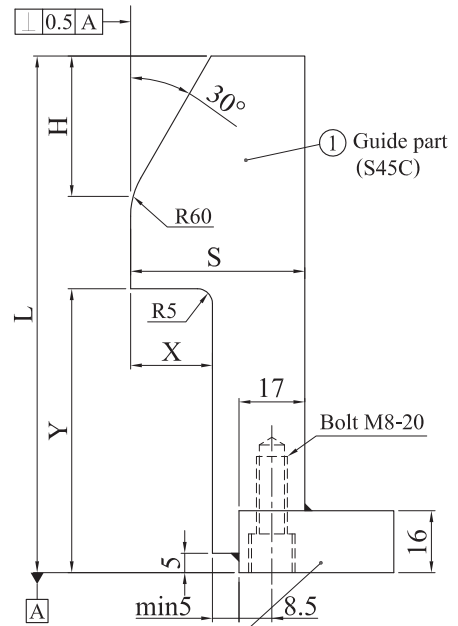
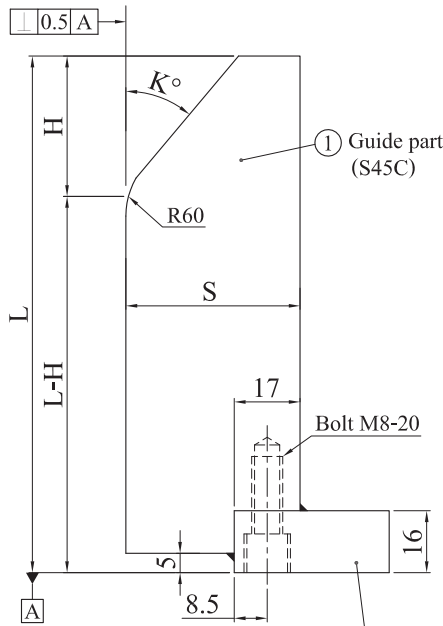
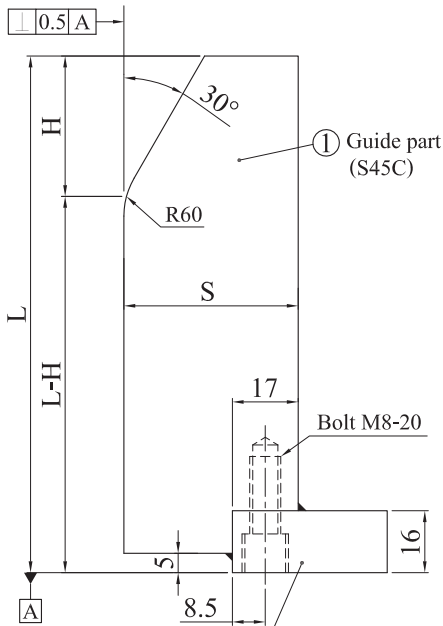
How to order : Type - L - H - A - B - M

Example : SNGNX 110 - 30 - A110 - B50 - M12

SNGW

SNGWK

SNGWS



② Mounting plate (SS400)

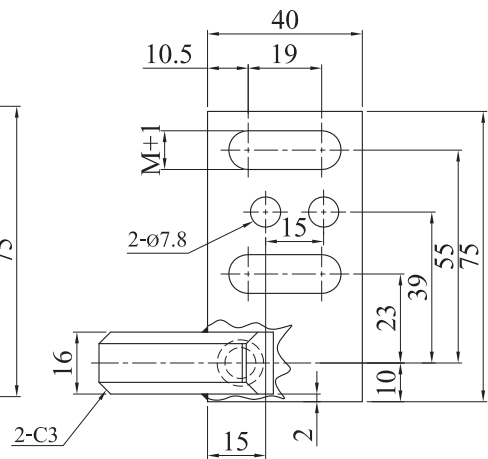
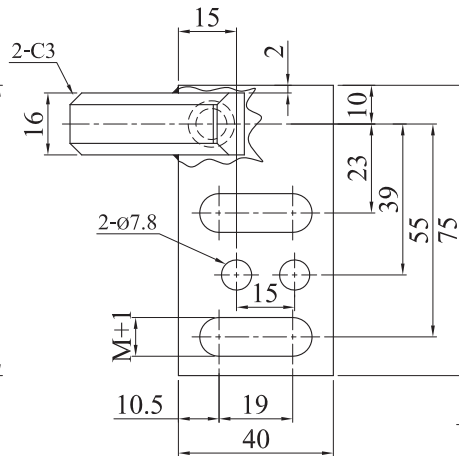
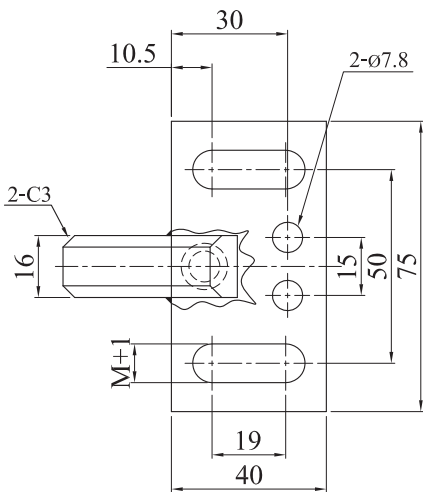
$S \geq 10 + H \times \tan(K^\circ)$ ② Mounting plate (SS400)

② Mounting plate (SS400)

Mounting Type A (Center)

R (Right Hand)

L (Lift Hand)



TYPE	Mounting Type	L ↑ 5mm.	H ↑ 5mm.	S ↑ 5mm.	M	K ↑ 5°	X ↑ 1mm.	Y ↑ 5mm.
SNGW	A	65 - 100	20 - 40	32	M10	15 ≤ K ≤ 60 (For SNGWK only)	X ≤ S - 22 (For SNGWS Only)	Y ≤ L - H - 15
SNGWK	R	105 - 150			35-40			
SNGWS	L	150 - 200						

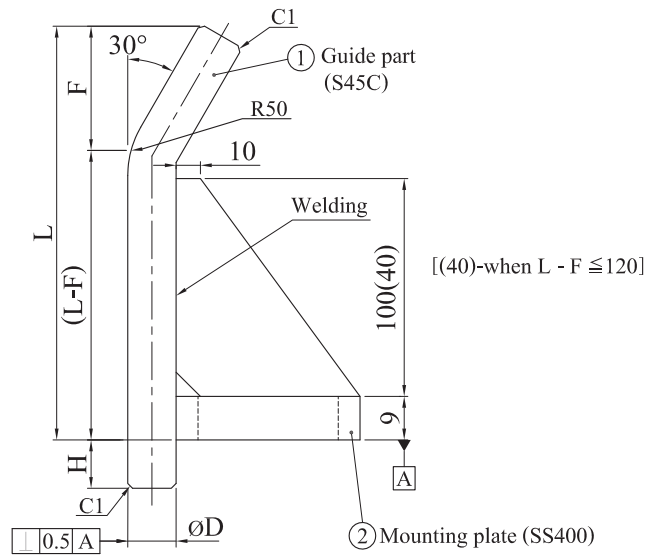
S32 is not available for SNGW

How to order : Type - Mounting type - L - H - S - M - K - X - Y

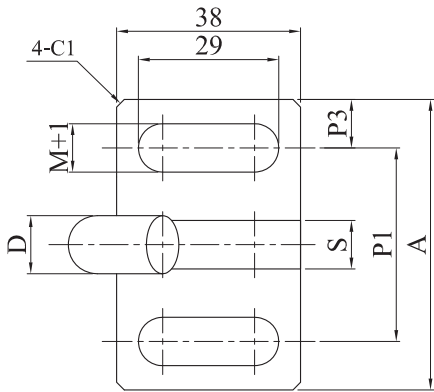
Example : SNGW-A -105 - 30 - S35 - M10

SNGWK-R -150 - 40 - S40 - M12 - K45°

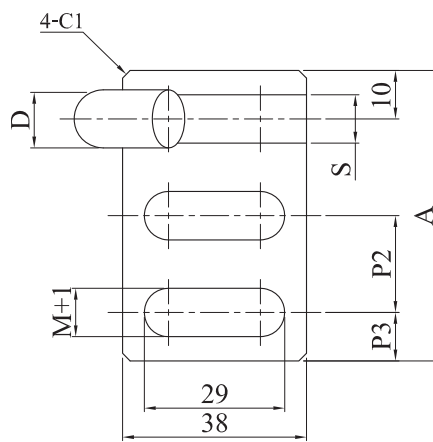
SNGWS-L -120 - 40 - S50 - M10 - X10 - Y100



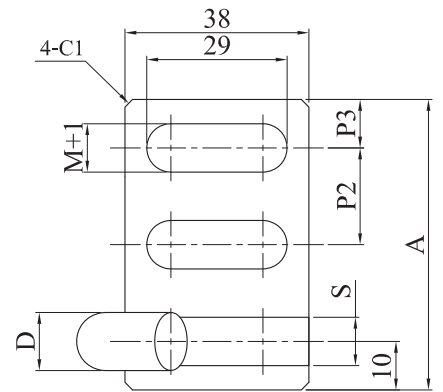
SRG(Center)



SRG-R(Right hand)



SRG-L(Left hand)

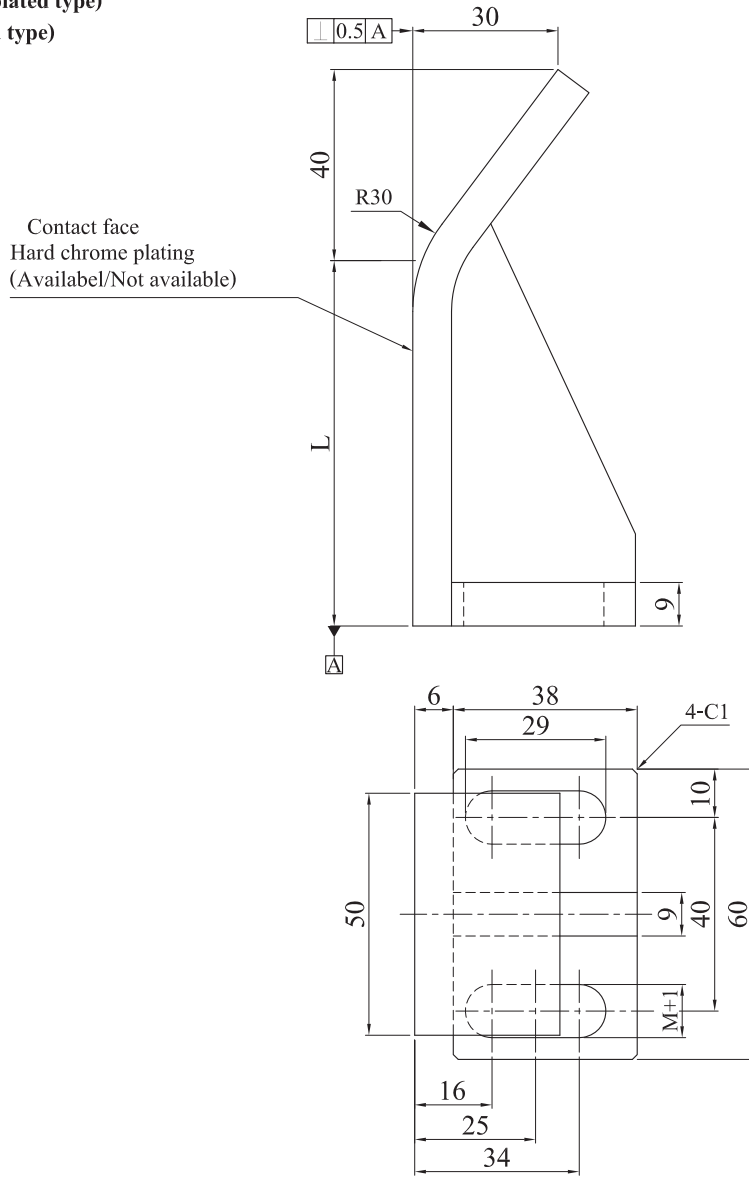


Type	D	L	F	H	M	A	P1 (SRG)	P2 (SRG-R-L)	P3	S			
SRG	8	60-300	10-50 $F \leq L-50$	0-80	M10	60	40	20	10	6			
SRG-R	12				M12					9			
SRG-L	16				M12	75				50	25	12.5	16
	20												

How to order : Type - D - L - F - H - M

Example : SNG 10 - 150 - 40 - 40 - M10

SNTFA (Non-plated type)
SNTFA-P (Plated type)

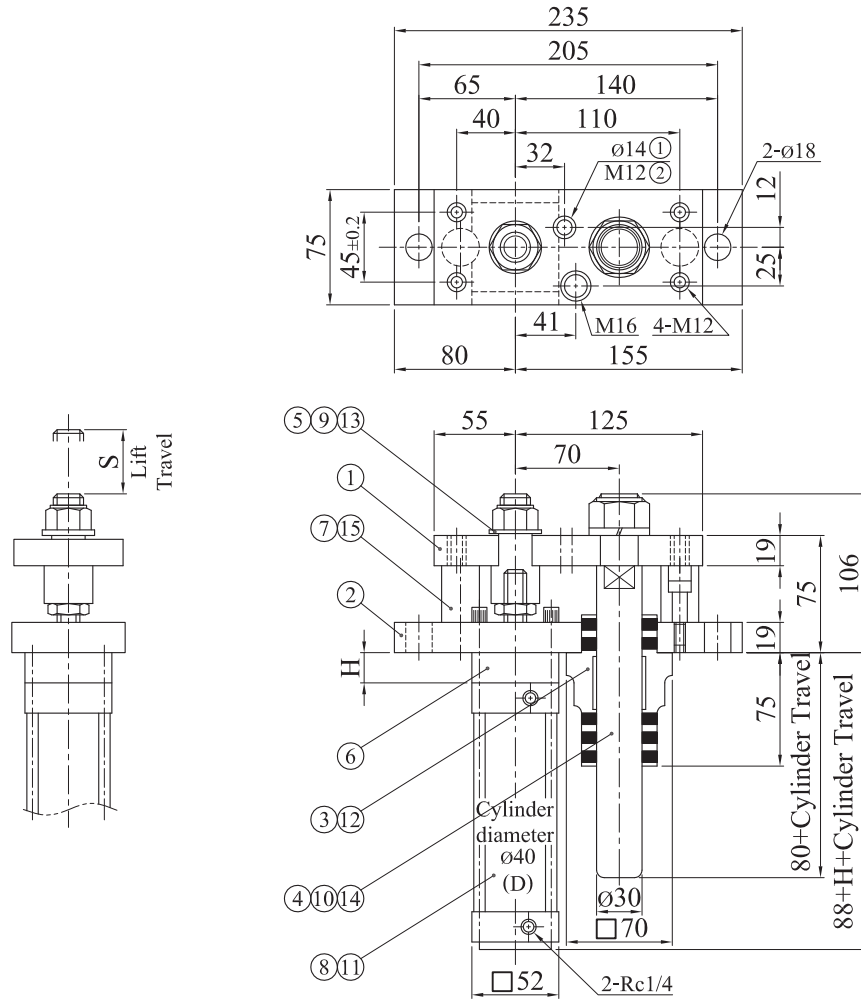


Type	L (↑ 5mm.)	M
SNTFA	75 -100	M10
SNTFA-P	105-150	M12

How to order : Type - L - M
 Example : SNTFA 110 - M12



MLGT 40



No.	Description and Material	
1	Lifter Plate	SS400
2	Cylinder Holder Plate	SS400
3	Guide Holder	FC250 with graphite
4	Guide Pin	S45C 55-60 HRC
5	Joint	SS400
6	Block	SS400
7	Stopper	Urethane
8	Air Cylinder	MB40 (SMC)

No.	Description and Material	
9	U Nut	M20
10	U Nut	M24
11	Hexagon Socket Head Bolt	M6
12	Socket Bolt	M12x35
13	Flat Washer	For M20
14	Spring Washer	For M24
15	Shoulder Bolt	M8x20

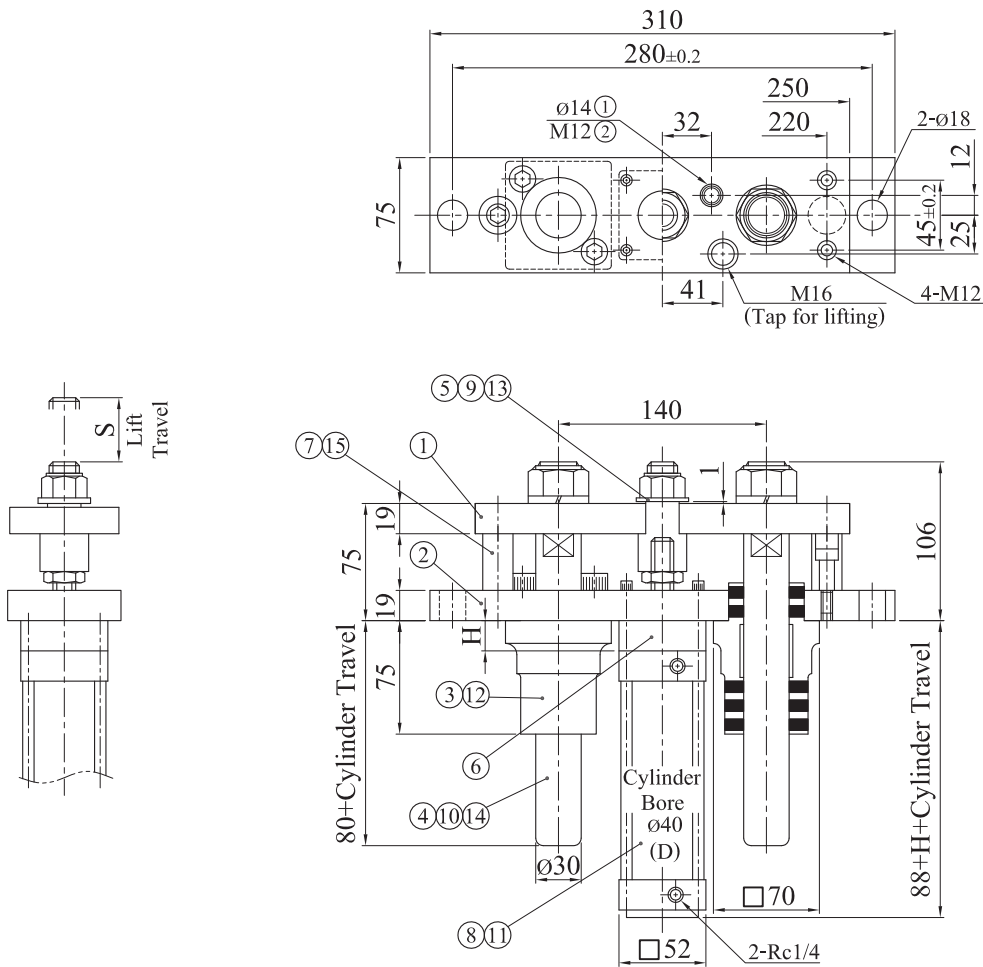
How to order : Type - D - S
Example : MLGT 40 - 80S

Type - D	S (increment of 10mm)
MLGT 40	10 - 50
	60 - 100
	110-150
	160-200
	210-250

Travel S	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
Block Height H	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—
Cylinder Travel	50				100				150				200				250								



SHGT 40



No.	Description and Material	
1	Lifter Plate	SS400
2	Cylinder Holder Plate	SS400
3	Guide Holder	FC250 with graphite
4	Guide Pin	S45C 55-60 HRC
5	Joint	SS400
6	Block	SS400
7	Stopper	Urethane
8	Air Cylinder	MB40 (SMC)

No.	Description and Material	
9	U Nut	M20
10	U Nut	M24
11	Hexagon Socket Head Bolt	M6
12	Socket Bolt	M12x35
13	Flat Washer	For M20
14	Spring Washer	For M24
15	Shoulder Bolt	M8x20

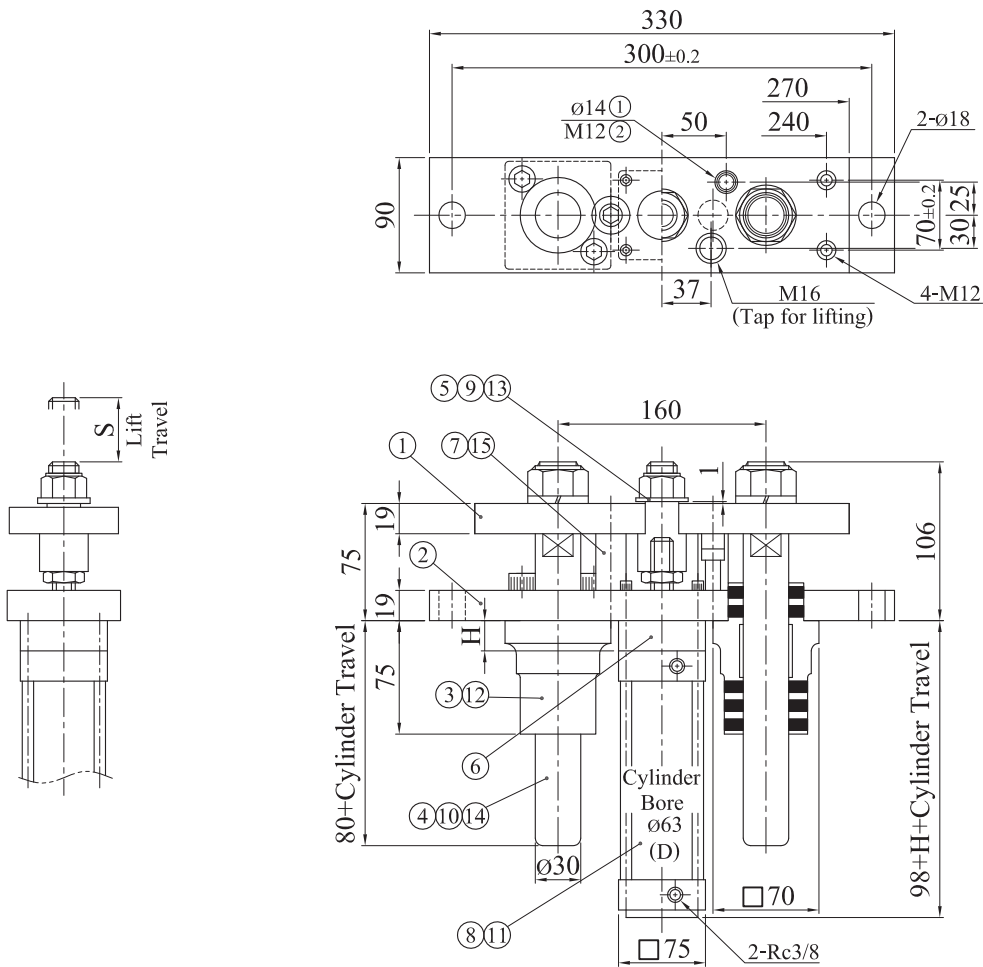
How to order : Type - D - S
Example : SHGT 40 - 100S

Type - D	S (increment of 10mm)
SHGT 40	10 - 50
	60 -100
	110-150
	160-200
	210-250

Travel S	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
Block Height H	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—
Cylinder Travel	50					100					150					200					250				



SHGT 63



No.	Description and Material	
1	Lifter Plate	SS400
2	Cylinder Holder Plate	SS400
3	Guide Holder	FC250 with graphite
4	Guide Pin	S45C 55-60 HRC
5	Joint	SS400
6	Block	SS400
7	Stopper	Urethane
8	Air Cylinder	MB63 (SMC)

No.	Description and Material	
9	U Nut	M20
10	U Nut	M24
11	Hexagon Socket Head Bolt	M8
12	Socket Bolt	M12x35
13	Flat Washer	For M20
14	Spring Washer	For M24
15	Shoulder Bolt	M8x20

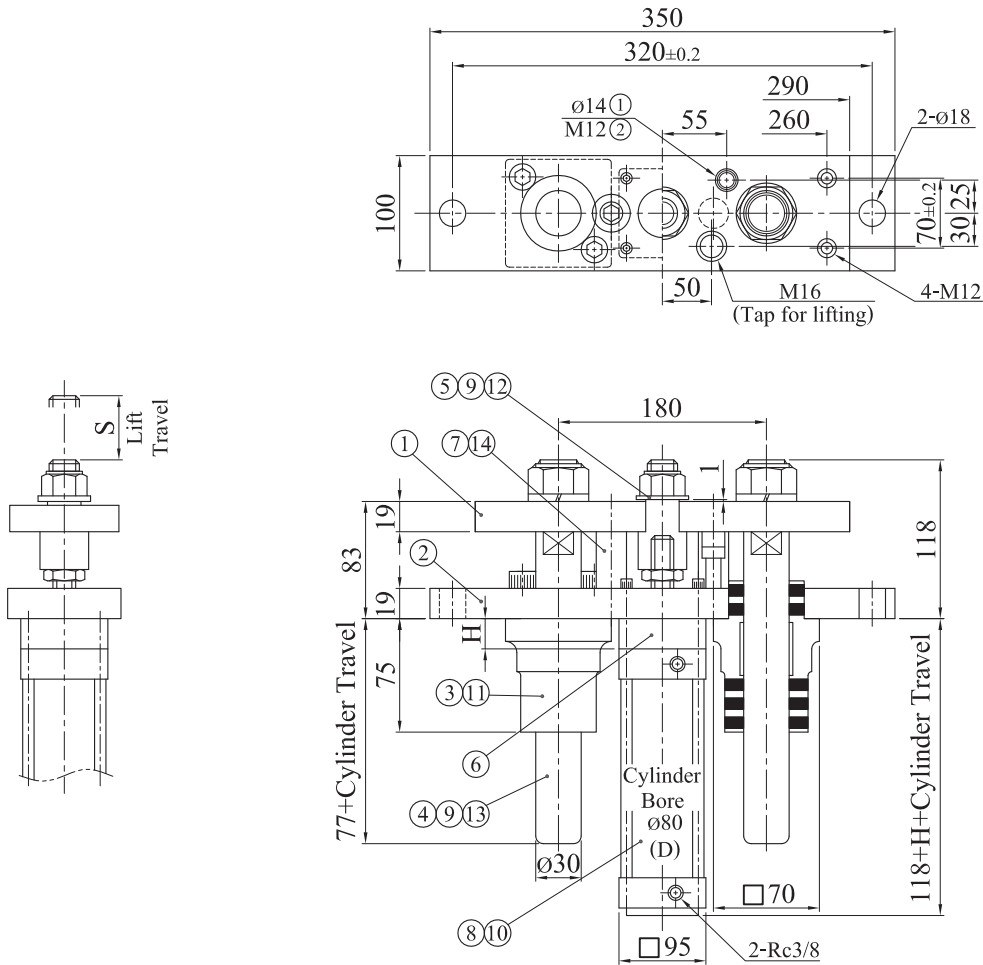
How to order : Type - D - S

Example : SHGT 63 - 100S

Type - D	S (increment of 10mm)
SHGT 63	10 - 50
	60 - 100
	110-150
	160-200
	210-250

Travel S	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
Block Height H	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—
Cylinder Travel	50					100					150					200					250				

SHGT 80



No.	Description and Material	
1	Lifter Plate	SS400
2	Cylinder Holder Plate	SS400
3	Guide Holder	FC250 with graphite
4	Guide Pin	S45C 55-60 HRC
5	Joint	SS400
6	Block	SS400
7	Stopper	Urethane

No.	Description and Material	
8	Air Cylinder	MB80 (SMC)
9	U Nut	M24
10	Hexagon Socket Head Bolt	M10
11	Socket Bolt	M12x35
12	Flat Washer	For M20
13	Spring Washer	For M24
14	Shoulder Bolt	M8x20

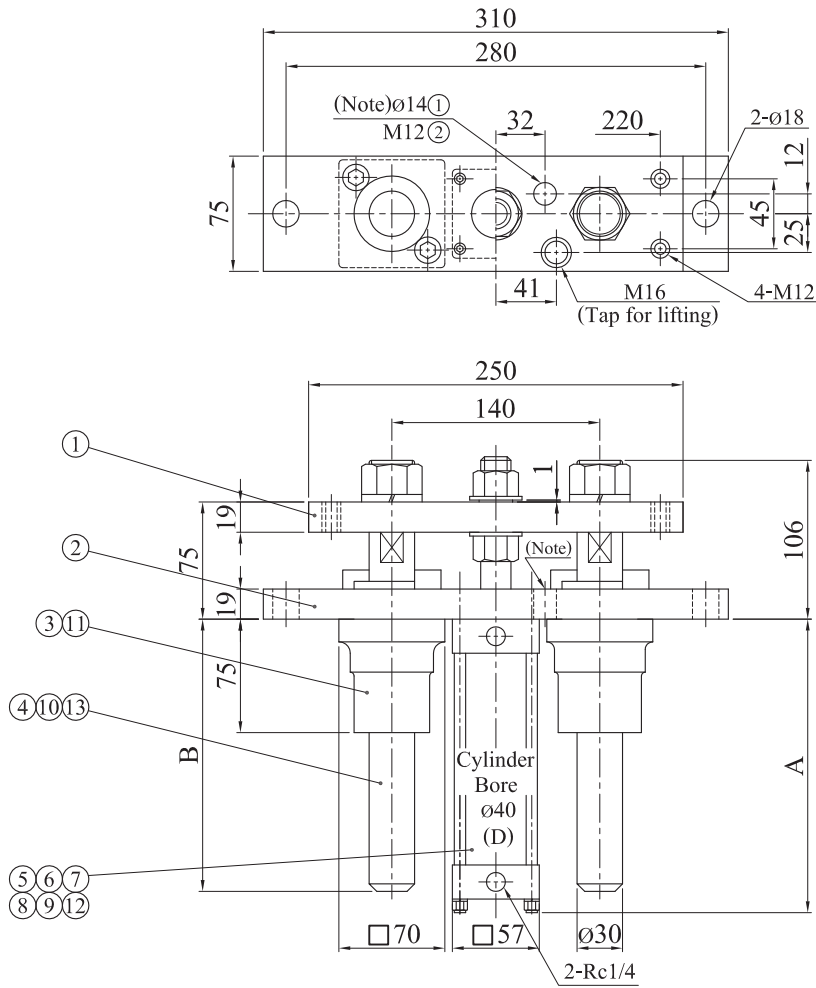
How to order : Type - D - S
 Example : SHGT 80 - 200S

Type - D	S (increment of 10mm)
SHGT 80	10 - 50
	60 -100
	110-150
	160-200
	210-250

Travel S	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
Block Height H	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—	40	30	20	10	—
Cylinder Travel	50					100					150					200					250				



SHGK 40



No.	Description and Material
1	Lifter Plate SS400
2	Cylinder Holder Plate SS400
3	Guide Holder FC250 with graphite
4	Guide Pin S45C 55-60 HRC
5	Air Cylinder MBB40 (SMC)
6	Collar SS400
7	Spacer SS400

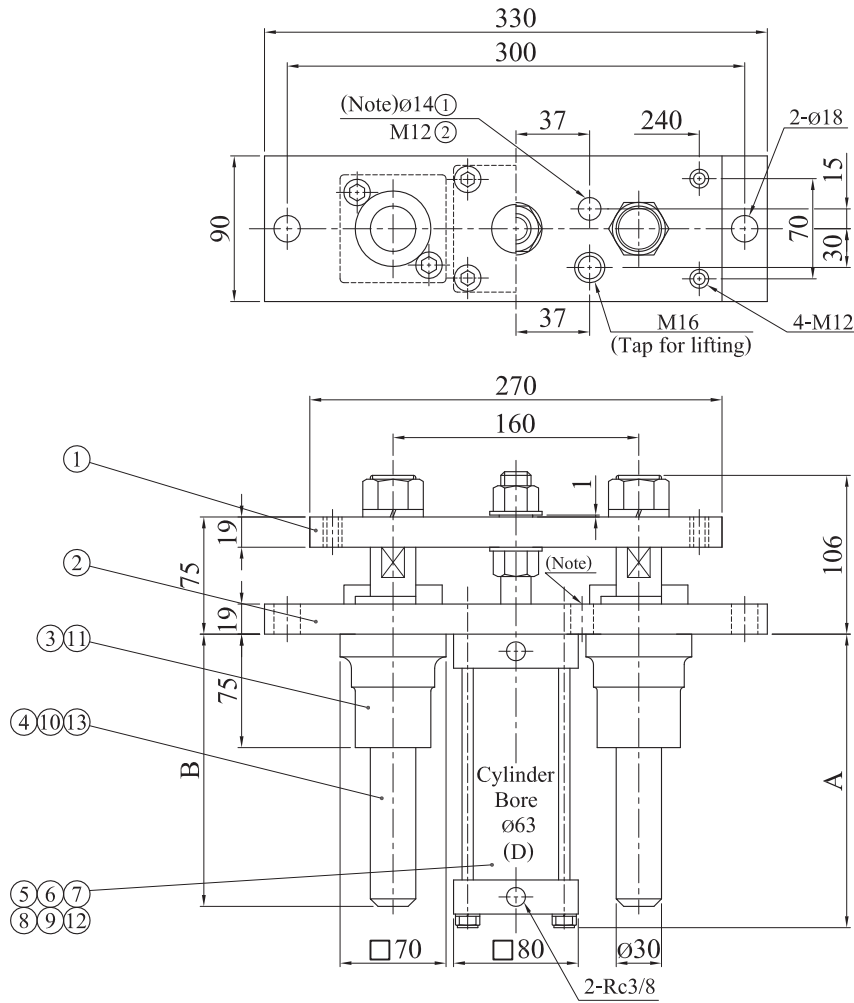
No.	Description and Material
8	Hexagon Nut M20
9	U Nut M20
10	U Nut M24
11	Socket Bolt M12x35
12	Flat Washer For M20
13	Spring Washer For M24

Type - D	Travel S	A	B
SHGK 40	50	142	130
	75	167	155
	100	192	180
	125	217	205
	150	242	230
	175	267	255
	200	292	280
	225	317	305
	250	342	330
	275	367	355
300	392	380	

How to order : Type - D - S

Example : SHGK 40 - 150S

SHGK 63



No.	Description and Material
1	Lifter Plate SS400
2	Cylinder Holder Plate SS400
3	Guide Holder FC250 with graphite
4	Guide Pin S45C 55-60 HRC
5	Air Cylinder MBB63 (SMC)
6	Collar SS400
7	Spacer SS400

No.	Description and Material
8	Hexagon Nut M20
9	U Nut M20
10	U Nut M24
11	Socket Bolt M12x35
12	Flat Washer For M20
13	Spring Washer For M24

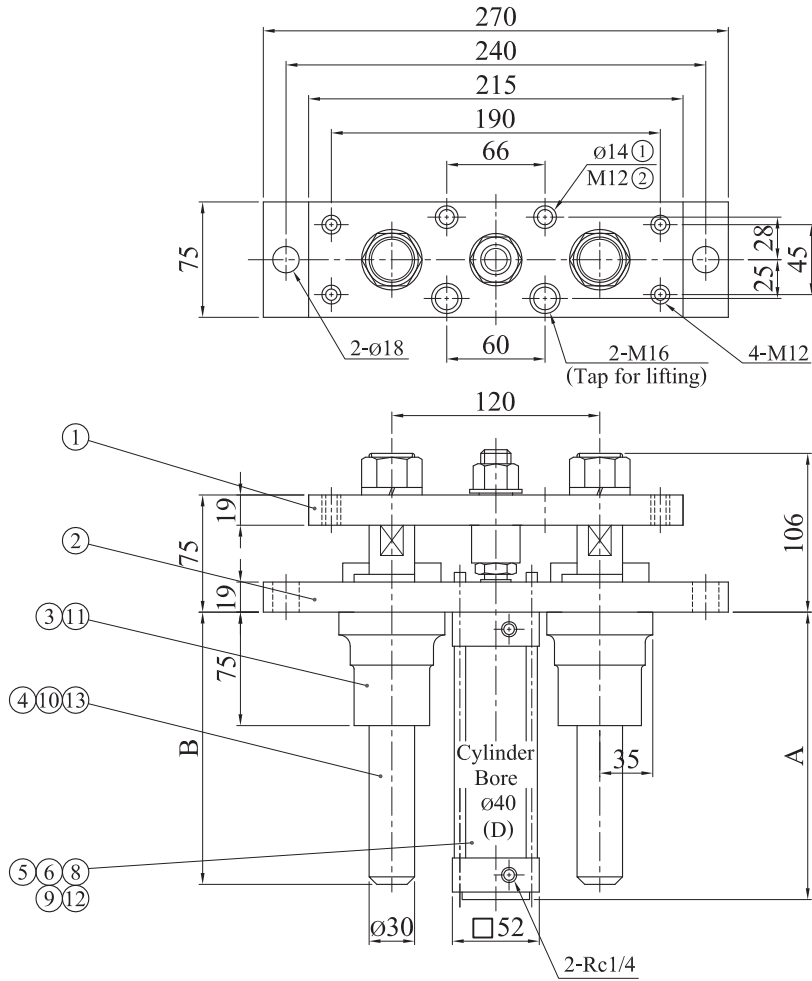
Type - D	Travel S	A	B
SHGK 63	50	158	130
	75	183	155
	100	208	180
	125	233	205
	150	258	230
	175	283	255
	200	308	280
	225	333	305
	250	358	330
	275	383	355
	300	408	380

How to order : Type - D - S

Example : SHGK 63 - 175S



SHGC 40



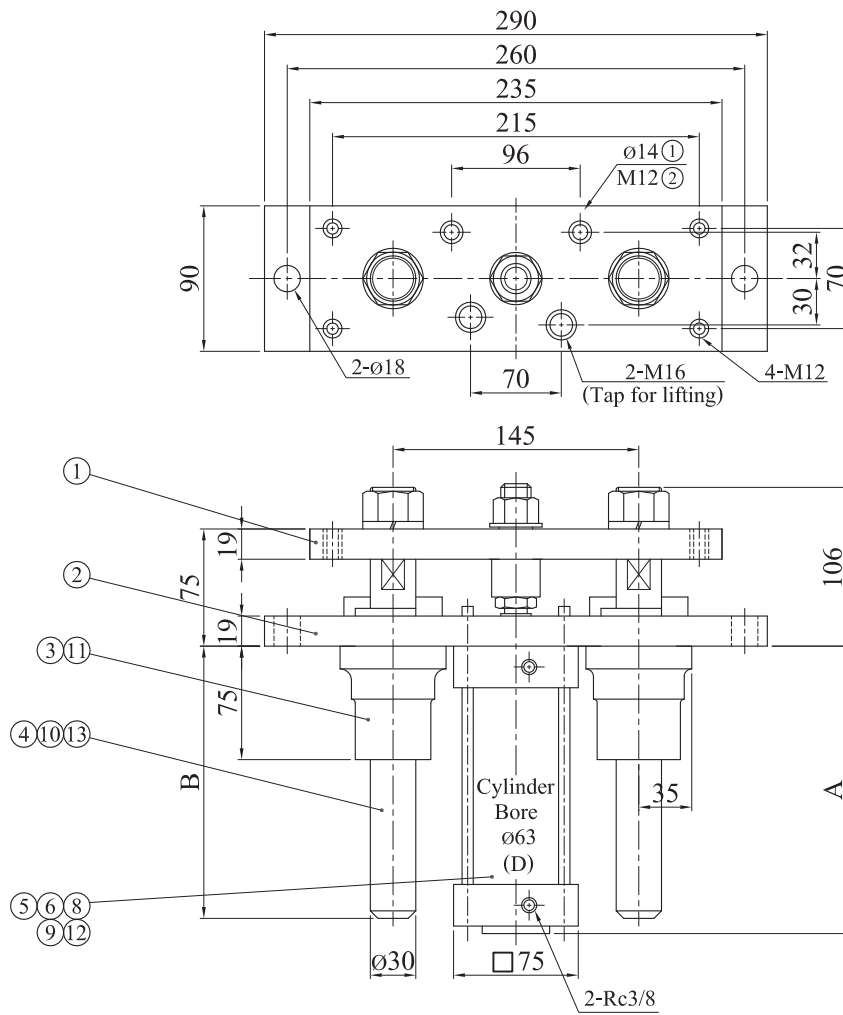
No.	Description and Material	No.	Description and Material
1	Lifter Plate SS400	8	Hexagon Socket Bol M6
2	Cylinder Holder Plate SS400	9	U Nut M20
3	Guide Holder FC250 with graphite	10	U Nut M24
4	Guide Pin S45C 55-60 HRC	11	Hexagon Socket Bolt M12x35
5	Air Cylinder MB40 (SMC)	12	Flat Washer For M20
6	Collar SS400	13	Spring Washer For M24

Type - D	Travel S	A	B
SHGC 40	50	138	130
	75	163	155
	100	188	180
	125	213	205
	150	238	230
	175	263	255
	200	288	280
	225	313	305
	250	338	330
	275	363	355
300	388	380	

How to order : Type - D - S

Example : SHGC 40 - 150S

SHGC 63



No.	Description and Material	No.	Description and Material
1	Lifter Plate SS400	8	Hexagon Socket Bolt M8
2	Cylinder Holder Plate SS400	9	U Nut M20
3	Guide Holder FC250 with graphite	10	U Nut M24
4	Guide Pin S45C 55-60 HRC	11	Hexagon Socket Bolt M12x35
5	Air Cylinder MB63 (SMC)	12	Flat Washer For M20
6	Collar SS400	13	Spring Washer For M24

Type - D	Travel S	A	B
SHGC 63	50	148	130
	75	173	155
	100	198	180
	125	223	205
	150	248	230
	175	273	255
	200	298	280
	225	323	305
	250	348	330
	275	373	355
300	398	380	

How to order : Type - D - S

Example : SHGC 63 - 175S

輕少荷重
경소하중
LIGHTEST LOAD

SF

※용량률 310%
※외경 40mm 이상
※자유길 自由長 50mm 이하 ±0.5mm
50mm 以上 ±1%

呼稱 호칭 Model	外徑 외경(mm) Outer Dia.	內徑 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定數 정수(kgf/mm) spring constant	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection
SF 6×15			5	0.80	7.5		6.8		6.0
20			20	0.60	10.0		9.0		8.0
25			25	0.48	12.5		11.3		10.0
30			30	0.40	15.0		13.5		12.0
35			35	0.34	17.5		15.8		14.0
40			40	0.30	20.0		18.0		16.0
45			45	0.27	22.5		20.3		18.0
50			50	0.24	25.0		22.5		20.0
55			55	0.22	27.5		24.8		22.0
60			60	0.20	30.0		27.0		24.0
65			65	0.18	32.5		29.3		26.0
70			70	0.17	35.0		31.5		28.0
SF 8×10			10	1.56	5.0		4.5		4.0
15			15	1.04	7.5		6.8		6.0
20			20	0.78	10.0		9.0		8.0
25			25	0.62	12.5		11.2		10.0
30			30	0.52	15.0		13.5		12.0
35			35	0.44	17.5		15.7		14.0
40			40	0.39	20.0		18.0		16.0
45			45	0.35	22.5		20.2		18.0
50			50	0.31	25.0		22.5		20.0
55			55	0.28	27.5		24.7		22.0
60			60	0.26	30.0		27.0		24.0
65			65	0.24	32.5		29.2		26.0
70			70	0.22	35.0		31.5		28.0
75			75	0.21	37.5		33.7		30.0
80			80	0.20	40.0		36.0		32.0
90			90	0.17	45.0		40.5		36.0
SF 10×10			10	2.00	5.0		4.5		4.0
15			15	1.32	7.5		6.8		6.0
20			20	1.00	10.0		9.0		8.0
25			25	0.80	12.5		11.2		10.0
30			30	0.67	15.0		13.5		12.0
35			35	0.57	17.5		15.7		14.0
40			40	0.50	20.0		18.0		16.0
45			45	0.44	22.5		20.2		18.0
50			50	0.40	25.0		22.5		20.0
55			55	0.36	27.5		24.7		22.0
60			60	0.33	30.0		27.0		24.0
65			65	0.31	32.5		29.2		26.0
70			70	0.29	35.0		31.5		28.0
75			75	0.27	37.5		33.7		30.0
80			80	0.25	40.0		36.0		32.0
90			90	0.22	45.0		40.5		36.0
100			100	0.20	50.0		45.0		40.0

輕少荷重
경소하중
LIGHTEST LOAD

SF

※용량률 310%
※외경 40mm 이상
※자유길 自由長 50mm 이하 ±0.5mm
50mm 以上 ±1%

呼稱 호칭 Model	外徑 외경(mm) Outer Dia.	內徑 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定數 정수(kgf/mm) spring constant	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection
SF 12×20			20	1.40	10.0		9.0		8.0
25			25	1.12	12.5		11.2		10.0
30			30	0.93	15.0		13.5		12.0
35			35	0.80	17.5		15.7		14.0
40			40	0.70	20.0		18.0		16.0
45			45	0.62	22.5		20.2		18.0
50			50	0.56	25.0		22.5		20.0
55			55	0.51	27.5		24.7		22.0
60			60	0.47	30.0		27.0		24.0
65			65	0.43	32.5		29.2		26.0
70			70	0.40	35.0		31.5		28.0
75			75	0.37	37.5		33.7		30.0
80			80	0.35	40.0		36.0		32.0
90			90	0.31	45.0		40.5		36.0
100			100	0.28	50.0		45.0		40.0
SF 14×20			20	1.78	10.0		9.0		8.0
25			25	1.44	12.5		11.2		10.0
30			30	1.20	15.0		13.5		12.0
35			35	1.03	17.5		15.7		14.0
40			40	0.90	20.0		18.0		16.0
45			45	0.80	22.5		20.2		18.0
50			50	0.72	25.0		22.5		20.0
55			55	0.65	27.5		24.7		22.0
60			60	0.60	30.0		27.0		24.0
65			65	0.55	32.5		29.2		26.0
70			70	0.51	35.0		31.5		28.0
75			75	0.48	37.5		33.7		30.0
80			80	0.45	40.0		36.0		32.0
90			90	0.40	45.0		40.5		36.0
100			100	0.36	50.0		45.0		40.0
125			125	0.29	62.5		56.2		50.0
SF 16×20			20	2.11	10.0		9.0		8.0
25			25	1.68	12.5		11.2		10.0
30			30	1.40	15.0		13.5		12.0
35			35	1.20	17.5		15.7		14.0
40			40	1.05	20.0		18.0		16.0
45			45	0.94	22.5		20.2		18.0
50			50	0.84	25.0		22.5		20.0
55			55	0.77	27.5		24.7		22.0
60			60	0.70	30.0		27.0		24.0
65			65	0.65	32.5		29.2		26.0
70			70	0.60	35.0		31.5		28.0
75			75	0.56	37.5		33.7		30.0
80			80	0.53	40.0		36.0		32.0
90			90	0.47	45.0		40.5		36.0
100			100	0.42	50.0		45.0		40.0
125			125	0.34	62.5		56.2		50.0

輕少荷重
경소하중
LIGHTEST LOAD

SF

※용량률 310%
※외경 40mm 이상
※자유길 自由長 50mm 이하 ±0.5mm
50mm 以上 ±1%

呼稱 호칭 Model	外徑 외경(mm) Outer Dia.	內徑 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定數 정수(kgf/mm) spring constant	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection
SF 18×20			20	2.56	10.0		9.0		8.0
25			25	2.08	12.5		11.2		10.0
30			30	1.74	15.0		13.5		12.0
35			35	1.49	17.5		15.7		14.0
40			40	1.30	20.0		18.0		16.0
45			45	1.16	22.5		20.2		18.0
50			50	1.04	25.0		22.5		20.0
55			55	0.95	27.5		24.7		22.0
60			60	0.87	30.0		27.0		24.0
65			65	0.80	32.5		29.2		26.0
70			70	0.74	35.0		31.5		28.0
75			75	0.70	37.5		33.7		30.0
80			80	0.65	40.0		36.0		32.0
90			90	0.58	45.0		40.5		36.0
100			100	0.52	50.0		45.0		40.0
125			125	0.42	62.5		56.2		50.0
SF 20×20			20	3.22	10.0		9.0		8.0
25			25	2.56	12.5		11.2		10.0
30			30	2.13	15.0		13.5		12.0
35			35	1.83	17.5		15.7		14.0
40			40	1.60	20.0		18.0		16.0
45			45	1.42	22.5		20.2		18.0
50			50	1.28	25.0		22.5		20.0
55			55	1.16	27.5		24.7		22.0
60			60	1.07	30.0		27.0		24.0
65			65	0.98	32.5		29.2		26.0
70			70	0.91	35.0		31.5		28.0
75			75	0.85	37.5		33.7		30.0
80			80	0.80	40.0		36.0		32.0
90			90	0.71	45.0		40.5		36.0
100			100	0.64	50.0		45.0		40.0
125			125	0.51	62.5		56.2		50.0
150			150	0.43	75.0		67.5		60.0
175			175	0.37	87.5		78.7		70.0
SF 22×25			25	3.20	12.5		11.2		10.0
30			30	2.67	15.0		13.5		12.0
35			35	2.29	17.5		15.7		14.0
40			40	2.00	20.0		18.0		16.0
45			45	1.78	22.5		20.2		18.0
50			50	1.60	25.0		22.5		20.0
55			55	1.46	27.5		24.7		22.0
60			60	1.33	30.0		27.0		24.0
65			65	1.23	32.5		29.2		26.0
70			70	1.14	35.0		31.5		28.0
75			75	1.07	37.5		33.7		30.0
80			80	1.00	40.0		36.0		32.0
90			90	0.89	45.0		40.5		36.0
100			100	0.80	50.0		45.0		40.0
125			125	0.64	62.5		56.2		50.0
150			150	0.53	75.0		67.5		60.0
175			175	0.46	87.5		78.7		70.0

輕少荷重
경소하중
LIGHTEST LOAD

SF

※용량률 310%
※외경 40mm 이상
※자유길 自由長 50mm 이하 ±0.5mm
50mm 以上 ±1%

呼稱 호칭 Model	外徑 외경(mm) Outer Dia.	內徑 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定數 정수(kgf/mm) spring constant	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection	荷重 하중(kgf) Load	變形量 변형량(mm) Deflection
SF 25×25			25	4.00	12.5		11.2		10.0
30			30	3.33	15.0		13.5		12.0
35			35	2.85</					

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 자유길(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중(kgf) Load	장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중(kgf) Load	장상(kg/mm) spring constant	변형량 변형량(mm) Deflection
SF 35 × 35			35	5.60	17.5			15.7		14.0	
40			40	4.90	20.0			18.0		16.0	
45			45	4.36	22.5			20.2		18.0	
50			50	3.92	25.0			22.5		20.0	
55			55	3.56	27.5			24.7		22.0	
60			60	3.26	30.0			27.0		24.0	
65			65	3.02	32.5			29.2		26.0	
70	35	19	70	2.80	35.0	98		31.5	88	28.0	78
75			75	2.61	37.5			33.7		30.0	
80			80	2.45	40.0			36.0		32.0	
90			90	2.17	45.0			40.5		36.0	
100			100	1.96	50.0			45.0		40.0	
125			125	1.57	62.5			56.2		50.0	
150			150	1.30	75.0			67.5		60.0	
175			175	1.12	87.5			78.7		70.0	
200			200	0.98	100.0			90.0		80.0	
SF 40 × 40			40	6.38	20.0			18.0		16.0	
45			45	5.67	22.5			20.2		18.0	
50			50	5.12	25.0			22.5		20.0	
55			55	4.64	27.5			24.7		22.0	
60			60	4.26	30.0			27.0		24.0	
65			65	3.93	32.5			29.2		26.0	
70			70	3.65	35.0			31.5		28.0	
75			75	3.40	37.5			33.7		30.0	
80			80	3.20	40.0			36.0		32.0	
90			90	2.84	45.0			40.5		36.0	
100	40	22	100	2.56	50.0	128		45.0	115	40.0	102
125			125	2.04	62.5			56.2		50.0	
150			150	1.70	75.0			67.5		60.0	
175			175	1.46	87.5			78.7		70.0	
200			200	1.28	100.0			90.0		80.0	
225			225	1.13	112.5			101.2		90.0	
250			250	1.02	125.0			112.5		100.0	
275			275	0.93	137.5			123.7		110.0	
300			300	0.85	150.0			135.0		120.0	
SF 50 × 50			50	8.00	25.0			22.5		20.0	
55			55	7.27	27.5			24.7		22.0	
60			60	6.66	30.0			27.0		24.0	
65			65	6.15	32.5			29.2		26.0	
70			70	5.71	35.0			31.5		28.0	
75			75	5.33	37.5			33.7		30.0	
80			80	5.00	40.0			36.0		32.0	
90			90	4.44	45.0			40.5		36.0	
100			100	4.00	50.0			45.0		40.0	
125			125	3.20	62.5			56.2		50.0	
150			150	2.66	75.0			67.5		60.0	
175	50	27.5	175	2.28	87.5	200		78.7	180	70.0	160
200			200	2.00	100.0			90.0		80.0	
225			225	1.78	112.5			101.2		90.0	
250			250	1.60	125.0			112.5		100.0	
275			275	1.45	137.5			123.7		110.0	
300			300	1.33	150.0			135.0		120.0	
350			350	1.14	175.0			157.5		140.0	
400			400	1.00	200.0			180.0		160.0	
450			450	0.89	225.0			202.5		180.0	
500			500	0.80	250.0			225.0		200.0	

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 자유길(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중(kgf) Load	장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중(kgf) Load	장상(kg/mm) spring constant	변형량 변형량(mm) Deflection
SF 60 × 60			60	9.59	30.0			27.0		24.0	
70			70	8.22	35.0			31.5		28.0	
80			80	7.19	40.0			36.0		32.0	
90			90	6.40	45.0			40.5		36.0	
100			100	5.76	50.0			45.0		40.0	
125			125	4.80	62.5			56.2		50.0	
150			150	3.84	75.0			67.5		60.0	
175			175	3.29	87.5			78.7		70.0	
200	60	33	200	2.88	100.0	288		90.0	259	80.0	230
225			225	2.56	112.5			101.3		90.0	
250			250	2.30	125.0			112.5		100.0	
275			275	2.09	137.5			123.8		110.0	
300			300	1.92	150.0			135.0		120.0	
350			350	1.65	175.0			157.5		140.0	
400			400	1.44	200.0			180.0		160.0	
450			450	1.28	225.0			202.5		180.0	
500			500	1.15	250.0			225.0		200.0	
SF 70 × 70			70	11.43	35.0			31.5		28.0	
80			80	10.00	40.0			36.0		32.0	
90			90	8.89	45.0			40.5		36.0	
100			100	8.00	50.0			45.0		40.0	
125			125	6.40	62.5			56.2		50.0	
150			150	5.33	75.0			67.5		60.0	
175	70	38.5	175	4.57	87.5	400		78.7	360	70.0	320
200			200	4.00	100.0			90.0		80.0	
225			225	3.56	112.5			101.3		90.0	
250			250	3.20	125.0			112.5		100.0	
275			275	2.91	137.5			123.8		110.0	
300			300	2.67	150.0			135.0		120.0	
350			350	2.29	175.0			157.5		140.0	

輕荷重
경하중
LIGHT LOAD

SL

公差 荷重 ±10%
 寸法公差 荷重 2° 以下
 寸法公差 自由長 50mm/m 以下 ±0.5mm/m
 55mm/m 以上 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection
SL 6 × 15	6	3	15	1.33	8.0	5.4	4.8	8	7.2	6.4	6.4
			20	1.00	9.0	7.2	6.4				
			25	0.80	10.0	9.0	8.0				
			30	0.67	12.0	10.8	9.6				
			35	0.57	14.0	12.6	11.2				
			40	0.50	16.0	14.4	12.8				
			45	0.44	18.0	16.2	14.4				
			50	0.40	20.0	18.0	16.0				
			55	0.36	22.0	19.8	17.6				
			60	0.33	24.0	21.6	19.2				
			65	0.31	26.0	23.4	20.8				
SL 8 × 10	8	4	10	2.50	4.0	3.6	3.2	10	3.6	8	8
			15	1.67	6.0	5.4	4.8				
			20	1.25	8.0	7.2	6.4				
			25	1.00	10.0	9.0	8.0				
			30	0.83	12.0	10.8	9.6				
			35	0.71	14.0	12.6	11.2				
			40	0.63	16.0	14.4	12.8				
			45	0.56	18.0	16.2	14.4				
			50	0.50	20.0	18.0	16.0				
			55	0.46	22.0	19.8	17.6				
			60	0.42	24.0	21.6	19.2				
SL 10 × 10	10	5	10	3.61	4.0	3.6	3.2	14.5	3.6	13	11.5
			15	2.41	6.0	5.4	4.8				
			20	1.81	8.0	7.2	6.4				
			25	1.45	10.0	9.0	8.0				
			30	1.21	12.0	10.8	9.6				
			35	1.03	14.0	12.6	11.2				
			40	0.90	16.0	14.4	12.8				
			45	0.80	18.0	16.2	14.4				
			50	0.73	20.0	18.0	16.0				
			55	0.66	22.0	19.8	17.6				
			60	0.60	24.0	21.6	19.2				

輕荷重
경하중
LIGHT LOAD

SL

公差 荷重 ±10%
 寸法公差 荷重 2° 以下
 寸法公差 自由長 50mm/m 以下 ±0.5mm/m
 55mm/m 以上 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection		
SL 12 × 20	12	6	20	2.63	8.0	7.2	6.4	21	19	17	17
			25	2.10	10.0	9.0	8.0				
			30	1.75	12.0	10.8	9.6				
			35	1.50	14.0	12.6	11.2				
			40	1.32	16.0	14.4	12.8				
			45	1.17	18.0	16.2	14.4				
			50	1.05	20.0	18.0	16.0				
			55	0.96	22.0	19.8	17.6				
			60	0.88	24.0	21.6	19.2				
			65	0.81	26.0	23.4	20.8				
			70	0.75	28.0	25.2	22.4				
SL 14 × 20	14	7	20	3.47	8.0	7.2	6.4	28	25	22	22
			25	2.80	10.0	9.0	8.0				
			30	2.34	12.0	10.8	9.6				
			35	2.00	14.0	12.6	11.2				
			40	1.75	16.0	14.4	12.8				
			45	1.56	18.0	16.2	14.4				
			50	1.40	20.0	18.0	16.0				
			55	1.27	22.0	19.8	17.6				
			60	1.17	24.0	21.6	19.2				
			65	1.08	26.0	23.4	20.8				
			70	1.00	28.0	25.2	22.4				
SL 16 × 20	16	8	20	4.44	8.0	7.2	6.4	35	32	28	28
			25	3.50	10.0	9.0	8.0				
			30	2.92	12.0	10.8	9.6				
			35	2.50	14.0	12.6	11.2				
			40	2.19	16.0	14.4	12.8				
			45	1.95	18.0	16.2	14.4				
			50	1.75	20.0	18.0	16.0				
			55	1.60	22.0	19.8	17.6				
			60	1.46	24.0	21.6	19.2				
			65	1.35	26.0	23.4	20.8				
			70	1.25	28.0	25.2	22.4				

輕荷重
경하중
LIGHT LOAD

SL

公差 荷重 ±10%
 寸法公差 荷重 2° 以下
 寸法公差 自由長 50mm/m 以下 ±0.5mm/m
 55mm/m 以上 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection		
SL 18 × 20	18	9	20	5.42	8.0	7.2	6.4	43	39	34	34
			25	4.30	10.0	9.0	8.0				
			30	3.58	12.0	10.8	9.6				
			35	3.07	14.0	12.6	11.2				
			40	2.69	16.0	14.4	12.8				
			45	2.39	18.0	16.2	14.4				
			50	2.15	20.0	18.0	16.0				
			55	1.96	22.0	19.8	17.6				
			60	1.79	24.0	21.6	19.2				
			65	1.66	26.0	23.4	20.8				
			70	1.54	28.0	25.2	22.4				
SL 20 × 20	20	10	20	6.81	8.0	7.2	6.4	54	49	43	43
			25	5.40	10.0	9.0	8.0				
			30	4.50	12.0	10.8	9.6				
			35	3.86	14.0	12.6	11.2				
			40	3.38	16.0	14.4	12.8				
			45	3.00	18.0	16.2	14.4				
			50	2.70	20.0	18.0	16.0				
			55	2.45	22.0	19.8	17.6				
			60	2.25	24.0	21.6	19.2				
			65	2.08	26.0	23.4	20.8				
			70	1.93	28.0	25.2	22.4				
SL 22 × 25	22	11	25	6.70	10.0	9.0	8.0	67	60	54	54
			30	5.60	12.0	10.8	9.6				
			35	4.80	14.0	12.6	11.2				
			40	4.20	16.0	14.4	12.8				
			45	3.72	18.0	16.2	14.4				
			50	3.35	20.0	18.0	16.0				
			55	3.05	22.0	19.8	17.6				
			60	2.80	24.0	21.6	19.2				
			65	2.58	26.0	23.4	20.8				
			70	2.40	28.0	25.2	22.4				
			75	2.23	30.0	27.0	24.0				

輕荷重
경하중
LIGHT LOAD

SL

公差 荷重 ±10%
 寸法公差 荷重 2° 以下
 寸法公差 自由長 50mm/m 以下 ±0.5mm/m
 55mm/m 以上 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection	彈簧 spring	變形量 Deflection		
SL 25 × 25	25	12.5	25	8.40	10.0	9.0	8.0	84	76	67	67
			30	7.00	12.0	10.8	9.6				
			35	6.00	14.0	12.6	11.2				
			40	5.25	16.0	14.4	12.8				
			45	4.67	18.0	16.2	14.4				
			50	4.20	20.0	18.0	16.0				
			55	3.82	22.0	19.8	17.6				
			60	3.50	24.0	21.6	19.2				
			65	3.23	26.0	23.4	20.8				
			70	3.00	28.0	25.2	22.4				
			75	2.80	30.0	27.0	24.0				
SL 27 × 25	27	13.5	25	10.00	10.0	9.0	8.0	100	90	80	80
			30	8.33	12.0	10.8	9.6				
			35	7.14	14.0	12.6	11.2				
			40	6.25	16.0	14.4	12.8				
			45	5.56	18.0	16.2	14.4				
			50	5.00	20.0	18.0	16.0				
			55	4.55	22.0	19.8	17.6				
			60	4.17	24.0	21.6	19.2				
			65	3.85	26.0	23.4	20.8				
			70	3.57	28.0	25.2	22.4				
			75	3.33	30.0	27.0	24.0				
SL 30 × 25	30	15	25	12.11	10.0	9.0	8.0	121	109	97	97
			30	10.08	12.0	10.8	9.6				
			35	8.65	14.0	12.6	11.2				
			40	7.56	16.0	14.4	12.8				
			45	6.73	18.0	16.2	14.4				
			50	6.05	20.0	18.0	16.0				
			55	5.50	22.0	19.8	17.6				
			60	5.04	24.0	21.6	19.2				
			65	4.65	26.0	23.4	20.8				
			70	4.32	28.0	25.2	22.4				
			75	4.03	30.0	27.0	24.0				

呼稱 호칭 Model	外径 Outer Dia.	内径 Inner Dia.	自由長 자유장(mm) Free length	定数		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				常数 spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	
SL 35×35			35	11.78	14.0			12.6			11.2
40			40	10.31	16.0			14.4			12.8
45			45	9.17	18.0			16.2			14.4
50			50	8.25	20.0			18.0			16.0
55			55	7.50	22.0			19.8			17.6
60			60	6.87	24.0			21.6			19.2
65			65	6.35	26.0			23.4			20.8
70			70	5.89	28.0			25.2			22.4
75	35	17.5	75	5.50	30.0	165		27.0	149		24.0
80			80	5.15	32.0			28.8			25.6
90			90	4.58	36.0			32.4			28.8
100			100	4.12	40.0			36.0			32.0
125			125	3.30	50.0			45.0			40.0
150			150	2.75	60.0			54.0			48.0
175			175	2.35	70.0			63.0			56.0
200			200	2.06	80.0			72.0			64.0
SL 40×40			40	13.50	16.0			14.4			12.8
45			45	12.00	18.0			16.2			14.4
50			50	10.80	20.0			18.0			16.0
55			55	9.82	22.0			19.8			17.6
60			60	9.00	24.0			21.6			19.2
65			65	8.31	26.0			23.4			20.8
70			70	7.71	28.0			25.2			22.4
75			75	7.20	30.0			27.0			24.0
80			80	6.75	32.0			28.8			25.6
90			90	6.00	36.0			32.4			28.8
100			100	5.40	40.0			36.0			32.0
125			125	4.32	50.0			45.0			40.0
150			150	3.60	60.0			54.0			48.0
175			175	3.08	70.0			63.0			56.0
200			200	2.70	80.0			72.0			64.0
225			225	2.40	90.0			81.0			72.0
250			250	2.16	100.0			90.0			80.0
275			275	1.96	110.0			99.0			88.0
300			300	1.80	120.0			108.0			96.0
SL 50×50			50	16.89	20.0			18.0			16.0
55			55	15.35	22.0			19.8			17.6
60			60	14.08	24.0			21.6			19.2
65			65	12.99	26.0			23.4			20.8
70			70	12.07	28.0			25.2			22.4
75			75	11.26	30.0			27.0			24.0
80			80	10.56	32.0			28.8			25.6
90			90	9.38	36.0			32.4			28.8
100			100	8.45	40.0			36.0			32.0
125			125	6.76	50.0			45.0			40.0
150			150	5.63	60.0			54.0			48.0
175	50	25	175	4.82	70.0	338		63.0	304		56.0
200			200	4.22	80.0			72.0			64.0
225			225	3.75	90.0			81.0			72.0
250			250	3.38	100.0			90.0			80.0
275			275	3.07	110.0			99.0			88.0
300			300	2.81	120.0			108.0			96.0
350			350	2.41	140.0			126.0			112.0
400			400	2.11	160.0			144.0			128.0
450			450	1.88	180.0			162.0			144.0
500			500	1.69	200.0			180.0			160.0

呼稱 호칭 Model	外径 Outer Dia.	内径 Inner Dia.	自由長 자유장(mm) Free length	定数		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				常数 spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	
SL 60×60			60	20.25	24.0			21.6			19.2
70			70	17.35	28.0			25.2			22.4
80			80	15.18	32.0			28.8			25.6
90			90	13.50	36.0			32.4			28.8
100			100	12.15	40.0			36.0			32.0
125			125	9.72	50.0			45.0			40.0
150			150	8.10	60.0			54.0			48.0
175			175	6.94	70.0			63.0			56.0
200	60	30	200	6.07	80.0	486		72.0	437		64.0
225			225	5.40	90.0			81.0			72.0
250			250	4.86	100.0			90.0			80.0
275			275	4.42	110.0			99.0			88.0
300			300	4.05	120.0			108.0			96.0
350			350	3.47	140.0			126.0			112.0
400			400	3.04	160.0			144.0			128.0
450			450	2.70	180.0			162.0			144.0
500			500	2.43	200.0			180.0			160.0
SL 70×70			70	21.79	28.0			25.2			22.4
80			80	19.06	32.0			28.8			25.6
90			90	16.94	36.0			32.4			28.8
100			100	15.25	40.0			36.0			32.0
125			125	12.20	50.0			45.0			40.0
150			150	10.17	60.0			54.0			48.0
175			175	8.71	70.0			63.0			56.0
200	70	38.5	200	7.62	80.0	610		72.0	549		64.0
225			225	6.78	90.0			81.0			72.0
250			250	6.10	100.0			90.0			80.0
275			275	5.55	110.0			99.0			88.0
300			300	5.08	120.0			108.0			96.0
350			350	4.36	140.0			126.0			112.0

中荷重
중하중
MEDIUM LOAD

SM

公差 標準 ±10%
公差 品質 2' 이하
自由長 自由長 50mm 이하 ⇒ 0.5mm
5mm 이하 ± 1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定数		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)		
				장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load		
SM 6×15	6	3	15	2.08	4.8		4.3		3.8			
20			20	1.56	6.4		5.8		5.1			
25			25	1.25	8.0		7.2		6.4			
30			30	1.04	9.6		8.6		7.7			
35			35	0.89	11.2		10.1		9.0			
40			40	0.78	12.8		11.5		10.2			
45			45	0.69	14.4		13.0	10	11.5	9		
50			50	0.63	16.0		14.4		12.8		8	
55			55	0.57	17.6		15.8		14.1			
60			60	0.52	19.2		17.3		15.4			
65	65	0.48	20.8		18.7		16.6					
70	70	0.45	22.4		20.1		17.9					
SM 8×10	8	4	10	4.34	3.2		2.9		2.6			
15			15	2.89	4.8		4.3		3.8			
20			20	2.17	6.4		5.8		5.1			
25			25	1.74	8.0		7.2		6.4			
30			30	1.45	9.6		8.6		7.7			
35			35	1.24	11.2		10.1		9.0			
40			40	1.09	12.8		11.5		10.2			
45			45	0.97	14.4		13.0	14	11.5	12.5		
50			50	0.87	16.0		14.4		12.8		11	
55			55	0.79	17.6		15.8		14.1			
60	60	0.72	19.2		17.3		15.4					
65	65	0.67	20.8		18.7		16.6					
70	70	0.62	22.4		20.2		17.9					
75	75	0.58	24.0		21.6		19.2					
80	80	0.54	25.6		23.0		20.5					
90	90	0.48	28.8		25.9		23.0					
SM 10×10	10	5	10	6.21	3.2		2.9		2.6			
15			15	4.09	4.8		4.4		3.8			
20			20	3.13	6.4		5.8		5.1			
25			25	2.50	8.0		7.2		6.4			
30			30	2.08	9.6		8.6		7.7			
35			35	1.78	11.2		10.1		9.0			
40			40	1.56	12.8		11.5		10.2			
45			45	1.38	14.4		13.0		11.5			
50			50	1.25	16.0		14.4		12.8			
55			55	1.13	17.6		15.8	20	14.1	18		16
60	60	1.04	19.2		17.3		15.4					
65	65	0.96	20.8		18.7		16.6					
70	70	0.89	22.4		20.2		17.9					
75	75	0.83	24.0		21.6		19.2					
80	80	0.78	25.6		23.0		20.5					
90	90	0.70	28.8		25.9		23.0					
100	100	0.63	32.0		28.8		25.6					

中荷重
중하중
MEDIUM LOAD

SM

公差 標準 ±10%
公差 品質 2' 이하
自由長 自由長 50mm 이하 ⇒ 0.5mm
5mm 이하 ± 1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定数		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)		
				장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load		
SM 12×20	12	6	20	4.53	6.4		5.8		5.1			
25			25	3.62	8.0		7.2		6.4			
30			30	3.02	9.6		8.6		7.7			
35			35	2.58	11.2		10.1		9.0			
40			40	2.27	12.8		11.5		10.2			
45			45	2.01	14.4		13.0		11.5			
50			50	1.81	16.0		14.4		12.8			
55			55	1.64	17.6		15.8	29	14.4	26		23
60			60	1.51	19.2		17.3		16.6			
65			65	1.39	20.8		18.7		18.7			
70	70	1.29	22.4		20.2		20.2					
75	75	1.20	24.0		21.6		21.6					
80	80	1.13	25.6		23.0		23.0					
90	90	1.01	28.8		25.9		25.9					
100	100	0.91	32.0		28.8		28.8					
SM 14×20	14	7	20	6.03	6.4		5.8		5.1			
25			25	4.87	8.0		7.2		6.4			
30			30	4.06	9.6		8.6		7.7			
35			35	3.48	11.2		10.1		9.0			
40			40	3.04	12.8		11.5		10.2			
45			45	2.70	14.4		13.0		11.5			
50			50	2.43	16.0		14.4		12.8			
55			55	2.21	17.6		15.8		14.1			
60			60	2.03	19.2		17.3	39	17.3	35		31
65			65	1.87	20.8		18.7		18.7			
70	70	1.74	22.4		20.2		20.2					
75	75	1.62	24.0		21.6		21.6					
80	80	1.52	25.6		23.0		23.0					
90	90	1.35	28.8		25.9		25.9					
100	100	1.22	32.0		28.8		28.8					
125	125	0.97	40.0		36.0		36.0					
SM 16×20	16	8	20	7.93	6.4		5.8		5.1			
25			25	6.39	8.0		7.2		6.4			
30			30	5.32	9.6		8.6		7.7			
35			35	4.55	11.2		10.1		9.0			
40			40	3.98	12.8		11.5		10.2			
45			45	3.54	14.4		13.0		11.5			
50			50	3.18	16.0		14.4		12.8			
55			55	2.89	17.6		15.8		14.1			
60			60	2.65	19.2		17.3	51	17.3	46		41
65			65	2.45	20.8		18.7		18.7			
70	70	2.27	22.4		20.2		20.2					
75	75	2.11	24.0		21.6		21.6					
80	80	1.99	25.6		23.0		23.0					
90	90	1.77	28.8		25.9		25.9					
100	100	1.59	32.0		28.8		28.8					
125	125	1.28	40.0		36.0		36.0					

中荷重
중하중
MEDIUM LOAD

SM

公差 標準 ±10%
公差 品質 2' 이하
自由長 自由長 50mm 이하 ⇒ 0.5mm
5mm 이하 ± 1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定数		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)		
				장상(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load		
SM 18×20	18	9	20	10.00	6.4		5.8		5.1			
25			25	8.12	8.0		7.2		6.4			
30			30	6.77	9.6		8.6		7.7			
35			35	5.80	11.2		10.1		9.0			
40			40	5.07	12.8		11.5		10.2			
45			45	4.51	14.4		13.0		11.5			
50			50	4.06	16.0		14.4		12.8			
55			55	3.69	17.6		15.8		14.1			
60			60	3.38	19.2		17.3	65	15.4	58		52
65			65	3.12	20.8		18.7		16.6			
70	70	2.90	22.4		20.2		17.9					
75	75	2.70	24.0		21.6		19.2					
80	80	2.53	25.6		23.0		20.5					
90	90	2.25	28.8		25.9		23.0					
100	100	2.02	32.0		28.8		25.6					
125	125	1.62	40.0		36.0		32.0					
SM 20×20	20	10	20	12.41	6.4		5.8		5.1			
25			25	10.00	8.0		7.2		6.4			
30			30	8.33	9.6		8.6		7.7			
35			35	7.14	11.2		10.1		9.0			
40			40	6.25	12.8		11.5		10.2			
45			45	5.55	14.4		13.0		11.5			
50			50	5.00	16.0		14.4		12.8			
55			55	4.54	17.6		15.8		14.1			
60			60	4.16	19.2		17.3		15.4			
65			65	3.84	20.8		18.7	80	16.6	72		64
70	70	3.57	22.4		20.2		17.9					
75	75	3.33	24.0		21.6		19.2					
80	80	3.12	25.6		23.0		20.5					
90	90	2.77	28.8		25.9		23.0					
100	100	2.50	32.0		28.8		25.6					
125	125	2.00	40.0		36.0		32.0					
150	150	1.67	48.0		43.2		38.4					
175	175	1.43	56.0		50.4		44.8					
SM 22×20	22	11	25	12.13	8.0		7.2		6.4			
30			30	10.10	9.6		8.6		7.7			
35			35	8.85	11.2		10.1		9.0			
40			40	7.57	12.8		11.5		10.2			
45			45	6.74	14.4		13.0		11.5			
50			50	6.06	16.0		14.4		12.8			
55			55	5.50	17.6		15.8		14.1			
60			60	5.05	19.2		17.3		15.4			
65			65	4.66	20.8		18.7	97	16.6	87		78
70			70	4.33	22.4		20.2		17.9			
75	75	4.04	24.0		21.6		19.2					
80	80	3.78	25.6		23.0		20.5					
90	90	3.36	28.8		25.9		23.0					
100	100	3.03	32.0		28.8		25.6					
125	125	2.42	40.0		36.0		32.0					
150	150	2.01	48.0		43.2		38.4					
175	175	1.73	56.0		50.4		44.8					

中荷重
중하중
MEDIUM LOAD

SM

公差 標準 ±10%
公差 品質 2' 이하
自由長 自由長 50mm 이하 ⇒ 0.5

中荷重
중하중
MEDIUM LOAD

SM

사중-축중 ±10%
사각도 5°이상 2° 이하
자유길 자유길 50mm/m 이하 ±0.5mm/m
50mm/m 이하 ± 1%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	定數 정수(kg/mm) spring constant	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
					變形量 변형량(mm) Deflection	荷重 하중(kg) Load	變形量 변형량(mm) Deflection	荷重 하중(kg) Load	變形量 변형량(mm) Deflection	荷重 하중(kg) Load
SM 35 × 35			35	21.87	11.2		10.1		9.0	
40			40	19.14	12.8		11.5		10.2	
45			45	17.01	14.4		13.0		11.5	
50			50	15.31	16.0		14.4		12.8	
55			55	13.92	17.6		15.8		14.1	
60			60	12.76	19.2		17.3		15.4	
65			65	11.77	20.8		18.7		16.6	
70			70	10.93	22.4		20.2		17.9	
75	35	17.5	75	10.20	24.0	245	21.6	220	19.2	195
80			80	9.57	25.6		23.0		20.5	
90			90	8.50	28.8		25.9		23.0	
100			100	7.65	32.0		28.8		25.6	
125			125	6.12	40.0		36.0		32.0	
150			150	5.10	48.0		43.2		38.4	
175			175	4.37	56.0		50.4		44.8	
200			200	3.82	64.0		57.6		51.2	
SM 40 × 40			40	25.02	12.8		11.5		10.2	
45			45	22.26	14.4		13.0		11.5	
50			50	20.00	16.0		14.4		12.8	
55			55	18.15	17.6		15.8		14.1	
60			60	16.60	19.2		17.3		15.4	
65			65	15.40	20.8		18.7		16.6	
70			70	14.28	22.4		20.2		17.9	
75			75	13.34	24.0		21.6		19.2	
80			80	12.50	25.6		23.0		20.5	
90			90	11.11	28.8		25.9		23.0	
100			100	10.00	32.0		28.8		25.6	
125			125	8.00	40.0		36.0		32.0	
150			150	6.66	48.0		43.2		38.4	
175			175	5.71	56.0		50.4		44.8	
200			200	5.00	64.0		57.6		51.2	
225			225	4.44	72.0		64.8		57.6	
250			250	4.00	80.0		72.0		64.0	
275			275	3.64	88.0		79.2		70.4	
300			300	3.33	96.0		86.4		76.8	
SM 40 × 50			50	31.25	16.0		14.4		12.8	
55			55	28.41	17.6		15.8		14.1	
60			60	26.04	19.2		17.3		15.4	
65			65	24.04	20.8		18.7		16.6	
70			70	22.32	22.4		20.2		17.9	
75			75	20.83	24.0		21.6		19.2	
80			80	19.53	25.6		23.0		20.5	
90			90	17.36	28.8		25.9		23.0	
100			100	15.62	32.0		28.8		25.6	
125			125	12.50	40.0	500	36.0	450	32.0	400
150			150	10.41	48.0		43.2		38.4	
175			175	8.92	56.0		50.4		44.8	
200			200	7.81	64.0		57.6		51.2	
225			225	6.94	72.0		64.8		57.6	
250			250	6.25	80.0		72.0		64.0	
275			275	5.68	88.0		79.2		70.4	
300			300	5.20	96.0		86.4		76.8	
350			350	4.46	112.0		100.8		89.6	

中荷重
중하중
MEDIUM LOAD

SM

사중-축중 ±10%
사각도 5°이상 2° 이하
자유길 자유길 50mm/m 이하 ±0.5mm/m
50mm/m 이하 ± 1%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유길(mm) Free length	定數 정수(kg/mm) spring constant	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
					變形量 변형량(mm) Deflection	荷重 하중(kg) Load	變形量 변형량(mm) Deflection	荷重 하중(kg) Load	變形量 변형량(mm) Deflection	荷重 하중(kg) Load
SM 60 × 60			60	37.40	19.2		17.3		15.4	
70			70	32.10	22.4		20.2		17.9	
80			80	28.12	25.6		23.0		20.5	
90			90	25.00	28.8		25.9		23.0	
100			100	22.50	32.0		28.8		25.6	
125			125	18.00	40.0		36.0		32.0	
150			150	15.00	48.0	720	43.2	648	38.4	575
175	60	30	175	12.85	56.0		50.4		44.8	
200			200	11.25	64.0		57.6		51.2	
225			225	10.00	72.0		64.8		57.6	
250			250	9.00	80.0		72.0		64.0	
275			275	8.18	88.0		79.2		70.4	
300			300	7.50	96.0		86.4		76.8	
350			350	6.43	112.0		100.8		89.6	
SM 70 × 70			70	37.9	22.4		20.2		17.9	
80			80	33.2	25.6		23.0		20.5	
90			90	29.5	28.8		25.9		23.0	
100			100	26.6	32.0		28.8		25.6	
125			125	21.3	40.0		36.0		32.0	
150			150	17.7	48.0		43.2		38.4	
175	70	38.5	175	15.2	56.0	850	50.4	764	44.8	680
200			200	13.3	64.0		57.6		51.2	
225			225	11.8	72.0		64.8		57.6	
250			250	10.6	80.0		72.0		64.0	
275			275	9.7	88.0		79.2		70.4	
300			300	8.9	96.0		86.4		76.8	
350			350	7.6	112.0		100.8		89.6	

重荷重
중하중
HEAVY LOAD

SH

荷重 標準 100%
 軸径 2" 以上
 軸受径 30mm 以上 ±0.05mm
 公差 0.1 ± 0%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定数 정수(kg/mm) spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection
SH 6×15			15	3.90	3.6	3.2		2.9	
20			20	2.90	4.8	4.3		3.8	
25			25	2.30	6.0	5.4		4.8	
30			30	1.90	7.2	6.5		5.8	
35			35	1.70	8.4	7.6		6.7	
40			40	1.50	9.6	8.6		7.7	
45			45	1.30	10.8	9.7		8.6	
50			50	1.20	12.0	10.8		9.6	
55			55	1.10	13.2	11.9		10.6	
60			60	1.00	14.4	13.0		11.5	
65			65	0.90	15.6	13.8		12.48	
70			70	0.83	16.8	14.9		13.44	
SH 8×10			10	8.80	2.4	2.2		1.9	
15			15	5.86	3.6	3.2		2.9	
20			20	4.40	4.8	4.3		3.8	
25			25	3.52	6.0	5.4		4.8	
30			30	2.93	7.2	6.5		5.8	
35			35	2.51	8.4	7.6		6.7	
40			40	2.20	9.6	8.6		7.7	
45			45	1.95	10.8	9.7		8.6	
50			50	1.76	12.0	10.8		9.6	
55			55	1.60	13.2	11.9		10.6	
60			60	1.47	14.4	13.0		11.5	
65			65	1.35	15.6	14.0		12.5	
70			70	1.26	16.8	15.1		13.4	
75			75	1.17	18.0	16.2		14.4	
80			80	1.10	19.2	17.3		15.4	
90			90	0.98	21.6	19.4		17.3	
SH 10×10			10	12.27	2.4	2.2		1.9	
15			15	8.18	3.6	3.3		2.9	
20			20	6.25	4.8	4.3		3.8	
25			25	5.00	6.0	5.4		4.8	
30			30	4.16	7.2	6.5		5.8	
35			35	3.57	8.4	7.6		6.7	
40			40	3.15	9.6	8.6		7.7	
45			45	2.77	10.8	9.7		8.6	
50			50	2.50	12.0	10.8		9.6	
55			55	2.27	13.2	11.9		10.6	
60			60	2.08	14.4	13.0		11.5	
65			65	1.92	15.6	14.0		12.5	
70			70	1.79	16.8	15.1		13.4	
75			75	1.67	18.0	16.2		14.4	
80			80	1.56	19.2	17.3		15.4	
90			90	1.39	21.6	19.4		17.3	
100			100	1.25	24.0	21.6		19.2	

重荷重
중하중
HEAVY LOAD

SH

荷重 標準 100%
 軸径 2" 以上
 軸受径 30mm 以上 ±0.05mm
 公差 0.1 ± 0%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定数 정수(kg/mm) spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection
SH 12×20			20	8.90	4.8			4.3	
25			25	7.10	6.0			5.4	
30			30	5.97	7.2			6.5	
35			35	5.11	8.4			7.6	
40			40	4.47	9.6			8.6	
45			45	3.98	10.8			9.7	
50			50	3.58	12.0			10.8	
55			55	3.25	13.2			11.9	
60			60	2.98	14.4			13.0	
65			65	2.74	15.6			14.0	
70			70	2.54	16.8			15.1	
75			75	2.37	18.0			16.2	
80			80	2.21	19.2			17.3	
90			90	1.98	21.6			19.4	
100			100	1.78	24.0			21.6	
SH 14×20			20	12.05	4.8			4.4	
25			25	9.83	6.0			5.4	
30			30	8.19	7.2			6.5	
35			35	7.02	8.4			7.6	
40			40	6.14	9.6			8.6	
45			45	5.46	10.8			9.7	
50			50	4.91	12.0			10.8	
55			55	4.46	13.2			11.9	
60			60	4.09	14.4			13.0	
65			65	3.78	15.6			14.0	
70			70	3.51	16.8			15.1	
75			75	3.27	18.0			16.2	
80			80	3.07	19.2			17.3	
90			90	2.72	21.6			19.4	
100			100	2.46	24.0			21.6	
125			125	1.97	30.0			27.0	
SH 16×20			20	15.68	4.8			4.4	
25			25	12.83	6.0			5.4	
30			30	10.69	7.2			6.5	
35			35	9.16	8.4			7.6	
40			40	8.02	9.6			8.6	
45			45	7.12	10.8			9.7	
50			50	6.41	12.0			10.8	
55			55	5.83	13.2			11.9	
60			60	5.34	14.4			13.0	
65			65	4.93	15.6			14.0	
70			70	4.58	16.8			15.1	
75			75	4.28	18.0			16.2	
80			80	4.01	19.2			17.3	
90			90	3.57	21.6			19.4	
100			100	3.21	24.0			21.6	
125			125	2.57	30.0			27.0	

重荷重
중하중
HEAVY LOAD

SH

荷重 標準 100%
 軸径 2" 以上
 軸受径 30mm 以上 ±0.05mm
 公差 0.1 ± 0%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定数 정수(kg/mm) spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection
SH 18×20			20	19.77	4.8	4.4		3.8	
25			25	16.16	6.0	5.4		4.8	
30			30	13.47	7.2	6.5		5.8	
35			35	11.54	8.4	7.6		6.7	
40			40	10.10	9.6	8.6		7.7	
45			45	8.98	10.8	9.7		8.6	
50			50	8.08	12.0	10.8		9.6	
55			55	7.34	13.2	11.9		10.6	
60			60	6.73	14.4	13.0		11.5	
65			65	6.21	15.6	14.0		12.5	
70			70	5.77	16.8	15.1		13.4	
75			75	5.39	18.0	16.2		14.4	
80			80	5.05	19.2	17.3		15.4	
90			90	4.50	21.6	19.4		17.3	
100			100	4.04	24.0	21.6		19.2	
125			125	3.23	30.0	27.0		24.0	
SH 20×20			20	24.55	4.8	4.4		3.7	
25			25	20.00	6.0	5.4		4.8	
30			30	16.66	7.2	6.5		5.8	
35			35	14.28	8.4	7.6		6.7	
40			40	12.50	9.6	8.6		7.7	
45			45	11.11	10.8	9.7		8.6	
50			50	10.00	12.0	10.8		9.6	
55			55	9.09	13.2	11.9		10.6	
60			60	8.33	14.4	13.0		11.5	
65			65	7.69	15.6	14.0		12.5	
70			70	7.14	16.8	15.1		13.4	
75			75	6.67	18.0	16.2		14.4	
80			80	6.25	19.2	17.3		15.4	
90			90	5.55	21.6	19.4		17.3	
100			100	5.00	24.0	21.6		19.2	
125			125	4.00	30.0	27.0		24.0	
150			150	3.33	36.0	32.4		28.8	
175			175	2.86	42.0	37.8		33.6	
SH 22×25			25	24.16	6.0	5.4		4.8	
30			30	20.13	7.2	6.5		5.8	
35			35	17.30	8.4	7.6		6.7	
40			40	15.10	9.6	8.6		7.7	
45			45	13.40	10.8	9.7		8.6	
50			50	12.08	12.0	10.8		9.6	
55			55	10.94	13.2	11.9		10.6	
60			60	10.09	14.4	13.0		11.5	
65			65	9.28	15.6	14.0		12.5	
70			70	8.63	16.8	15.1		13.4	
75			75	8.04	18.0	16.2		14.4	
80			80	7.55	19.2	17.3		15.4	
90			90	6.71	21.6	19.4		17.3	
100			100	6.04	24.0	21.6		19.2	
125			125	4.83	30.0	27.0		24.0	
150			150	4.02	36.0	32.4		28.8	
175			175	3.45	42.0	37.8		33.6	

重荷重
중하중
HEAVY LOAD

SH

荷重 標準 100%
 軸径 2" 以上
 軸受径 30mm 以上 ±0.05mm
 公差 0.1 ± 0%

呼稱 호칭 Model	外径 외경(mm) Outer Dia.	内径 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				定数 정수(kg/mm) spring constant	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection	荷重 하중(kg) Load	変形量 변형량(mm) Deflection
SH 25×25			25	31.20	6.0			5.4	
30			30	25.97	7.2			6.5	
35			35	22.38	8.4			7.6	
40			40	19.47	9.6			8.6	
45			45	17.40	10.8			9.7	
50			50	15.58	12.0			10.8	
55			55	14.20	13.2			11.9	

重荷重
중하중
HEAVY LOAD

SH

하중 범위 ±10%
4°/1% 曲角度 以下
시공장 自由長 50mm 以下 ±0.5mm/
55mm 以下 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				彈力係數 spring constant	變位量 변위량(mm) Deflection	荷重 하중(kg) Load	變位量 변위량(mm) Deflection	荷重 하중(kg) Load	變位量 변위량(mm) Deflection	荷重 하중(kg) Load	
SH 35×35	35	17.5	35	43.68	8.4	7.6	6.7				
40			40	38.22	9.6	8.6	7.7				
45			45	33.98	10.8	9.7	8.6				
50			50	30.58	12.0	10.8	9.6				
55			55	27.80	13.2	11.9	10.6				
60			60	25.48	14.4	13.0	11.5				
65			65	23.53	15.6	14.0	12.5				
70			70	21.84	16.8	15.1	13.4				
75			75	20.39	18.0	16.2	14.4				
80			80	19.11	19.2	17.3	15.4				
90			90	16.99	21.6	19.4	17.3				
100			100	15.29	24.0	21.6	19.2				
125			125	12.23	30.0	27.0	24.0				
150			150	10.19	36.0	32.4	28.8				
175			175	8.73	42.0	37.8	33.6				
200			200	7.64	48.0	43.2	38.4				
SH 40×40			40	20	40	50.00	9.6	8.6	7.7		
45	45	44.44			10.8	9.7	8.6				
50	50	40.00			12.0	10.8	9.6				
55	55	36.36			13.2	11.9	10.6				
60	60	33.33			14.4	13.0	11.5				
65	65	30.77			15.6	14.0	12.5				
70	70	28.57			16.8	15.1	13.4				
75	75	26.67			18.0	16.2	14.4				
80	80	25.00			19.2	17.3	15.4				
90	90	22.22			21.6	19.4	17.3				
100	100	20.00			24.0	21.6	19.2				
125	125	16.00			30.0	27.0	24.0				
150	150	13.33			36.0	32.4	28.8				
175	175	11.42			42.0	37.8	33.6				
200	200	10.00			48.0	43.2	38.4				
225	225	8.89			54.0	48.6	43.2				
250	250	8.00			60.0	54.0	48.0				
275	275	7.27	66.0	59.4	52.8						
300	300	6.67	72.0	64.8	57.6						
SH 50×50	50	25	50	62.50	12.0	10.8	9.6				
55			55	56.82	13.2	11.9	10.6				
60			60	52.08	14.4	13.0	11.5				
65			65	48.08	15.6	14.0	12.5				
70			70	44.64	16.8	15.1	13.4				
75			75	41.67	18.0	16.2	14.4				
80			80	39.06	19.2	17.3	15.4				
90			90	34.72	21.6	19.4	17.3				
100			100	31.25	24.0	21.6	19.2				
125			125	25.00	30.0	27.0	24.0				
150			150	20.83	36.0	32.4	28.8				
175			175	17.85	42.0	37.8	33.6				
200			200	15.62	48.0	43.2	38.4				
225			225	13.89	54.0	48.6	43.2				
250			250	12.50	60.0	54.0	48.0				
275			275	11.36	66.0	59.4	52.8				
300			300	10.41	72.0	64.8	57.6				
350	350	8.93	84.0	75.6	67.2						

重荷重
중하중
HEAVY LOAD

SH

하중 범위 ±10%
4°/1% 曲角度 以下
시공장 自由長 50mm 以下 ±0.5mm/
55mm 以下 ±1%

呼稱 型號 Model	外徑 Outer Dia.	內徑 Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)			
				彈力係數 spring constant	變位量 변위량(mm) Deflection	荷重 하중(kg) Load	變位量 변위량(mm) Deflection	荷重 하중(kg) Load	變位量 변위량(mm) Deflection	荷重 하중(kg) Load			
SH 60×60	60	30	60	75.00	14.4	13.0	11.5						
70			70	64.28	16.8	15.1	13.4						
80			80	56.25	19.2	17.3	15.4						
90			90	50.00	21.6	19.4	17.3						
100			100	45.00	24.0	21.6	19.2						
125			125	36.00	30.0	27.0	24.0						
150			150	30.00	36.0	32.4	28.8						
175			175	25.71	42.0	37.8	33.6						
200			200	22.50	48.0	43.2	38.4						
225			225	20.00	54.0	48.6	43.2						
250			250	18.00	60.0	54.0	48.0						
275			275	16.36	66.0	59.4	52.8						
300			300	15.00	72.0	64.8	57.6						
350			350	12.86	84.0	75.6	67.2						
SH 70×70			70	38.5	70	76.2	16.8	15.1	13.4				
80					80	66.7	19.2	17.3	15.4				
90					90	59.3	21.6	19.4	17.3				
100	100	53.3			24.0	21.6	19.2						
125	125	42.7			30.0	27.0	24.0						
150	150	35.6			36.0	32.4	28.8						
175	175	30.5			42.0	37.8	33.6						
200	200	26.7			48.0	43.2	38.4						
225	225	23.7			54.0	48.6	43.2						
250	250	21.3			60.0	54.0	48.0						
275	275	19.4			66.0	59.4	52.8						
300	300	17.8			72.0	64.8	57.6						
350	350	15.2			84.0	75.6	67.2						

極重荷重
극중하중
HYPER HEAVY LOAD

SB

이중 코일 20%
특이부 굽힘률 2° 이하
자유장 자유단 50mm 이하 ±0.5mm
50mm 이하 ±1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	내徑 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장수(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	
SB 6×15	6	3	15	6.00	3.0	2.7	2.4	18	16	14	
20			4.50	4.0	3.6	3.2	4.0				
25			3.60	5.0	4.5	4.0	4.8				
30			3.00	6.0	5.4	4.8	5.6				
35			2.60	7.0	6.3	5.6	6.4				
40			2.30	8.0	7.2	6.4	7.2				
45			2.00	9.0	8.1	7.2	8.0				
50			1.80	10.0	9.0	8.0	8.8				
55			1.60	11.0	9.9	8.8	9.6				
60			1.50	12.0	10.8	9.6	10.4				
65			1.38	13.0	11.7	10.4	11.2				
70			1.29	14.0	12.6	11.2	12.0				
SB 8×10	8	4	10	16.94	2.0	1.8	1.6	35	31	26	
15			11.30	3.0	2.7	2.4	2.8				
20			8.47	4.0	3.6	3.2	3.6				
25			6.78	5.0	4.5	4.0	4.5				
30			5.65	6.0	5.4	4.8	5.4				
35			4.84	7.0	6.3	5.6	6.3				
40			4.24	8.0	7.2	6.4	7.2				
45			3.77	9.0	8.1	7.2	8.1				
50			3.39	10.0	9.0	8.0	9.0				
55			3.08	11.0	9.9	8.8	9.9				
60			2.82	12.0	10.8	9.6	10.8				
65			2.61	13.0	11.7	10.4	11.7				
70	2.42	14.0	12.6	11.2	12.6						
75	2.26	15.0	13.5	12.0	13.5						
80	2.12	16.0	14.4	12.8	14.4						
90	1.88	18.0	16.2	14.4	16.2						
SB 10×10	10	5	10	22.78	2.0	1.8	1.6	45	41	36	
15			15.19	3.0	2.7	2.4	2.8				
20			11.25	4.0	3.6	3.2	3.6				
25			9.00	5.0	4.5	4.0	4.5				
30			7.50	6.0	5.4	4.8	5.4				
35			6.43	7.0	6.3	5.6	6.3				
40			5.63	8.0	7.2	6.4	7.2				
45			5.00	9.0	8.1	7.2	8.1				
50			4.50	10.0	9.0	8.0	9.0				
55			4.09	11.0	9.9	8.8	9.9				
60			3.75	12.0	10.8	9.6	10.8				
65			3.47	13.0	11.7	10.4	11.7				
70	3.21	14.0	12.6	11.2	12.6						
75	3.00	15.0	13.5	12.0	13.5						
80	2.82	16.0	14.4	12.8	14.4						
90	2.50	18.0	16.2	14.4	16.2						
100	2.25	20.0	18.0	16.0	18.0						

極重荷重
극중하중
HYPER HEAVY LOAD

SB

이중 코일 20%
특이부 굽힘률 2° 이하
자유장 자유단 50mm 이하 ±0.5mm
50mm 이하 ±1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	내徑 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장수(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	
SB 12×20	12	6	20	14.50	4.0	3.6	3.2	58	52	46	
25			11.60	5.0	4.5	4.0	4.8				
30			9.67	6.0	5.4	4.8	5.6				
35			8.29	7.0	6.3	5.6	6.4				
40			7.25	8.0	7.2	6.4	7.2				
45			6.44	9.0	8.1	7.2	8.0				
50			5.80	10.0	9.0	8.0	8.8				
55			5.27	11.0	9.9	8.8	9.6				
60			4.83	12.0	10.8	9.6	10.4				
65			4.44	13.0	11.7	10.4	11.2				
70			4.13	14.0	12.6	11.2	12.0				
75			3.85	15.0	13.5	12.0	12.8				
80	3.61	16.0	14.4	12.8	13.6						
90	3.22	18.0	16.2	14.4	16.0						
100	2.90	20.0	18.0	16.0	18.0						
SB 14×20	14	7	20	18.89	4.0	3.6	3.2	75	68	60	
25			15.00	5.0	4.5	4.0	4.8				
30			12.50	6.0	5.4	4.8	5.6				
35			10.72	7.0	6.3	5.6	6.4				
40			9.38	8.0	7.2	6.4	7.2				
45			8.34	9.0	8.1	7.2	8.0				
50			7.50	10.0	9.0	8.0	8.8				
55			6.82	11.0	9.9	8.8	9.6				
60			6.25	12.0	10.8	9.6	10.4				
65			5.77	13.0	11.7	10.4	11.2				
70			5.36	14.0	12.6	11.2	12.0				
75			5.00	15.0	13.5	12.0	12.8				
80	4.69	16.0	14.4	12.8	13.6						
90	4.17	18.0	16.2	14.4	16.0						
100	3.75	20.0	18.0	16.0	18.0						
125	3.00	25.0	22.5	20.0	20.0						
SB 16×20	16	8	20	25.00	4.0	3.6	3.2	100	90	80	
25			20.00	5.0	4.5	4.0	4.8				
30			16.67	6.0	5.4	4.8	5.6				
35			14.29	7.0	6.3	5.6	6.4				
40			12.50	8.0	7.2	6.4	7.2				
45			11.11	9.0	8.1	7.2	8.0				
50			10.00	10.0	9.0	8.0	8.8				
55			9.09	11.0	9.9	8.8	9.6				
60			8.34	12.0	10.8	9.6	10.4				
65			7.69	13.0	11.7	10.4	11.2				
70			7.14	14.0	12.6	11.2	12.0				
75			6.67	15.0	13.5	12.0	12.8				
80	6.25	16.0	14.4	12.8	13.6						
90	5.56	18.0	16.2	14.4	16.0						
100	5.00	20.0	18.0	16.0	18.0						
125	4.00	25.0	22.5	20.0	20.0						

極重荷重
극중하중
HYPER HEAVY LOAD

SB

이중 코일 20%
특이부 굽힘률 2° 이하
자유장 자유단 50mm 이하 ±0.5mm
50mm 이하 ±1%

呼稱 호칭 Model	外形 외경(mm) Outer Dia.	내徑 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장수(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	
SB 18×20	18	9	20	31.39	4.0	3.6	3.2	125	113	100	
25			25.00	5.0	4.5	4.0	4.8				
30			20.84	6.0	5.4	4.8	5.6				
35			17.86	7.0	6.3	5.6	6.4				
40			15.63	8.0	7.2	6.4	7.2				
45			13.89	9.0	8.1	7.2	8.0				
50			12.50	10.0	9.0	8.0	8.8				
55			11.37	11.0	9.9	8.8	9.6				
60			10.42	12.0	10.8	9.6	10.4				
65			9.62	13.0	11.7	10.4	11.2				
70			8.93	14.0	12.6	11.2	12.0				
75			8.34	15.0	13.5	12.0	12.8				
80	7.82	16.0	14.4	12.8	13.6						
90	6.95	18.0	16.2	14.4	16.0						
100	6.26	20.0	18.0	16.0	18.0						
125	5.00	25.0	22.5	20.0	20.0						
SB 20×20	20	10	20	40.00	4.0	3.6	3.2	160	144	128	
25			32.00	5.0	4.5	4.0	4.8				
30			26.67	6.0	5.4	4.8	5.6				
35			22.86	7.0	6.3	5.6	6.4				
40			20.00	8.0	7.2	6.4	7.2				
45			17.78	9.0	8.1	7.2	8.0				
50			16.00	10.0	9.0	8.0	8.8				
55			14.55	11.0	9.9	8.8	9.6				
60			13.33	12.0	10.8	9.6	10.4				
65			12.31	13.0	11.7	10.4	11.2				
70			11.43	14.0	12.6	11.2	12.0				
75			10.67	15.0	13.5	12.0	12.8				
80	10.00	16.0	14.4	12.8	13.6						
90	8.89	18.0	16.2	14.4	16.0						
100	8.00	20.0	18.0	16.0	18.0						
125	6.40	25.0	22.5	20.0	20.0						
150	5.33	30.0	27.0	24.0	24.0						
175	4.57	35.0	31.5	28.0	28.0						
SB 22×20	22	11	25	39.00	5.0	4.5	4.0	195	176	156	
30			32.50	6.0	5.4	4.8	5.6				
35			27.86	7.0	6.3	5.6	6.4				
40			24.38	8.0	7.2	6.4	7.2				
45			21.67	9.0	8.1	7.2	8.0				
50			19.50	10.0	9.0	8.0	8.8				
55			17.73	11.0	9.9	8.8	9.6				
60			16.25	12.0	10.8	9.6	10.4				
65			15.00	13.0	11.7	10.4	11.2				
70			13.93	14.0	12.6	11.2	12.0				
75			13.00	15.0	13.5	12.0	12.8				
80			12.19	16.0	14.4	12.8	13.6				
90	10.83	18.0	16.2	14.4	16.0						
100	9.75	20.0	18.0	16.0	18.0						
125	7.80	25.0	22.5	20.0	20.0						
150	6.50	30.0	27.0	24.0	24.0						
175	5.57	35.0	31.5	28.0	28.0						

極重荷重
극중하중
HYPER HEAVY LOAD

SB

이중 코일 20%
특이부 굽힘률 2° 이하
자유장 자유단 50mm 이하 ±0.5mm
50mm 이하 ±1%

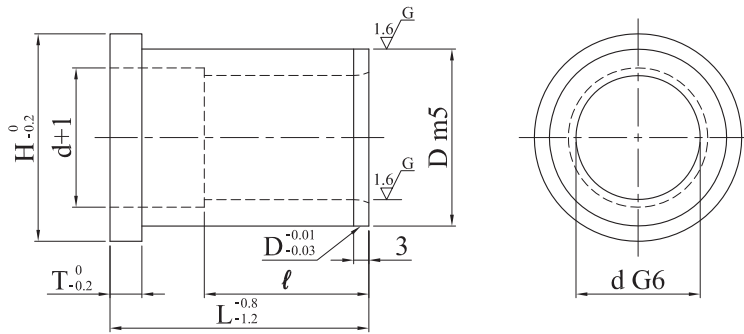
呼稱 호칭 Model	外形 외경(mm) Outer Dia.	내徑 내경(mm) Inner Dia.	自由長 자유장(mm) Free length	定數		30万 (0.3million)		50万 (0.5 million)		100万 (1 million)	
				장수(kg/mm) spring constant	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	변형량 변형량(mm) Deflection	荷重 하중(kg) Load	
SB 25×25	25	12.5	25	49.00	5.0	4.5	4.0	245	221	196	
30			40.80	6.0	5.4	4.8	5.6				
35			35.00	7.0	6.3	5.6	6.4				
40			30.60	8.0	7.2	6.4	7.2				
45			27.20	9.0	8.1	7.2	8.0				
50			24.50	10.0	9.0	8.0	8.8				
55			22.30	11.0	9.9	8.8	9.6				
60			20.40	12.0	10.8	9.6	10.4				
65			18.80	13.0	11.7	10.4	11.2				
70			17.50	14.0	12.6	11.2	12.0				
75			16.30	15.0	13.5	12.0	12.8				
80			15.30	16.0	14.4	12.8	13.6				
90	13.60	18.0	16.2	14.4	16.0						
100	12.30	20.0	18.0	16.0	18.0						
125	9.80	25.0	22.5	20.0	20.0						
150	8.17	30.0	27.0	24.0	24.0						
175	7.00	35.0	31.5	28.0	28.0						
200	6.13	40.0	36.0	32.0	32.0						
SB 27×25	27	13.5	25	58.00	5.0	4.5	4.0	290	261	232	
30			48.33	6.0	5.4	4.8	5.6				
35			41.43	7.0	6.3	5.6	6.4				
40			36.25	8.0	7.2	6.4	7.2				
45			32.22	9.0	8.1	7.2	8.0				
50			29.00	10.0	9.0	8.0	8.8				
55			26.36	11.0	9.9	8.8	9.6				
60			24.17	12.0	10.8	9.6	10.4				
65			22.31	13.0	11.7	10.4	11.2				
70			20.71	14.0	12.6	11.2	12.0				
75			19.33	15.0	13.5	12.0	12.8				
80			18.13	16.0	14.4	12.8	13.6				
90	16.11	18.0	16.2	14.4	16.0						
100	14.50	20.0	18.0	16.0	18.0						
125	11.60	25.0	22.5	20.0	20.0						

모델 호칭 Model	외경 외경(mm) Outer Dia.	내경 내경(mm) Inner Dia.	자유길 자유길(mm) Free length	30만 (0.3million)		50만 (0.5 million)		100만 (1 million)										
				정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load	정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load	정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load						
SB 35×35			35	69.94	7.0		6.3		5.6									
40			40	61.25	8.0		7.2		6.4									
45			45	54.44	9.0		8.1		7.2									
50			50	49.00	10.0		9.0		8.0									
55			55	44.54	11.0		9.9		8.8									
60			60	40.83	12.0		10.8		9.6									
65			65	37.69	13.0		11.7		10.4									
70	35	17.5	70	35.00	14.0	490	12.6	441	11.2	392								
75			75	32.67	15.0		13.5		12.0									
80			80	30.62	16.0		14.4		12.8									
85			85	28.72	17.0		15.3		12.6									
90			90	27.22	18.0		16.2		14.4									
100			100	24.50	20.0		18.0		16.0									
125			125	19.60	25.0		22.5		20.0									
150			150	16.33	30.0		27.0		24.0									
175			175	14.00	35.0		31.5		28.0									
200			200	12.25	40.0		36.0		32.0									
SB 40×40			40	80.00	8.0		7.2		6.4									
45			45	71.11	9.0		8.1		7.2									
50			50	64.00	10.0		9.0		8.0									
55			55	58.18	11.0		9.9		8.8									
60			60	53.33	12.0		10.8		9.6									
65			65	49.23	13.0		11.7		10.4									
70			70	45.71	14.0		12.6		11.2									
75			75	42.67	15.0		13.5		12.0									
80			80	40.00	16.0	640	14.4	576	12.8	512								
85			85	37.69	17.0		15.3		12.6									
90	40	20	90	35.55	18.0		16.2		14.4									
100			100	32.00	20.0		18.0		16.0									
125			125	25.60	25.0		22.5		20.0									
150			150	21.33	30.0		27.0		24.0									
175			175	18.28	35.0		31.5		28.0									
200			200	16.00	40.0		36.0		32.0									
225			225	14.22	45.0		40.5		36.0									
250			250	12.80	50.0		45.0		40.0									
275			275	11.64	55.0		49.5		44.0									
300			300	10.67	60.0		54.0		48.0									
SB 50×50			50	100.00	10.0		9.0		8.0									
55			55	90.91	11.0		9.9		8.8									
60			60	83.33	12.0		10.8		9.6									
65			65	76.92	13.0		11.7		10.4									
70			70	71.42	14.0		12.6		11.2									
75			75	66.67	15.0		13.5		12.0									
80			80	62.50	16.0		14.4		12.8									
85			85	58.82	17.0		15.3		12.6									
90			90	55.55	18.0		16.2		14.4									
100			100	50.00	20.0	1000	18.0	900	16.0	800								
125			125	40.00	25.0		22.5		20.0									
150			150	33.33	30.0		27.0		24.0									
175			175	28.57	35.0		31.5		28.0									
200			200	25.00	40.0		36.0		32.0									
225			225	22.22	45.0		40.5		36.0									
250			250	20.00	50.0		45.0		40.0									
275			275	18.18	55.0		49.5		44.0									
300			300	16.66	60.0		54.0		48.0									
350			350	14.29	70.0		63.0		56.0									

모델 호칭 Model	외경 외경(mm) Outer Dia.	내경 내경(mm) Inner Dia.	자유길 자유길(mm) Free length	30만 (0.3million)		50만 (0.5 million)		100만 (1 million)										
				정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load	정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load	정수 정수(kg/mm) spring constant	변형량 변형량(mm) Deflection	하중 하중(kg) Load						
SB 60×60			60	120.00	12.0		10.8		9.6									
70			70	102.86	14.0		12.6		11.2									
80			80	90.00	16.0		14.4		12.8									
90			90	80.00	18.0		16.2		14.4									
100			100	72.00	20.0		18.0		16.0									
125			125	57.60	25.0		22.5		20.0									
150			150	48.00	30.0	1440	27.0	1296	24.0	1152								
175	60	30	175	41.14	35.0		31.5		28.0									
200			200	36.00	40.0		36.0		32.0									
225			225	32.00	45.0		40.5		36.0									
250			250	28.80	50.0		45.0		40.0									
275			275	26.18	55.0		49.5		44.0									
300			300	24.00	60.0		54.0		48.0									
350			350	20.57	70.0		63.0		56.0									
SB 70×70			70	124.3	14.0		12.6		11.2									
80			80	108.8	16.0		14.4		12.8									
90			90	96.7	18.0		16.2		14.4									
100			100	87.0	20.0		18.0		16.0									
125			125	69.6	25.0		22.5		20.0									
150			150	58.0	30.0	1740	27.0	1567	24.0	1392								
175	70	38.5	175	49.7	35.0		31.5		28.0									
200			200	43.5	40.0		36.0		32.0									
225			225	39.7	45.0		40.5		36.0									
250			250	34.8	50.0		45.0		40.0									
275			275	31.6	55.0		49.5		44.0									
300			300	29.0	60.0		54.0		48.0									
350			350	24.9	70.0		63.0		56.0									



GBAS



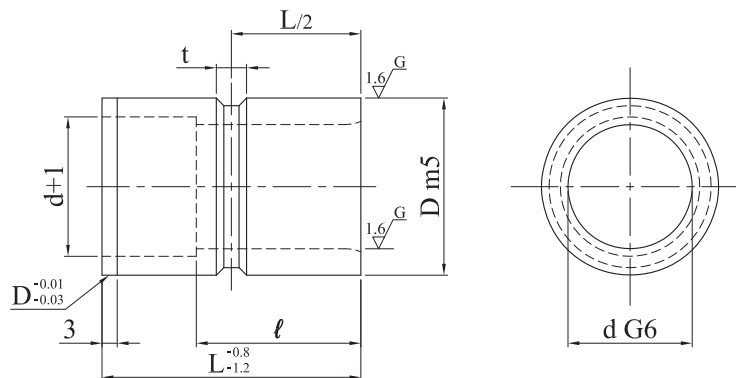
Material : SUJ2
Hardness: 58 HRC

Type	d G6		ℓ															D m5		T	H	
			L20	L25	L30	L35	L40	L45	L50	L60	L70	L80	L90	L100	L110	L120	L130					L140
GBAS	16	^{+0.017} / _{+0.006}	20	25	30	35	30	30	30	—	—	—	—	—	—	—	—	—	25	^{+0.017} / _{+0.008}	6	30
	20		20	25	30	35	40	40	40	40	40	40	40	40	—	—	—	—	30			35
	25	^{+0.020} / _{+0.007}	—	25	30	35	40	45	50	50	50	50	50	50	50	—	—	—	35	8	40	
	28			25	30	35	40	45	50	56	56	56	56	56	56	—	—	—	40			45
	30			30	35	40	45	50	60	60	60	60	60	60	60	60	60	60	60	42	10	47
	32			30	35	40	45	50	60	60	60	60	60	60	60	60	60	60	60	45		
	35	^{+0.025} / _{+0.009}		30	35	40	45	50	60	70	70	70	70	70	70	70	70	70	70	48	12	54
	40			30	35	40	45	50	60	70	80	80	80	80	80	80	80	80	80	55		
	50			—	—	40	45	50	60	70	80	90	100	100	100	100	100	100	100	70	12	76
	60	^{+0.029} / _{+0.010}		—	—	—	—	—	60	70	80	90	100	110	120	120	120	120	120	80		

How to order : Type - d - L

Example : GBAS 20 - 30

GBBS



Material : SUJ2
Hardness: 58 HRC

Type	d G6		ℓ													D m5		t				
			L20	L25	L30	L35	L40	L45	L50	L60	L70	L80	L90	L100	L110				L120			
GBBS	16	^{+0.017} / _{+0.006}	20	25	30	35	30	30	30	—	—	—	—	—	—	—	—	—	25	^{+0.017} / _{+0.008}	5	5
	20		20	25	30	35	40	40	40	40	—	—	—	—	—	—	—	—	30			6
	25	^{+0.020} / _{+0.007}	20	25	30	35	40	45	50	50	50	50	50	50	—	—	—	—	35	8	8	
	28		20	25	30	35	40	45	50	56	56	56	56	56	—	—	—	—	40			
	30		20	25	30	35	40	45	50	60	60	60	60	60	—	—	—	—	42	11	11	11
	32		25	30	35	40	45	50	60	60	60	60	60	60	—	—	—	—	45			
	35	^{+0.025} / _{+0.009}	25	30	35	40	45	50	60	70	70	70	70	70	70	70	70	70	48	12	12	12
	40		—	—	30	35	40	45	50	60	70	80	80	80	80	80	80	80	55			
	50		—	—	30	35	40	45	50	60	70	80	90	100	100	100	100	100	70	12	12	13
	60	^{+0.029} / _{+0.010}	—	—	—	—	—	—	50	60	70	80	90	100	110	120	120	120	80			

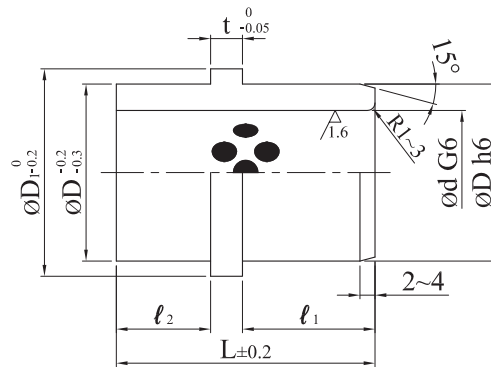
How to order : Type - d - L

Example : GBBS 30 - 50



EGB-W (t=4)

EGBK-W (t=8)



Material : Bronze
with graphite

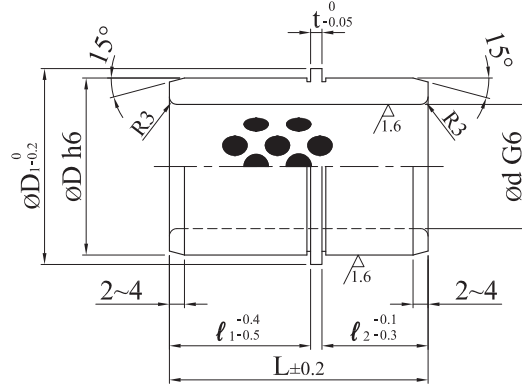
Type	d G6		L	l_1	l_2	D h6		D ₁	t
EGB-W	16	+0.017 +0.006	26	12	10	25	0 -0.013	30	4
			28	14					
			33	19					
			38	24					
	20	+0.020 +0.007	26	12	15	30	0 -0.016	35	
			28	14					
			33	19					
			38	24					
	25	+0.025 +0.009	26	12	20	35	0 -0.019	40	
			28	14					
			33	19					
			38	24					
	30	+0.029 +0.010	33	14	6	40	0 -0.016	45	
			38	19					
			43	24					
			38	19					
35	+0.025 +0.009	43	24	11	46	0 -0.016	50		
		48	29						
		48	24						
		53	29						
40	+0.025 +0.009	48	24	15	52	0 -0.019	57		
		53	29						
		48	24						
		53	29						
50	+0.029 +0.010	48	24	16	62	0 -0.019	67		
		53	29						
		53	29						
		53	29						
EGBK-W	25	+0.020 +0.007	33	19	6	35	0 -0.016	40	8
			38	24					
			48	29					
			47	24					
	30	+0.020 +0.007	52	29	11	40	0 -0.016	45	
			47	24					
			52	29					
			47	24					
	35	+0.025 +0.009	63	39	15	42	0 -0.016	47	
			60	32					
			70	42					
			78	49					
	40	+0.025 +0.009	57	24	16	45	0 -0.016	50	
			67	29					
			67	29					
			67	29					
45	+0.025 +0.009	88	59	20	50	0 -0.019	55		
		98	69						
		67	29						
		67	29						
50	+0.025 +0.009	87	39	21	55	0 -0.019	60		
		87	39						
		87	39						
		87	39						
60	+0.029 +0.010	67	29	25	62	0 -0.019	67		
		87	39						
		87	39						
		87	39						

How to order : Type - d - L

Example : EGB-W 25 - 33

EGBK-W 40 - 78

EGBL-W
EGBLH-W
(for large die)



Material : Bronze
with graphite

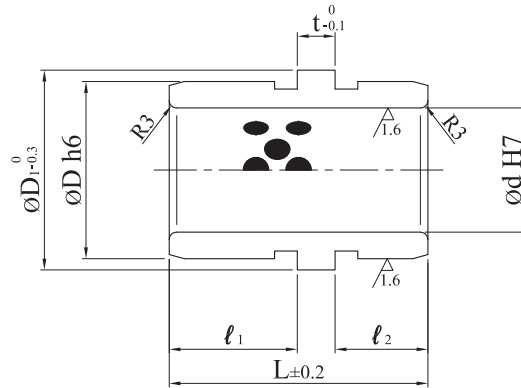
Type	d G6		L	ℓ_1	ℓ_2	D h6		D ₁	t		
EGBL-W	20		33	19	10	30	0 -0.013	34	4		
			37		14						
	25	+0.020 +0.007	33	19	10	35		40			
			37		14						
			42		24					14	
	30			19	10	42	0 -0.016	47			
					37					14	
					42					24	14
					52					29	19
	35			24	14	48		53			
					52					29	19
					68					39	25
40	+0.025 +0.009		24	11	55	0 -0.019	61				
				53				29	16		
				68				39	21		
50			29	16	65		71				
				68				39	21		
EGBLH-W	40	+0.025 +0.009	48	24	16	55		61			
			58		29				21		
	50		58	29	21	65	0 -0.019	71			
			78		39				31		
	60	+0.029 +0.010	78	39	31	76		84			
90			49		41						

How to order : Type - d - L

Example : EGBL-W 35 - 68

EGBLH-W 40 - 58

EGBN-W



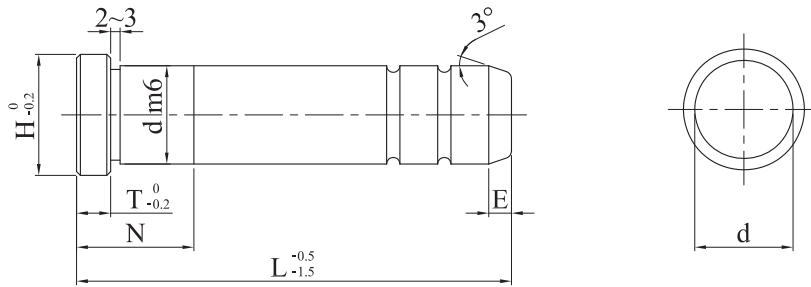
**Material : Bronze
with graphite**

Type	d H7		L	l_1	l_2	D h6		D _I	t
EGBN-W	20	+0.021 0	38	19	13	30	0 -0.013	36	4
	25		33		8	45	0 -0.016	41	
	30		38		13	42			
	35	+0.025 0	53	29	20	45	0 -0.019	48	6
	40		68	25	45				
	50		48	29	11	55	0 -0.019	61	
	60	68	39	21	65	71			
	60	+0.030 0	68			75		81	

How to order : Type - d - L

Example : EGBN-W 35 - 68

GPA



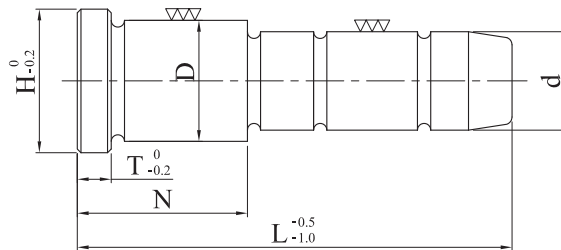
Material : SUJ2
Hardness : HRC 60±2

Type	d		L 5mm. increment	N 1mm increment	d m6		H	T	E
GPA	16	-0.020 -0.025	50 - 200	0 - 100	16	+0.018 +0.007	20	6	5
	20	-0.025 -0.030	75 - 250		20	+0.021 +0.008	25	8	
	25		25		30				
	30		30		35				
	35	-0.030 -0.035	100 - 400		35	+0.025 +0.009	40	40	8
	40	-0.030 -0.040	100 - 450		40		45	10	
	50	-0.030 -0.050	100 - 450		50	56	12		
	60		150 - 500		60	+0.030 +0.011	65	15	

How to order : Type - d - L - N

Example : GPA 25 - 180 - N50

GPB



Material : SUJ2
Hardness : HRC 60±2

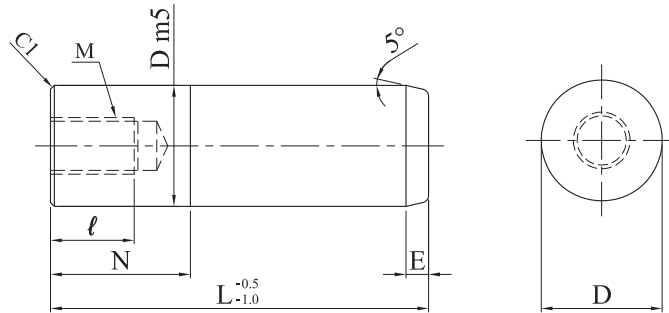
Type	d		L 5mm. increment	N	D		H	T
GPB	16	-0.016 -0.027	50 - 200	order	25	+0.021 +0.008	30	6
	20	-0.020 -0.033	75 - 300		30		35	8
	25		35		40			
	30		42		47	10		
	35	+0.025 +0.009	100 - 500		48		54	
	40	-0.025 -0.041	100 - 500		55	61	12	
	50	-0.040 -0.055	100 - 500		70	+0.030 +0.011	76	15
	60		150 - 500		80	86		

How to order : Type - d - L - N

Example : GPB 40 - 350 - N80



GPLP



Material : SUJ2
Hardness : 58 HRC
Induction Treatment

Type	D		L 5mm. increment	N 1mm. increment	D m5		M x Pitch	l	E
GPLP	16	- 0.020 - 0.025	40 - 110	0 - 100	16	+ 0.015 + 0.007	M6 x 1.00	12	5
			115 - 160						
			165 - 200						
	20	- 0.025 - 0.030	40 - 110		20	M8 x 1.25	16		
			115 - 160						
			165 - 220						
	25	- 0.025 - 0.030	50 - 110		25	M12 x 1.75	24		
			115 - 160						
			165 - 200						
	28	- 0.025 - 0.030	205 - 260		28	M12 x 1.75	24		
			60 - 100						
			105 - 160						
	30	- 0.025 - 0.030	165 - 200		30	M16 x 2.00	32		
			205 - 260						
			70 - 100						
	32	- 0.030 - 0.035	105 - 160		32	M16 x 2.00	32		
			165 - 200						
			205 - 260						
	35	- 0.030 - 0.040	100 - 140		35	M16 x 2.00	32		
			145 - 190						
			195 - 240						
	40	- 0.030 - 0.040	245 - 300		40	M20 x 2.50	40		
			100 - 140						
			145 - 190						
50	- 0.030 - 0.040	195 - 240	50	M20 x 2.50	40				
		245 - 300							
		305 - 360							
60	- 0.030 - 0.050	365 - 400	60	M20 x 2.50	40				
		150 - 190							
		195 - 240							
		245 - 300							
		305 - 360							
60	- 0.030 - 0.050	405 - 450	60	M20 x 2.50	40				
		455 - 500							
		150 - 190							
		195 - 240							
		245 - 300							

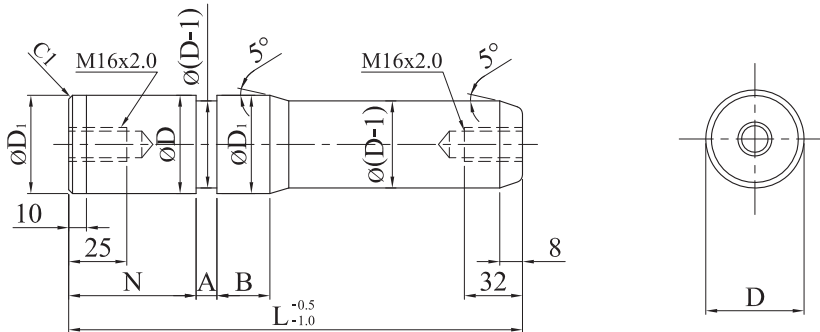
How to order : Type - D - L - N

Example : GPLP 40 - 220 - N80



GPXL

GPPL



Material : S50C
Hardness : 58 HRC
Induction Treatment

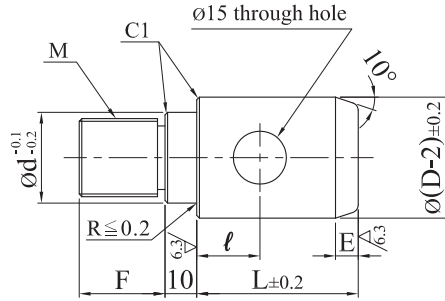
Type	D	L 5mm. increment	N 1mm. increment	B 1mm. increment	A	GPXL		GPPL	
						D (h6)	D ₁ (f6)	D	D ₁ (e7)
GPXL	40	100 - 145	$5 \leq N \leq 140$ or N = 0	$5 \leq B \leq 200$ or B = 0	10	0 -0.016	-0.025 -0.041	± 0.015	-0.050 -0.075
		150 - 195							
		200 - 240							
		245 - 300							
		305 - 360							
	50	100 - 145							
		150 - 195							
		200 - 240							
		245 - 300							
		305 - 360							
GPPL	60	150 - 195	$5 \leq N \leq 200$ or N = 0	20	0 -0.019	-0.030 -0.049	-0.060 -0.090		
		200 - 240							
		245 - 300							
		305 - 360							
		365 - 400							
		405 - 450							
80	150 - 195	365 - 400							
	200 - 240								
	245 - 300								
	305 - 360								

How to order : Type - D - L - N - B - Alteration

Example : GPXL 60- 400 - N100 - B60

Alteration	Specification																
<p>GA</p>	<p>Adds a tap to attach an assist pin(GA)</p> <p>M: Coarse thread</p> <table border="1"> <thead> <tr> <th>D</th> <th>M</th> <th>ℓ</th> <th>Ød</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>24</td> <td>30</td> <td>29</td> </tr> <tr> <td>50</td> <td>30</td> <td>35</td> <td>36</td> </tr> <tr> <td>60</td> <td>36</td> <td>45</td> <td>41</td> </tr> </tbody> </table>	D	M	ℓ	Ød	40	24	30	29	50	30	35	36	60	36	45	41
D	M	ℓ	Ød														
40	24	30	29														
50	30	35	36														
60	36	45	41														

GA

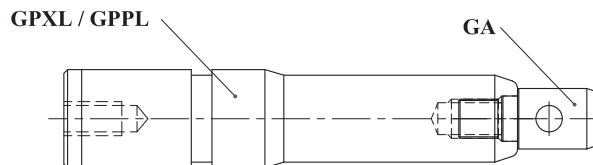


Material : S45C

Type	D	L 5mm. increment	R	ℓ	E	d	F	M (coarse thread)
GA	40	60 - 100	5	40	10	28	25	M24
		105 - 150		85				
		155 - 200		135				
	50	80 - 150	5	55	12	35	30	M30
		155 - 200		130				
		205 - 250		180				
	60	100 - 150	8	70	15	40	40	M36
		155 - 200		125				
		205 - 250		175				
	80	120 - 150	10	85	15	40	40	M36
		155 - 200		120				
		205 - 250		170				
255 - 300		220						

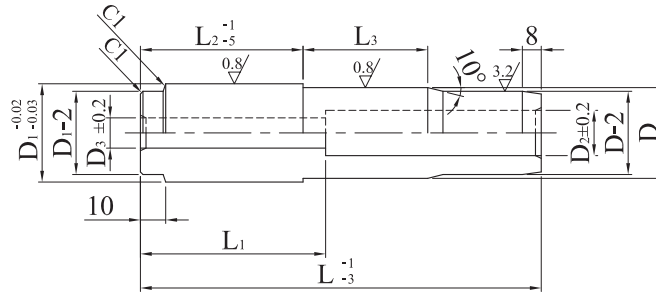
How to order : Type - D

Example : GA 60





GPPA



Material : S50C
Hardness : 58 HRC
Induction Treatment

Type	D		L	D ₁	D ₂	D ₃	L ₁	L ₂	L ₃	Supplied Socket Bolt
GPPA	40	^{-0.04} / _{-0.05}	160 - 210	40	17	11	95	80	70	M10 - 120
	50	^{-0.06} / _{-0.07}	190 - 260	50	20	14	120	100	80	M12 - 150
	60	^{-0.07} / _{-0.08}	230 - 270	60	26	18	145	120	100	M16 - 170
			280 - 320							
	80	^{-0.08} / _{-0.10}	290 - 340	80	32	22	200	160	120	M20 - 230
			350 - 400							

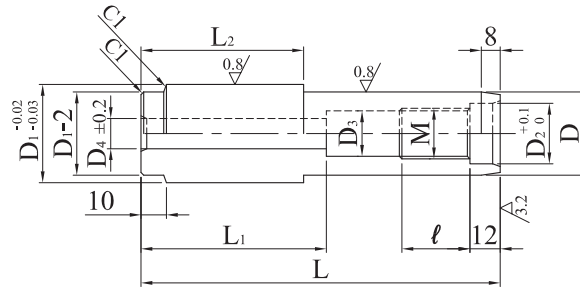
How to order : Type - D - L

Example : GPPA 60 - 280

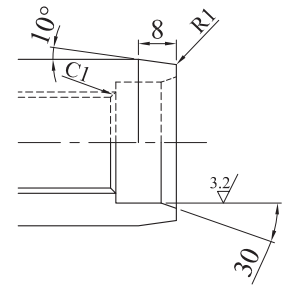


GPPB

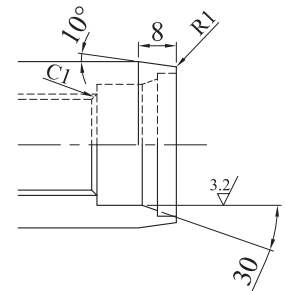
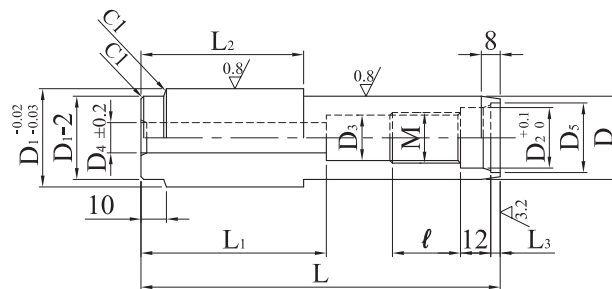
D = 40



Details of the tip



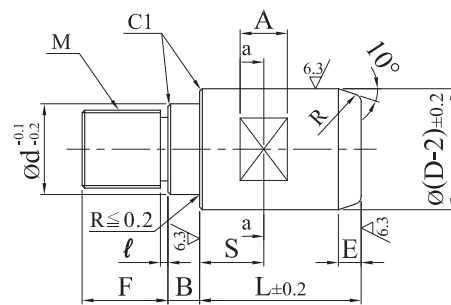
D ≧ 50



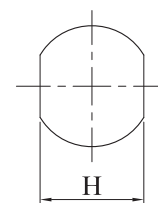
Material : S50C
Hardness : 58 HRC
Induction Treatment

Type	D	L	D ₁	D ₂	D ₃	D ₄	D ₅	L ₁	L ₂	L ₃	M	l	Supplied Socket Bolt	
GPPB	40	^{-0.04} / _{-0.05}	160	40	22	17.7	11	—	95	80	—	M20	24	M10 - 120
	50	^{-0.06} / _{-0.07}	190	50	27	21.2	14	41	120	100	6	M24	28	M12 - 150
	60	^{-0.07} / _{-0.08}	230	60	33	26.6	18	51	145	120	7.5	M30	33	M16 - 170
	80	^{-0.08} / _{-0.10}	290	80	40	32	22	64	200	160	8.5	M36	43	M20 - 230

GAT



Section a-a



Material : S45C

Type	D	L ↑10mm.	d	B	M	F	E	l	H	S	R	A	Supplied Socket Bolt
GAT	40	60 - 200	22	14	M20	20	10	4	32	15	5	25	for M22
	50	80 - 250	27	16	M24	28	12	5	41	20		30	for M27
	60	100 - 250	33	18	M30	30			50	25	8	for M33	
	80	120 - 300	40		M36	40	15	70	30	10	35	for M42	

How to order : Type - D - L

Example : GPPB 60 - 230

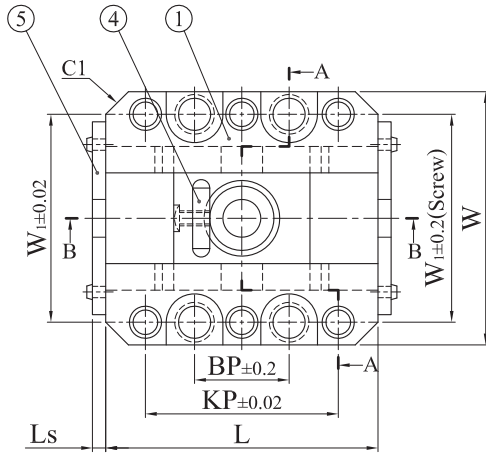
GAT 60 - 120

Spring washer dimensions

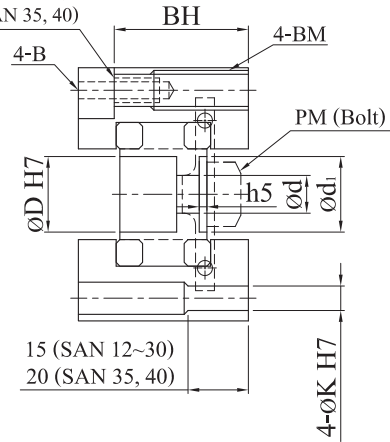
Size	Internal dia.	External dia.	Thickness
For M22	22.5	32.9	4.5
For M27	27.5	40.0	5.5
For M33	33.5	50.0	7.0
For M42	42.7	63.0	8.0



SAN

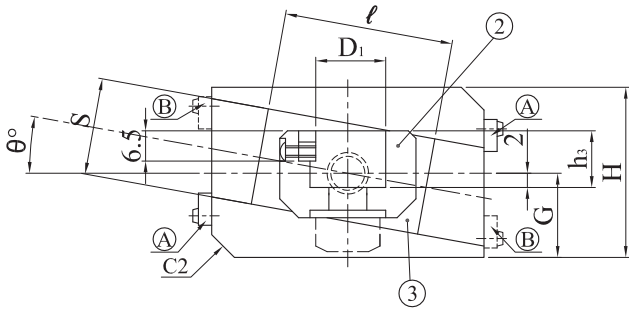


2-M8 Deep 18 (SAN 12~30)
2-M10 Deep 23 (SAN 35, 40)



A-A Cross Section

B-B Cross Section



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	SCM440
3	Slide Plate	Bronze with graphite
4	Key	S45C
5	Spacer	SS400

Type	D	θ	W	W ₁	L	BP	KP	H	G	h ₃	ℓ	S	B
SAN	12	0°	56	45	55	21	42	35	17.5	10	35	20	M6
	16		60	48	65	25	46	36	18	11	40		
	20		68	55	70		50	43	21.5	13		24	
	25	10°	75	62	80	35	60	45	22.5	15	45	26	M8
	30		81	68	95	50	75	54	27	17	55	30	
	35		98	81	110		85	60	30	20	70	34	M10
	40		105	88	120	60	95	64	32	22	80	38	

D	BH	BM	K	D ₁	d	d ₁	h ₅	C ₁	C ₂	Ls	PM	Spacer position	
												A	B
12	28.5	M8	6	11	5.5	—	—	5	—	4.65	M5	0°~10°	—
16	29.5			15	9	16	3						
20	34.5	M10	8	18	11	20	5.5	6	5	4.65	M10	3°~10°	0°~2°
25	36.5			22								3.5	4°~10°
30	45.5			27.5	0°~10°	—							
35	49.5	M12	10	32.5	13	26	5.5	6	5	5.20	M12	1°~10°	0°
40	53.5			37.5									

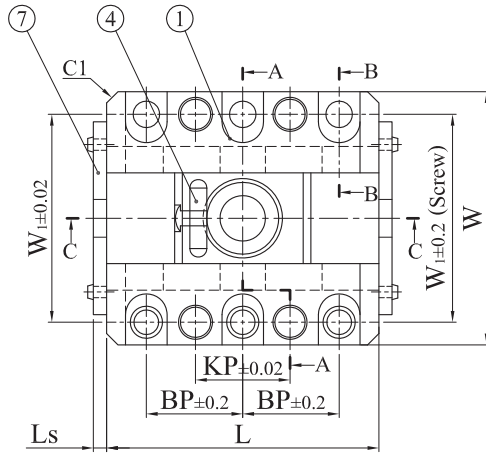
How to order : Type - D - θ

Example : SAN 20 - 0°

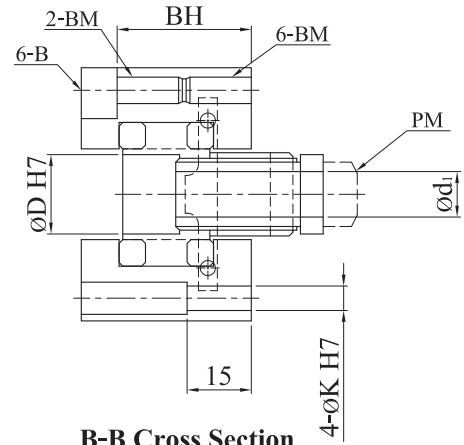
SAN 16 - 5°



SCA

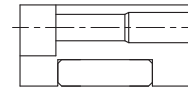
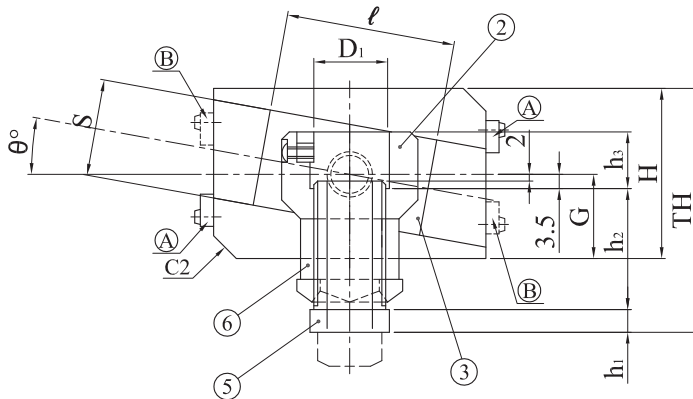


A-A Cross Section



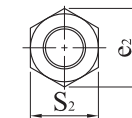
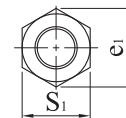
B-B Cross Section

C-C Cross Section



Lock Nut

Adjust Rod



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	SCM440
3	Slide Plate	Bronze with graphite
4	Key	S45C
5	Adjust Rod	S45C
6	Lock Nut	S45C
7	Spacer	SS400

Type	D	θ	W	W ₁	L	BP	KP	H	h ₁	h ₂	TH	G	h ₃	ℓ	S
SCA	16	0° ∨ 10°	56	46	65	25	25	36	6	33	59	18	11	40	20
	20		64	52	70			40		36	64	20	13		24
	25		71	59	80	30	30	45		39	69.5	22.5	15	45	26

D	S ₁	e ₁	S ₂	e ₂	B	BH	BM	K	D ₁	d	C ₁	C ₂	Ls	PM	Spacer position			
															A	B		
16	21	24.2	16	18.5	M6	29.5	M8	6	15	9	4	—	4.65	M8	0°~10°	—		
20	24	27.7	19	21.9		33.5		8	18	11	3	4		5	5	M10	3°~10°	0°~2°
25						38.5		22	4°~10°								0°~3°	

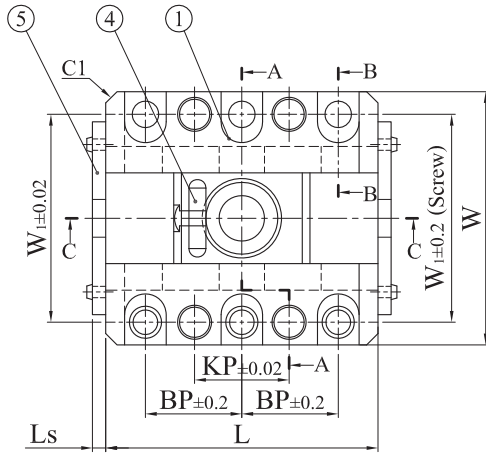
How to order : Type - D - θ

Example : SCA 16 - 0°

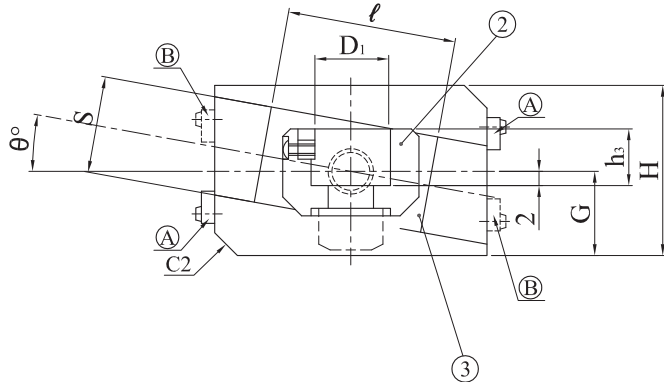
SCA 25 - 10°



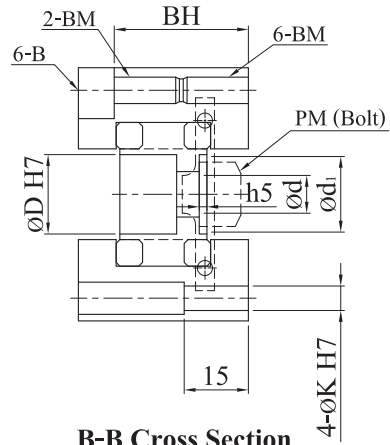
SCN



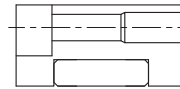
C-C Cross Section



A-A Cross Section



B-B Cross Section



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	SCM440
3	Slide Plate	Bronze with graphite
4	Key	S45C
5	Spacer	SS400

Type	D	θ	W	W ₁	L	BP	KP	H	G	h ₃	ℓ	S	B
SCN	16	0° ∨ 10°	56	46	65	25	25	36	18	11	40	20	M6
	20		64	52	70			40	20	13		24	
	25		71	59	80	30	30	45	22.5	15	45	26	

D	BH	BM	K	D ₁	d	d ₁	h ₅	C ₁	C ₂	L _s	PM	Spacer position	
												A	B
16	29.5	M8	6	15	9	16	3	4	—	4.65	M8	0°~10°	—
20	33.5		8	18	11	20	5.5	3	4		M10	3°~10°	0°~2°
25	38.5		22	5				5	M10		4°~10°	0°~3°	

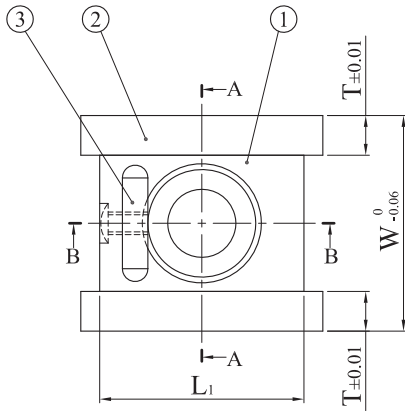
How to order : Type - D - θ

Example : SCN 20 - 0°

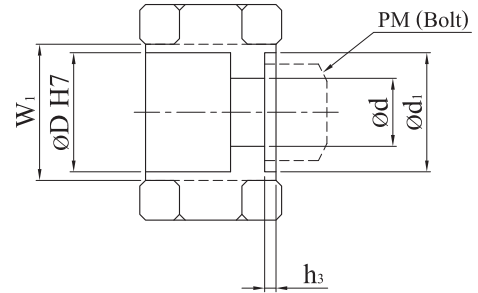
SCN 25 - 10°



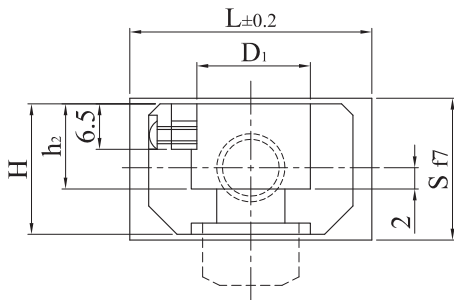
SNP



A-A Cross Section



B-B Cross Section



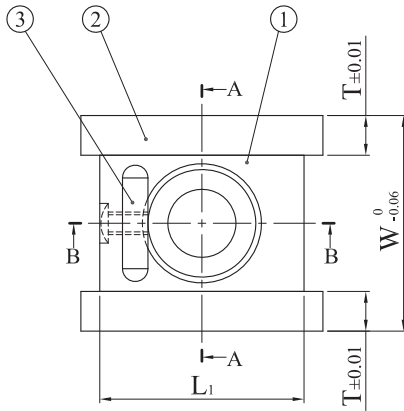
No.	Description and Material	
1	Inclined Pin Holder	SCM440
2	Slide Plate	Bronze with graphite
3	Key	S45C

Type	D	W	W ₁	T	L	L ₁	S f7		H	h ₂	h ₃	D ₁	d	d ₁	PM
SNP	12	30	17	6.5	35	25	20	-0.020 -0.041	16	10	—	11	5.5	—	M5
	16	33	20		40	29			18	11	3	15	9	16	M8
	20	38	25		34	24			22	13	5.5	18	11	20	M10
	25	45	31	7	45	38	26	26	15	22					
	30	51	36	7.5	55	43	30	30	17	3.5	27.5				
	35	60	42	9	70	48	34	-0.025 -0.050	36	20	5.5	32.5	13	26	M12
	40	67	47	10	80	53	38		40	22		37.5			

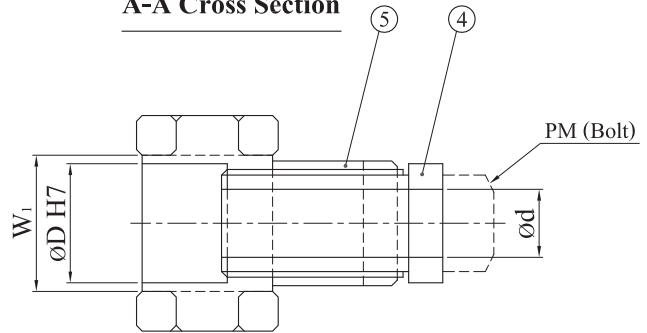
How to order : Type - D

Example : SNP 25

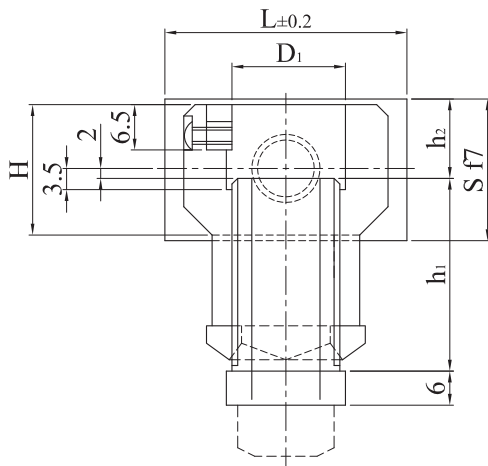
SAP



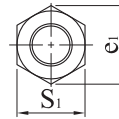
A-A Cross Section



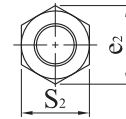
B-B Cross Section



Lock Nut



Adjust Rod



No.	Description and Material	
1	Inclined Pin Holder	SCM440
2	Slide Plate	Bronze with graphite
3	Key	S45C
4	Adjust Rod	S45C
5	Lock Nut	S45C

Type	D	W	W ₁	T	L	L ₁	S f7		H	h ₁	h ₂	D ₁	d	PM	
SAP	12	30	17	6.5	35	25	20	-0.020 -0.041	16	33	10	11	5.5	M5	
	16	33	20		40	29			18		11	15	9	M8	
	20	38	25		34	24			22		13	18	11	M10	
	25	45	31	7	45	38	26		26	39	15	22			
	30	51	36	7.5	55	43	30		30	41	17	27.5			
	35	60	42	9	70	48	34		-0.025	36	50	20	32.5	13	M12
	40	67	47	10	80	53	38		-0.050	40	52	22	37.5		

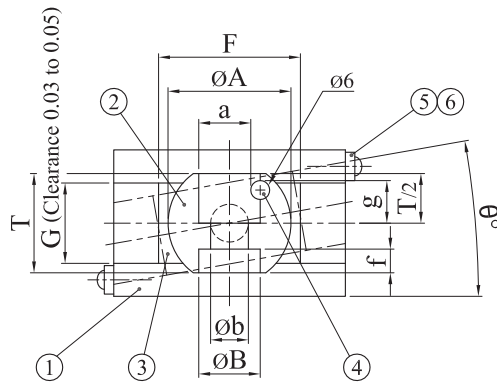
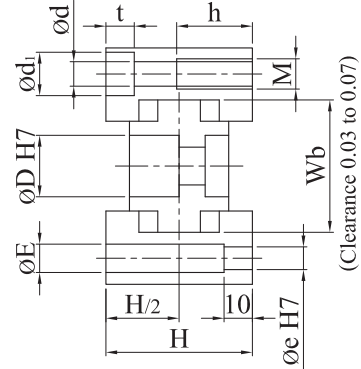
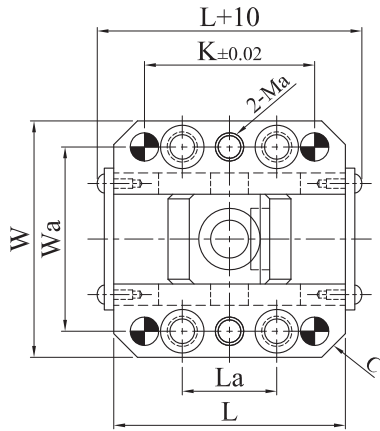
How to order : Type - D

Example : SAP 30

D	S ₁	e ₁	S ₂	e ₂
12	17	19.6	12	13.9
16	21	24.2	16	18.5
20	24	27.7	19	21.9
25				
30				
35	27	31.2	21	24.2
40				



SOCU-F



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Loosening Lock	SK5M
5	Lock Plate	SS400
6	Round head Screw	SCM435

Type	D	θ	W	Wa	L	La	K	Ma	C	H	e	E	d
SOCU-F	8	0° ∨ 10°	41	33	44	12	25	M4	3	24	4	5	3.4
	10		47	38	50	16	30	M5		28	5	5.5	4.5
	12		53	42	60	20	40	M8	4	36	6	7	6.6
	16		64	50	70	25	50			40			
	20		76	60	75	30	55	M10	8	46	8	9	8.6
	25		81	65	85	40	65			48			
	30		88	72	100	50	80	M12	8	54	10	11	11
	35		100	80	115		85			60			
	40		108	88	125					65			

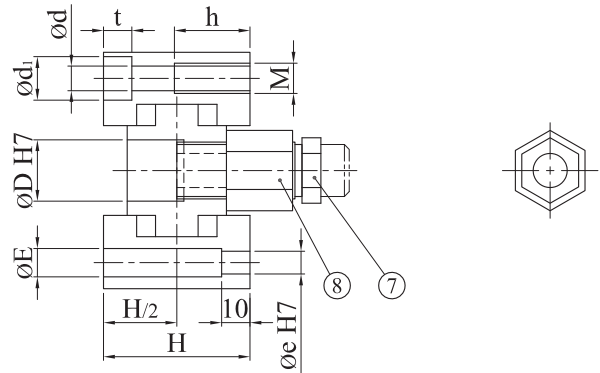
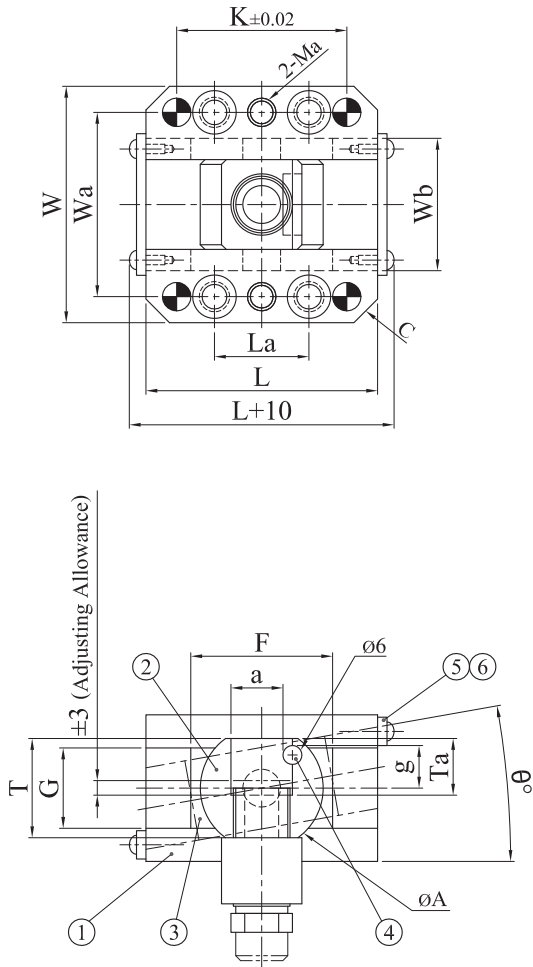
D	d _i	t	h	M	Wb	A	a	B	b	g	F	f	G	T
8	6	3.4	10	M4	24	20	7.5	10	5	6.5	25	5	13	16
10	8	5	15	M5	28		8.5	12	6		32	4	17	
12	11	4.8	20	M8	31	25	10	13	7	8.5	40	5	20	20
16		6.5			36	30	13	16	9	10	45	6	24	24
20	14	8.5	25	M10	43	40	17	20	11	13	14	8	26	30
25					48	45	22	25	14	14		50		9.5
30	18	7	30	M12	55	50	27			32	18	15	60	9
35					64	55	31	70	10				34	40
40					72	60	36	80	11.5				38	48

How to order : Type - D - θ

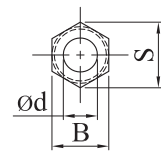
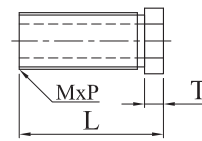
Example : SOCU-F 16 - 0°



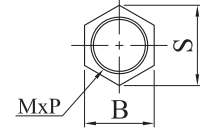
SOCU-M



⑦ Adjustment Rod



⑧ Lock Nut



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Loosening Lock	SK5M
5	Lock Plate	SS400
6	Round head Screw	SCM435
7	Adjustion Rod	S45C
8	Lock Nut	S45C

Type	D	θ	W	Wa	L	La	K	Ma	Wb	C	d	d ₁	t	h	M	e	E
SOCU-M	16	0° ∧ 10°	64	50	70	25	50	M8	36	6	6.6	11	6.5	20	M8	6	6.6
	20		76	60	75	30	55		43								
	25		81	65	85	40	65	M10	48	8	8.6	14	8.5	25	M10	8	9
	30		88	72	100		80		55								
	35		100	80	115	50	85	M12	64		11	18	6.5	30	M12	10	11
	40		108	88	125				72				7				

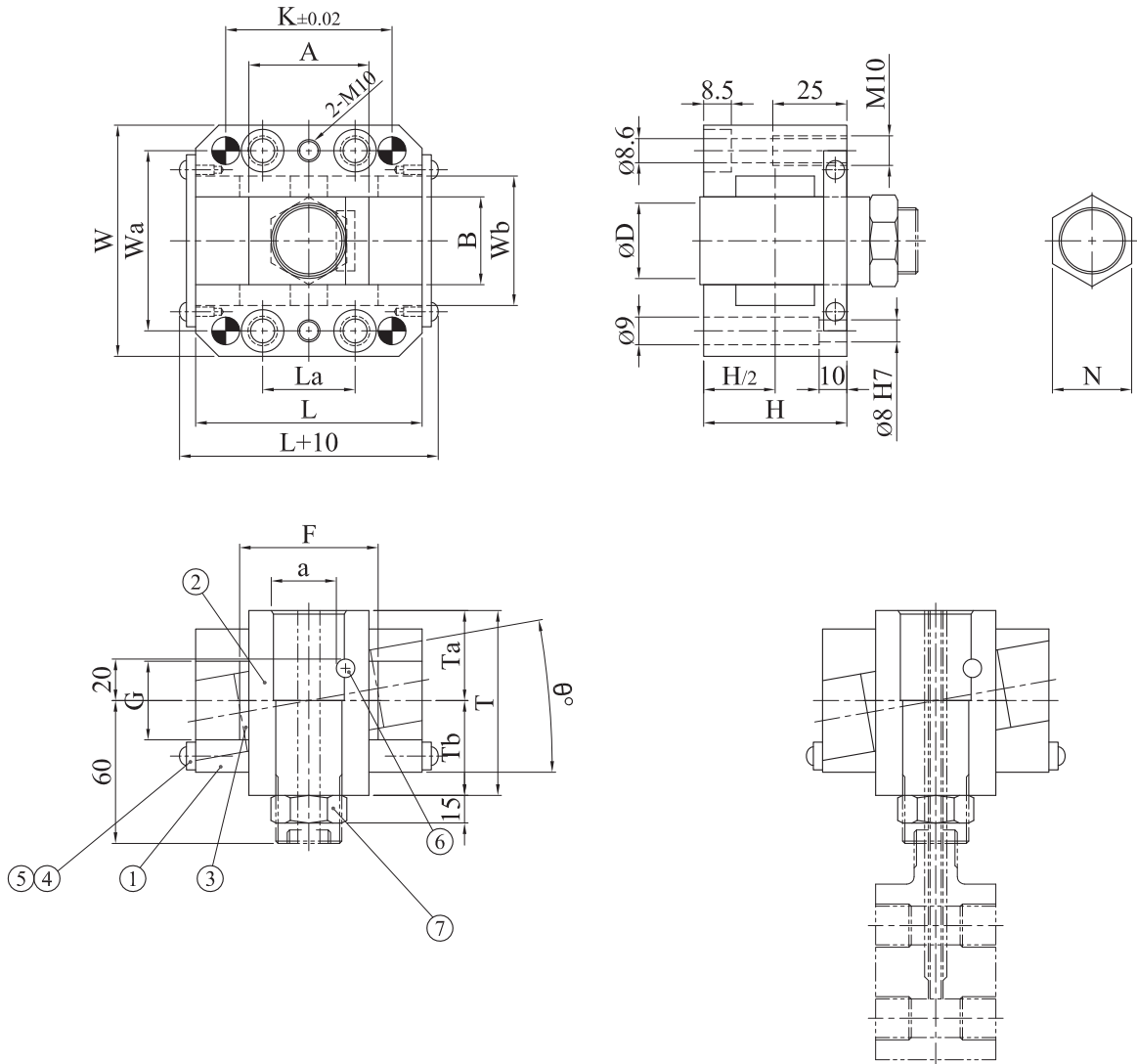
D	H	T	G	F	A	a	g	Ta	MxP	Adjusting Rod				Lock Nut			
										L	T	d	S	B	H	S	B
16	40	24	24	45	30	13	10	15	M14x1.5	42	6	9	16.2	14	21	19.6	17
20	46	30			40	17	13	18	M18x1.5	45		11	21.9	19		25.4	22
25	48	35	26	50	45	22	14	20.5	M22x1.5	49	7	25.4	22	21.5	31.2	27	
30	54	38	30	60	50	27	15	22	M27x1.5	55		13	31.2	27	26	37.0	32
35	60	40	34	70	55	31		23	M30x1.5	58		37.0	32	28	41.6	36	
40	65	43	38	80	60	36		16	24.5	M36x1.5		60.5	17	43.9	38	29	47.4

How to order : Type - D - θ

Example : SOCU-M 20 - 5°



SOCU-FR



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Lock Plate	SS400

No.	Description and Material	
5	Round head Screw	SCM435
6	Loosening Lock	SK5M Ø6x30
7	Lock Nut	S45C

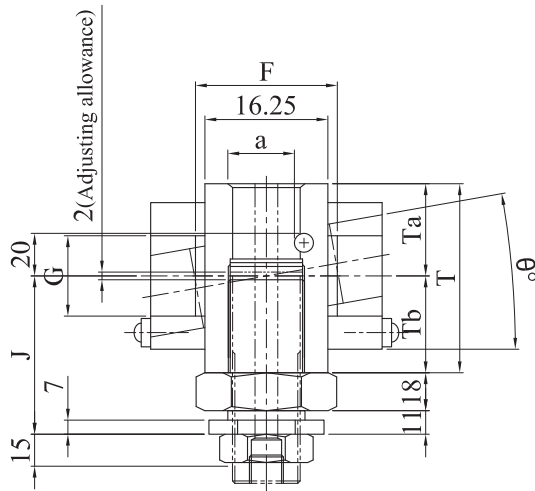
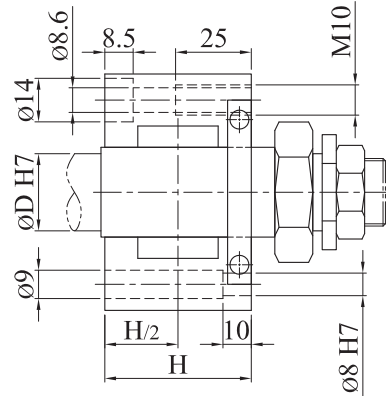
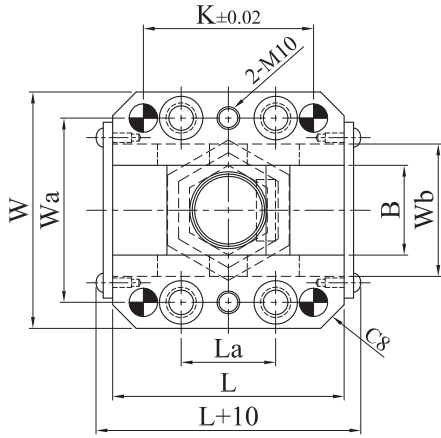
Type	D	θ	W	Wa	L	K	La	B	Wb	H	A	a	T	Ta	Tb	F	G	N
SOCU-FR	25	0° ∨ 10°	81	65	85	65	40	33	48	48	40	23.5	60	26	34	50	26	32
	30		88	72	100	80	50	38	55	54	47	28.5	67	29	38	60	30	34

How to order : Type - D - θ

Example : SOCU-FR 30 - 0°



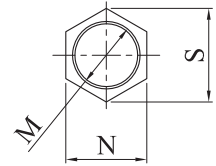
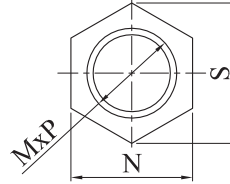
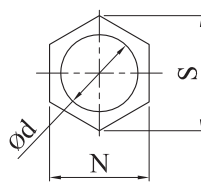
SOCU-MR



⑥ Adjustment Bolt

⑦ Adjustment Rod

⑧ Lock Nut



D	⑥			⑦			⑧		
	N	S	d	M	N	S	M	N	S
25	35	40.4	22.3	M30xP1.5	41	47.3	M22x1.5	32	37.0
30	38	43.9	27.3	M36xP1.5	46	53.1	M27x1.5	34	39.3

No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Lock Plate	SS400
5	Round head Screw	SCM435

No.	Description and Material	
6	Adjusting Bolt	S45C
7	Adjusting Rod	S45C
8	Lock Nut	S45C
9	Loosening Lock	SK5M Ø6x30

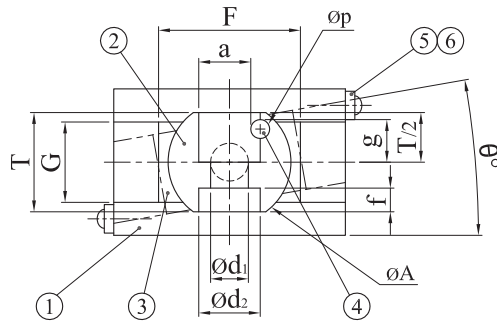
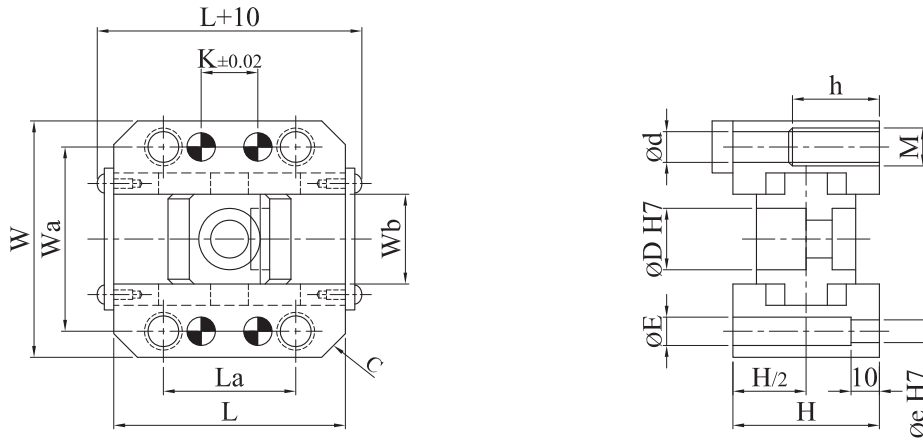
Type	D	θ	W	Wa	L	K	La	B	Wb	H	A	a	T	Ta	Tb	F	G	J
SOCU-MR	25	0°	81	65	85	65	40	33	48	48	40	23.5	60	29	34	50	26	63
		10°																
	30		88	72	100	80	50	38	55	54	47	28.5	67	29	38	60	30	67

How to order : Type - D - θ

Example : SOCU-MR 25 - 0°



RSCU-F



No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Loosening Lock	SK5M
5	Lock Plate	SS400
6	Round head Screw	SCM435

Type	D	θ ($\uparrow 1^\circ$)	W	Wa	L	K	La	Wb	C	d	M	h	e	E
RSCU-F	10	0°-5°	45	36	50	16	30	26	3	3.5	M5	14	5	6
	12		51	40	60	20	40	29	4					
	16	0°-20°	54	44	65	18	38	33	8	6.6	M8	20	6	6.6
	20		64	51	70		42	38						
	25		70	58	80	20	45	45	10	8.6	M10	25	8	9
	30		78	64	100	40	70	51						
	35		92	75	115	50	85	58	8	10.6	M12	30	10	11
	40		100	82	125			66						

D	H	T	G	F	A	p	a	g	d ₁	d ₂	f	H (11° ≤ θ ≤ 20°)	
												11°~15°	16°~20°
10	28	16	17	28	20	3	8.5	6.5	6	10	3	—	—
12	35	20	20	36	25	4	10	8	7	12	5	41	48
16		24		40	30	6	13	10	9	16	6		
20	40	30	24	40	40		8	17	13	11	20	7	47
25	44	35	26	45	45	22		14	14	25	9.5	9.5	52
30	54	38	30	55	50	27	15	9				62	72
35	60	40	34	70	55	8	31	18	32	11.5	10	70	82
40	65	43	38		60		36				16	78	90

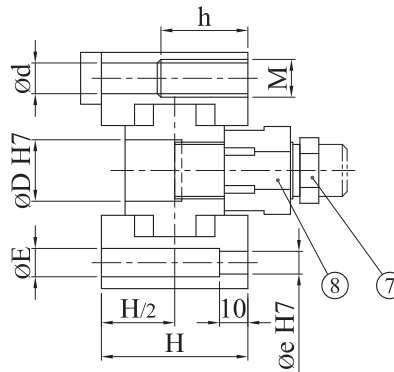
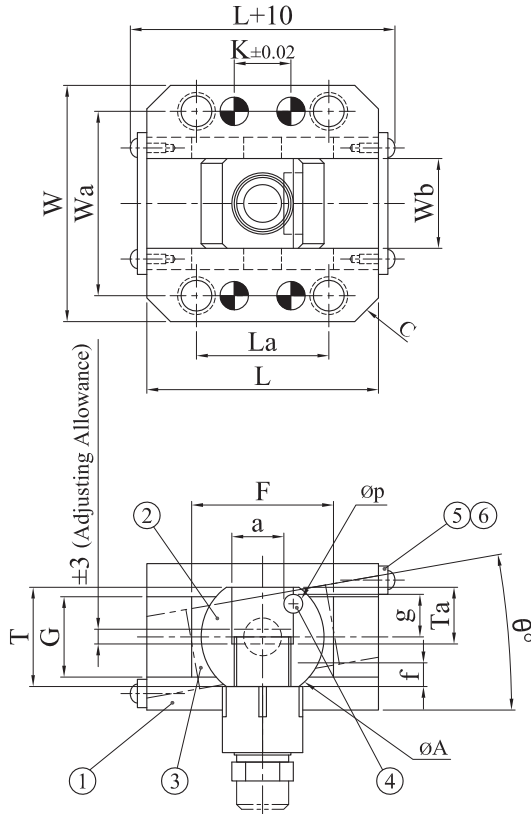
How to order : Type - D - θ

Example : RSCU-F 12 - 5°

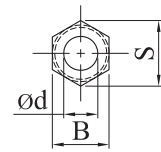
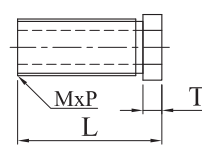
RSCU-F 25 - 10°



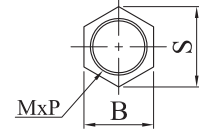
RSCU-M



⑦ Adjustment Rod



⑧ Lock Nut



D	MxP	⑦ Adjusting Rod					⑧ Lock Nut			
		L (Note)	T	d	S	B	H (Note)	S	B	
16	M14x1.5	42(50)	6	9	16.2	14	21(28)	19.6	17	
20	M18x1.5	45(54)		11	21.9	19	21(29)	25.4	22	
25	M22x1.5	49(59)	7	13	25.4	22	21.5(30.5)	31.2	27	
30	M27x1.5	54(64)			31.2	27	25(35)	37	32	
35	M30x1.5	58(68)		37	32	28(38)	41.6	36		
40	M36x1.5	60.5(70.5)		17	43.9	38	29(39)	47.3	41	

(Note) in L and H are dimensions when θ is 11° or more

No.	Description and Material	
1	Slide Base	S45C
2	Inclined Pin Holder	S45C
3	Slide Plate	Bronze with graphite
4	Loosening Lock	SK5M
5	Lock Plate	SS400
6	Round head Screw	SCM435
7	Adjusting Rod	S45C
8	Lock Nut	S45C

Type	D	θ ($\uparrow 1^\circ$)	W	Wa	L	K	La	Wb	C	d	M	h	e
RSCU-M	16	$0^\circ \sim 20^\circ$	54	44	65	18	38	33	8	6.6	M8	20	6
	20		64	51	70		42	38					
	25		70	58	80	20	45	45	10	8.6	M10	25	8
	30		78	64	100	40	70	51					
	35		92	75	115	50	85	58	8	10.6	M12	30	10
	40		100	82	125								

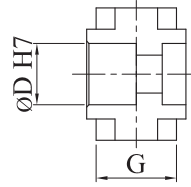
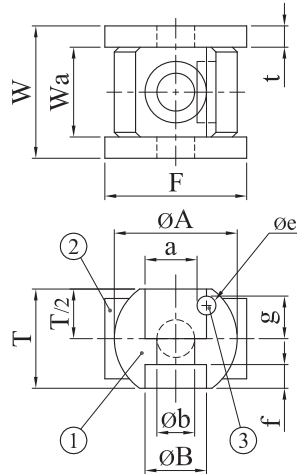
D	E	H	T	G	F	A	p	a	g	Ta	H ($11^\circ \leq \theta \leq 20^\circ$)	
											$11^\circ \sim 15^\circ$	$16^\circ \sim 20^\circ$
16	6.6	35	24	20	40	30	6	13	10	15	41	48
20		40	30	24		40		17	13	18	47	55
25	9	44	35	26	45	45	8	22	14	20.5	52	61
30		54	38	30	55	50		27	15	22	62	72
35	11	60	40	34	70	55	8	31	16	23	70	82
40		65	43	38		60		36		24.5	78	90

How to order : Type - D - θ

Example : RSCU-M 25 - 10°



SPH-F



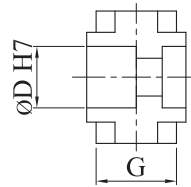
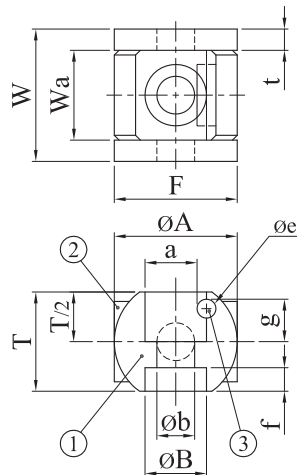
No.	Description and Material	
1	Holder	S45C
2	Slide Plate	Bronze with graphite
3	Loosening Lock	SK5M

Type	D	W	Wa	F	t	G	A	a	T	g	f	B	b	e
SPH-F	8	24	12	25	6	13	20	7.5	16	6.5	5	10	5	3
	10	28	14	32	7	17		8.5			4	12	6	
	12	31	17	40	7.5	20	25	10	20	8.5	5	13	7	4
	16	36	21	45		24	30	13	24	10	6	16	9	6
	20	43	28	50	8.5	30	50	27	38	15	8	20	11	
	25	48	33								9.5	25	14	9
	30	55	38	60	10	34	55	31	40	10	25	14	8	
	35	64	44	70	11	38	60	36	43	16	11.5	32		18

How to order : Type - D

Example : SPH-F 25

RPH-F



No.	Description and Material	
1	Holder	S45C
2	Slide Plate	Bronze with graphite
3	Loosening Lock	SK5M

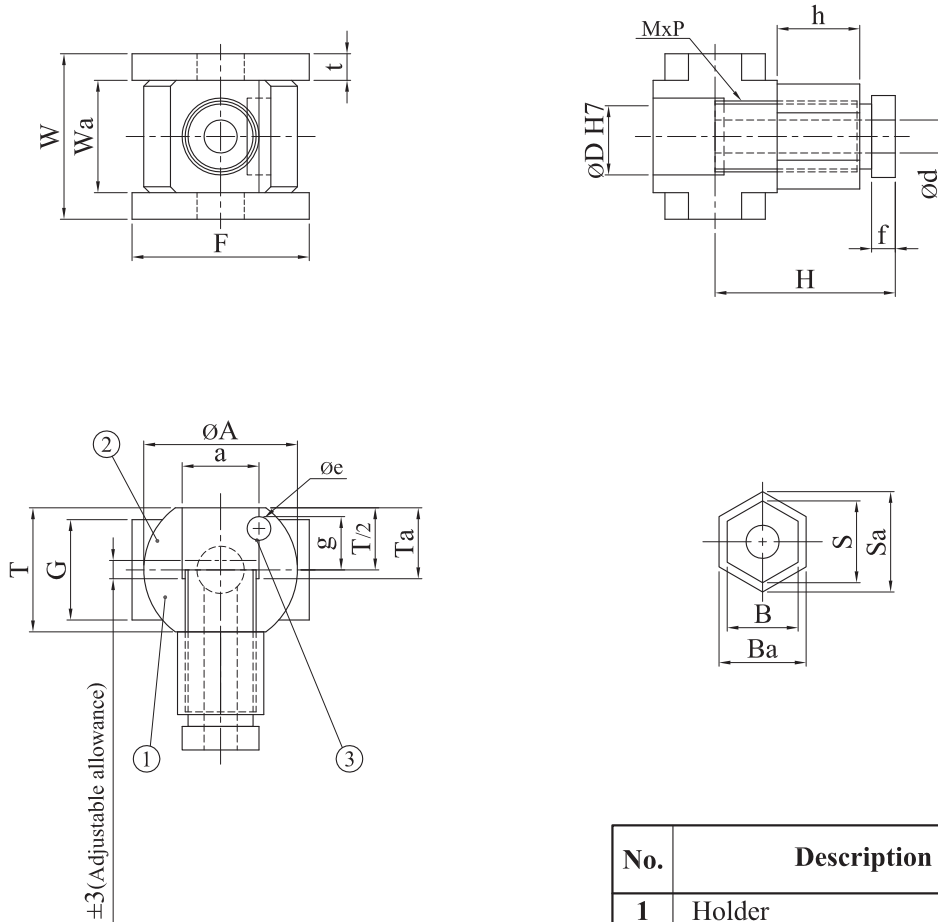
Type	D	W	Wa	F	t	G	A	a	T	g	f	B	b	e
RPH-F	10	26	14	28	6	16	20	8.5	16	6.5	3	10	6	3
	12	29	17	36		20	25	10	20	8	5	12	7	4
	16	33	20	40	6.5	24	40	17	30	13	7	20	11	6
	20	38	25											
	25	45	30	45	7.5	30	50	27	38	15	9	25	14	8
	30	51	36	55										
	35	58	42	70	9	38	60	36	43	16	11.5	32	18	8
	40	66	48											

How to order : Type - D

Example : RPH-F 20



SPH-M



No.	Description and Material	
1	Holder	S45C
2	Slide Plate	Bronze with graphite
3	Loosening Lock	SK5M
4	Adjustable Rod	S45C
5	Lock Nut	S45C

Type	D	W	Wa	F	t	MxP	H	f	h	T	G	A	a	g	Ta	e	S	B	Sa	Ba
SPH-M	16	36	21	45	7.5	M14x1.5	42	6	21	24	24	30	13	10	15	6	16.2	14	19.6	17
	20	43	28			M18x1.5	45			30		40	17	13	18		21.9	19	25.4	22
	25	48	33	50		M22x1.5	49	21.5	35	26	45	22	14	20.5	25.4		22	31.2	27	
	30	55	38	60	8.5	M27x1.5	55	7	26	38	30	50	27	15	22	8	31.2	27	37.0	32
	35	64	44	70	10	M30x1.5	58			28	40	34	55		31		23	37.0	32	41.6
	40	72	50	80	11	M36x1.5	60.5			29	43	38	60	36	16		24.5	43.9	38	47.3

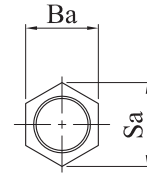
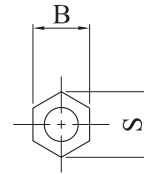
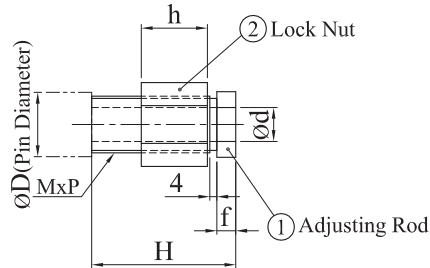
How to order : Type - D

Example : SPH-M 35



ARS

(for direct Ejector Pin)



Material : S45C
Hardness : 23-28 HRC
Black Oxide

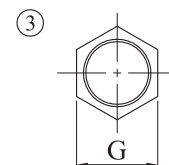
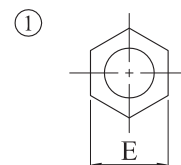
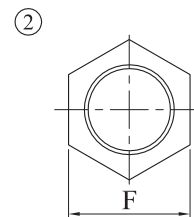
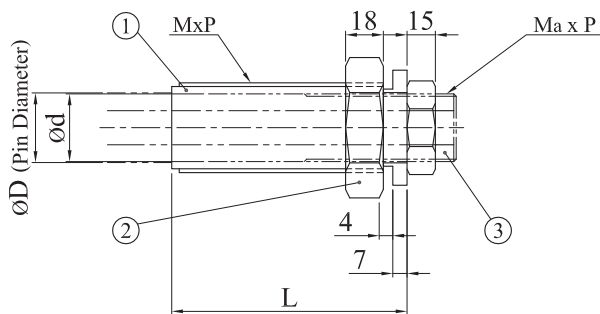
Type	D	① Adjusting Rod						② Lock Nut		
		MxP	H	d	f	B	S	h	Ba	Sa
ARS	16	M14x1.5	42	9	6	14	16.2	21	17	19.6
	20	M18x1.5	45	11		19	21.9		22	25.4
	25	M22x1.5	49	13	7	22	25.4	21.5	27	31.2
	30	M27x1.5	55			27	31.2	26	32	37.0
	35	M30x1.5	58			32	37.0	28	36	41.6
	40	M36x1.5	60.5			17	38	43.9	29	41

How to order : Type - D

Example : ARS 20

RARS

(for Inclined Pin Type with Cooling Hole)



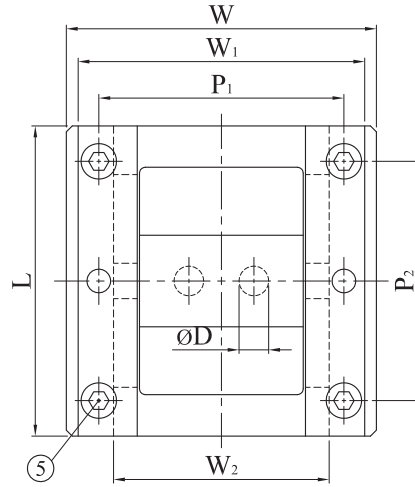
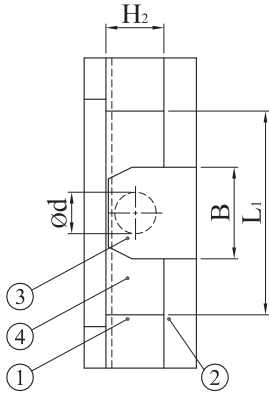
Material : S45C
Hardness : 23-28 HRC
Black Oxide

Type	D	MxP	L	d	F	E	G	Ma x P
RARS	25	M30x1.5	62	22.3	35	41	30	M22x1.5
	30	M36x1.5	67	27.3	41	50	35	M27x1.5

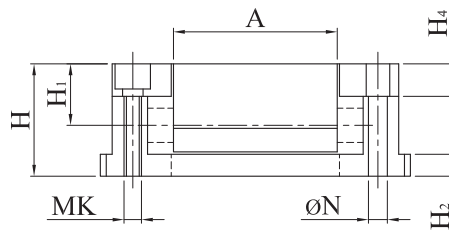
How to order : Type - D

Example : RARS 25

SOCU-S-□/2



*øD and ød make by customer



No.	Description and Material	
1	Slide Base	S45C
2	Upper Plate	S45C
3	Pin Holder	S45C
4	Slide Plate	Bronze with graphite
5	Socket Head Screw	SCM435

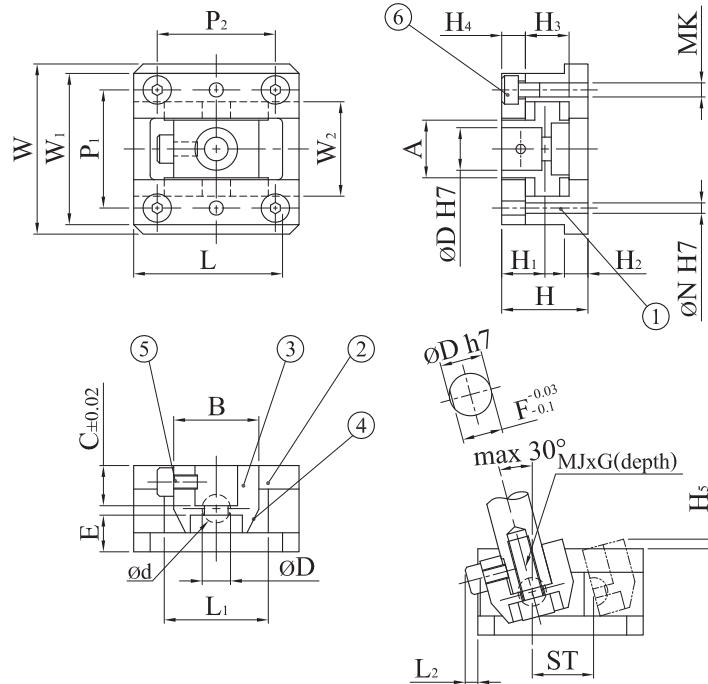
Type	D	d	A	B	H	H ₁	H ₂	H ₃	H ₄	L	L ₁	W	W ₁	W ₂	P ₁	P ₂	MK	N	Travel
SOCU-S-12/2	12	10	40	25	32	18	7	16	10	70	50	80	74	54	62	50	M6	6	20
SOCU-S-20/2	20	14	68	40	42	23	11	22	12	120	80	122	114	86	98	92	M8	8	40
SOCU-S-30/2	30	18	98	50	55	30	15	30	15	170	110	160	152	120	133	133	M10	10	60
SOCU-S-35/2	35	20	108	60	62	35		34	18	190	120	180	170	133	149	140	M12		70

How to order : Type

Example : SOCU-S-20/2



SOCU-S



No.	Description and Material		No.	Description and Material	
1	Slide Base	S45C Tufftrided	4	Slide Plate	Bronze with Graphite
2	Upper Plate	S45C Tufftrided	5	Socket Head Screw	SCM435
3	Pin Holder	S45C Tufftrided	6	Socket Head Screw	SCM475

Type	D	d	D ₁	A	B	C	E	F	MJ	G	H	H ₁	H ₂
SOCU-S	8	7	4.5	11	20	8	10	7	M4	8	22	12.5	5
	10		5.5	15		10	12.5	9	M5	9	27	15.5	
	12	10	7	17	25	12	15	11	M6	10	32	18	7
	16	12	9	22		30		16	14.5	M8	12	36	20
	20	14	11	26	40	20	16	18	M10	16	42	23	11
	25	16	14	32	45	25	17	22.5	M12	20	50	28	15
	30	18		38	50	30		27		25	55	30	
	35	20		45	60	35		18	32	30	62	35	
	40	25	18	55	70	40	19	36	M16	35	70	40	15
	45	30		60	80	45		24		40	40	80	

D	H ₃	H ₄	H ₅	L	L ₁	L ₂	W	W ₁	W ₂	P ₁	P ₂	MK	N	ST
8	11	7	10.5	32	20	3.6	33	30	19	24	20	M3	3	10
10	15	8	11.3	45	25	4.5	45	40	25	32	30	M4	4	18
12	16	10	4	50	30	5	57	51	31	39	35	M6	6	20
16	20		5	65	40		65	58	38	46	40			25
20	22	12	8	80	50	6	80	72	44	56	55	M8	8	30
25	26			90	55		6	93	85	52	66			65
30	30	15	9	100	60	7	101	93	60	74	70	M10	10	40
35	34			10	120		75	8	120	110	70			85
40	44	18	12	135	85	8	130		120	80	95	90	M12	10
45	50			14	150		95	10	140	130	90	105		

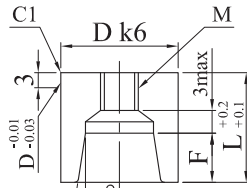
How to order : Type - D

Example : SOCU-S 40

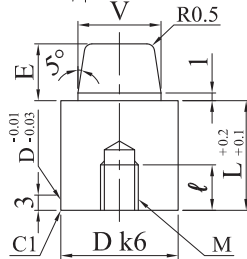


TAP
(Standard Type)

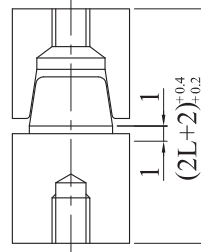
② Bush



① Pin



Dimensions when combined



Material : SKD11
58-62 HRC

Type	D k6		A°	L	V	E	F	① Pin		② Setting M tap for Bush	AC
								M	ℓ		
TAP	13	+0.012	5°	14	7	6	5	M4	10	M4	1° 3°
	16	+0.001			10			M5		M5	
	20	+0.015		19	13	9	8	M6	M6		
	25			+0.002	24	16	12	11	M8	M8	
	30	+0.018		29	20	15	14	M10	20	M10	
	32			+0.002	34	24	18	17	M12	24	
	35	+0.002		39	30	24	23				
	42										

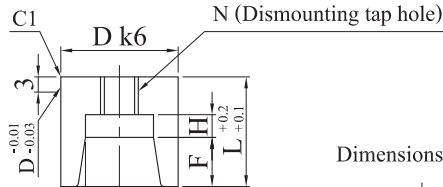
How to order : Type - D - A(AC)

Example : TAP 20 - 5°

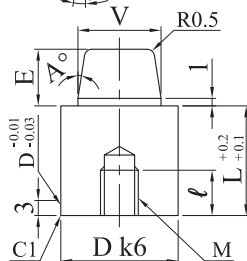
TAP 25 - AC 1°

TAPC

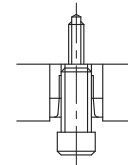
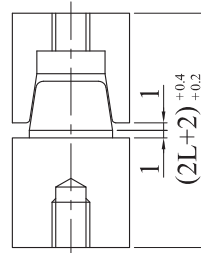
② Bush



① Pin



Dimensions when combined



Bush can be easily removed by screwing a bolt into its tap (N) and extracting it.

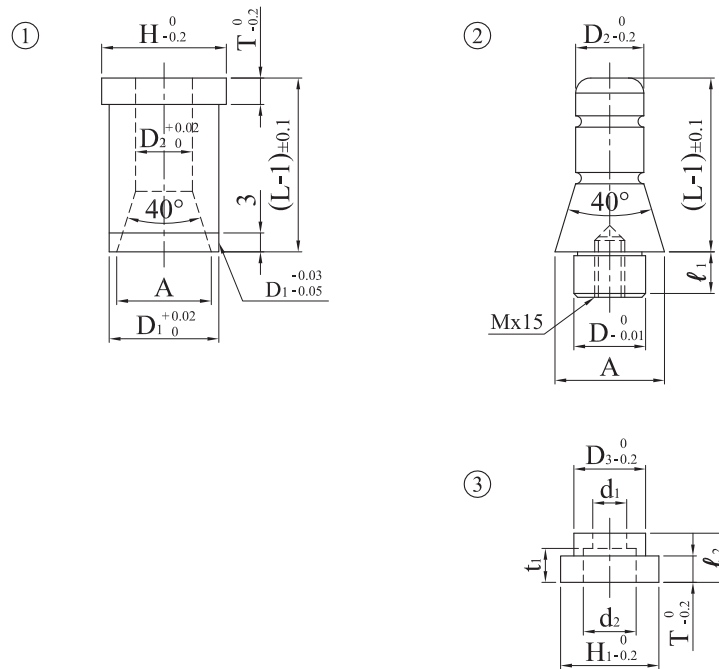
Material : SKD11
58-62 HRC

Type	D k6		A°	L	V	E	F	H	① Pin		② Setting M tap for Bush	N
									M	ℓ		
TAPC	13	+0.012	1°	14	7	6	5	3.3	M3	6	M3	M4
	16	+0.001			10			5.3	M5	10	M5	M6
	20	+0.015		19	13	7	7	7	M6	12	M6	M8
	25			+0.002	24	16	10	10	9	M8	16	M8
	30	+0.018		29	20	13	13	11	M10	20	M10	M12
	32			+0.002	34	24	16	16	13	M12	24	M12
	35	+0.002		39	30	21	21					
	42											

How to order : Type - D - A°

Example : TAPC 16 - 5°

TAPS



No.	Description and Material	
1	Guide Bush	SUJ2 58-60 HRC
2	Guide Pin	SUJ2 58-60 HRC
3	Spacer	S45C 38-43 HRC Black Oxide

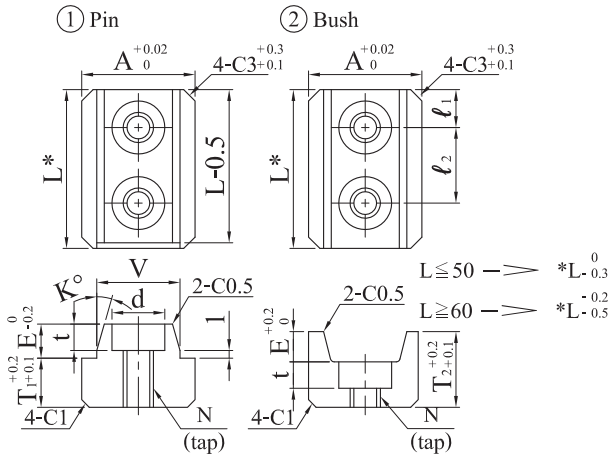
Type	D	L				D ₁	D ₂	D ₃	A	H	T	M	ℓ_1	H ₁	ℓ_2	T ₁	d ₁	d ₂	t ₁			
TAPS	12	20	25	30		18	10	11.6	16	20	4	5	8	16	8	4	6	9	5.5			
	16	20	25	30	35	40	50	60	25	14	15.9	20	30	6		5	8.2	13.5	8.2			
	20		25	30	35	40	50	60	30	18	19.1	24	35	8	8	15	24	14		8.5	14	9
	25			30		40	50	60	35	23	24.1	29	40				30		6			

How to order : Type - D - L

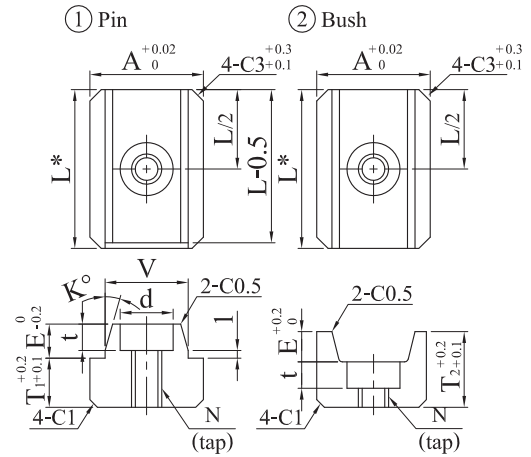
Example : TAPS 16 - 30

TABS

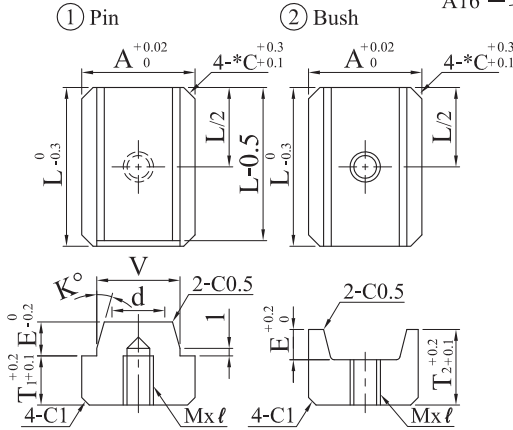
Mounting bolt hole: 2 (L30 ~ L120)



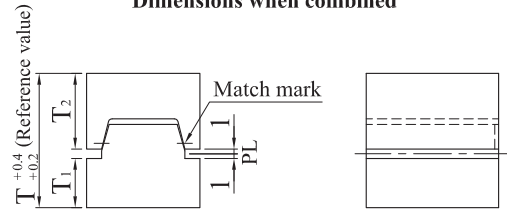
Mounting bolt hole: 1 (L20 ~ L25, except A12 and A16)



Mounting tap hole: 1 (A12 and A16 only) A12 -> *C2
A16 -> *C3



Dimensions when combined



Material : SKD11
58-62 HRC

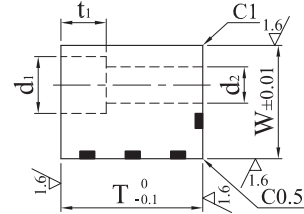
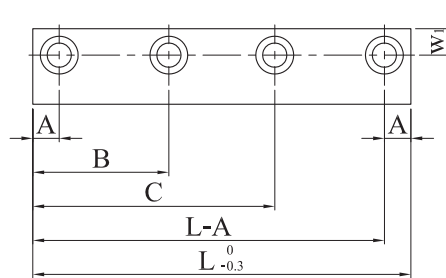
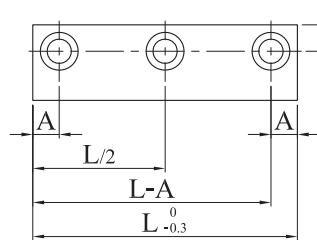
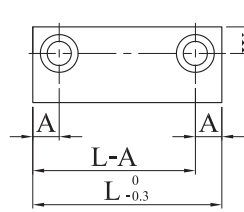
Type	A	L	K	Y	E	T	T ₁	T ₂	Bolt hole				Installation Bolt	Tap N	Mx l (Tap Hole)	No. of bolt holes				
									l ₁	l ₂	d	t								
TABS	12	15	1	7	5	23	7	14	-	-	-	-	M3 bolt	M3	M3x6	1 (Tap hole)				
		20																		
	16	20		9	7				23	7	14	-	-	-	-	M3 bolt	M4	M4x6	1 (Tap hole)	
		25																		
	20	20		12	8				28	9	17	7.5	15	6.5	3.5	M3 bolt	M4	-	-	1
		25																		
		30																		
	25	20		15	8				28	9	17	7.5	15	8	5	M4 bolt	M5	-	-	1
		30																		
		40																		
	30	25		17	8				32	10	20	7.5	15	9	6	M5 bolt	M6	-	-	1
		30																		
		40																		
	35	30		20	10				35	11	22	7.5	15	11	7	M6 bolt	M8	-	-	2
		40																		
		50																		
45	40	25	15	45	14	29	10	30	11	7	M6 bolt	M8	-	-	2					
	50																			
	75																			
65	60	35	20	60	19	39	17.5	40	14	9	M8 bolt	M10	-	-	2					
	90																			
	100																			

How to order : Type - A - L - K

Example : TABS 30 - 40 - 5°



SGR



Material : Bronze with graphite

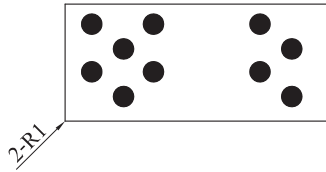
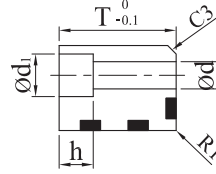
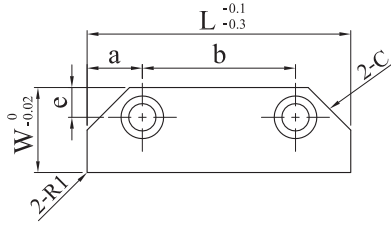
Type	W	T	L					No. of bolt holes	A	B	C	Bolt Hole Size							
												T	d ₁	d ₂	t ₁	w ₁			
SGR	12.5	10	40					2	7.5	—	—	10	8	4.5	5	5			
		15	50	60	70		3												
		20	80					4				32.5					57.5	20	
			90									35					65		
			100																
	15	10	40	50	60			2	7.5	—	—	10	9.5	5.5	6	6			
		15	70	80	90	100	110	120				3							
		20	130									4					40	90	20
		25	140														45	95	25
			150														53	97	
	20	15	40	50	60	70	80	90	2	10	—	—	15	11	6.5	7	9		
		20	100	110	120	130	140	150	3										
		25	160						4				55					105	25
		30	180										60					120	30
			200										70					130	
	25	20,25	40	50	60	70	80	90	2	10	—	—	20	14	9	9	10		
		30	100	110					3										
		20	120	130	140	150			4				55					105	30
		25	160										60					120	35
		30	180										70					130	
30	30	120	140					3	12	—	—	30	17	11.5	11	11			
	35	160						4											
		180										60					120		
		200										70					130		

How to order : Type - W - T - L

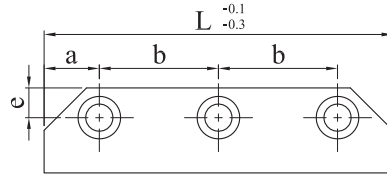
Example : SGR - 20 - 25 - 150

SGRT

$L \leq 120$



$L \geq 140$



Material : Bronze with graphite

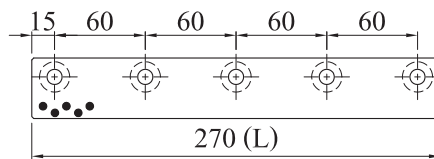
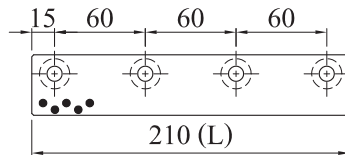
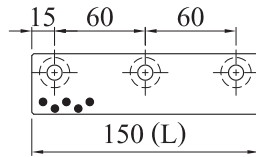
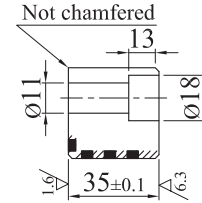
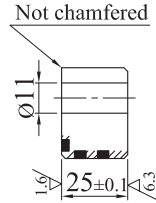
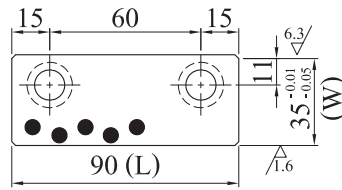
Type	W	L	T	a	b	e	d	d ₁	h	C
SGRT	20	80	20 25	15	50	9	6.5	11	7	11
		100			70					
		120			90					
		140			55					
		160			65					
	25	80	25 30	17.5	45	10	9	14	9	13
		100			65					
		120			85					
		140		20	50					
		160		60						
	30	100	30 35	20	60	12	11	17.5	11	16
		120			80					
		140			50					
		160			60					
		180			70					

How to order : Type - W - L - T

Example : SGRT- 25 -100- 25



SGRD



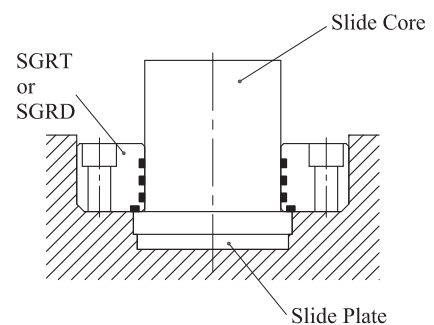
Material : Bronze with graphite

Type	W	L	T	Alteration
SGRD	35	90	25	CM10
		150	25	
		210	35	
		270	35	

How to order : Type - W - L - T - Alteration

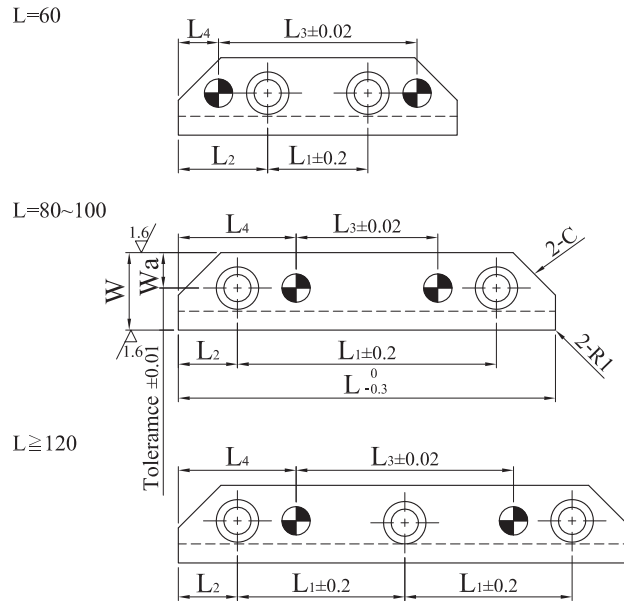
Example : SGRD 35 - 150 - 35

SGRD 35 - 270 - 25 - CM10





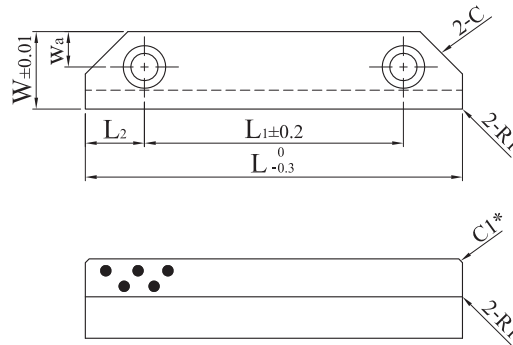
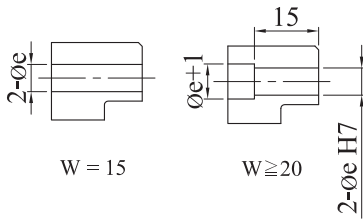
- SGRI** (Steel)
- SGRIK** (Steel+Dowel Hole)
- SGRW** (Bronze with graphite)
- SGRWK** (Bronze with graphite + Dowel Hole)



*The Bronze Type is C2

Type without Dowel Hole

Type with dowel hole and dowel hole specification



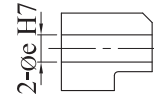
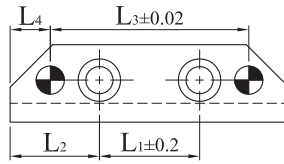
Type	W	L	Wa	L1	L2	L3	L4	C	T	H	t	r	d	d1	h	e H7
SGRI	15	60	6	20	20	40	10	9	15	8	4.5	0.5	5.5	9.5	6	6 ^{+0.012} ₀
		80		55		35										
		100		75		55										
SGRIK	20	60	9	20	15	20	30	11	20	8	5.5	0.5	6.5	11	7	
		80		50		40										
		100		70		60										
SGRW	25	80	9	45	17.5	20	30	13	25	10	7.5	0.8	9	14	9	8 ^{+0.015} ₀
		100		65		40										
		120		42.5		60										
SGRWK	30	120	11	40	20	40	40	16	30	15	11	0.8	11	18	11	
		140		50		60										
		160		60		80										
		180		70		100										

How to order : Type - W - L
 Example : SGRWK 20 - 100

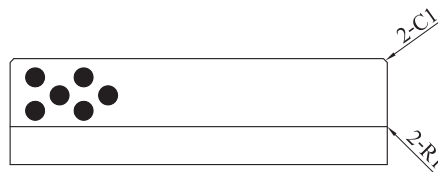
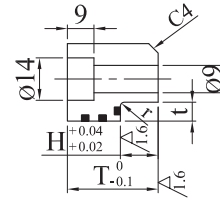
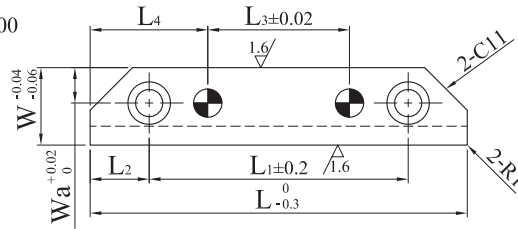


SGRWS

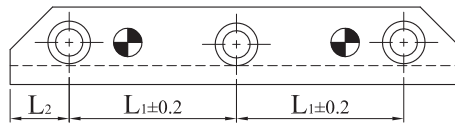
L=60



L=80~100



L=120~200



Material : Bronze with graphite

Type	W	L	T	Wa	L ₁	L ₂	L ₃	L ₄	H	t	r	e H7
SGRWS	20	60	23	9	20	20	40	10	8	5.5	0.5	6 ^{+0.012} ₀
		80			50	15	20					
		100			70		40					
		120			45		60					
		140			55		80					
		160			65		100					
	25	80	28	9	45	17.5	20	30	10	7.5	0.8	8 ^{+0.015} ₀
		100			65		40					
		120			42.5		60					
		140			52.5		80					
		160			62.5		100					
		180			72.5		120					
	30	100	43	11	60	20	20	40	15	11	0.8	8 ^{+0.015} ₀
		120			40		40					
		140			50		60					
		160			60		80					
		180			70		100					
		200			80		120					

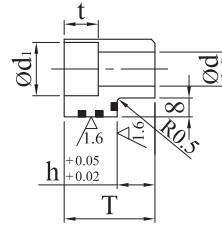
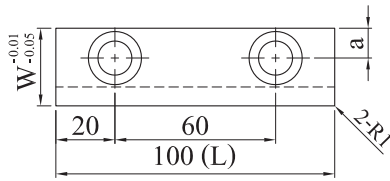
How to order : Type - W - L - T

Example : SGRWS 25 - 140 - 33

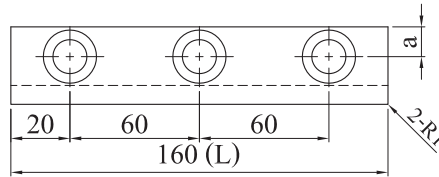


SGRLW

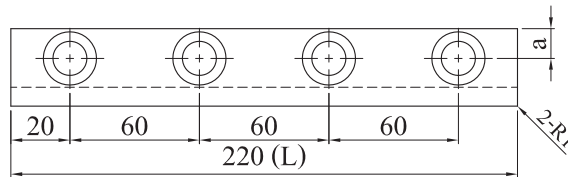
L=100



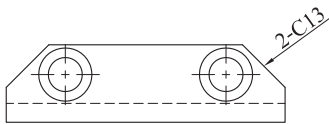
L=160



L=220



Material : Bronze with graphite

Type	W	L	T	a	d	d ₁	h	t	Alteration
SGRLW	23	100	30	7.5	7	11	15	7	CM13 
		160							
		220							
		100	41						
		160							
		220							
	28	100	25	10	11	18	10	13	
		160							
		220							
		100	35						
		160							
		220							
56	100	10	11	18	26	13			
	160								
	220								

How to order : Type - W - L - T - Alteration

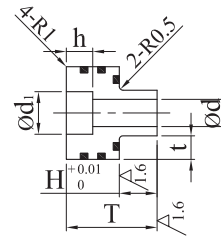
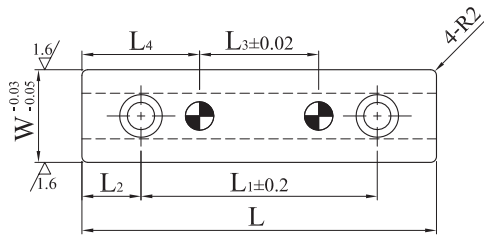
Example : SGRLW 28 - 100 - 35

SGRLW 28 - 160 - 25 - CM13

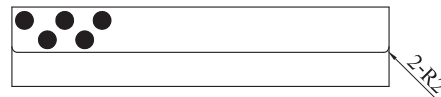
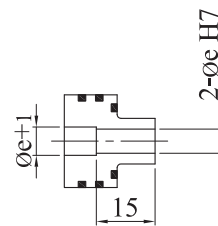
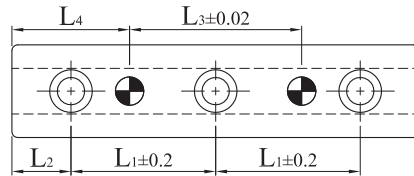


SGRTW

$L \leq 100$



$L \geq 120$



Material : Bronze with graphite

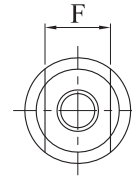
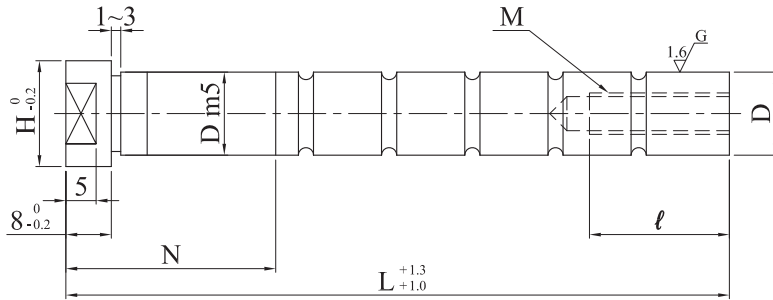
Type	W	L	L ₁	L ₂	L ₃	L ₄	T	H	t	d	d ₁	h	e H7
SGRTW	20	60	35	12.5	15	22.5	15	8	4.5	5.5	9.5	6	$6^{+0.012}_0$
		80	55		35								
		100	75		55								
	25	80	50	15	20	30	20	8	5.5	6.5	11	7	
		100	70		40								
		120	45		60								
	30	100	65	17.5	40	30	25	10	7.5	9	14	9	$8^{+0.015}_0$
		120	42.5		60								
		140	52.5		80								
	40	120	40	20	40	40	30	15	11	11	18	11	
		140	50		60								
		160	60		80								
180		70	100										

How to order : Type - W - L

Example : SGRTW 30 - 120

SPP-P (Plain type)

SPP-O (oil groove type)



Material : SUJ2
HRC 58
Induction Treatment

Type	D		L ↑5mm	N ↑1mm	D m5		F	H	M (Coarse Thread)	
									MxPitch	ℓ
SPP-P	16	-0.020 -0.025	80 - 90	8-30	16	+0.015 +0.007	14	19	M10x1.5	20
			95 - 120							
			125 - 150							
			155 - 180							
			185 - 210							
	20	-0.025 -0.030	90	8-40	20	+0.017 +0.008	19	23	M12x17.5	24
			95 - 120							
			125 - 150							
			155 - 180							
			185 - 210							
SPP-O	25	-0.025 -0.030	100 - 120	8-50	25	+0.020 +0.009	22	28	M16x2.0	32
			125 - 150							
			155 - 180							
			185 - 210							
			215 - 250							
	28	-0.030 -0.035	100 - 120	8-60	28	+0.020 +0.009	27	31	M16x2.0	32
			125 - 150							
			155 - 180							
			185 - 210							
			215 - 250							
30	-0.030 -0.040	150 - 200	8-60	30	+0.020 +0.009	29	35	M16x2.0	32	
		205 - 250								
		255 - 300								
		305 - 350								
		32								-0.030 -0.035
205 - 250										
255 - 300										
305 - 350										
35	-0.030 -0.035		150 - 200	8-60	35	+0.020 +0.009	32	40	M16x2.0	
		205 - 250								
		255 - 300								
		305 - 350								
		36	-0.030 -0.040							150 - 200
205 - 250										
255 - 300										
305 - 350										
40	-0.030 -0.040			150 - 200	8-60	40	+0.020 +0.009	36	45	M16x2.0
		205 - 250								
		255 - 300								
		305 - 350								
		305 - 350								

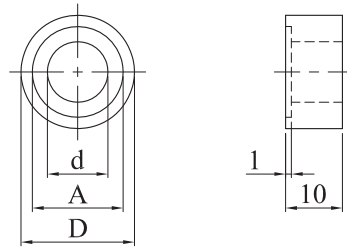
How to order : Type - D - L - N

Example : SPP-P 20 - 200 - N25

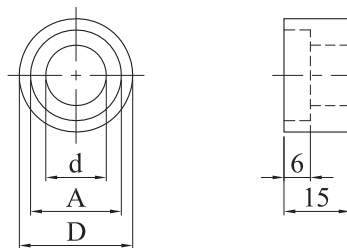
SPP-O 25 - 220 - N30



SPC-S



SPC-D



Material : S45C
 HRC 34-43
 Black oxide

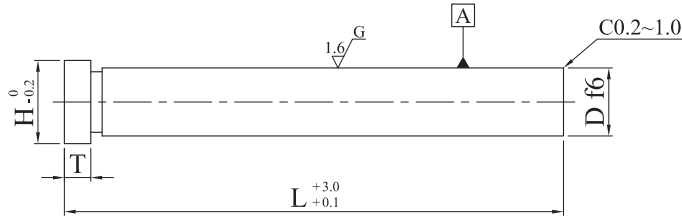
Type	A	D	d
SPC-S SPC-D	13	18	6.5
	16	21	10.5
	20	25	12.5
	25	30	16.5
	28	33	
	30	35	
	32	37	
	35	40	
	36	41	
	40	45	

How to order : Type - A

Example : SPC-S 20

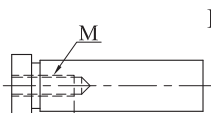
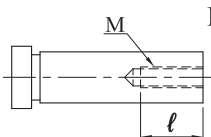
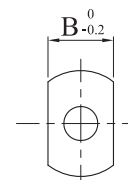
SPC-D 25

RT4T
RT8T



Material : SUJ 2
HRC 58
Induction Treatment

Type	D f6		L 50mm increment	H	T	
					RT4T	RT8T
RT4T	12	-0.016 -0.027	150 - 300	17	4 ⁰ -0.05	8 ⁰ -0.1
	13		150 - 300	18		
	15		150 - 350	20		
	16		150 - 350	21		
RT8T	20	-0.020 -0.033	150 - 400	25		
	25		150 - 450	30		
	30		150 - 450	35		
	32		150 - 450	37		
RT8T	35	-0.025 -0.041	300 - 600	40	—	
	40		300 - 600	45		
	50		300 - 600	50		

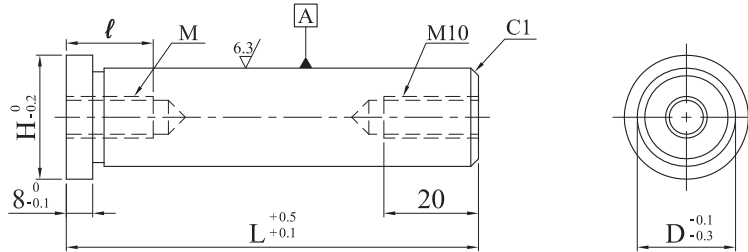
Alterations	Code	Specification	Alterations	Code	Specification																																											
 HM  DM	HM DM	$l = M \times 2$ <table border="1"> <thead> <tr> <th>D</th> <th>Tap M selection</th> </tr> </thead> <tbody> <tr><td>12</td><td>M4 M5</td></tr> <tr><td>13</td><td>M5 M6</td></tr> <tr><td>15</td><td>M6 M8</td></tr> <tr><td>16</td><td>M6 M8</td></tr> <tr><td>20</td><td>M6 M8 M10 M12</td></tr> <tr><td>25</td><td rowspan="5">M8 M10 M12 M16</td></tr> <tr><td>30</td></tr> <tr><td>32</td></tr> <tr><td>35</td></tr> <tr><td>40</td></tr> <tr><td>50</td></tr> </tbody> </table>	D	Tap M selection	12	M4 M5	13	M5 M6	15	M6 M8	16	M6 M8	20	M6 M8 M10 M12	25	M8 M10 M12 M16	30	32	35	40	50	 SC	SC	<table border="1"> <thead> <tr> <th>D</th> <th>B</th> </tr> </thead> <tbody> <tr><td>12</td><td>13</td></tr> <tr><td>13</td><td>13</td></tr> <tr><td>15</td><td>17</td></tr> <tr><td>16</td><td>17</td></tr> <tr><td>20</td><td>22</td></tr> <tr><td>25</td><td>27</td></tr> <tr><td>30</td><td>32</td></tr> <tr><td>32</td><td>32</td></tr> <tr><td>35</td><td>35</td></tr> <tr><td>40</td><td>40</td></tr> <tr><td>50</td><td>50</td></tr> </tbody> </table>	D	B	12	13	13	13	15	17	16	17	20	22	25	27	30	32	32	32	35	35	40	40	50	50
D	Tap M selection																																															
12	M4 M5																																															
13	M5 M6																																															
15	M6 M8																																															
16	M6 M8																																															
20	M6 M8 M10 M12																																															
25	M8 M10 M12 M16																																															
30																																																
32																																																
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D	B																																															
12	13																																															
13	13																																															
15	17																																															
16	17																																															
20	22																																															
25	27																																															
30	32																																															
32	32																																															
35	35																																															
40	40																																															
50	50																																															

How to order : Type - D - L - Alterations

Example : RT8T 20 - 350 - HM8



RT-2M



Material : S45C
 (Annealed steel)

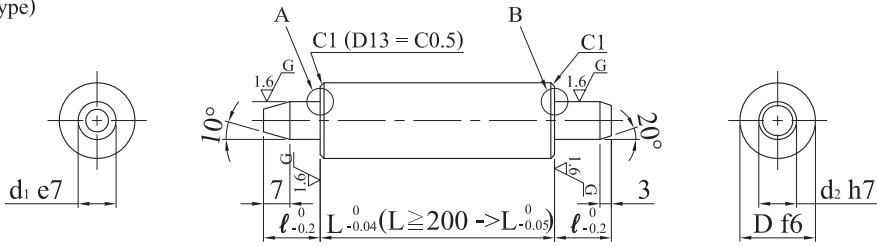
Type	D	L 1mm increment	Head Tapsize	H
RT-2M	25	100 - 700	M8 x l 15	30
	30	100 - 800	M10 x l 20	35
	32	100 - 800		37
	40	100 - 1000		45

How to order : Type - D - L

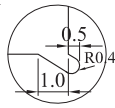
Example : RT-2M 32 - 450



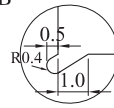
EGD (Both ends stepped type)
(D16-50)



Details of A

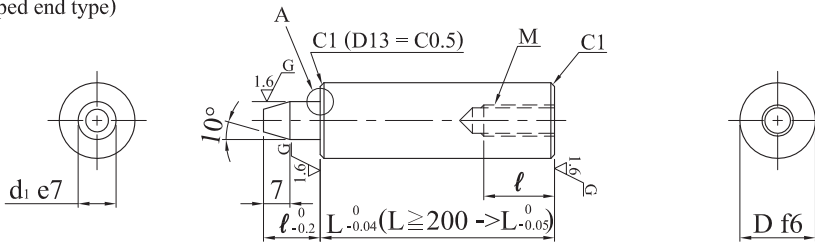


Details of B

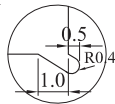


Material : SUJ2
Hardness : 58 HRC
Induction Treatment
L dimension part

EGDP (stepped end + tapped end type)
(D16-40)



Details of A



D	MxPitch
13 · 16	M6x1.00
20 · 25	M8x1.25
30 · 35 · 40	M10x1.5

Type	D f6	L ↑5mm	d1 e7	d2 h7	ℓ		
EGD	16	50 - 95	10	-0.025 -0.040	10	0 -0.015	15
		100 - 125					
		130 - 150					
	20	50 - 95					
		100 - 125					
		130 - 150					
EGDP	25	50 - 95	20	-0.040 -0.061	20	0 -0.021	20
		100 - 125					
		130 - 150					
30	50 - 125						
	130 - 155						
	160 - 200						
	205 - 230						
	235 - 260						
265 - 300							

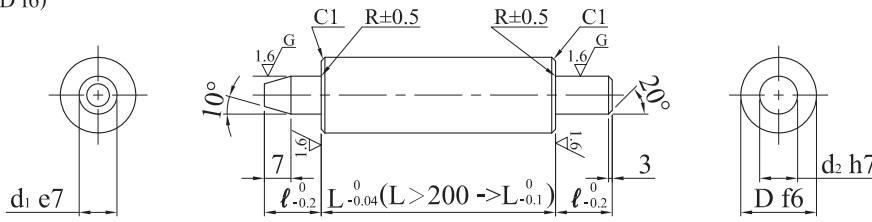
Type	D f6	L ↑5mm	d1 e7	d2 h7	ℓ		
EGD	35	50 - 125	20	-0.040 -0.061	20	0 -0.021	20
		130 - 155					
		160 - 200					
		205 - 230					
		235 - 260					
		265 - 300					
EGDP	40	90 - 125	20	-0.040 -0.061	20	0 -0.021	20
		130 - 155					
		160 - 200					
		205 - 230					
		235 - 260					
		265 - 300					
EGD	50	90 - 125	20	-0.040 -0.061	20	0 -0.021	20
		130 - 155					
		160 - 200					
		205 - 230					
		235 - 260					
		265 - 300					

How to order : Type - D - L

Example : EGD - 30 - 200



EGDX (D f6)



Material : SUJ2
Hardness : 58 HRC
Induction Treatment
L dimension part

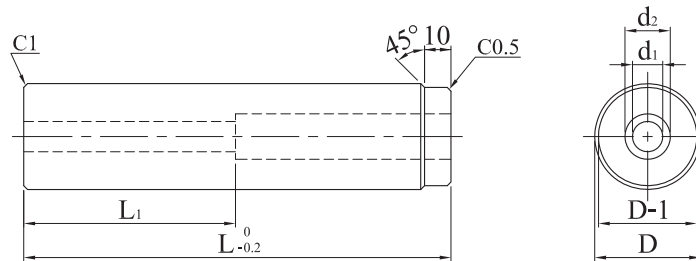
Type	D f6		L ↑5mm	R	d1 e7		d2 h7		ℓ	
EGDX	30	-0.020 -0.033	150 - 200	1	20	-0.040 -0.061	20	0 -0.021	20	
			205 - 250							
			255 - 300							
	40	-0.025 -0.041	150 - 200							2
			205 - 250							
			255 - 300							
	50	-0.025 -0.041	305 - 350	1	30	30	30	30		
			150 - 200							
			205 - 250							
			2	255 - 300						
				305 - 350						
				355 - 400						

How to order : Type - D - L - R

Example : EGDX 40 - 300 - R2

EGDHE (D e7)

EGDHF (D f6)



Material : SUJ2
Hardness : 58 HRC
Induction Treatment
L dimension part

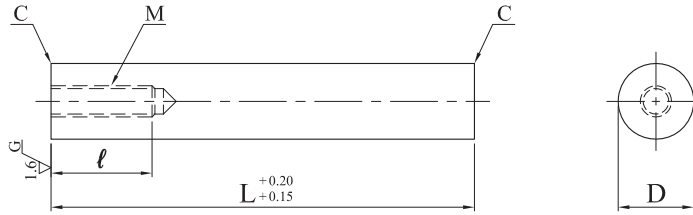
Type	D	L ↑5mm	d1	d2	L1	Supplied Bolt	D e7	D f6
EGDHE	25	150 - 200	9	14	75	CB 8- 90	-0.040 -0.061	-0.020 -0.033
		205 - 250			105	CB 8-120		
		255 - 300			135	CB 8-150		
	35	150 - 200	11	18	80	CB10-100	-0.050 -0.075	-0.025 -0.041
		205 - 250			110	CB10-130		
		255 - 300			140	CB10-160		
EGDHF	40	150 - 200	11	18	80	CB10-100	-0.050 -0.075	-0.025 -0.041
		205 - 250			110	CB10-130		
		255 - 300			140	CB10-160		
	50	150 - 200	14	20	80	CB12-100	-0.050 -0.075	-0.025 -0.041
		205 - 250			110	CB12-130		
		255 - 300			140	CB12-160		
		305 - 350			180	CB12-200		

How to order : Type - D - L

Example : EGDHE 35 - 250



ETH



D6-30 -> C0.5
 D32-50 -> C1.0

Material : SUJ2
 Hardness : 58 HRC
 Induction Treatment

Type	D	L ↑5mm	M	ℓ	Type	D	L ↑5mm	M	ℓ	Type	D	L ↑5mm	M	ℓ
ETH	16	40 - 70	M6x1.0	12	ETH	32	50 - 70	M10x1.5	20	ETH	40	50 - 70	M10x1.5	20
		75 - 100					75 - 90					75 - 90		
		105 - 125					95 - 110					95 - 110		
		130 - 150					115 - 130					115 - 130		
	20	40 - 70	135 - 150	135 - 150										
		75 - 90	155 - 170	155 - 170										
		95 - 110	175 - 200	175 - 200										
		115 - 130	205 - 225	205 - 225										
		135 - 150	230 - 250	230 - 250										
		155 - 175	255 - 275	255 - 275										
		25	50 - 70	280 - 300			280 - 300							
			75 - 90	50 - 70			305 - 325							
			95 - 110	75 - 90			330 - 350							
			115 - 130	95 - 110			50 - 70							
	135 - 150		115 - 130	75 - 90										
	155 - 170		135 - 150	95 - 110										
	30	175 - 200	155 - 170	115 - 130										
		205 - 225	175 - 200	135 - 150										
		230 - 250	205 - 225	155 - 170										
		50 - 70	230 - 250	175 - 200										
		75 - 90	255 - 275	205 - 225										
		95 - 110	280 - 300	230 - 250										
		115 - 130		255 - 275										
		135 - 150		280 - 300										
		155 - 170												
		175 - 200												

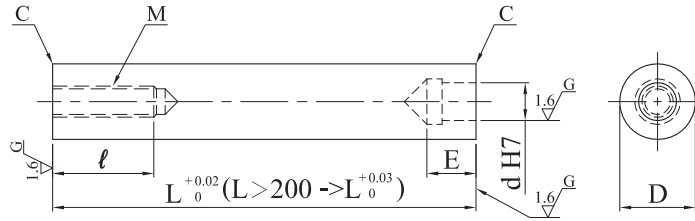
How to order : Type - D - L
 Example : ETH 30 - 150



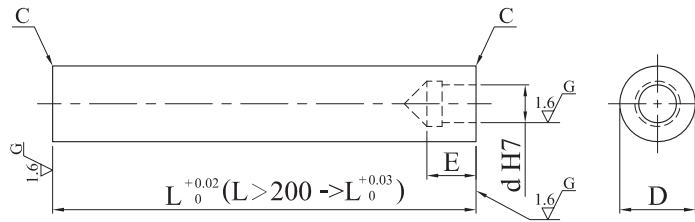
ETHC (with a tap and dowel hole)

ETHN (with a dowel hole)

ETHC
D16-50



ETHN
D16-30



Material : SUJ2
Hardness : 58 HRC
Induction Treatment

D8-30 -> C0.5
D32-50 -> C1.0

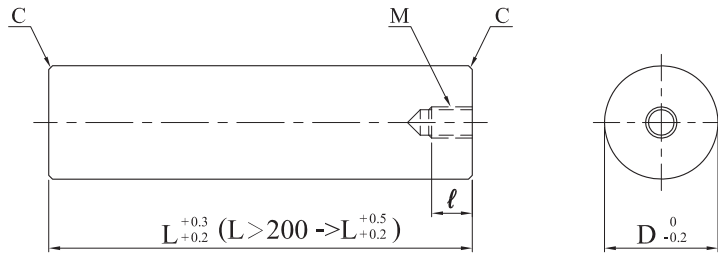
Type	D	L ↑5mm	Mxℓ	d H7	E	Type	D	L ↑5mm	Mxℓ	d H7	E		
ETHC	16	40 - 70	M6x10 x12ℓ	6	$\begin{matrix} +0.012 \\ 0 \end{matrix}$	15	ETHC	$\begin{matrix} -0.025 \\ -0.030 \end{matrix}$	M10x1.5 x20ℓ	$\begin{matrix} +0.018 \\ 0 \end{matrix}$	25		
		75 - 100											
		105 - 125											
		130 - 150											
	20	50 - 90	M8x1.25 x16ℓ	8	$\begin{matrix} +0.012 \\ 0 \end{matrix}$	20						32	50 - 120
		95 - 120											
		125 - 150											
	25	50 - 90	M10x1.5 x20ℓ	10	$\begin{matrix} +0.012 \\ 0 \end{matrix}$	20						35	155 - 200
		95 - 120											
		125 - 150											
		155 - 200											
	30	205 - 230	M10x1.5 x20ℓ	13	$\begin{matrix} +0.018 \\ 0 \end{matrix}$	25						40	255 - 275
235 - 250													
255 - 275													
280 - 300													
50 - 120													
125 - 150													
155 - 220													
225 - 250													
255 - 275													
50	280 - 300	M10x1.5 x20ℓ	13	$\begin{matrix} +0.018 \\ 0 \end{matrix}$	25	50	305 - 325						
	330 - 350												
	50 - 120												
	125 - 150												
	155 - 220												
	225 - 250												
	255 - 275												
	280 - 300												
305 - 325													
330 - 350													

How to order : Type - D - L

Example : ETHC 35 - 200

ETHN 30 - 150

SPP-T



D12-18 → C0.3
 D20-50 → C0.5
 D55-80 → C0.8
 D100-120 → C1.2

Material : S45C
Black Oxide

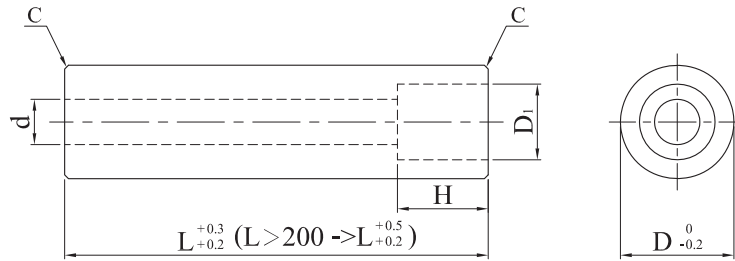
Type	D	L ↑10mm	Mxℓ	Type	D	L ↑10mm	Mxℓ
SPP-T	16	60 - 70	M6x1.0 x12ℓ	SPP-T	45	50 - 90	M8x1.25 x16ℓ
		80 - 120				100 - 120	
	18	60 - 70				130 - 170	
		80 - 120				180 - 200	
	20	60 - 70	M8x1.25 x16ℓ		50	50 - 90	
		80 - 120				100 - 120	
		130 - 150				130 - 170	
	25	60 - 80			180 - 200		
		90 - 120			210 - 250		
		130 - 150			260 - 300		
	30	50 - 80	M8x1.25 x16ℓ		55	50 - 90	
		90 - 120				100 - 120	
		130 - 160				130 - 170	
		170 - 200				180 - 200	
	32	210 - 250			60	70 - 90	
		260 - 300				100 - 120	
		50 - 80				130 - 170	
		90 - 120				180 - 200	
		130 - 160				210 - 250	
	35	170 - 200			80	260 - 300	
210 - 250		70 - 90					
260 - 300		100 - 120					
50 - 90		130 - 170					
100 - 120		180 - 200					
40	130 - 150	100	210 - 250				
	160 - 180		260 - 300				
	190 - 210		310 - 350				
	220 - 250		360 - 400				
	260 - 300		100 - 120				
	130 - 150		120	160 - 180			
160 - 180	190 - 200						
190 - 200	100 - 120						
220 - 250	130 - 150						
260 - 300	160 - 180						

How to order : Type - D - L
 Example : SPP-T 25 - 150



SPP-D (Standard type)

SPP-F (Free designation type)



Material : S45C
Black Oxide

Type	D	L \uparrow 10mm	H	D ₁	d
SPP-D	16	20 - 100	7	11	7
	18				
	20				
	25	40 - 150	9	14	9
	30				
	35				
	40	40 - 250	15	20	14
	50	40 - 300	19 (H70 \geq 300)	26	18
	60	40 - 350			
80					

How to order : Type - D - L

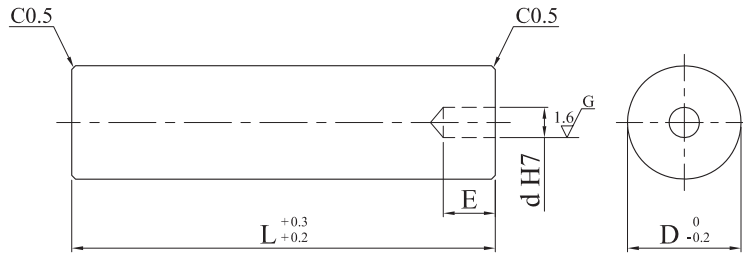
Example : SPP-D 30 - 120

Type	D	L \uparrow 1mm	M (Bolt Size)	H \uparrow 1mm	M	D ₁	d
SPP-F	16	20 - 100	5 6	6 - 50 (L-H \geq 6)	5	10	6
	18		5 6		6	11	7
	20		5 6 8		8	14	9
	25	20 - 150	6 8 10		10	18	11
	30		6 8 10 12		12	20	14
	32		8 10 12		16	26	18
	35	30 - 200	8 10 12		20	32	22
	38		10 12 16		16	20	
	40		10 12 16				
	50	12 16 20					
	60	40 - 100	12 16 20		16	20	
	80		16 20				
	100		16 20				
	120		16 20				

How to order : Type - D - L - M - H

Example : SPP-F 30 - 120 - M8 - 35

SPP-G



Material : S45C
 Black Oxide

Type	D	L	d H7	E	Type	D	L	d H7	E	
SPP-G	20	40	8	+0.015 0	SPP-G	40	50	10	+0.015 0	20
		50								
		60								
		70								
		80								
		90								
		100								
	25	50								
		60								
		70								
		80								
		90								
	30	100								
		50								
		60								
		70								
		80								
		90								
	35	100								
		110								
		120								
		130								
		140								
		150								
		170								
		180								
		190								
		200								

How to order : Type - D - L

Example : SPP-G 30 - 90