SPOOL RETAINERS

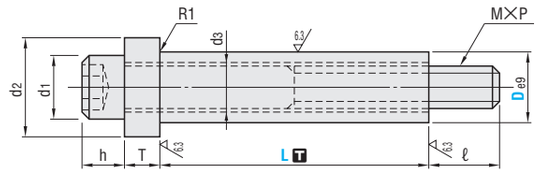
NEW SGP Stock PRINTED IN RED

STROKE ADJUSTMENT COLLARS AND URETHANE WASHERS FOR SPOOL RETAINERS

The quantity discount rate is also applicable to alteration cost.
All price & lead time are to be quoted.

RoHS

CSR



	L T
L≦100	L±0.03
L≧110	L±0.05

① M SCM435
Strength class 12.9

② M S45C
H 38～43HRC
S Black oxide (Fe3O4)

D_{e9}		d_1	d_2	d_3	M×P	h	T	ℓ
10	−0.025 −0.061	10	15	6.3	6×1.0	6	5	10
13	−0.032 −0.075	13	18	8.4	8×1.25	8	5	15
16		16	24	10.6	10×1.5	10	8	22
20	−0.040 −0.092	18	28	12.6	12×1.75	12	10	20
25		24	36	16.8	16×2.0	16	13	27
32	−0.050 −0.112	30	45	20.8	20×2.5	20	16	34

Catalog No. Type	D	L	Base unit price 1～19 pieces
CSR	10	10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100	Quotation
	13	15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120	
	16	20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150 160 170 180	
	20	30 35 40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150 160 170 180	
	25	40 45 50 55 60 65 70 75 80 85 90 100 110 120 130 140 150 160 170 180 200	
	32	60 70 80 90 100 110 120 130 140 150 160 170 180 200	

Order: Catalog No. — L
CSR 20 — 60

Quantity discount rate

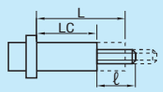
Quantity	1～19	20～49	50～99	100～200
Rate	—	5%	10%	15%

Delivery: • Printed in Red • Printed in Blue
SGP Stock / 3 Days
For area out of Singapore, please refer to P.i.

Example — Page at right

Alterations: Catalog No. — L (LC)
CSR 20 — LC57.0

5 Days / Express T / Express A

Alteration	Code	Spec.	1Code
	LC	Retainer L dimension change LCmin.≦LC<Lmax. L±0.03 0.1mm increments Install the bolts so that the ℓ dimension is within the range shown below.	Quotation

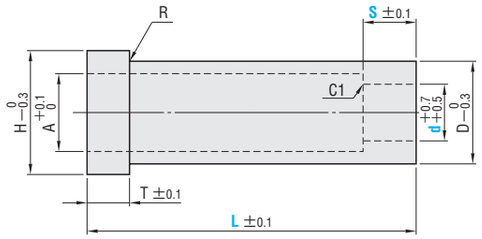
D	10	13	16	20	25	32
LCmin.	10.1	10.0	10.0	25.0	30.0	55.0
ℓ	10～14.9	15～24.9	22～31.9	20～29.9	27～36.9	34～43.9

Stocks Availability Subjected to Prior Sales.

■Stroke adjustment collars for spool retainers

RoHS

CSRE



M SS400
S Black oxide (Fe3O4)

Applicable CSR standard Type	D	H	T	A	D	R	Catalog No. Type	d	L 10mm increments	S 5mm increments
CSR	10	36	5	16	28	1.0	CSRE	10	50～100	10～25
	13	40	5	19	30			13		
	16	46	8	25	36			16		
	20	55	10	29	44			20		
	25	60	13	37	50			25	60～100	
	32	70	16	46	60	1.5		32		

Order: Catalog No. — L — S
CSRE 13 — 100 — S25

Delivery: 5 Days / Express A
For area out of Singapore, please refer to P.i.

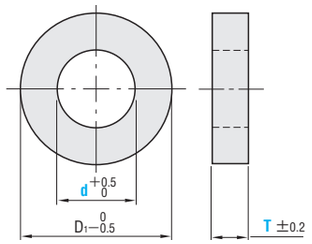
Quantity discount rate

Quantity	1～9	10～19	20～49	50～100
Rate	—	5%	10%	15%

■Urethane washers for spool retainers

RoHS

CSRUR



H Shore A90

Applicable standard Type	D	D_1	d	Catalog No. Type	d	T (Selection)	Base unit price 1～19 pieces
CSR	16	24	16	CSRUR	16	5・10	Quotation
	20	28	20		20		
	25	36	25		25		
	32	45	32		32	10・15	

Order: Catalog No. — T
CSRUR 20 — 10

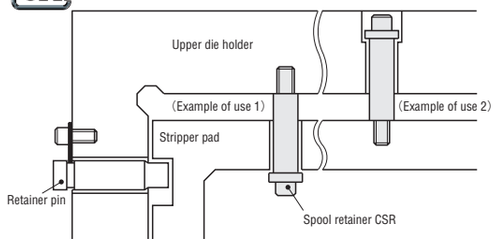
Delivery: 3 Days

Quantity discount rate

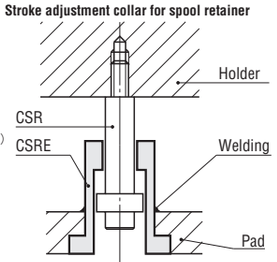
Quantity	1～19	20～49	50～99	100～200
Rate	—	5%	10%	15%

Example

Example of combined use of retainer pin and spool retainer

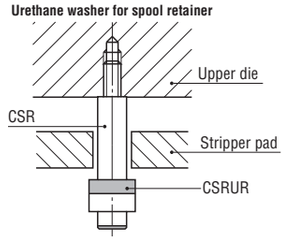


Stroke adjustment collar for spool retainer



●When a spool retainer (CSR) is used for the pad in a progressive or transfer die, using a collar (CSRE) will make it possible to extend the stroke length.

Urethane washer for spool retainer



●The use of urethane washers (CSRUR) is effective for impact absorption, vibration absorption, and noise reduction.