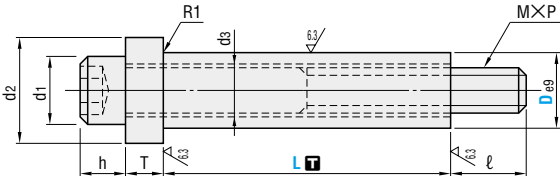


SPOOL RETAINERS

STROKE ADJUSTMENT COLLARS AND URETHANE WASHERS FOR SPOOL RETAINERS







①  SCM435
Strength class 12.9

②  S45C
 38~43HRC
 Black oxide (Fe₃O₄)

		L T	
L ≤ 100		L ± 0.03	
L ≥ 110		L ± 0.05	

D _{eq}	d ₁	d ₂	d ₃	M×P	h	T	ℓ
10	8.825	10	6.3	6×1.0	6	5	10
13	0.032	13	8.4	8×1.25	8	5	15
16	0.075	16	10.6	10×1.5	10	8	22
20	0.040	18	12.6	12×1.75	12	10	20
25	0.092	24	16.8	16×2.0	16	13	27
32	0.112	30	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	
	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



Price

Quotation



Days to Ship

Quotation



Example

Page at right



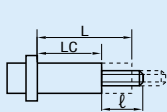
Alterations

Catalog No. — L(LC)

CSR 20 — LC57.0

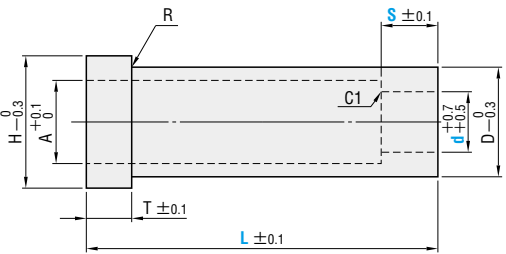


Quotation

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	







 SS400

 Black oxide (Fe₃O₄)

Applicable CSR standard		H	T	A	D	R	Catalog No.		L 10mm increments	S 5mm increments
Type	D						Type	d		
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	32				
						1.5				



Order

Catalog No. — L — S

CSRE 13 — 100 — S25



Price

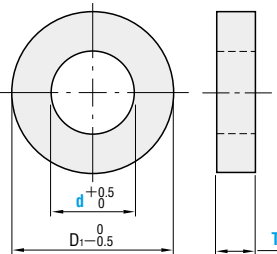
Quotation

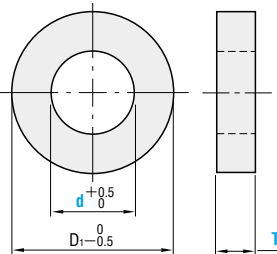


Days to Ship

Quotation







 Shore A90

Applicable standard	Type	D	D ₁	d	Catalog No.	Type	d	T	Base unit price
								(Selection)	1~19 pieces
CSR	1.0	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



Days to Ship

Quotation

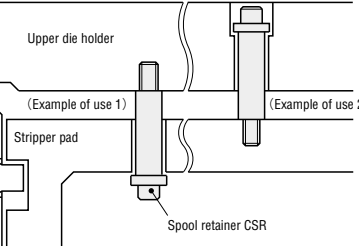


Price

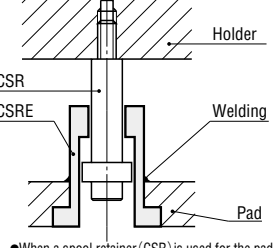
Quotation



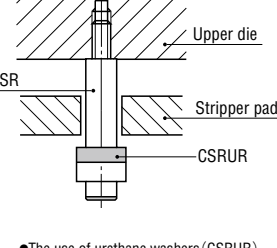
Example



Upper die holder
(Example of use 1)
Stripper pad
Retainer pin
Spool retainer CSR
(Example of use 2)



Stroke adjustment collar for spool retainer
Holder
CSR
CSRE
Welding
Pad



Urethane washer for spool retainer
Upper die
Stripper pad
CSR
CSRUR

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.

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