

# SPOOL RETAINERS

# STROKE ADJUSTMENT COLLARS / URETHANE WASHERS FOR SPOOL RETAINERS

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 (Fe<sub>3</sub>O<sub>4</sub>)

	D <sub>e9</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	M×P	h	T	ℓ
	10	10	15	6.3	6×1.0	6	5	10
	13	13	18	8.4	8×1.25	8	5	15
	16	16	24	10.6	10×1.5	10	8	22
	20	18	28	12.6	12×1.75	12	10	20
	25	24	36	16.8	16×2.0	16	13	27
	32	30	45	20.8	20×2.5	20	16	34

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

**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			

RoHS

CSRE

	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		
	32	70	16	46	60			32		

	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		
	32	70	16	46	60			32		

**Order** Catalog No. - L - S  
CSRE 13 - 100 - S25

**Price** Quotation

**Days to Ship** Quotation

**Material** Quotation

Applicable CSR standard Type	D	H	T	A	D	R	Catalog No.		L 10mm increments	S 5mm increments
							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		
	32	70	16	46	60			32		

**Order** Catalog No. - L - S  
CSRE 13 - 100 - S25

**Price** Quotation

**Days to Ship** Quotation

RoHS

CSRUR

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

**Order** Catalog No. - T  
CSRUR 20 - 10

**Days to Ship** Quotation

**Price** Quotation

**Example** Example of combined use of retainer pin and spool retainer

Stroke adjustment collar for spool retainer

Urethane washer 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.

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