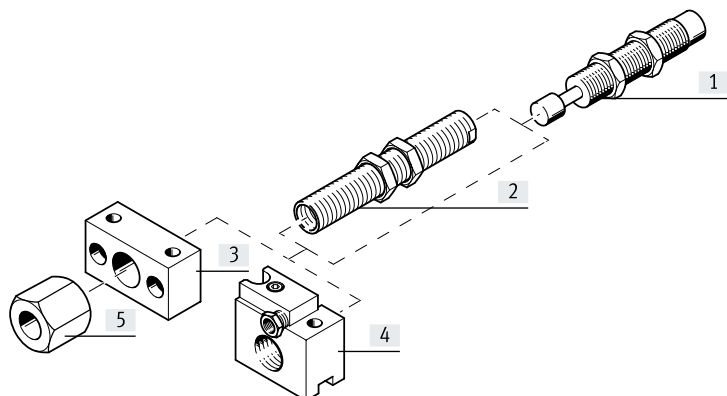


Peripherals overview



Accessories		
Type		Brief description
[1]	Shock absorber YSR-C	Hydraulic shock absorber with rapidly increasing cushioning force curve
[2]	Reducing sleeve DAYH	To improve cushioning characteristics at low load, the installed shock absorber can be replaced with the next size down shock absorber using the reducing sleeve.
[3]	Mounting flange YSRF	Mounting option for shock absorber
[4]	Mounting flange YSRF-S	Mounting option for shock absorber with integrated, attached stop sleeve and position sensing
[5]	End stop limiter YSRA	Stroke limiter for shock absorber
-	Inductive proximity switches SIEN	For mounting flange YSRF-S

Type codes

001	Series	
YSR	Shock absorber	
002	Size	
4	4	
5	5	
7	7	
8	8	
10	10	
12	12	
16	16	
20	20	
25	25	
32	32	

003	Stroke	
4	4	
5	5	
8	8	
10	10	
12	12	
20	20	
25	25	
40	40	
60	60	
004	Cushioning	
C	Self-regulating	

General technical data											
Size		4	5	7	8	10	12	16	20	25	32
Stroke	[mm]	4	5	5	8	10	12	20	25	40	60
Mode of operation		Hydraulic shock absorber with spring return									
		Single-acting, pushing									
Cushioning		Self-adjusting, hard characteristic curve									
Cushioning length	[mm]	4	5	5	8	10	12	20	25	40	60
Type of mounting		With lock nut									
Impact velocity	[m/s]	0.05 ... 2			0.05 ... 3						
Mounting position		Any									
Product weight	[g]	5	8	16	32	51	74	185	318	600	1220
Ambient temperature	[°C]	-10 ... +80									
Corrosion resistance class CRC ¹⁾²											

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet



Size

4 ... 32



Stroke length

4 ... 60 mm



Reset time [s]										
Size	4	5	7	8	10	12	16	20	25	32
Reset time ¹⁾ ≤ 0.2							≤ 0.3		≤ 0.4	≤ 0.5

1) The specified technical data refers to room temperature. At higher temperatures in the region of 80°C, the maximum mass and the cushioning energy must be reduced by approximately 50%. At -10°C, the reset time may be up to 1 second.

Forces [N]										
Size	4	5	7	8	10	12	16	20	25	32
Min. insertion force ¹⁾ 6.5	7.5	10	18	25	35	60	100	140	160	
Max. stop force ²⁾ in the end positions	100	200	300	500	700	1000	2000	3000	4000	6000
Min. resetting force ³⁾ 0.7	0.9	1.2	2.5	3.5	5	6	10	14	20	

1) This is the minimum force that must be applied so that the shock absorber is pushed precisely into the retracted end position. This value is reduced accordingly with an extended external end position.

2) If the maximum stop force is exceeded, a fixed stop (e.g. YSRA) must be fitted 0.5 mm before the end of stroke.

3) This is the maximum force that can act on the piston rod, allowing the shock absorber to fully extend (e.g. extended stud).

Energies [J]										
Size	4	5	7	8	10	12	16	20	25	32
Max. energy absorption per stroke	0.6	1	2	3	6	10	30	60	160	380
Max. energy consumption per hour	5600	8000	12000	18000	26000	36000	64000	92000	150000	220000
Max. residual energy	0.006	0.01		0.02	0.03	0.05	0.16	0.32	0.8	2

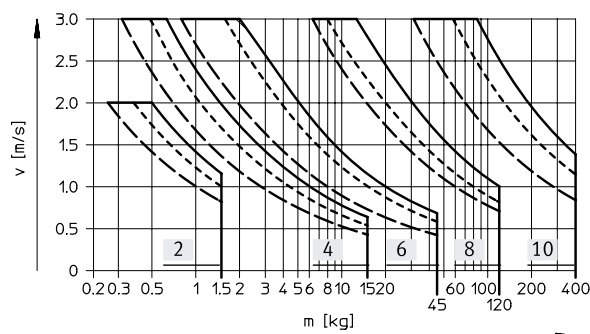
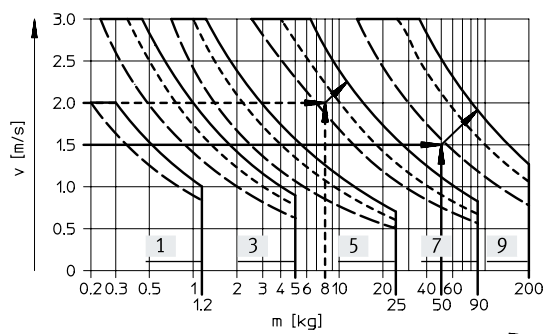
Mass range [kg]										
Size	4	5	7	8	10	12	16	20	25	32
Mass range up to	1.2	1.5	5	15	25	45	90	120	200	400

Materials

Size	4	5	7	8	10	12	16	20	25	32
[1] Housing	High-alloy steel				Galvanised steel					
[2] Piston rod	High-alloy steel									
[3] Buffer	Polyamide								Steel with polyurethane	
– Seals	Nitrile rubber, polyurethane									
– Note on materials	Free of copper and PTFE								–	
	RoHS-compliant									

Selection graph for self-adjusting shock absorbers YSR-C

Impact velocity v as a function of mass m



Three force curves are shown for each shock absorber. An average must be taken for intermediate values.

[1] YSR-4-4-C

[2] YSR-5-5-C

[3] YSR-7-5-C

[4] YSR-8-8-C

[5] YSR-10-10-C

[6] YSR-12-12-C

[7] YSR-16-20-C

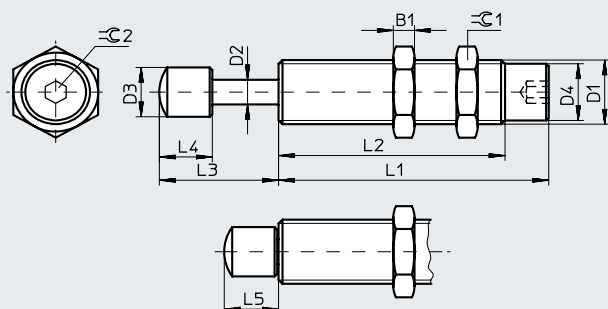
[8] YSR-20-25-C

[9] YSR-25-40-C

[10] YSR-32-60-C

Shock absorber	Force -----	Force -----	Force -----
YSR-4-4-C	0 N	—	50 N
YSR-5-5-C	0 N	50 N	100 N
YSR-7-5-C	0 N	100 N	200 N
YSR-8-8-C	0 N	100 N	200 N
YSR-10-10-C	0 N	150 N	300 N
YSR-12-12-C	0 N	200 N	500 N
YSR-16-20-C	0 N	500 N	800 N
YSR-20-25-C	0 N	800 N	1200 N
YSR-25-40-C	0 N	1200 N	2500 N
YSR-32-60-C	0 N	2000 N	4000 N

Dimensions



Note

To increase the service life:
Prevent dirt or liquids getting into the inner chamber of the piston via the piston rod (e.g. by using a cover).

Size	B1	D1	D2 ø	D3 ø	D4 ø	L1 ±0.1
4	2.5	M6x0.5	2	3.5±0.055.3±0.0528.5		
5	3	M8x1	2.5	4.7±0.056.7±0.0529		
7	3.5	M10x1	3	6±0.18.6±0.0534		
8	4	M12x1	4	8±0.210.4±0.146		
10	5	M14x1	5	10±0.212.4±0.155		
12	5	M16x1	6	12±0.214.5±0.164		
16	6	M22x1.5	8	16±0.219.6±0.186		
20	8	M26x1.5	10	20±0.223.8±0.1104		
25	10	M30x1.5	12	25±0.227.8±0.1152		
32	12	M37x1.5	15	32±0.234.8±0.1205		

Size	L2 ±0.3	L3	L4	L5	⌀C1	⌀C2	Max. tightening torque ⌀C1 [Nm]
4	18.5	8.3+0.6/-0.34±0.14.3+0.35/-0.25			8	2	1
5	19	10.8+0.6/-0.35.5±0.15.8+0.55/-0.2510		—		2	
7	23	12.3+0.7/-0.357±0.27.3+0.55/-0.2513				3	
8	33	16.3+0.7/-0.358±0.28.3+0.55/-0.2515				5	
10	42	20.5+0.7/-0.3510±0.210.5+0.55/-0.2517				8	
12	51	24.5+0.7/-0.3512±0.212.5+0.55/-0.2519				20	
16	69	36.5+0.7/-0.3516±0.216.5+0.55/-0.2527				35	
20	87	45.5+0.7/-0.3520±0.220.5+0.55/-0.2532				60	
25	125	61.5+1.25/-0.7520.5±0.421.5+0.95/-0.5536				80	
32	179	87+1.25/-0.7526±0.427+0.95/-0.5546				100	

Ordering data

Size	Part no.	Type
4	540060	YSR-4-4-C1)5
	158981	YSR-5-5-C1)7
	160272	YSR-7-5-C1)8
	34571	YSR-8-8-C1)10
	191199	YSR-10-10-C1)12
	34572	YSR-12-12-C1)16
	34573	YSR-16-20-C1)20
	34574	YSR-20-25-C1)25
	160273	YSR-25-40-C
32	160274	YSR-32-60-C

1) Free of copper and PTFE