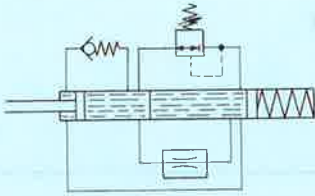


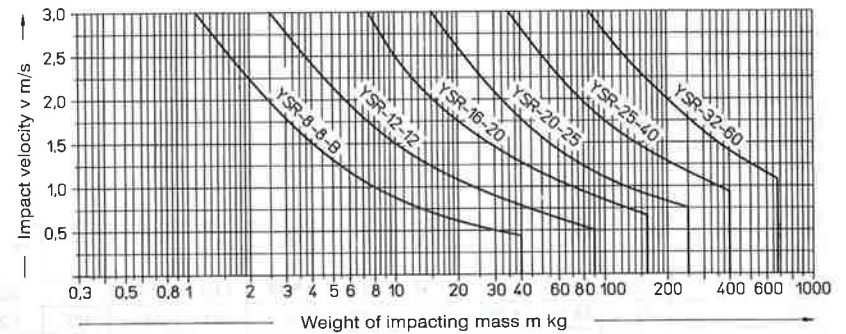
**Shock absorber
Type YSR-...**



With these hydraulic shock absorbers, when a load strikes the piston rod, oil is displaced through a pressure controlled valve. The speed of the mass or weight should not exceed 3 m/s. A built-in pressure spring returns the piston rod to its original position. The cushioning action can be infinitely adjusted by means of an adjusting ring. Adjustment can be carried out during operation.



Characteristic curves for shock absorbers



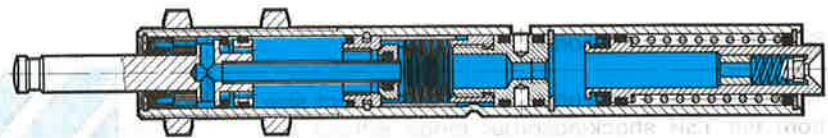
Accessories:

Buffer Type YSRP-... with polyurethane pad (from 12 mm dia. onwards)

Mounting flange Type YSRF-...

Oil gun for refilling
Order code 11698 YSRP

$$W (J) = \frac{m (kg) \cdot v^2 (m/s)^2}{2} = \text{constant} \leq W_{max.} \text{ (see table)}$$



Tightening torque for the securing nut

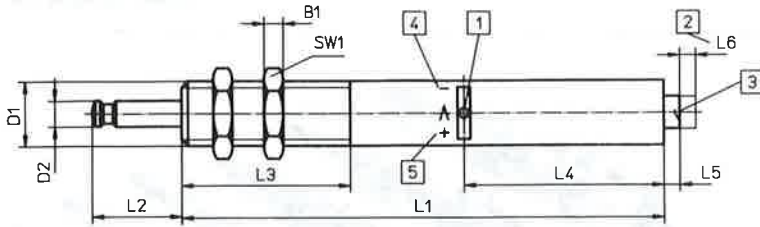
Piston dia. mm	Buffer		Weight kg
	Part No.	Type	
8	-	-	-
12	11133	YSRP-12	0.007
16	11134	YSRP-16	0.015
20	11135	YSRP-20	0.027
25	11136	YSRP-25	0.052
32	11137	YSRP-32	0.110

Piston-Ø mm	Tightening torque max.
8	5 Nm
12	20 Nm
16	35 Nm
20	60 Nm
25	80 Nm
32	100 Nm

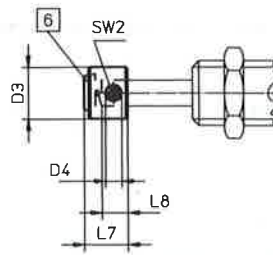
Order code		Part No. + YSR + piston dia. + stroke length								
Design		Hydraulic shock absorber with return spring								
Mounting		Thread with lock nuts								
Frequency		1 Hz (at 50% load)								
Impact speed		0.1 to 3 m/s								
Temperature range		- 10 to +80 °C								
Materials		Housing: steel plated; piston rod: X 40 Cr 13; seals: perbunan, polyurethane								
Shock absorber Part No.	Type	Piston dia. mm	Stroke length mm	Max. cushioning work W_{max}		Residual energy max. J	Impact load max. kg	Reset time S ≤	Reset force N	Weight kg
				per stroke J (kpm)	per hour J					
14891	YSR- 8- 8-B	8	8	4.0 (0.40)	24000	0.01	40	0.4* or 1**	5	0.040
10867	YSR-12-12	12	12	10.8 (1.08)	77000	0.05	90		25	0.120
10868	YSR-16-20	16	20	32 (3.2)	130000	0.16	160		20	0.240
10869	YSR-20-25	20	25	62.5 (6.25)	180000	0.32	250		25	0.420
10870	YSR-25-40	25	40	160 (16)	293000	0.8	400		30	0.860
10871	YSR-32-60	32	60	324 (32.4)	438000	2	640		35	1.600

* Short-term piston-rod retraction (= 30 s)
** Long-term piston-rod retraction (= 6 h)

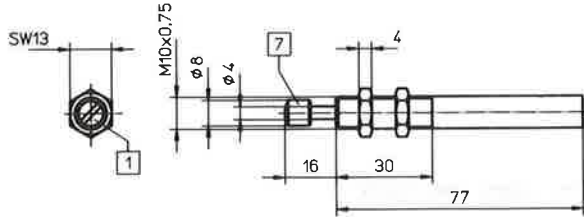
Type YSR-...



Type YSRP-...



Type YSR-8-8-B

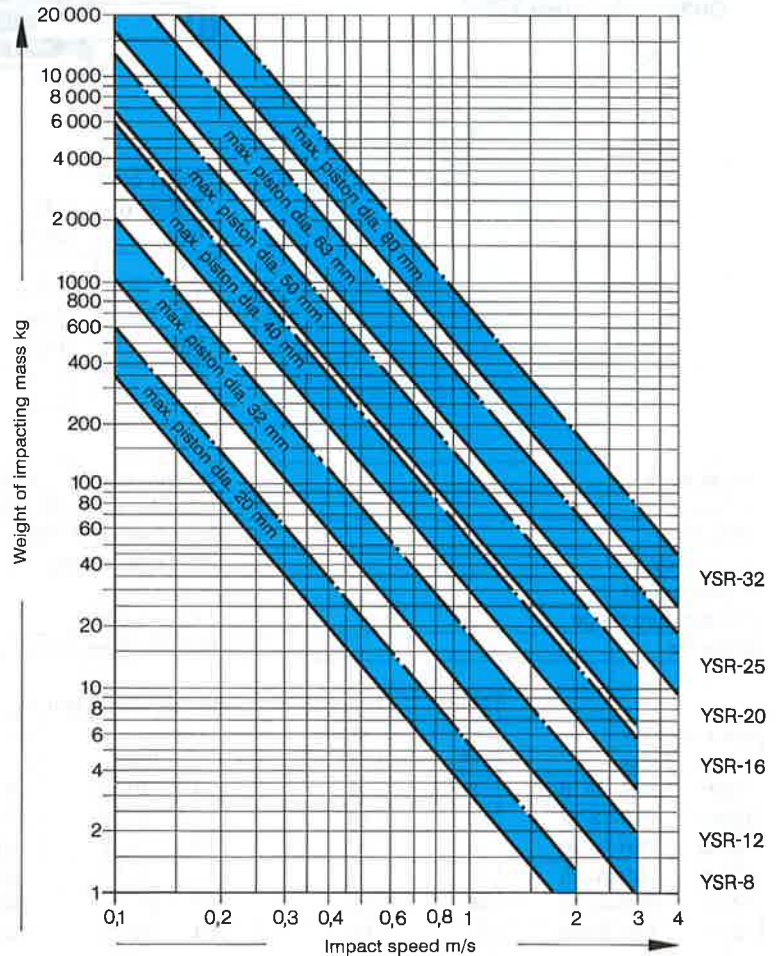


- ① Cushioning adjustment
- ② Oil reservoir
- ③ Oil filler
- ④ - less cushioning
- ⑤ + more cushioning
- ⑥ Polyurethane panel
- ⑦ Buffer

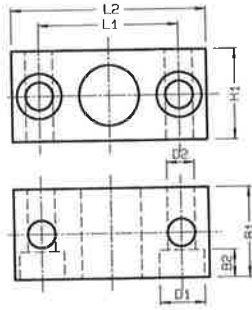
Piston dia. mm	B ₁	D ₁	D ₂	D ₃	D ₄	L ₁	L ₂	L ₃	L ₄	L ₅ max.	L ₆	L ₇	L ₈	SW ₁	SW ₂
12	5	M 15 × 1	6	12	M 4	119	18	36	52.5	5	3	10	6	19	2
16	6	M 20 × 1.25	8	16	M 5	151	28	53	62.5	5	5	13.5	8	24	2.5
20	8	M 24 × 1.25	10	20	M 6	174	35	60	72.5	6	6	17	10	30	3
25	10	M 30 × 1.5	12	25	M 8	227	52	80	89.8	9	10	20.5	12	36	4
32	12	M 37 × 1.5	15	32	M 8	275	75	108	106.3	13	15	26	15	46	4

Selecting a shock absorber

This graph can be used to select the correct size from the YSR shock-absorber range without the need for calculation, provided that the mass and velocity of the object to be cushioned are known. If there is an additional effective drive force, allowance must be made for this when selecting a shock absorber. The larger the cylinder diameter, the greater the cushioning work required to absorb the cylinder energy. As a result, the permissible cushioning energy of the object to be cushioned is reduced. The graph applies for the largest piston diameter in each case. Values for smaller cylinders must be estimated.



Mounting flange
Type YSRF-...



Piston-Ø mm	B ₁	B ₂	D ₁ Ø	D ₂ Ø	H ₁	L ₁	L ₂	Order code		Weight kg
								Mounting flange		
								Part No.	Type	
8	16	5.5	10	5.5	16	25	38	11681	YSRF- 8	0.050
12	25	6.8	11	6.6	25	36	50	11682	YSRF-12	0.175
16	30	9	15	9	30	45	63	11683	YSRF-16	0.300
20	36	11	18	11	36	56	78	11684	YSRF-20	0.535
25	45	13	20	13.5	45	63	86	11685	YSRF-25	0.895
32	55	15	24	15.5	55	80	108	11686	YSRF-32	1.730