

## Shock absorber YSRW

**FESTO**



### Characteristics

#### At a glance

Further information → [ysrw](#)

- Hydraulic shock absorber with path-controlled flow control function
- Slowly increasing cushioning force curve
- Long cushioning stroke
- Suitable for low-vibration operation
- Short cycle times possible
- Maintenance-free
- Through mounting thread with spanner flat

#### Diagrams

Further information → [ysrw](#)

The diagrams shown in this document are also available online. These can be used to display precise values.

## Type code

001	Series
YSRW	Shock absorber

002	Size
5	5 mm
7	7 mm
8	8 mm
10	10 mm
12	12 mm
16	16 mm
20	20 mm

003	Stroke [mm]
8	8
10	10
14	14
17	17
20	20
26	26
34	34

## Datasheet

## General technical data

Size	5	7	8	10	12	16	20
Stroke	8 mm	10 mm	14 mm	17 mm	20 mm	26 mm	34 mm
Mode of operation	Single-acting, Pushing						
Cushioning	Self-adjusting, Soft characteristic curve						
Cushioning length	8 mm	10 mm	14 mm	17 mm	20 mm	26 mm	34 mm
Type of mounting	Via lock nut						
Max. impact speed	2 m/s	3 m/s					
Mounting position	optional						
Ambient temperature	-10 ... 80°C						
Corrosion resistance class CRC <sup>1)</sup>	2 - Moderate corrosion stress						

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

## Reset time

Size	5	7	8	10	12	16	20
Reset time at room temperature <sup>1)</sup>	0.2 s				0.3 s		

1) At higher temperatures (+80 °C) the max. mass and the cushioning energy must be reduced by approx. 50%.

At low temperatures (-10 °C), the reset time may be up to 1 second.

## Forces

Size	5	7	8	10	12	16	20
Min. insertion force <sup>1)</sup>	7.5 N	10 N	18 N	25 N	35 N	60 N	100 N
Max. stop force <sup>2)</sup>	200 N	300 N	500 N	700 N	1,000 N	2,000 N	3,000 N
Reset force <sup>3)</sup>	0.9 N	1.2 N	2.5 N	3.5 N	5 N	6 N	10 N

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

3) This is the maximum force that can act on the piston rod so that the shock absorber still extends completely (e.g. upstream bolt).

## Energy

Size	5	7	8	10	12	16	20
Max. energy consumption per stroke	1.3 J	2.5 J	4 J	8 J	12 J	35 J	70 J
Max. energy consumption per hour	10,000 J	15,000 J	21,000 J	30,000 J	41,000 J	68,000 J	100,000 J
Max. residual energy	0.01 J		0.02 J	0.03 J	0.05 J	0.16 J	0.32 J

## Mass range

Size	5	7	8	10	12	16	20
Mass range	2 kg	5 kg	10 kg	20 kg	30 kg	50 kg	80 kg

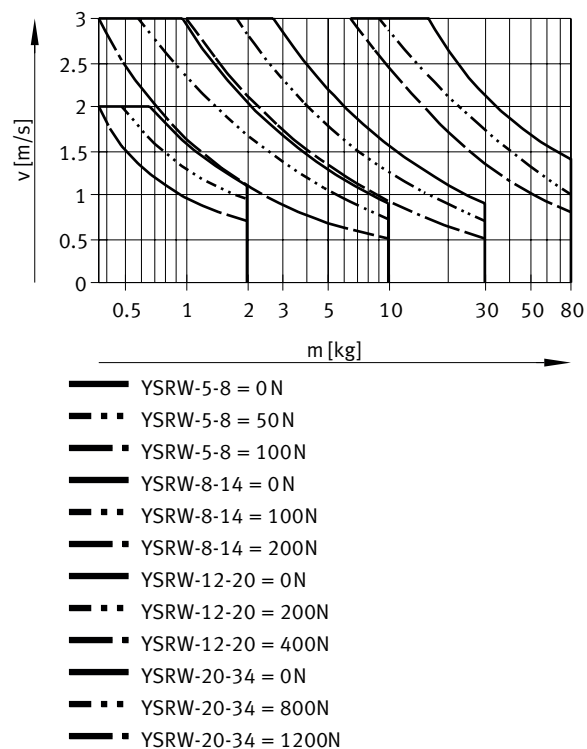
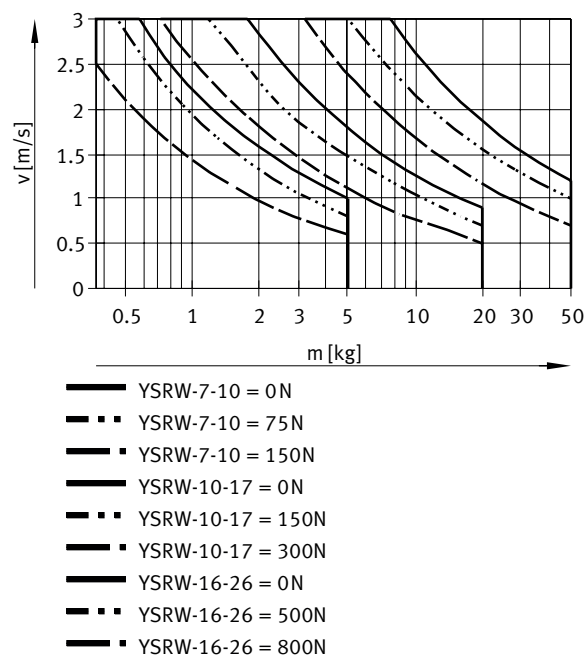
## Weight

Size	5	7	8	10	12	16	20
Product weight	8 g	18 g	34 g	54 g	78 g	190 g	330 g

## Materials

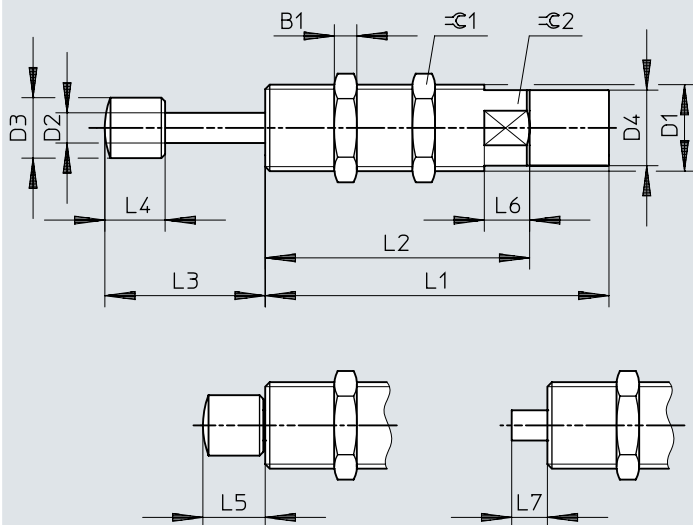
Size	5	7	8	10	12	16	20
Material piston rod	High-alloy steel						
Material housing	High-alloy steel			Galvanised steel			
Material seals	NBR						
Note on materials	RoHS-compliant						
LABS (PWIS) conformity	VDMA24364-B2-L						

## Datasheet

Impact velocity  $v$  as a function of mass  $m$  – YSRW-7/10/16

## Dimensions

## Dimensions – YSRW

Download CAD data → [www.festo.com](http://www.festo.com)

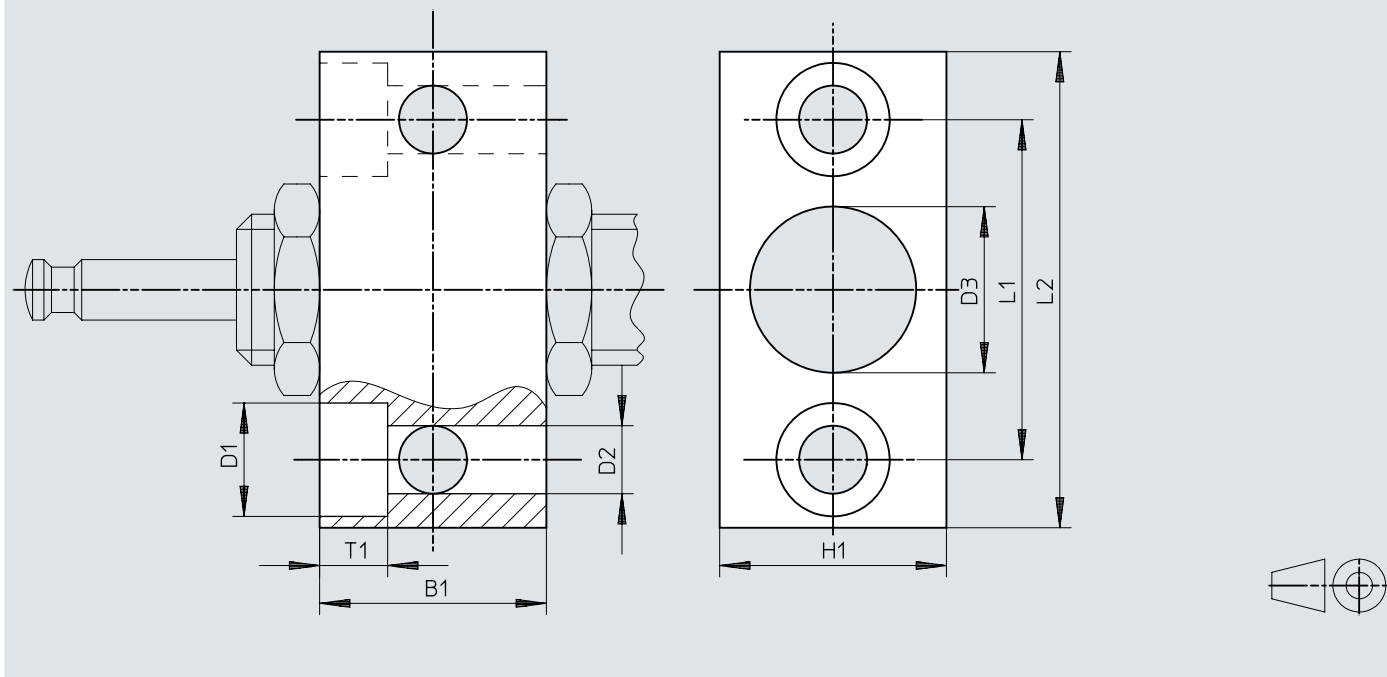
[1] To increase the service life: prevent dirt or liquids getting into the inner piston chamber via the piston rod (e.g. by using a cover).

	B1	D1	D2 ∅	D3 ∅	D4 ∅	L1 ±0,1	L2 ±0,3
YSRW-5-8	3	M8x1	2,5	4,7 ±0,05	6,7 ±0,05	33,5	22,5
YSRW-7-10	3,5	M10x1	3	6 ±0,1	8,6 ±0,05	41	30
YSRW-8-14	4	M12x1	4	8 ±0,2	10,4 ±0,1	53	40
YSRW-10-17	5	M14x1	5	10 ±0,2	12,4 ±0,1	62	49
YSRW-12-20	5	M16x1	6	12 ±0,2	14,5 ±0,1	72,5	59,5
YSRW-16-26	6	M22x1,5	8	16 ±0,2	20 ±0,1	91	70
YSRW-20-34	8	M26x1,5	10	18,8 ±0,2	24 ±0,1	112	91

	L3	L4	L5	L6 +0,5	L7	≲C1	≲C2
YSRW-5-8	13,8 +0,6/-0,25	5,5 ±0,1	5,8 +0,35/-0,25	5	3,5 ±0,25	10	7
YSRW-7-10	17,3 +0,7/-0,25	7 ±0,2	7,3 +0,35/-0,25	6	4,3 ±0,25	13	9
YSRW-8-14	22,3 +0,7/-0,25	8 ±0,2	8,3 +0,4/-0,25	8	5,3 +0,3/-0,25	15	11
YSRW-10-17	27,5 +0,7/-0,25	10 ±0,2	10,5 +0,4/-0,25	10	6,5 +0,3/-0,25	17	13
YSRW-12-20	32,5 +0,7/-0,25	12 ±0,2	12,5 +0,4/-0,25	12	7,5 +0,3/-0,25	19	15
YSRW-16-26	42,5 +0,7/-0,35	16 ±0,2	16,5 +0,4/-0,25	12	9,5 +0,3/-0,25	27	20
YSRW-20-34	54,5 +0,7/-0,35	20 ±0,2	20,5 +0,4/-0,25	12	11,5 +0,3/-0,25	32	24

## Dimensions

## Dimensions – Mounting flange YSRF

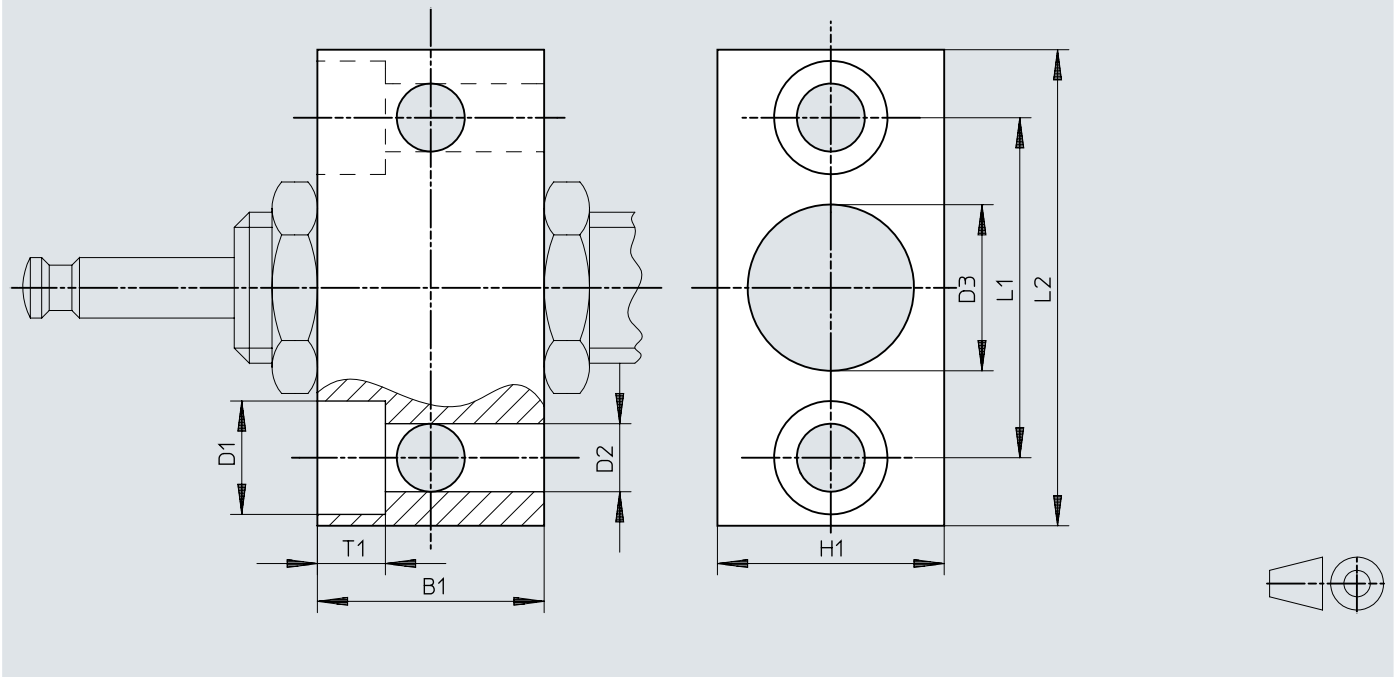
Download CAD data → [www.festo.com](http://www.festo.com)

	B1	B2	D1	D2	D3	H1	L1	L2
YSRF-8 <sup>1)</sup>	16	5,5	10	5,5	10,2	16	25	38

1) For shock absorber diameter size 7

## Dimensions

## Dimensions – Mounting flange YSRF-C

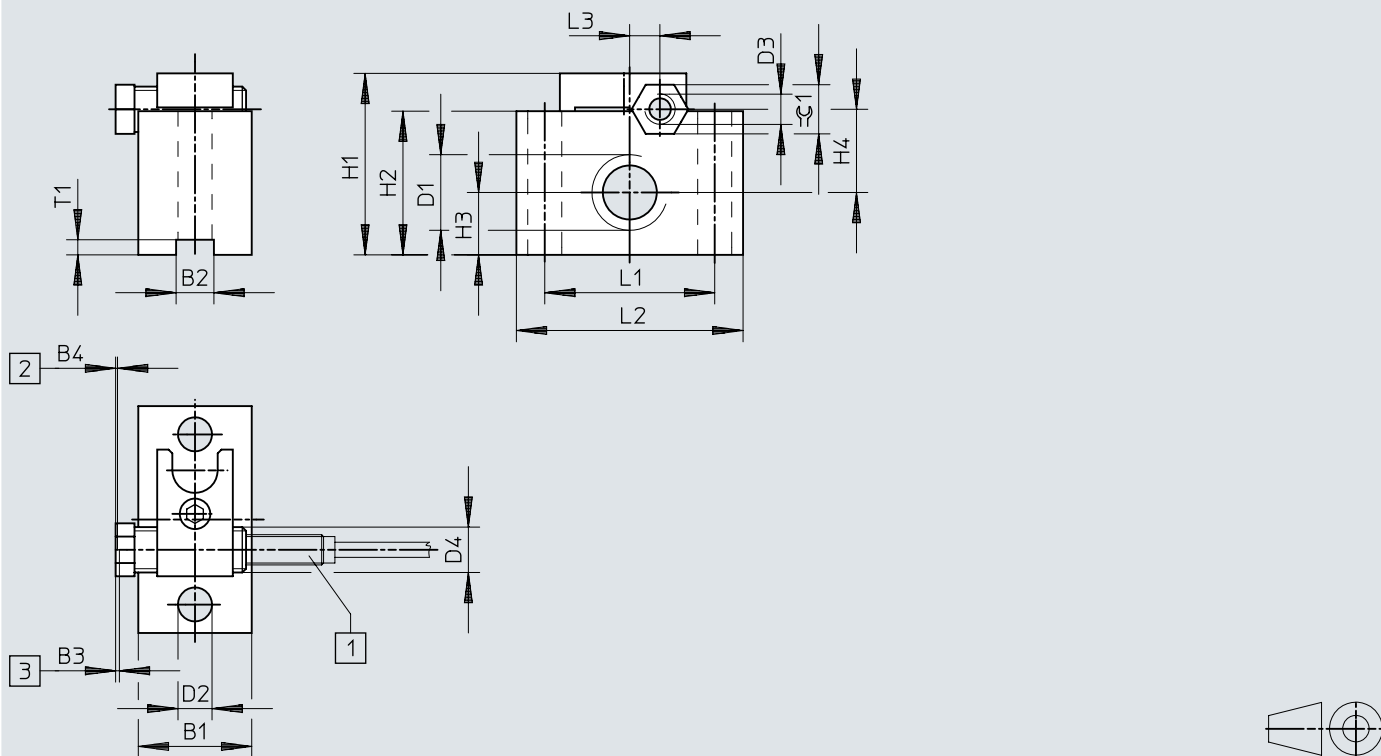
Download CAD data → [www.festo.com](http://www.festo.com)

	B1	B2	D1	D2	D3	H1	L1	L2
YSRF-8-C	20	5,5	10	5,5	12,2	20	28	41
YSRF-12-C	25	6,8	11	6,6	16,2	25	36	50
YSRF-16-C	32	9	15	9	22,2	32	45	63
YSRF-20-C	40	11	18	11	26,2	40	56	78



## Dimensions

## Dimensions – Mounting flange YSRF-S-...-C

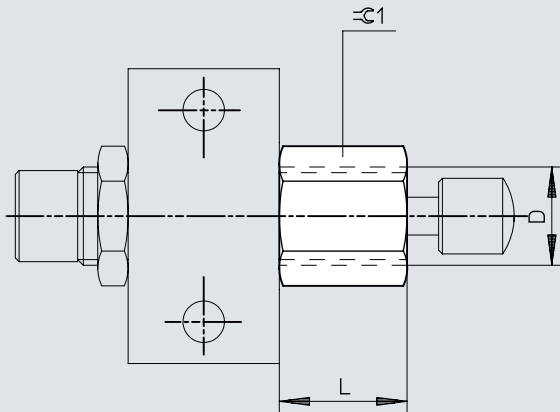
Download CAD data → [www.festo.com](http://www.festo.com)

- [1] Sensor  
 [2] Min. distance sensor/stop  
 [3] End position shock absorbers

	B1	D1	D2 ∅	H1	H2	H3	H4	L1	L2	L3	T1
YSRF-S-8-C	20	M12x1	5,5	35	25	9,5	16	32	45	4	2
YSRF-S-12-C	25	M16x1	6,6	42	32	12,5	20	36	50	3	4
YSRF-S-16-C	30	M22x1,5	9	48	38	16,5	22	45	60	8	4
YSRF-S-20-C	30	M26x1,5	11	52	42	19	23,5	56	80	11,5	4


## Dimensions

## Dimensions – End stop limiter YSRA-...-C

Download CAD data → [www.festo.com](http://www.festo.com)

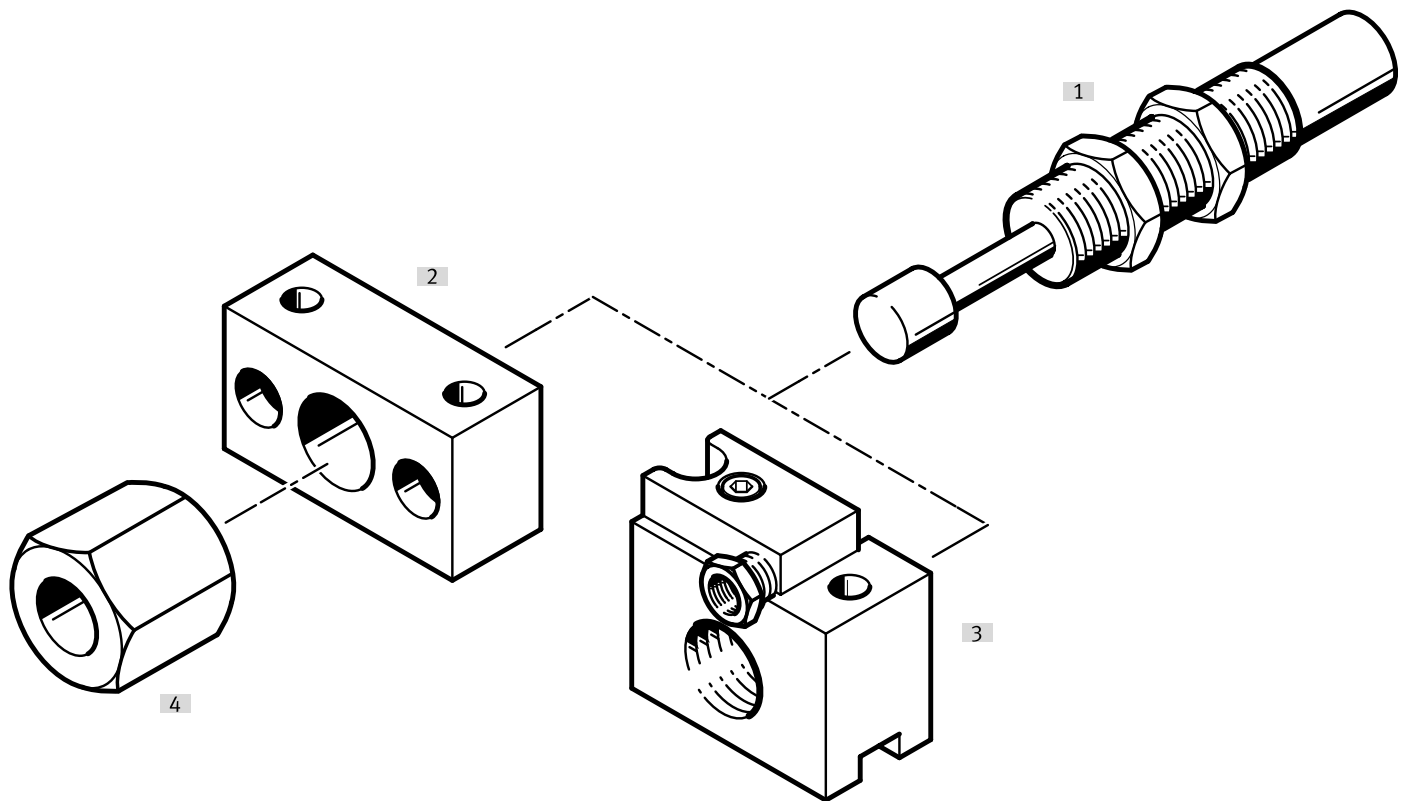
	D	L	∅1
YSRA-7-C	M10x1	14,5	13
YSRA-8-C	M12x1	18	15
YSRA-12-C	M16x1	24,5	19

## Ordering data

Ordering data					
	Size	Stroke	Cushioning	Part no.	Type
	5	8 mm	Self-adjusting, Soft characteristic curve	<b>191192</b>	<b>YSRW-5-8</b>
	7	10 mm		<b>191193</b>	<b>YSRW-7-10</b>
	8	14 mm		<b>191194</b>	<b>YSRW-8-14</b>
	10	17 mm		<b>191195</b>	<b>YSRW-10-17</b>
	12	20 mm		<b>191196</b>	<b>YSRW-12-20</b>
	16	26 mm		<b>191197</b>	<b>YSRW-16-26</b>
	20	34 mm		<b>191198</b>	<b>YSRW-20-34</b>

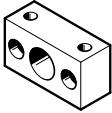
## Peripherals

## Peripherals overview YSRW

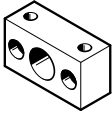


Accessories			→ Page/Internet
Type/order code	Description		
[1] Shock absorber YSRW	Hydraulic shock absorber with progressive cushioning characteristics		ysrw
[2] Mounting flange YSRF	Mounting option for shock absorber		13
[3] Mounting flange YSRF-S	Mounting option for shock absorber with integrated, attached stop sleeve and position detection		13
[4] End stop limiter YSRA	Stroke limitation for shock absorber		14
[5] Proximity switch SIEN	For mounting flange YSRF-S		13

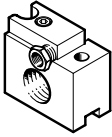
## Accessories

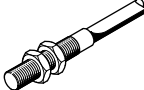
Mounting flange YSRF/YSRF-C					
	Size <sup>1)</sup>	Material housing	Product weight	Part no.	Type
	8	Steel, Galvanised	50 g	<b>11681</b>	<b>YSRF-8</b>

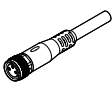
1) YSRF-8 for shock absorber size 7

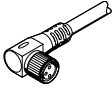
Mounting flange YSRF/YSRF-C					
	Size <sup>1)</sup>	Material housing	Product weight	Part no.	Type
	8	Steel, Galvanised	90 g	<b>34575</b>	<b>YSRF-8-C</b>
	12		180 g	<b>34576</b>	<b>YSRF-12-C</b>
	16		330 g	<b>34577</b>	<b>YSRF-16-C</b>
	20		700 g	<b>34578</b>	<b>YSRF-20-C</b>

1) YSRF-8 for shock absorber size 7


Mounting flange YSRF-S-C					
	Size	Material housing	Product weight	Part no.	Type
	8	Steel, Galvanised	12 g	<b>34579</b>	<b>YSRF-S-8-C</b>
	12		130 g	<b>34580</b>	<b>YSRF-S-12-C</b>
	16		180 g	<b>34581</b>	<b>YSRF-S-16-C</b>
	20		250 g	<b>34582</b>	<b>YSRF-S-20-C</b>

Inductive sensors M8, for mounting flange YSRF-S-C						
	Type of mounting	Switching element function	Switching output	Electrical connection	Part no.	Type
	Via lock nut	N/C contact	PNP	Open end	<b>150390</b>	<b>SIEN-M8B-PO-K-L</b>
				Plug M8, A-coded	<b>150391</b>	<b>SIEN-M8B-PO-S-L</b>
		N/O contact		Open end	<b>150386</b>	<b>SIEN-M8B-PS-K-L</b>
				Plug M8, A-coded	<b>150387</b>	<b>SIEN-M8B-PS-S-L</b>

Connecting cables NEBU, straight						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	<b>541333</b>	<b>NEBU-M8G3-K-2.5-LE3</b>
				5 m	<b>541334</b>	<b>NEBU-M8G3-K-5-LE3</b>

Connecting cables NEBU, angled						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	<b>541338</b>	<b>NEBU-M8W3-K-2.5-LE3</b>
				5 m	<b>541341</b>	<b>NEBU-M8W3-K-5-LE3</b>

## Accessories

End stop limiter YSRA-C					
	Size	Material housing	Product weight	Part no.	Type
	7	Steel, Galvanised	12 g	150932	YSRA-7-C
	8		28 g	150933	YSRA-8-C
	12		48 g	150934	YSRA-12-C