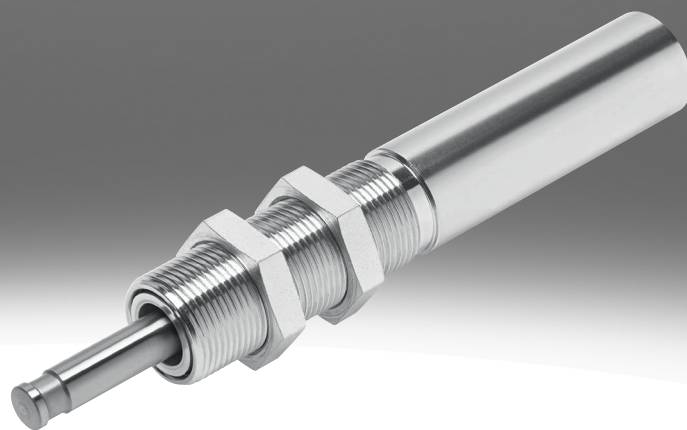


Shock absorber DYSR

FESTO



Characteristics

At a glance

[Further information → dysr](#)

- Hydraulic shock absorber with spring return
- Adjustable cushioning hardness

Diagrams

[Further information → dysr](#)

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

Geometric characteristics

[Y5] Internal hex for adjusting cushioning

The shock absorber can be adjusted using the hexagon socket

Type code

001	Series
DYSR	Shock absorber

002	Size
8	8 mm
12	12 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm

003	Stroke [mm]
8	8
12	12
20	20
25	25
40	40
60	60

004	Geometric characteristics
Y5	Internal hex for adjusting cushioning

005	Product features
	Standard
T	Custom thread

Datasheet

General technical data

Size	8	12	16	20	25	32
Stroke	8 mm	12 mm	20 mm	25 mm	40 mm	60 mm
Mode of operation	Single-acting, Pushing					
Cushioning	Adjustable					
Cushioning length	8 mm	12 mm	20 mm	25 mm	40 mm	60 mm
Type of mounting	Via lock nut					
Max. impact speed	3 m/s					
Mounting position	optional					
Ambient temperature	-10 ... 80°C					
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress					

1) More information www.festo.com/x/topic/crc

Reset time

Size	8	12	16	20	25	32
Reset time at room temperature ¹⁾	0.2 s		0.3 s		0.4 s	0.6 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 can be up to 1 second for DYSR-12/16 and up to 3 seconds for DYSR-8/20/25/32.

Forces

Size	8	12	16	20	25	32
Min. insertion force ¹⁾	18 N	38 N	66 N	110 N	155 N	175 N
Max. stop force ²⁾	400 N	900 N	1,600 N	2,500 N	4,000 N	6,400 N
Reset force ³⁾	1.8 N	4.5 N	5.4 N	9 N	12.5 N	18 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 maximum 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	8	12	16	20	25	32
Max. energy consumption per stroke	4 J	10.8 J	32 J	62.5 J	160 J	384 J
Max. energy consumption per hour	24,000 J	60,000 J	100,000 J	135,000 J	220,000 J	330,000 J
Max. residual energy	0.01 J	0.05 J	0.16 J	0.32 J	0.8 J	2 J

Weight

Size	8	12	16	20	25	32
Product weight	60 g	105 g	200 g	355 g	715 g	1,355 g

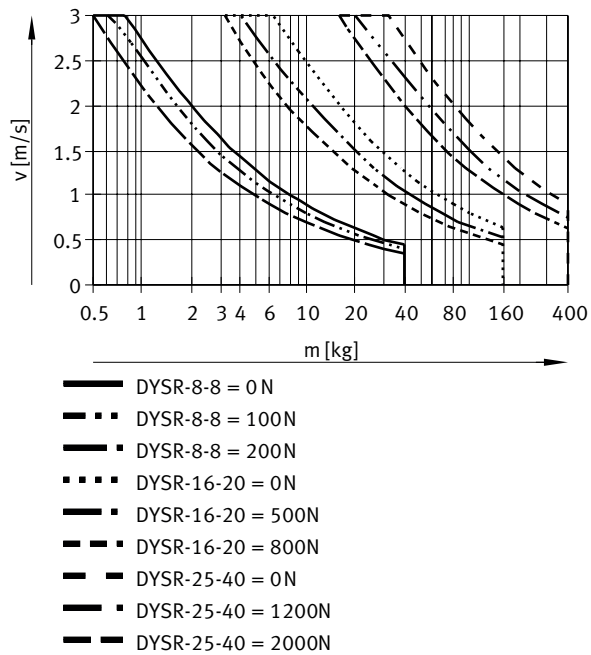
Weight for DYSR-...-T

Size	12	16	20
Product weight	120 g	250 g	425 g

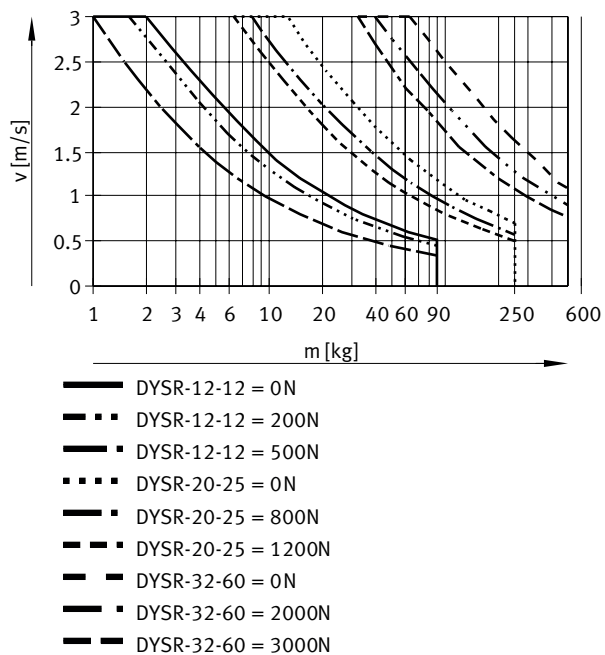
Materials

Size	8	12	16	20	25	32
Material piston rod	High-alloy steel		High alloy steel, hardened			
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 – DYSR-8/16/25

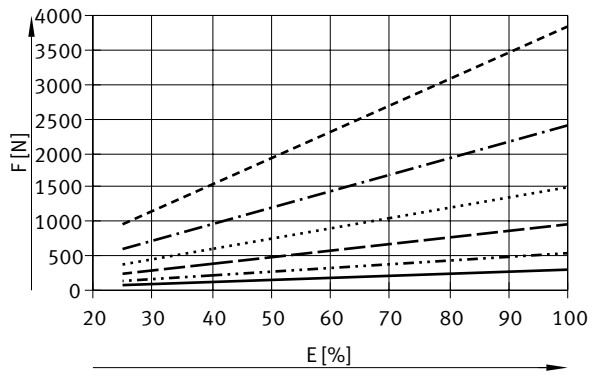
Three force curves are shown for each shock absorber. Intermediate values must be averaged.

Impact velocity v as a function of mass m – DYSR-12/20/32

Three force curves are shown for each shock absorber. Intermediate values must be averaged.

Datasheet

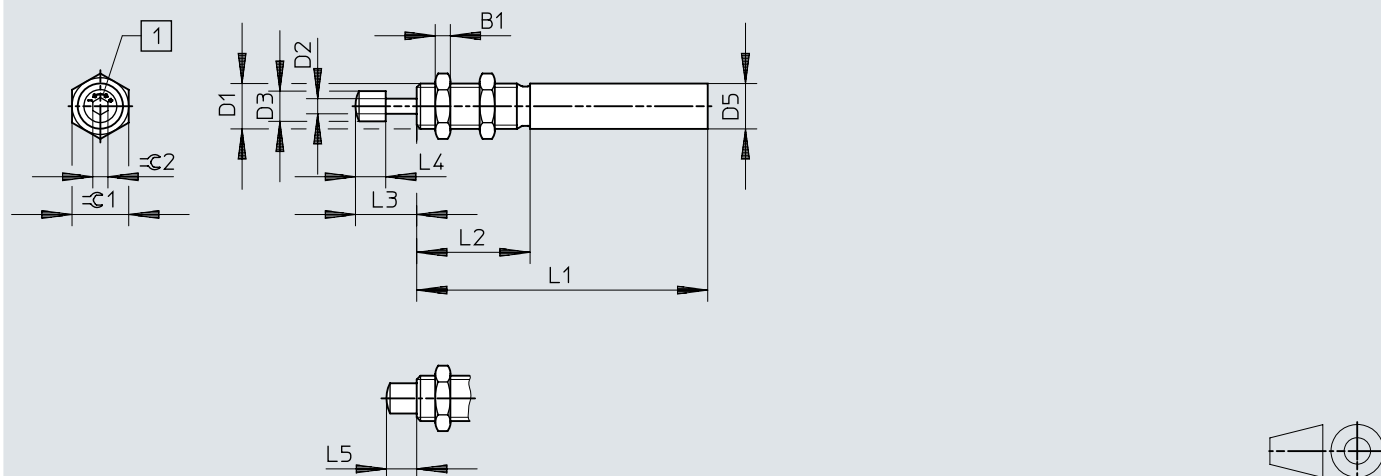
Recommended max. drive force depending on energy usage



- DYSR-8-8-Y5
- · - DYSR-12-12-Y5
- · - DYSR-16-20-Y5
- · · DYSR-20-25-Y5
- · - DYSR-25-40-Y5
- · - DYSR-32-60-Y5

Dimensions

Dimensions – DYSR-8-8

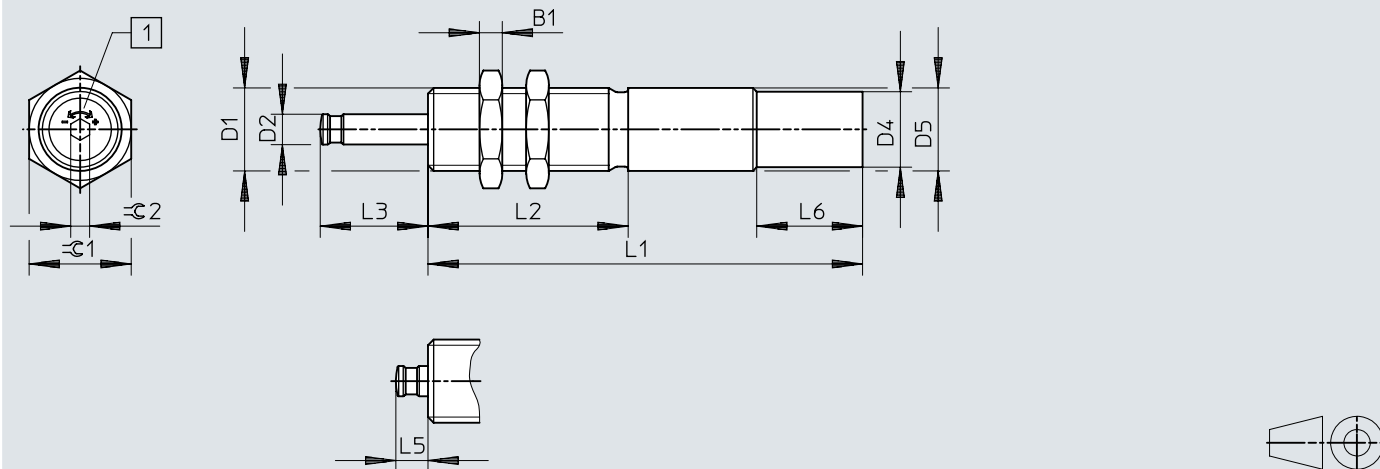
Download CAD data → www.festo.com

[1] Cushioning adjustment buffer (included in the scope of delivery)

	B1	D1	D2 \varnothing	D3 \varnothing $\pm 0,2$	D5 \varnothing $+0,15/-0,1$	L1	L2 $\pm 0,1$	L3	L4 $\pm 0,2$	L5	$\ominus C1$	$\ominus C2$
DYSR-8-8-Y5	4	M12x1	4	8	12	$77 \pm 0,1$	30	$16,2 + 0,6 / - 0,45$	8	$8 + 0,5 / - 0,35$	15	4

Dimensions

Dimensions – DYSR...

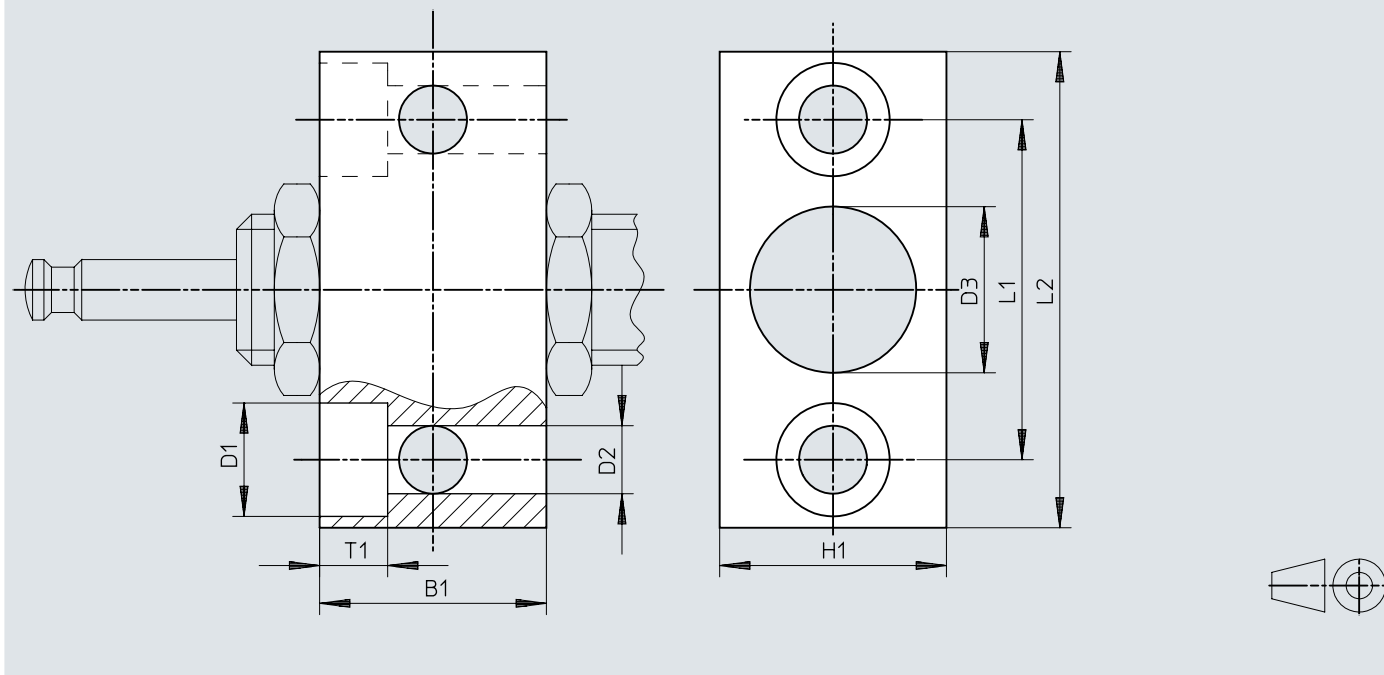
Download CAD data → www.festo.com

[1] Cushioning adjustment buffer (not in scope of delivery)

	B1	D1	D2 ∅	D4 ∅ +0,15	D5 ∅ +0,15/-0,1	L1	L2 ±0,1	L3	L5	L6 ±0,2	≡C1	≡C2
DYSR-12-12-Y5	5	M15x1	6	-	15	97±0,1	36	18,4+0,35/-0,2	6,4+0,45/-0,4	-	19	5
DYSR-12-12-Y5-T		M16x1			16							
DYSR-16-20-Y5	6	M20x1,25	8	-	20	115±0,1	53	28,5+0,4/-0,3	8,5+0,45/-0,4	-	24	5
DYSR-16-20-Y5-T		M22x1,5		20	22					28		
DYSR-20-25-Y5	8	M24x1,25	10	-	24	138±0,1	60	35,6+0,4/-0,3	10,6+0,45/-0,4	-	30	5
DYSR-20-25-Y5-T		M26x1,5		24	26					28		
DYSR-25-40-Y5	10	M30x1,5	12	28,8	30	178±0,1	80	52,8+0,4/-0,3	12,8+0,45/-0,4	28	36	6
DYSR-32-60-Y5	12	M37x1,5	15	34,8	37	230±0,15	108	76+0,5/-0,4	16+0,5/-0,4	28	46	6

Dimensions

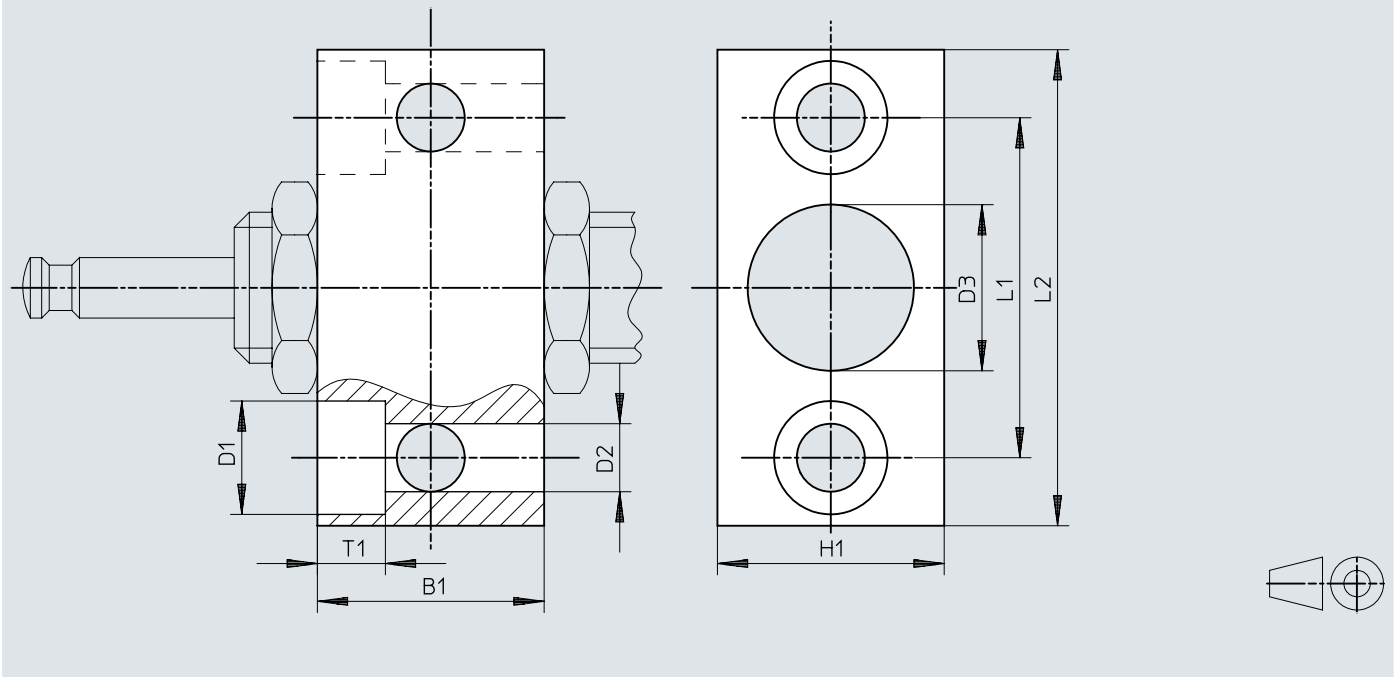
Dimensions – Mounting flange YSRF

Download CAD data → www.festo.com

	B1	B2	D1	D2	D3	H1	L1	L2
YSRF-12	25	6,8	11	6,6	15,2	25	36	50
YSRF-16	30	9	15	9	20,2	30	45	63
YSRF-20	36	11	18	11	24,2	36	56	78
YSRF-25	45	13	20	13,5	30,2	45	63	86
YSRF-32	55	15	24	15,5	37,2	55	80	108

Dimensions

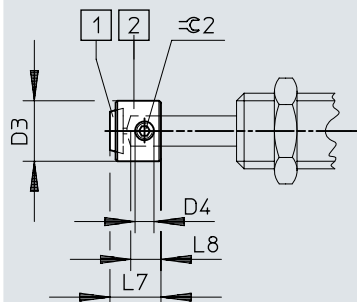
Dimensions – Mounting flange YSRF-C

Download CAD data → 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 – Buffer YSRP


Download CAD data → www.festo.com

- [1] Polyurethane insert
[2] Buffer

	D3	D4	L7	L8	±0.2
YSRP-8	8	M2	6,7	4	0,9
YSRP-12	12	M4	10	6	2
YSRP-16	16	M5	13,5	8	2,5
YSRP-20	20	M6	17	10	3
YSRP-25	25	M8	20,5	12	4
YSRP-32	32	M8	26	15	4

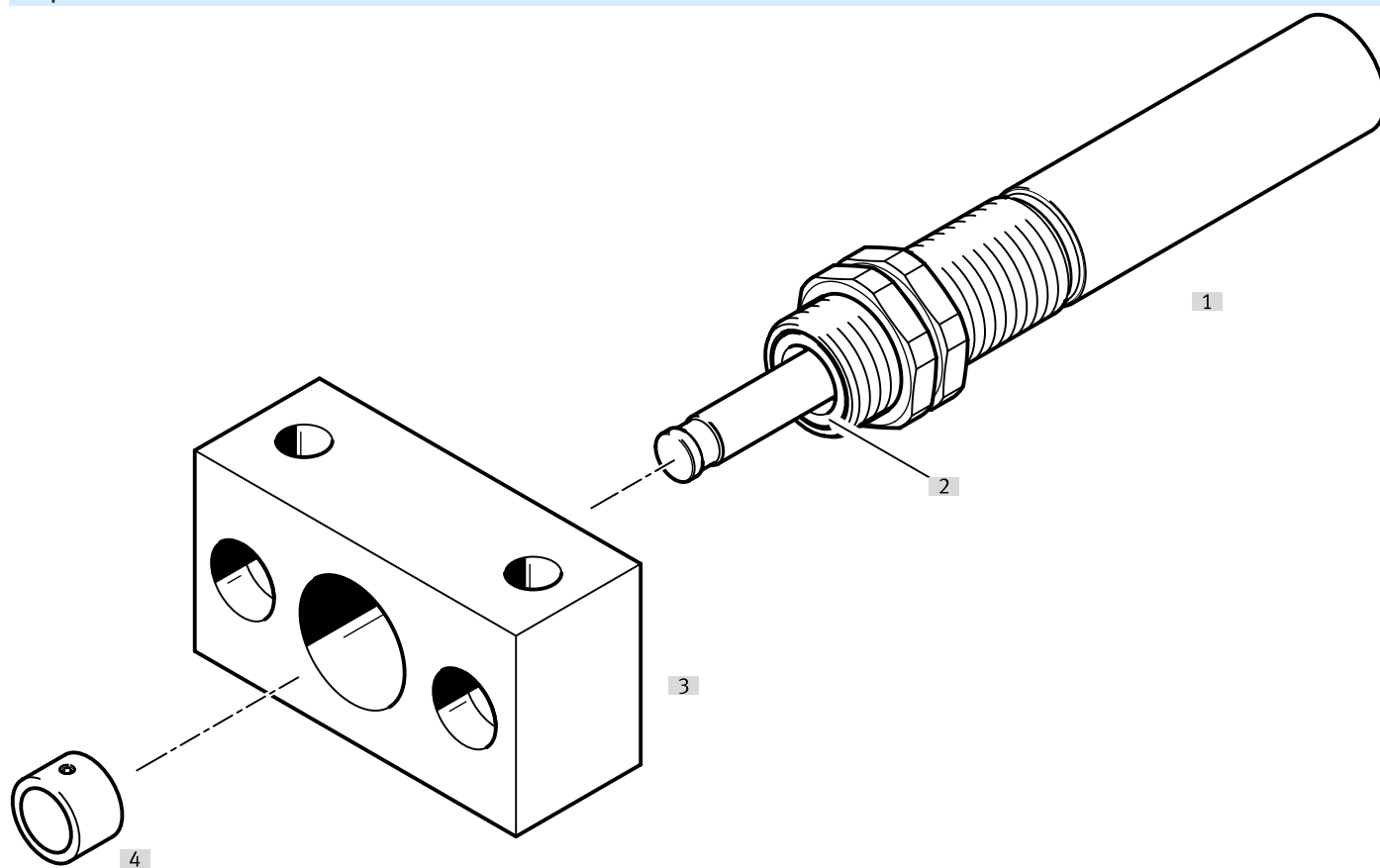
Ordering data

DYSR					
	Size	Stroke	Cushioning	Part no.	Type
	8	8 mm	Adjustable	1138641	DYSR-8-8-Y5
	12	12 mm		1138642	DYSR-12-12-Y5
	16	20 mm		1138644	DYSR-16-20-Y5
	20	25 mm		1138646	DYSR-20-25-Y5
	25	40 mm		1138648	DYSR-25-40-Y5
	32	60 mm		1138649	DYSR-32-60-Y5

DYSR-...-T					
	Size	Stroke	Cushioning	Part no.	Type
	12	12 mm	Adjustable	1138643	DYSR-12-12-Y5-T
	16	20 mm		1138645	DYSR-16-20-Y5-T
	20	25 mm		1138647	DYSR-20-25-Y5-T

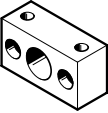
Peripherals

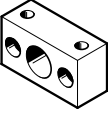
Peripherals overview DYSR




Accessories			→ Page/Internet
Type/order code	Description		
[1] Shock absorber DYSR	Hydraulic shock absorber with adjustable damping curve		dysr
[2] Scraper/hardened piston rod	The scraper and the hardened piston rod significantly increase the service life. Scraper: - Prevents the ingress of dirt - Size 12 and up Hardened piston rod: - Protects against scratches - Size 16 and up		dysr
[3] Mounting flange YSRF	Mounting option for shock absorber		14
[4] Buffer YSRP	For protecting the piston rod		14

Accessories

Mounting flange YSRF					
	Size	Material housing	Product weight	Part no.	Type
	8	Steel, Galvanised	90 g	34575	YSRF-8-C
	12		175 g	11682	YSRF-12
	16		300 g	11683	YSRF-16
	20		535 g	11684	YSRF-20
	25		895 g	11685	YSRF-25
	32		1,730 g	11686	YSRF-32

Mounting flange YSRF for DYSR-...-T					
	Size	Material housing	Product weight	Part no.	Type
	12	Steel, Galvanised	180 g	34576	YSRF-12-C
	16		330 g	34577	YSRF-16-C
	20		700 g	34578	YSRF-20-C

Buffer YSRP					
	Size	Material housing	Product weight	Part no.	Type
	8	Steel, Galvanised	5 g	539638	YSRP-8
	12		7 g	11133	YSRP-12
	16		15 g	11134	YSRP-16
	20		27 g	11135	YSRP-20
	25		52 g	11136	YSRP-25
	32		110 g	11137	YSRP-32