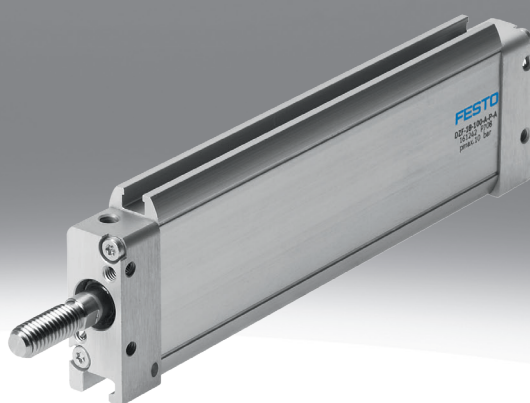


Flat cylinder, inches DZF

FESTO



Characteristics

At a glance

[Link](#) [dzf](#)

For high packing density with block mounting: Double-acting cylinder with adjustable cushioning and protection against torsion with oval piston.

- Protected against rotation thanks to special piston shape
- Extremely flat design
- Ideal for block mounting
- Wide variety of mounting and assembly options

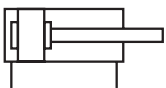
Piston rod thread type

[A] Male thread



Cushioning

[P] Elastic cushioning rings/plates on both sides



The drive is fitted with elastic polymer end-position cushioning.

Benefits:

- No adjustment required
- Saves time

Position sensing

[A] For proximity sensor

By using proximity switches, any position can be detected.

Type code

001	Series	
DZF	Flat cylinder, double-acting	

002	Piston diameter [„]	
1/2“	1/2“	
11/16“	11/16“	
1“	1“	
1 1/4“	1 1/4“	
1 5/8“	1 5/8“	
2“	2“	
2 1/2“	2 1/2“	

003	Stroke [„]	
...	0.04 ... 13	

004	Piston rod thread type	
A	Male thread	

005	Cushioning	
P	Elastic cushioning rings/plates on both sides	

006	Position sensing	
A	For proximity sensor	

Datasheet

General technical data

General technical data							
Piston diameter	1/2", Equivalent di- ameter	11/16", Equivalent diameter	1", Equivalent di- ameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent di- ameter	2 1/2", Equivalent diameter
Stroke	0.04 ... 8 in			0.04 ... 13 in			
Pneumatic connection	10-32 UNF-2B			1/8 NPT		1/4 NPT	
Piston rod thread	10-32 UNF-2A	5/16-24 UNF-2A	3/8-24 UNF-2A		1/2-20 UNF-2A	5/8-18 UNF-2A	
Design	Piston Piston rod						
Protection against torque/ guide	Oval piston						
Mode of operation	Double-acting						
Cushioning	Elastic cushioning rings/plates at both ends						
Position detection ¹⁾	Via proximity switch						
Variants	Piston rod at one end						
Type of mounting	Either: Via female thread With accessories						
Mounting position	optional						

¹⁾ Please note that, when positioning cylinders in series, the stray fields from the switching magnets can result in incorrect switching.

Operating and environmental conditions

Piston diameter	1/2", Equivalent di- ameter	11/16", Equivalent diameter	1", Equivalent di- ameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent di- ameter	2 1/2", Equivalent diameter
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]						
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)						
Operating pressure	0.16 ... 1 MPa	0.1 ... 1 MPa					
Operating pressure	1.6 ... 10 bar	1 ... 10 bar					
Operating pressure	23.2 ... 145 psi	14.5 ... 145 psi					
Ambient temperature ¹⁾	-4 ... 176°F						
Corrosion resistance class CRC ²⁾	2 - Moderate corrosion stress						

¹⁾ Observe the application range of the proximity switches

²⁾ More information www.festo.com/x/topic/kbk

Forces and impact energy

Piston diameter	1/2", Equivalent diameter	11/16", Equivalent diameter	1", Equivalent diameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent diameter	2 1/2", Equivalent diameter
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	15.3 lbf	34.4 lbf	66.3 lbf	108.6 lbf	169.5 lbf	264.8 lbf	420.4 lbf
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	11.5 lbf	27.7 lbf	55.5 lbf	93.3 lbf	142.3 lbf	222.6 lbf	378.1 lbf
Impact energy in end positions	0.066 ft-lbf	0.074 ft-lbf		0.295 ft-lbf	0.38 ft-lbf	0.47 ft-lbf	0.52 ft-lbf

Torque and angle of rotation

Piston diameter	1/2", Equivalent diameter	11/16", Equivalent diameter	1", Equivalent diameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent diameter	2 1/2", Equivalent diameter
Max. torque for protection against torsion ¹⁾	0.876 lbf-in	1.77 lbf-in	4.417 lbf-in	7.081 lbf-in	8.851 lbf-in	10.621 lbf-in	13.276 lbf-in
Torsional backlash at piston rod +/-	2.5 deg	1.2 deg	1 deg	0.8 deg	0.6 deg	0.5 deg	0.4 deg

¹⁾ The max. torque must not be exceeded even when attaching mounting components to the piston rod

Datasheet

Weight

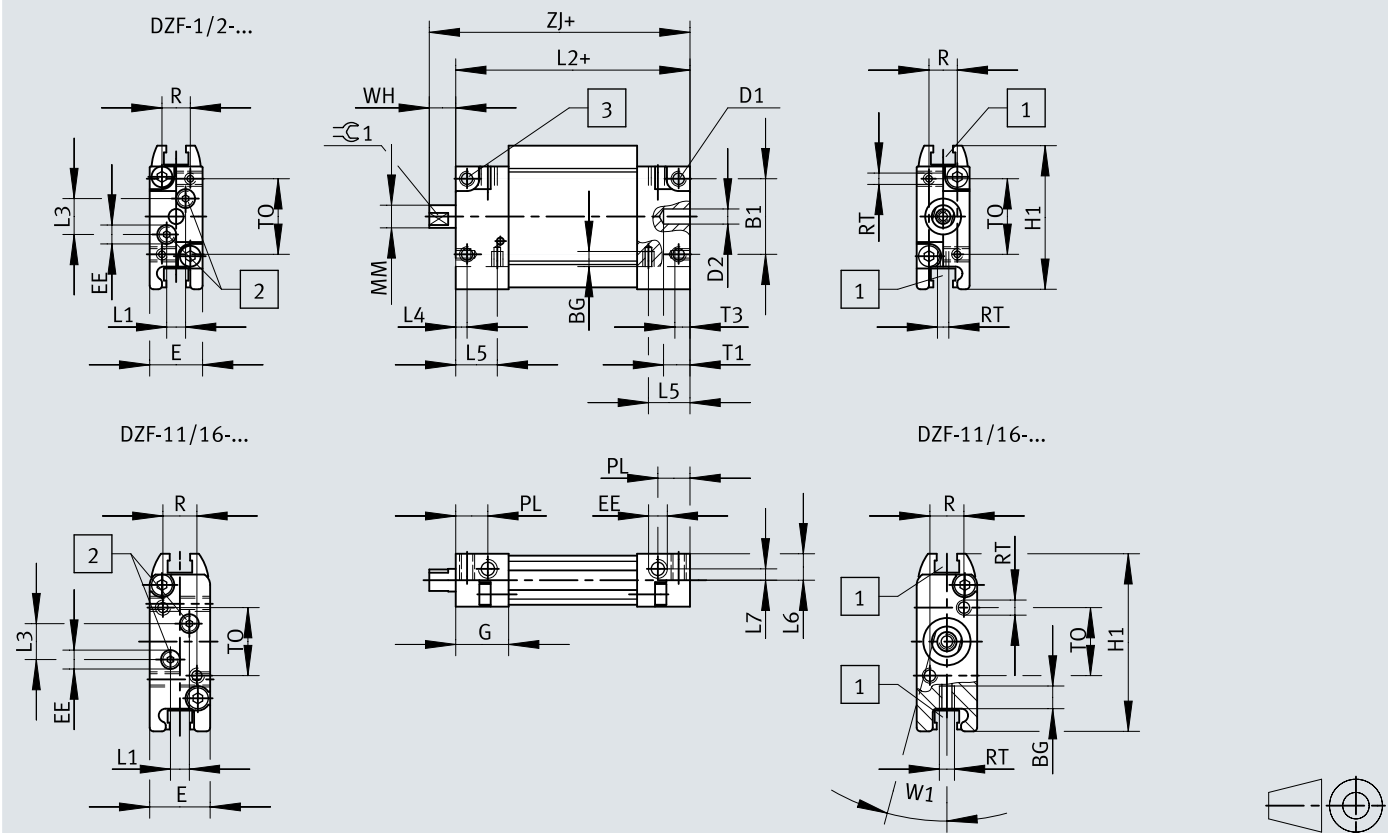
Piston diameter	1/2", Equivalent diameter	11/16", Equivalent diameter	1", Equivalent diameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent diameter	2 1/2", Equivalent diameter
Basic weight with 0 inch stroke	3.39 oz	3.77 oz	5.93 oz	9.59 oz	16.93 oz	30.12 oz	48.64 oz
Additional weight per 1 inch stroke	0.81 oz	1.16 oz	1.61 oz	2.15 oz	3.58 oz	5.73 oz	8.15 oz
Moving mass at 0 inch stroke	0.42 oz	0.85 oz	1.41 oz	2.29 oz	4.23 oz	7.72 oz	11.89 oz
Additional moving mass per 1 inch stroke	0.18 oz	0.36 oz	0.54 oz	0.81 oz	1.43 oz	2.24 oz	

Materials

Piston diameter	1/2", Equivalent di- ameter	11/16", Equivalent diameter	1", Equivalent di- ameter	1 1/4", Equivalent diameter	1 5/8", Equivalent diameter	2", Equivalent di- ameter	2 1/2", Equivalent diameter
Material housing	Anodised wrought aluminium alloy						
Material cover	Wrought aluminium alloy		Die-cast aluminium, Wrought aluminium alloy	Die-cast aluminium			
Material piston rod	High-alloy stainless steel			High-alloy steel			
Material piston seal	NBR						
Material seals	NBR TPE-U(PU)		HNBR TPE-U(PU)		NBR TPE-U(PU)		
LABS (PWIS) conformity	VDMA24364-B1/B2-L						

Dimensions

Dimensions – Flat cylinder DZF-1/2" ... 11/16"

Download CAD data www.festo.com


- [1] Mounting slot for proximity switch
 [2] Additional compressed air connections, sealed with blanking plugs
 [3] Observe max. tightening torque
 [4] + = plus stroke length

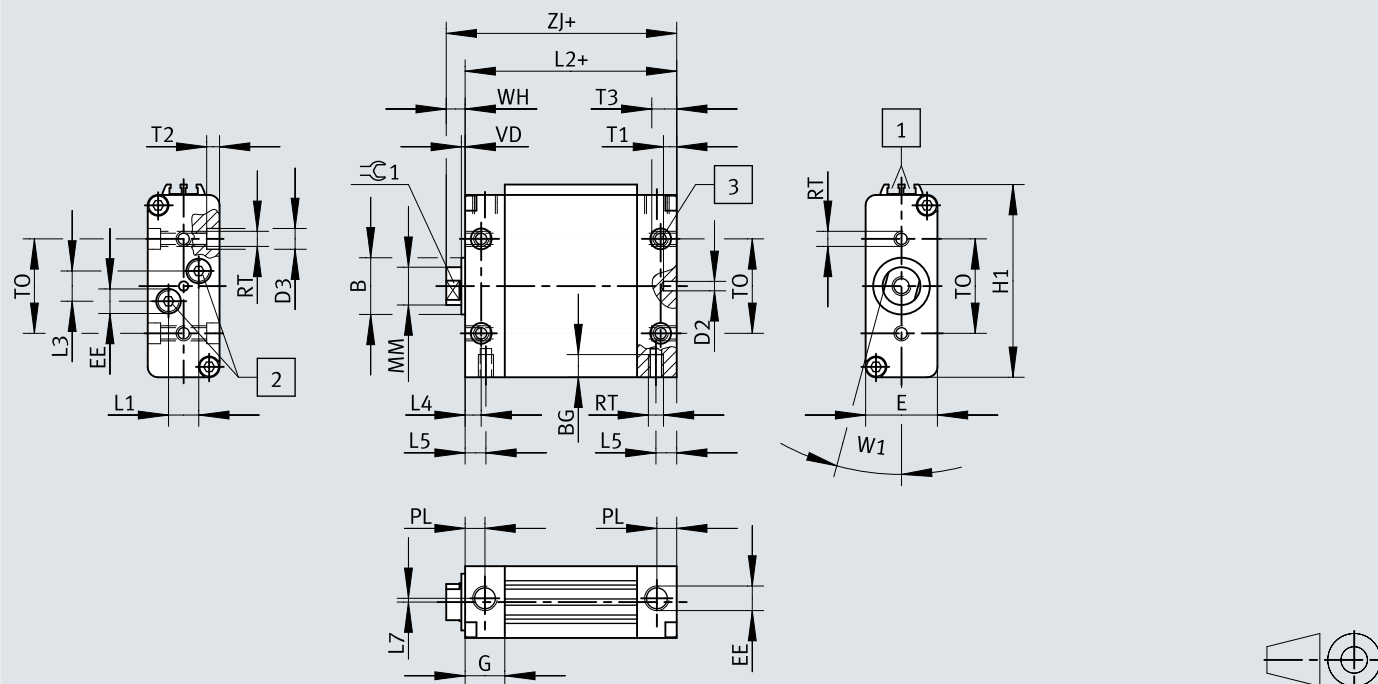
	B1	BG	D1	D2 ø H9	E	EE	G +0.2	H1	L1	L2	L3	L4	L5	L6
DZF-1/2	0.79	0.16	8-32 UNC-2B	0.16	0.55	10-32 UNF-2B	0.55	1.50	0.20	2.44	0.37	0.12	0.43	0.28
DZF-11/16	0.79	0.24	8-32 UNC-2B	0.16	0.63	10-32 UNF-2B	0.55	1.85	0.20	2.44	0.37	0.14	0.20	0.31

	L7	MM ø	PL	R	RT	T1	T3	TO	WH	W1 ±1	ZJ	1) h13	1)
DZF-1/2	0.12	0.24	0.33	0.30	4-48 UNF-2B	0.28	0.16	0.79	0.28	15°	2.72	3/16	7.1/25.7 ²⁾
DZF-11/16	0.10	0.31	0.33	0.35	8-32 UNC-2B	0.28	0.35	0.71	0.28	15°	2.72	9/32	25.7

- 1) Max. tightening torque [lbf-in] +10%
 2) For 4-48 UNF-2B/8-32 UNC-2B

Dimensions

Dimensions – Flat cylinder DZF-1" ... 2 1/2"

Download CAD data www.festo.com

- [1] Mounting slot for proximity switch
 [2] Additional compressed air connections, sealed with blanking plugs
 [3] Observe max. tightening torque
 [4] + = plus stroke length

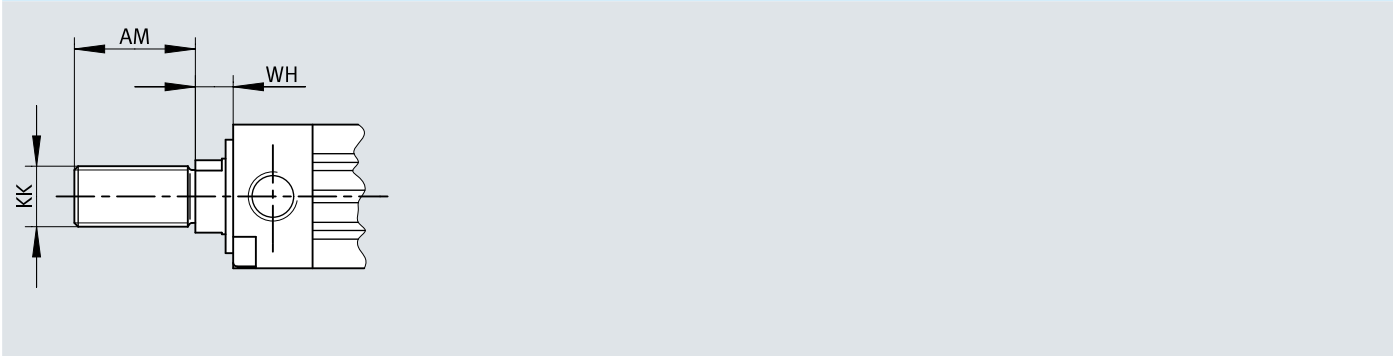
	B ø h9	BG	D2 ø H9	D3 ø	E	EE	G +0.2	H1	L1	L2	L3	L4	L5	L7
DZF-1	0.63	0.31	0.16	0.31	0.79	10-32 UNF-2B	0.47	2.20	0.24	2.44	0.39	0.20	0.20	0.04
DZF-1 1/4	0.79	0.35	0.16	0.39	0.94	1/8 NPT	0.67	2.56	0.30	2.83	0.57	0.33	0.33	0.06
DZF-1 5/8	0.98	0.35	0.16	0.39	1.18	1/8 NPT	0.67	3.23	0.30	2.99	0.57	0.33	0.33	–
DZF-2	1.18	0.47	0.20	0.43	1.50	1/4 NPT	0.83	4.02	0.63	3.23	0.63	0.33	0.33	–
DZF-2 1/2	1.18	0.55	0.20	0.59	1.97	1/4 NPT	0.83	4.98	0.83	3.23	0.75	0.33	0.33	–

	MM ø	PL	RT	T1	T2	T3	T0	VD	W1 ±1	WH	ZJ	⌀1 h13	1)
DZF-1	0.39	0.24	10-24 UNC-2B	0.28	0.16	0.31	0.98	0.08	15°	0.31	2.76	11/32	35.4
DZF-1 1/4	0.47	0.33	1/4-20 UNC-2B	0.28	0.16	0.35	1.26	0.08	15°	0.31	3.15	3/8	87.6
DZF-1 5/8	0.63	0.33	1/4-20 UNC-2B	0.28	0.20	0.35	1.57	0.08	15°	0.35	3.35	1/2	87.6
DZF-2	0.79	0.41	5/16-18 UNC-2B	0.28	0.24	0.47	1.97	0.08	15°	0.39	3.62	11/16	177
DZF-2 1/2	0.79	0.41	3/8-16 UNC-2B	0.28	0.24	0.55	2.36	0.08	15°	0.39	3.62	11/16	310

1) Max. tightening torque [lb·in] +10%

Dimensions

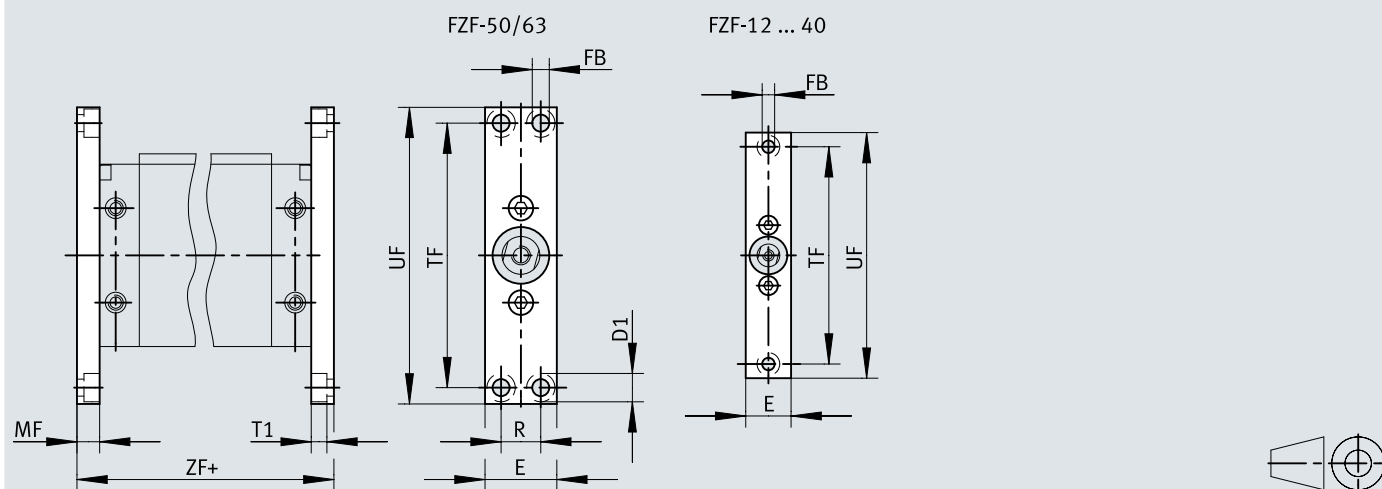
Dimensions – Flat cylinder DZF-...-A-... – with male thread [Download CAD data](#) www.festo.com



	AM	KK	WH
DZF-1/2	0.63	10-32 UNF-2A	0.28
DZF-11/16	0.79	5/16-24 UNF-2A	0.28
DZF-1	0.87	3/8-24 UNF-2A	0.31
DZF-1 1/4	0.87	3/8-24 UNF-2A	0.31
DZF-1 5/8	0.94	1/2-20 UNF-2A	0.35
DZF-2	1.26	5/8-18 UNF-2A	0.39
DZF-2 1/2	1.26	5/8-18 UNF-2A	0.39

Dimensions

Dimensions – Flange mounting FZF

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


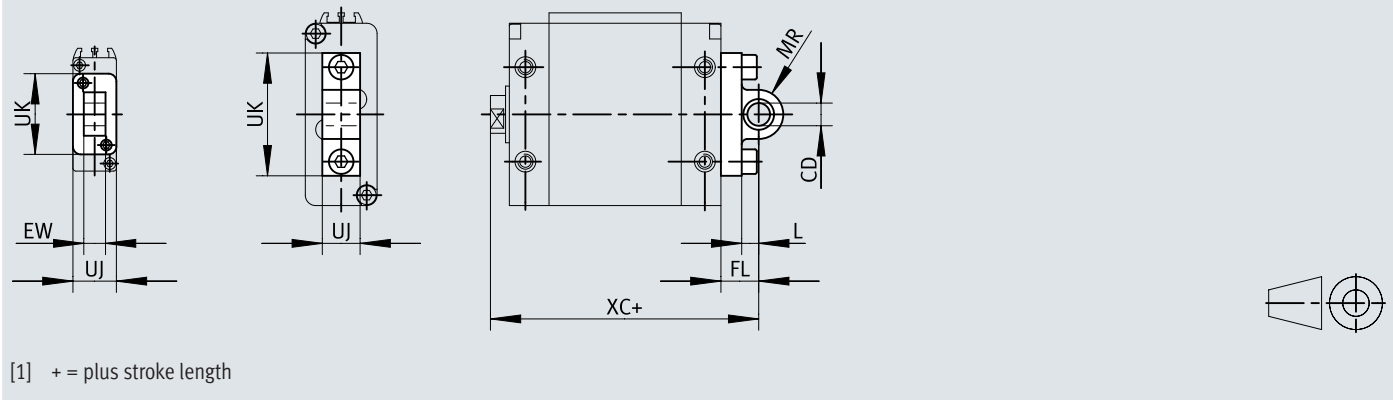
[1] + = plus stroke length

	D1 ø	E	FB ø	MF	R	T1	TF	UF	ZF
FZF-1/2	0.31	0.55	0.18	0.31	–	0.18	2.95	3.54	3.07
FZF-11/16	0.31	0.63	0.18	0.31	–	0.18	3.15	3.70	3.07
FZF-1	0.39	0.79	0.22	0.39	–	0.22	3.94	4.41	3.23
FZF-1 1/4	0.43	0.94	0.26	0.39	–	0.26	4.53	5.12	3.62
FZF-1 5/8	0.43	1.18	0.26	0.39	–	0.25	5.20	5.75	3.78
FZF-2	0.59	1.50	0.35	0.47	0.83	0.33	5.51	6.18	4.17
FZF-2 1/2	0.59	1.97	0.35	0.59	1.30	0.33	5.51	6.18	4.41

Dimensions

Dimensions – Swivel flange SZF [Download CAD data](#) www.festo.com

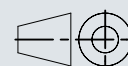
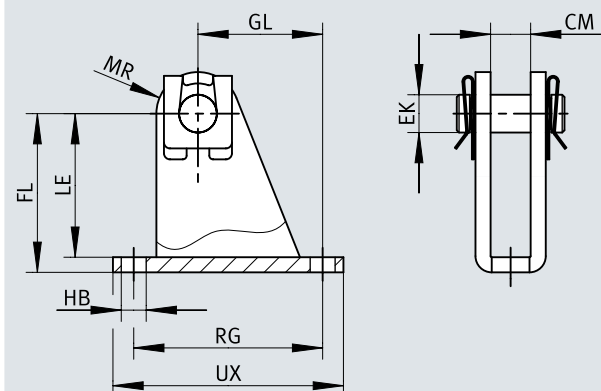
SZF-1/2 ... 11/16 SZF-1 ... 2-1/2



	CD Ø H9	EW h12	FL	L	MR	UJ	UK	XC
SZF-1/2	0.31	0.28	0.63	0.51	0.28	0.55	1.02	3.35
SZF-11/16	0.31	0.28	0.71	0.59	0.28	0.63	1.02	3.43
SZF-1	0.31	0.35	0.55	0.31	0.30	0.35	1.46	3.31
SZF-1 1/4	0.39	0.41	0.59	0.24	0.39	0.41	1.73	3.74
SZF-1 5/8	0.47	0.41	0.71	0.35	0.51	0.41	2.05	4.06
SZF-2	0.47	0.79	0.79	0.35	0.51	0.79	2.56	4.41
SZF-2 1/2	0.63	0.98	0.94	0.51	0.67	0.98	3.07	4.57

Dimensions

Dimensions – Clevis foot LZF

Download CAD data www.festo.com

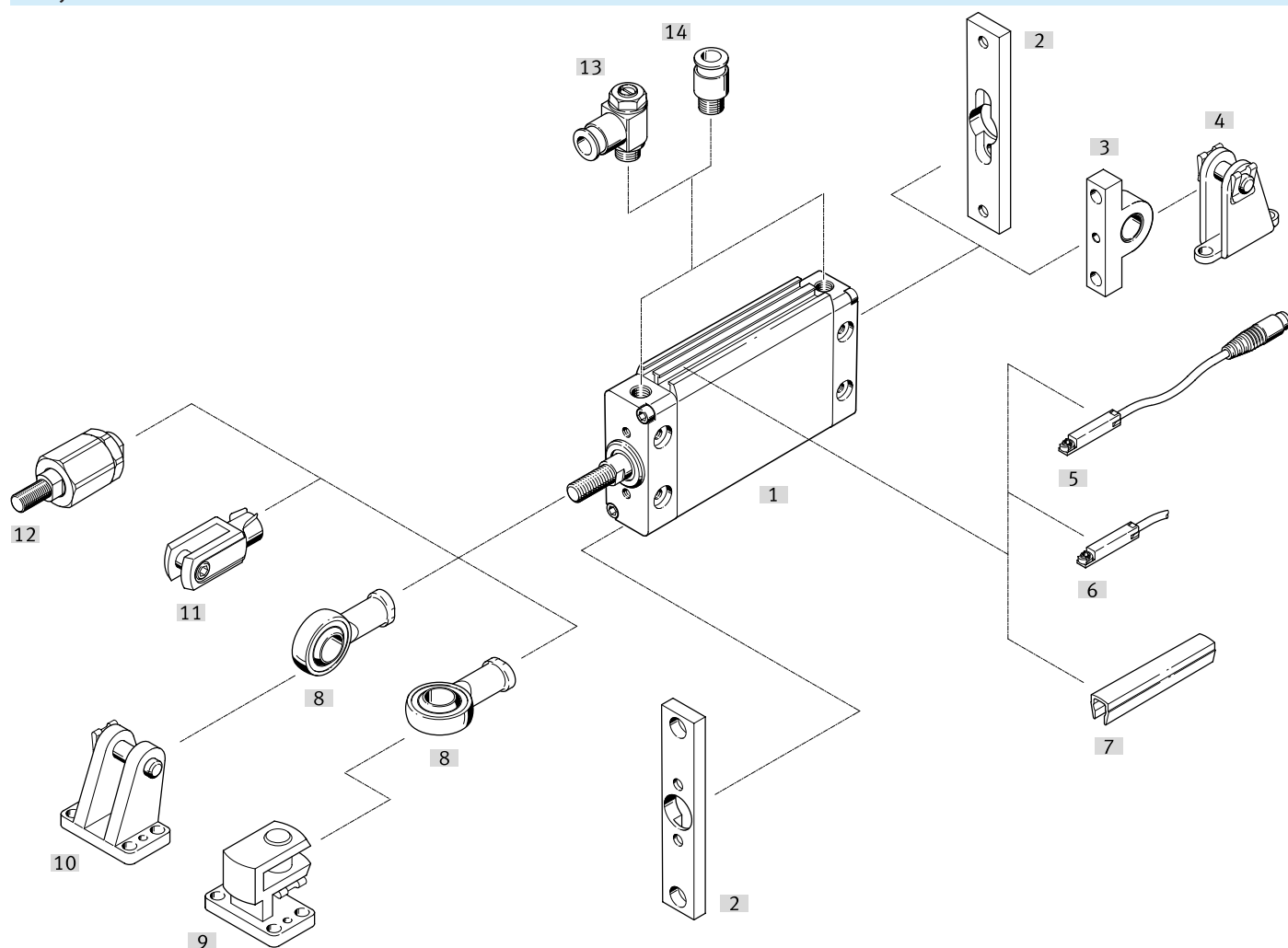
	CM	EK Ø H8	FL +0.02/-0.01	GL	HB Ø	LE	MR	RG	UX
LZF-12/18	0.28	0.31	1.26	0.71	0.18	1.14	0.31	1.18	1.46
LZF-25	0.36	0.31	1.38	1.00	0.22	1.26	0.37	1.57	1.93
LZF-32	0.42	0.39	1.65	1.30	0.26	1.50	0.43	1.97	2.36
LZF-40	0.42	0.47	2.01	1.16	0.26	1.85	0.55	1.97	2.36
LZF-50	0.79	0.47	2.17	0.94	0.35	1.97	0.55	1.18	1.81
LZF-63	0.99	0.63	2.68	1.26	0.43	2.48	0.71	1.57	2.36

Ordering data

Flat cylinder DZF-...				
	Piston diameter	Stroke	Part no.	Type
	1/2", Equivalent diameter	0.04 ... 8.0000 in	162972	DZF-1/2"- -A-P-A
	11/16", Equivalent diameter		162973	DZF-11/16"- -A-P-A
	1", Equivalent diameter		162974	DZF-1"- -A-P-A
	1 1/4", Equivalent diameter	0.04 ... 13.0000 in	162975	DZF-1 1/4"- -A-P-A
	1 5/8", Equivalent diameter		162976	DZF-1 5/8"- -A-P-A
	2", Equivalent diameter		162977	DZF-2"- -A-P-A
	2 1/2", Equivalent diameter		162978	DZF-2 1/2"- -A-P-A

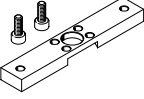
Peripherals

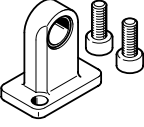
Flat cylinder DZF



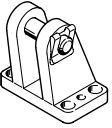
Accessories			→ Link
Type/order code	Description		
[1] Flat cylinder DZF	Double-acting		dzf
[2] Flange mounting FZF	For bearing and end caps		14
[3] Swivel flange SZF	For end cap		14
[4] Clevis foot LZF	-		14
[5] Proximity switch SME-8	Can be integrated into the cylinder profile barrel		15
[6] Proximity switch SMT-8	Can be integrated into the cylinder profile barrel		15
[7] Slot cover ABP-5-S	For protecting the sensor cables and the sensor slots from contamination		16
[8] Rod eye SGS	With spherical bearing		15
[9] Right-angle clevis foot LQG	-		14
[10] Clevis foot LBG	-		14
[11] Rod clevis SG	Permits a swivelling movement of the cylinder in one plane		15
[12] Self-aligning rod coupler FK	To compensate for radial and angular deviations		15
[13] One-way flow control valve GRLA	For regulating speed		17
[14] Push-in fitting QS	For bearing and end caps		qs

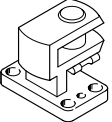
Accessories

Foot mounting FZF						
	Description	Material mounting	Note on materials	Product weight	Part no.	Type
	For Ø 1/2"	Anodised wrought aluminium alloy	RoHS-compliant	0.81 oz	546553	FZF-1/2"
	For Ø 11/16"			0.99 oz	546554	FZF-11/16"
	For Ø 1"			1.97 oz	546555	FZF-1"
	For Ø 1 1/4"			2.75 oz	546556	FZF-1 1/4"
	For Ø 1 5/8"			3.84 oz	546557	FZF-1 5/8"
	For Ø 2"			5.89 oz	546558	FZF-2"
	For Ø 2 1/2"			10.54 oz	546559	FZF-2 1/2"

Swivel flange SZF						
	Description	Material mounting	Note on materials	Product weight	Part no.	Type
	For Ø 1/2"	High-alloy stainless steel	RoHS-compliant	0.7 oz	546567	SZF-1/2"
	For Ø 11/16"			0.88 oz	546568	SZF-11/16"
	For Ø 1"			1.06 oz	546569	SZF-1"
	For Ø 1 1/4"			1.94 oz	546570	SZF-1 1/4"
	For Ø 1 5/8"			2.64 oz	546571	SZF-1 5/8"
	For Ø 2"			6.7 oz	546572	SZF-2"
	For Ø 2 1/2"			11.98 oz	546573	SZF-2 1/2"

Clevis foot LZF						
	Description	Material mounting		Product weight	Part no.	Type
	For Ø 1/2, 11/16"	Galvanised steel		1.59 oz	163962	LZF-12/18
	For Ø 1"			2.26 oz	163963	LZF-25
	For Ø 1 1/4"			4.33 oz	163964	LZF-32
	For Ø 1 5/8"			5.74 oz	163965	LZF-40
	For Ø 2"			8.67 oz	163966	LZF-50
	For Ø 2 1/2"			14.55 oz	163967	LZF-63

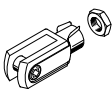
Clevis foot LBG						
	Description	Material mounting	Note on materials	Product weight	Part no.	Type
	For Ø 1 1/4"	Stainless steel casting	RoHS-compliant	7.75 oz	31761	LBG-32
	For Ø 1 5/8"			10.57 oz	31762	LBG-40
	For Ø 2"			19.03 oz	31763	LBG-50
	For Ø 2 1/2"			20.44 oz	31764	LBG-63

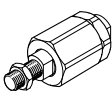
Clevis foot transverse LQG						
	Description	Material mounting	Note on materials	Product weight	Part no.	Type
	For Ø 1 1/4"	Stainless steel casting	RoHS-compliant	10.61 oz	31768	LQG-32
	For Ø 1 5/8"			13 oz	31769	LQG-40
	For Ø 2"			24.88 oz	31770	LQG-50
	For Ø 2 1/2"	Spheroidal graphite cast iron		27.63 oz	31771	LQG-63

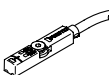
Rod eye SGS						
	Description	Material housing	Note on materials	Product weight	Part no.	Type
	For Ø 1/2"	Galvanised steel	RoHS-compliant	0.74 oz	532694	SGS-10-32

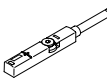
Accessories

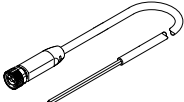
Rod eye SGS						
	Description	Material housing	Note on materials	Product weight	Part no.	Type
	For Ø 11/16"	Galvanised steel	RoHS-compliant	1.87 oz	532695	SGS-5/16-24
	For Ø 1, 1 1/4"			3.07 oz	532696	SGS-3/8-24
	For Ø 1 5/8"			4.55 oz	532697	SGS-1/2-20
	For Ø 2, 2 1/2"			9.13 oz	532698	SGS-5/8-18

Rod clevis SG						
	Description	Material clevis	Note on materials	Product weight	Part no.	Type
	For Ø 1, 1 1/4"	Steel, Galvanised	RoHS-compliant	3.7 oz	546540	SG-UNF3/8"-24-B
	For Ø 1 5/8"			5.81 oz	546545	SG-UNF1/2"-20-B
	For Ø 2, 2 1/2"			13.57 oz	546575	SG-UNF5/8"-18-B

Self-aligning rod coupler FK						
	Description	Material housing	Note on materials	Product weight	Part no.	Type
	For Ø 1/2"	Galvanised steel	RoHS-compliant	0.53 oz	532703	FK-10-32
	For Ø 11/16"			1.76 oz	532704	FK-5/16-24
	For Ø 1, 1 1/4"			7.4 oz	532705	FK-3/8-24
	For Ø 1 5/8"			7.58 oz	532706	FK-1/2-20
	For Ø 2, 2 1/2"			22.91 oz	532707	FK-5/8-18

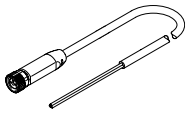
Proximity switch SMT-8M for T-slot, magneto-resistive							Link 
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type	
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	574338	SMT-8M-A-NS-24V-E-2,5-OE	
			Plug M8, A-coded	0.3 m	574339	SMT-8M-A-NS-24V-E-0,3-M8D	
		3-wire PNP N/C contact	Open end	7.5 m	574340	SMT-8M-A-PO-24V-E-7,5-OE	
				2.5 m	574335	SMT-8M-A-PS-24V-E-2,5-OE	
		3-wire PNP N/O contact	Plug M8, A-coded	0.3 m	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
			Plug M12, A-coded		574337	SMT-8M-A-PS-24V-E-0,3-M12	

Proximity switch SME-8 for T-slot, magnetic reed							Link 
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type	
	Screw-clamped, Insertable in the slot from above	3-wire N/O contact	Open end	2.5 m	543862	SME-8M-DS-24V-K-2,5-OE	
				5 m	543863	SME-8M-DS-24V-K-5,0-OE	
		2-wire PNP N/O contact	Plug M8, A-coded	0.3 m	543861	SME-8M-DS-24V-K-0,3-M8D	
			Open end	2.5 m	543872	SME-8M-ZS-24V-K-2,5-OE	
	Clamped in T-slot, Insertable in the slot lengthwise	None			150855	SME-8-K-LED-24	
			Plug M8, A-coded	0.3 m	150857	SME-8-S-LED-24	
		N/C contact, 3-wire	Open end	7.5 m	160251	SME-8-O-K-LED-24	

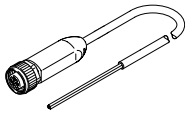
Connecting cables NEBA, straight, M8 connection						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2,5-N-LE3

Accessories

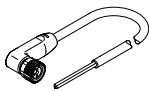
Connecting cables NEBA, straight, M8 connection

	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	5 m	8078224	NEBA-M8G3-U-5-N-LE3

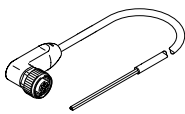
Connecting cables NEBA, straight, M12 connection

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	8078237	NEBA-M12G5-U-5-N-LE3

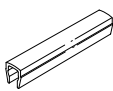
Connecting cables NEBA, angled, M8 connection

	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	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3

Connecting cables NEBA, angled, M12 connection

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3
				5 m	8078246	NEBA-M12W5-U-5-N-LE3

Slot cover ABP for T-slot

	Description	Material housing	Note on materials	Packaging quantity [pieces]	Part no.	Type
	Length 0.5 m, Inserted from above	ABS	RoHS-compliant	2	151680	ABP-5-S

One-way flow control valves GRLA – for exhaust air

	Pneumatic connection, port 2	Pneumatic connection 1	Part no.	Type
	10-32 UNF-2A	Push-in connector 5/32"	564840	GRLA-10-32-UNF-QB-5/32-U

Accessories

One-way flow control valves GRLA – for exhaust air

	Pneumatic connection, port 2	Pneumatic connection 1	Part no.	Type
	10-32 UNF-2A	Push-in connector 1/4"	564842	GRLA-10-32-UNF-QB-1/4-U
	1/8 NPT	Push-in connector 5/32"	534656	GRLA-1/8-QB-5/32-U
		Push-in connector 5/16"	534659	GRLA-1/8-QB-5/16-U
		Push-in connector 1/2"	534658	GRLA-1/8-QB-1/4-U
	1/4 NPT	Push-in connector 1/4"	534661	GRLA-1/4-QB-1/4-U
		Push-in connector 5/16"	534662	GRLA-1/4-QB-5/16-U
		Push-in connector 3/8"	534663	GRLA-1/4-QB-3/8-U
	3/8 NPT	Push-in connector 1/4"	534664	GRLA-3/8-QB-1/4-U
		Push-in connector 5/16"	534665	GRLA-3/8-QB-5/16-U
		Push-in connector 3/8"	534666	GRLA-3/8-QB-3/8-U
		Push-in connector 1/2"	534667	GRLA-3/8-QB-1/2-U