

Flat Cylinders DZF - Inch Series

Overview

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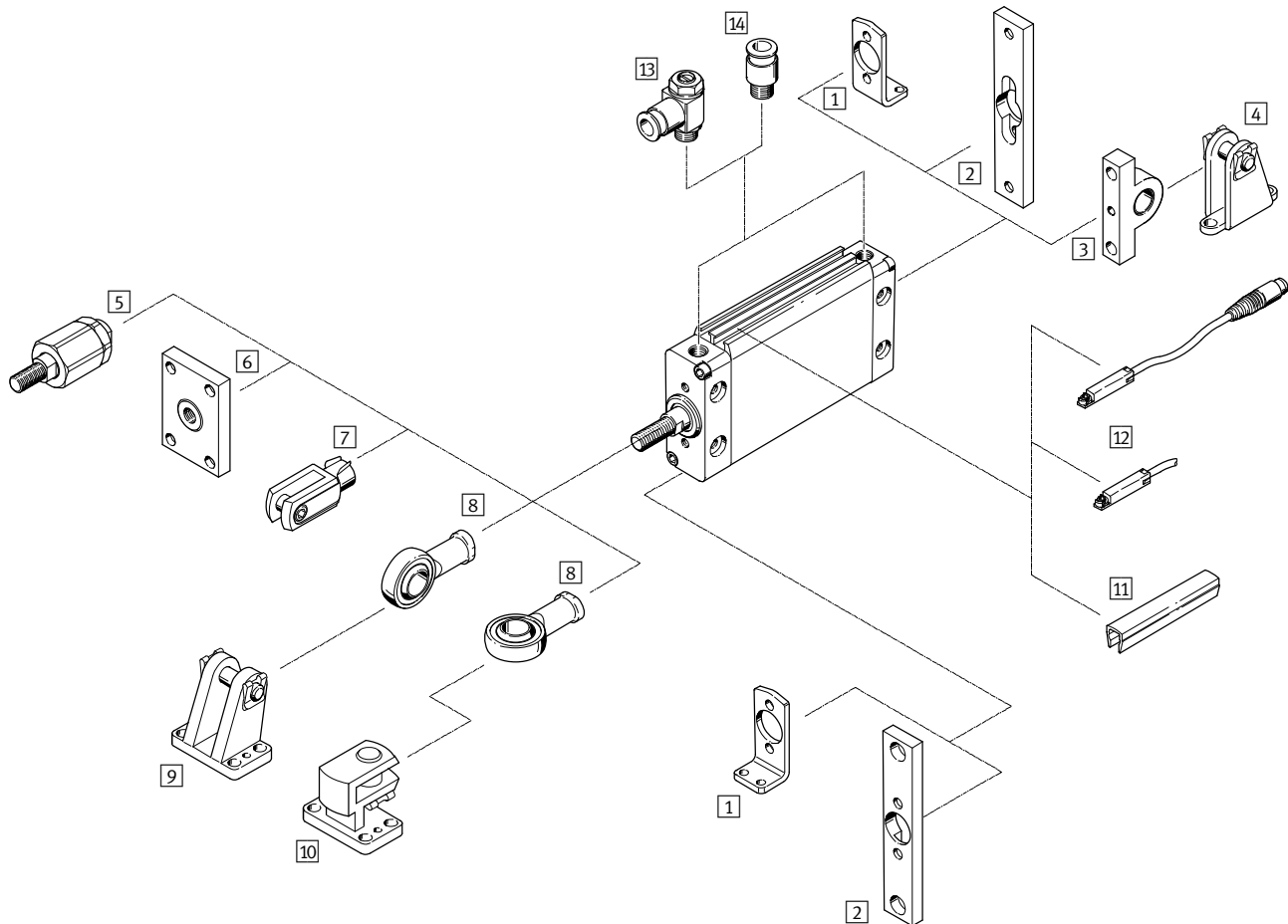
- Non-rotating oval piston
- Piston $\varnothing$ 1/2" to 2-1/2"
- Standard strokes up to 12", variable strokes up to 13"
- Double-acting
- Moment capacity up to 13.3 lbf-in
- Male or female rod thread
- Extensive range of accessories
- Versatile mounting options

Product range overview									
Function	Design	Type	Piston $\varnothing$ [in]	Standard stroke [in]	Variable stroke [in]	Magnet for position sensing (A)	Piston rod		Heat resistant seals up to 302 °F (S6)
							female thread	male thread	
Double-acting flat cylinder		DZF Single-ended piston rod	1/2, 11/16, 1	1/2, 1, 2, 3, 4, 5, 6, 8	0.04 ... 8	■	■	■	■
			1-1/4, 1-5/8, 2, 2-1/2	1/2, 1, 2, 3, 4, 5, 6, 8, 10, 12	0.04... 13				
		DZF-...-S2 Through piston rod	1/2, 11/16, 1	–	0.04 ... 8	■	■	■	–
			1-1/4, 1-5/8, 2, 2-1/2	–	0.04 ... 13				
		DZF-...-S20 Through, hollow piston rod	1/2, 11/16, 1	–	0.04 ... 8	■	■	■	–
			1-1/4, 1-5/8, 2, 2-1/2	–	0.04 ... 13				

Flat cylinders DZF - Inch Series

Accessories overview

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Mounting attachments and accessories		Description
1	Foot mounting HZF	for bearing and end caps
2	Flange mounting FZF	for bearing and end caps
3	Swivel flange SZF	for end caps
4	Clevis foot LZF	–
5	Self-aligning rod coupler FK	for compensating radial and angular deviations
6	Coupling piece KSZ	for cylinders with a non-rotating piston rod to compensate for radial deviations
7	Rod clevis SG	permits a swivelling movement of the cylinder in one plane
8	Rod eye SGS	with spherical bearing
9	Clevis foot LBG	–
10	Right-angle clevis foot LQG	–
11	Slot cover ABP-5-S	to protect the sensor cable and keep dirt out of the sensor slots
12	Proximity sensor SME/SMT-8	can be integrated in the cylinder profile barrel
13	One-way flow control valve GRLA/GRLZ	to regulate speed
14	Push-in fitting QS	for connecting compressed air tubing with standard external diameters

Flat cylinders DZF - Inch Series

Technical Data

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Double-acting



Equivalent Piston Diameter 1/2 ...

2-1/2 inch

Stroke length 0.4... 13 inch

Options:

- Non-rotating elliptical piston
- Male or female rod thread
- Through piston rod (S2)
- Through, hollow piston rod (S20)
- Heat resistant (S6)



General technical data							
Piston Ø	1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
Pneumatic connection	10-32 UNF	10-32 UNF	10-32 UNF	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT
Piston rod thread	female	4-48 UNF	8-36 UNF	10-32 UNF	1/4-28 UNF	5/16-24 UNF	3/8-24 UNF
	male	10-32 UNF	5/16-24 UNF	3/8-24 UNF	3/8-24 UNF	1/2-20 UNF	5/8-18 UNF
Operating medium	Filtered compressed air, lubricated or unlubricated						
Constructional design	Piston						
	Piston rod						
Cushioning	Flexible cushioning rings at both ends						
Magnet for position sensing ¹⁾	Standard						

1) Position sensing via magnetic proximity sensor (ordered separately, see accessories).

Operating pressure [psi]							
Piston Ø	1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
	23 ... 145	15 ... 145					

Ambient conditions		
Variant	Basic version	S6
Ambient temperature ¹⁾ [°F]	0 ... +176	0 ... +302
Corrosion resistance class CRC ²⁾	2	2

1) Observe operating range of proximity sensors.

Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Forces [lbf] and impact energy [ft-lbf]							
Piston Ø	1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
Theoretical force at 90 psi, extending	15.2	36.3	66.1	108.2	168.9	263.9	418.9
	S2/S20 11.4	27.3	55.3	93.0	141.8	221.8	376.8
Theoretical force at 90 psi, retracting	11.4	27.3	55.3	93.0	141.8	221.8	376.8
	S2/S20 11.4	27.3	55.3	93.0	141.8	221.8	376.8
Max. impact energy at endpositions	0.07	0.07	0.07	0.30	0.38	0.47	0.52

Torque [lbf-in] and torsional backlash [°]							
Piston Ø	1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
Max. torque at the piston rod ¹⁾	0.9	1.8	4.4	7.1	8.9	10.6	13.3
Max. torsional backlash of the piston rod	±2.5	±1.2	±1.0	±0.8	±0.6	±0.5	±0.4

1) The max. torque must also be observed when fitting mounting attachments to the piston rod.

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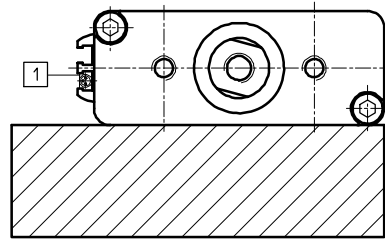
Data sheet

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Weights [oz]							
Piston Ø	1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
Product weight at 0 inch stroke	3.4	3.8	5.9	9.6	16.9	30.2	48.7
Additional weight per 1 inch stroke	0.8	1.2	1.6	2.2	3.6	5.7	8.2

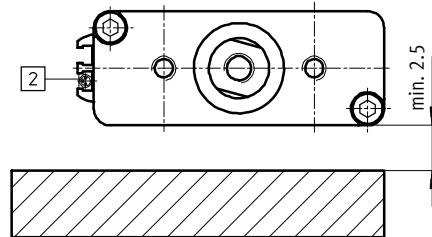
Safety clearances for reliable switching function

Cylinders mounted to ferritic surfaces



1 SMT-8...

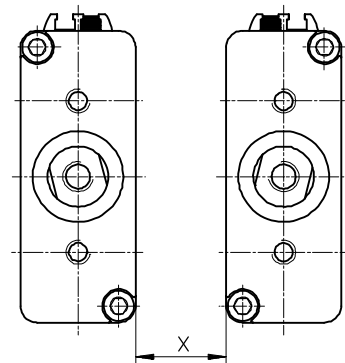
If a proximity sensor SME-8 is used, with piston Ø 1/2 to 1-1/4 inch, a minimum clearance to the ferritic component of 2.5 inch must be maintained. SMT-8 can be used regardless of clearance.



2 SME-8...

Cylinder to cylinder spacing

Safety clearance X must be maintained when connecting cylinders together in series, as the stray fields of the switching magnets can result in incorrect switching.



Piston Ø		1/2	11/16	1	1-1/4	1-5/8	2	2-1/2
Min. safety clearance X	SMT-8...	1.4			1.0	1.8		3.1
[in]	SME-8...	2.0			1.8	2.6		2.0

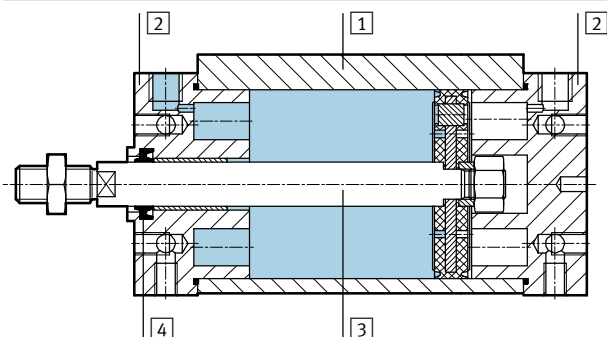
Flat cylinders DZF - Inch Series

Data sheet

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Materials

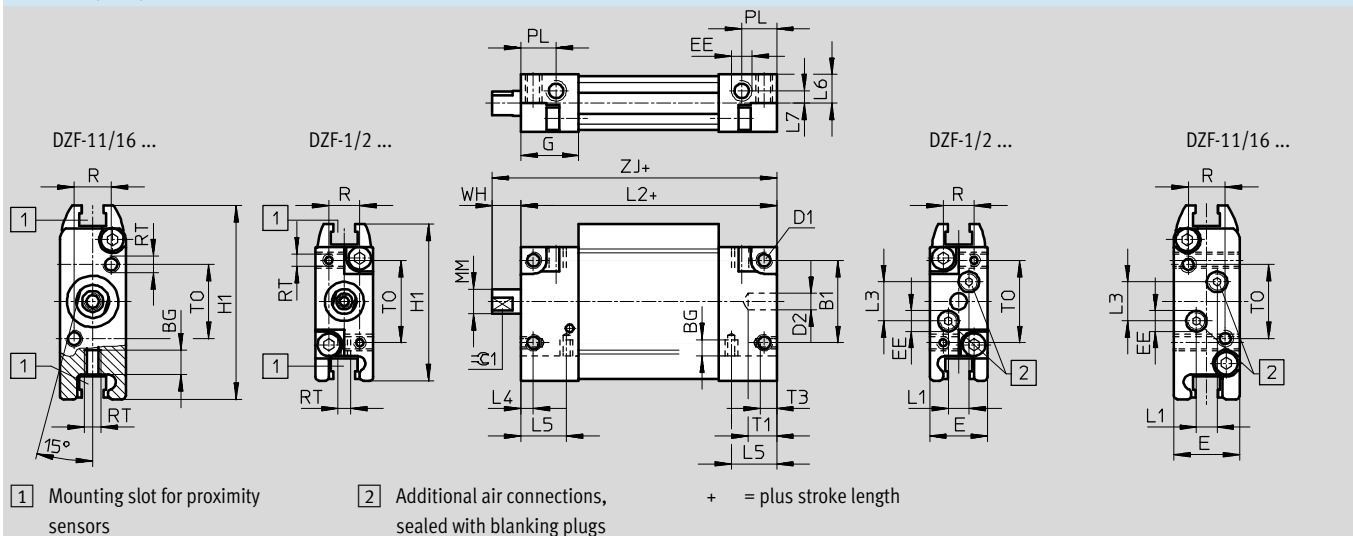
Sectional view



Cylinder	Basic version	S6
1 Cylinder barrel	Wrought aluminum alloy, anodized	Wrought aluminum alloy, anodized
2 Bearing end cap	Wrought aluminum alloy	Wrought aluminum alloy
3 Piston rod Ø 1/2 ...1 Ø 1-1/4 ... 2-1/2	High-alloy stainless steel High-alloy steel	High-alloy stainless steel High-alloy steel
4 Dynamic seals	Polyurethane	Fluorocarbon rubber

Dimensions – Basic version

Piston Ø 1/2,11/16



Ø [in]	B1	BG	D1	D2 Ø	E	EE	G	H1	L1	L2	L3	L4	L5
1/2	0.8	0.15	8-32 UNC	0.15	0.6	10-32 UNF	0.6	1.5	0.2	2.4	0.37	0.12	0.4
11/16	0.8	0.24	8-32 UNC	0.15	0.6	10-32 UNF	0.6	1.9	0.2	2.4	0.37	0.14	0.2

Ø [in]	L6	L7	MM Ø	PL	R	RT	T1	T3	TO	WH	ZJ	≈C1 [mm]
1/2	0.28	0.12	0.24	0.33	0.30	4-48 UNF	0.28	0.16	0.8	0.28	2.7	5
11/16	–	–	0.31	0.33	0.35	8-32 UNC	0.28	0.24	0.7	0.28	2.7	7

Dimensions are in inches, unless otherwise noted.

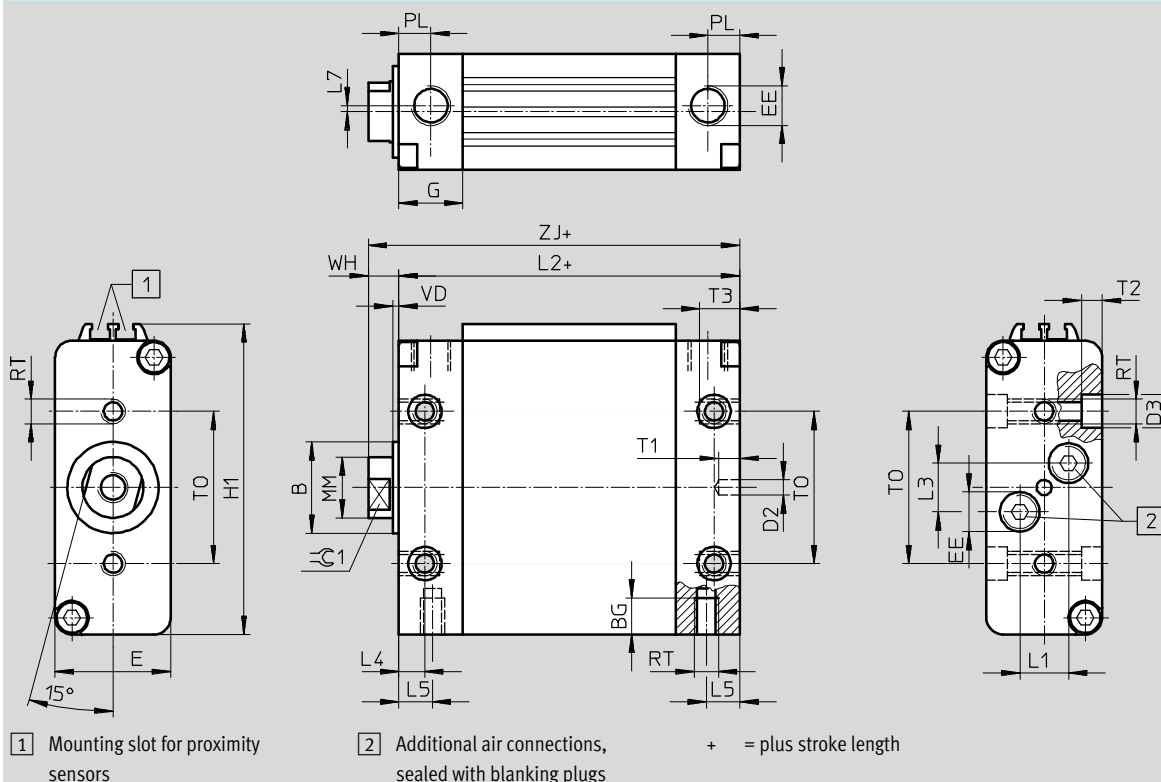
Flat cylinders DZF - Inch Series

Data sheet

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Dimensions – Basic version

Piston Ø 1 ...2-1/2



Ø [in]	B Ø	BG	D2 Ø	D3 Ø	E	EE	G	H1	L1	L2	L3	L4
1	0.6	0.3	0.2	0.3	0.8	10-32 UNF	0.5	2.2	0.2	2.4	0.4	0.2
1-1/4	0.8	0.4	0.2	0.4	0.9	1/8" NPT	0.7	2.6	0.3	2.8	0.6	0.3
1-5/8	1.0	0.4	0.2	0.4	1.2	1/8" NPT	0.7	3.2	0.3	3.0	0.6	0.3
2	1.2	0.5	0.2	0.4	1.5	1/4" NPT	0.8	4.0	0.6	3.2	0.6	0.3
2-1/2	1.2	0.6	0.2	0.6	2.0	1/4" NPT	0.8	5.0	0.7	3.2	0.8	0.3

Ø [in]	L5	L7	MM Ø	PL	RT	T1	T2	T3	T0	VD	WH	ZJ	≈1 [mm]
1	0.2	–	0.4	0.2	10-24 UNC	0.3	0.2	0.3	1.0	0.1	0.3	2.8	9
1-1/4	0.3	0.1	0.5	0.3	1/4-20 UNC	0.3	0.2	0.4	1.3	0.1	0.3	3.1	10
1-5/8	0.3	–	0.6	0.3	1/4-20 UNC	0.3	0.2	0.4	1.6	0.1	0.4	3.3	13
2	0.3	–	0.8	0.4	5/16-18 UNC	0.3	0.2	0.5	2.0	0.1	0.4	3.6	17
2-1/2	0.3	–	0.8	0.4	3/8-16 UNC	0.3	0.2	0.6	2.4	0.1	0.4	3.6	17

Dimensions are in inches, unless otherwise noted.

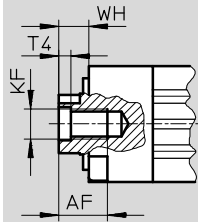
Flat cylinders DZF - Inch Series

Data sheet

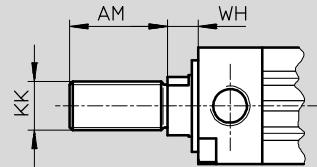
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Dimensions – Options

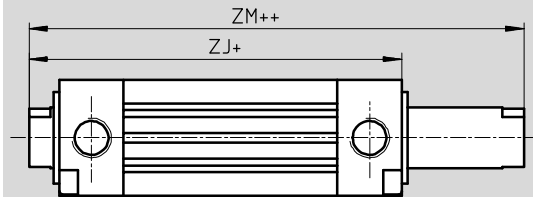
Basic version with female thread



Basic version with male thread

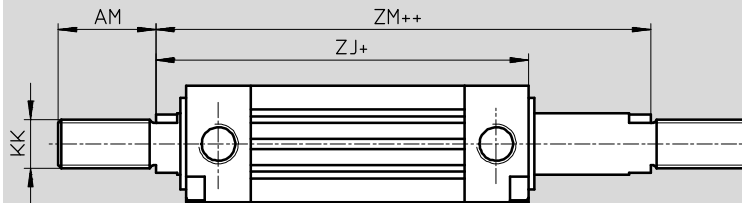


S2 – Through piston rod with female thread



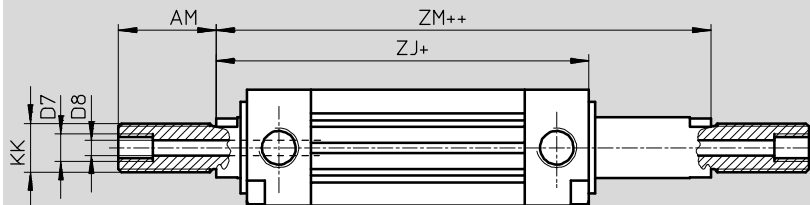
+ = plus stroke length
++ = plus 2x stroke length

S2 – Through piston rod with male thread



+ = plus stroke length
++ = plus 2x stroke length

S20 – Through, hollow piston rod



+ = plus stroke length
++ = plus 2x stroke length

Ø [in]	AF	AM	D7	D8 Ø	KF	KK	T4	WH	ZJ	ZM
1/2	0.3	0.6	–	0.07	4-48 UNF	10-32 UNF	0.06	0.3	2.7	3.0
11/16	0.4	0.8	–	0.11	8-36 UNF	5/16-24 UNF	0.06	0.3	2.7	3.0
1	0.5	0.9	–	0.15	10-32 UNF	3/8-24 UNF	0.08	0.3	2.8	3.1
1-1/4	0.6	0.9	–	0.18	1/4-28 UNF	3/8-24 UNF	0.10	0.3	3.1	3.5
1-5/8	0.6	0.9	–	0.2	5/16-24 UNF	1/2-20 UNF	0.13	0.4	3.3	3.7
2	0.8	1.3	1/4-18 NPT	0.3	3/8-24 UNF	5/8-18 UNF	0.19	0.4	3.6	4.0
2-1/2	0.8	1.3	1/4-18 NPT	0.3	3/8-24 UNF	5/8-18 UNF	0.19	0.4	3.6	4.0

Dimensions are in inches, unless otherwise noted.

Flat cylinders DZF - Inch Series

Ordering Data

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M Mandatory data						O Options	
Function	Piston Ø	Stroke	Piston rod thread	Cushioning	Magnet for position sensing	Type of piston rod	Temperature Resistant
DZF	1/2 1 1/16 1 1 1/4 1 5/8 2 2 1/2	0.40 ... 13	A	P	A	S2 S20	S6
DZF	- 1 1/4	- 10	-	- P	- A	-	S6

Ordering table											
Size		1/2	1 1/16	1	1 1/4	1 5/8	2	2 1/2	Conditions	Code	Enter code
M	Function	Flat, double-acting cylinder								DZF	DZF
	Piston Ø [in]	1/2	1 1/16	1	1 1/4	1 5/8	2	2 1/2		-...	
	Stroke [in]	0.4 ... 13								-...	
	Piston rod thread	Female thread								-	
		Male thread								-A	
	Cushioning	Flexible cushioning rings at both ends								-P	-P
	Magnet for position sensing	For use with magnetic proximity sensor								-A	-A
O	Type of piston rod	Through piston rod								-S2	
		Through, hollow piston rod								-S20	
	Temperature-resistant	Heat-resistant seals up to max. 302 °F							1	-S6	

1 Not in combination with S2 or S20

Transfer order code

DZF - - - - **P** - **A** -

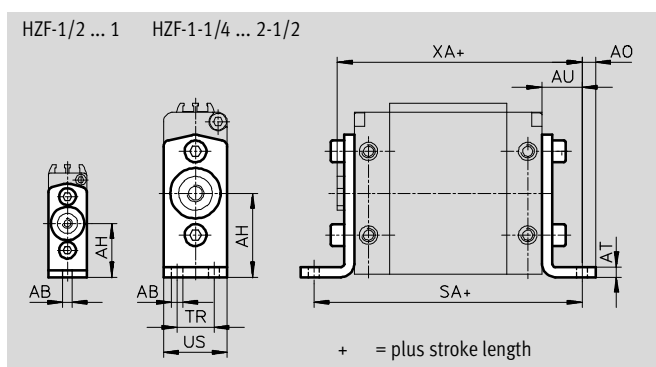
Flat cylinders DZF - Inch Series

Accessories

FESTO

Foot mounting HZF

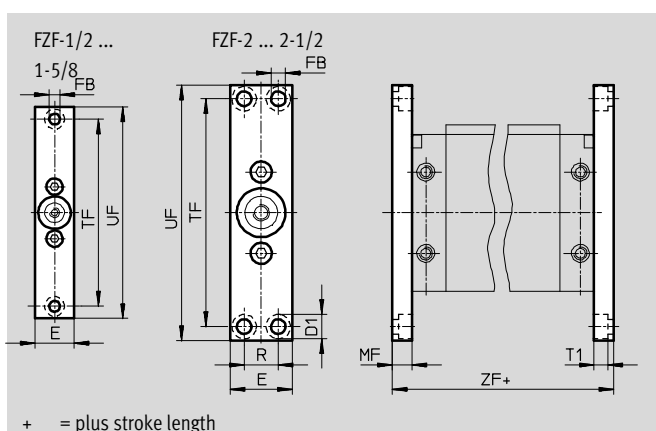
Material:
Steel



Dimensions and ordering data											
For Ø [in]	AB Ø	AH	AO	AT	AU	SA	TR	US	XA	Weight [oz]	Part No. Type
1/2	0.18	1.0	0.2	0.1	0.5	3.5	–	0.6	3.2	0.28	546560 HZF-1/2"
11/16	0.22	1.1	0.2	0.1	0.7	3.8	–	0.6	3.4	0.35	546561 HZF-11/16"
1	0.22	1.1	0.3	0.1	0.6	3.7	–	0.8	3.4	0.74	546562 HZF-1"
1-1/4	0.22	1.3	0.2	0.1	0.7	4.3	0.5	0.9	3.9	0.95	546563 HZF-1 1/4"
1-5/8	0.22	1.6	0.3	0.2	0.8	4.6	0.6	1.2	4.1	2.01	546564 HZF-1 5/8"
2	0.26	2.0	0.3	0.2	0.9	5.1	0.9	1.5	4.6	3.42	546565 HZF-2"
2-1/2	0.35	2.5	0.4	0.2	1.1	5.4	1.2	2.0	4.7	5.89	546566 HZF-2 1/2"

Flange mounting FZF

Material:
Wrought aluminum alloy



Dimensions and ordering data										
For Ø [in]	D1 Ø	E	FB Ø	MF	R	T1	TF	UF	ZF	Weight [oz]
1/2	0.3	0.6	0.18	0.3	–	0.18	3.0	3.5	3.1	0.71
11/16	0.3	0.6	0.18	0.3	–	0.18	3.1	3.7	3.1	0.85
1	0.4	0.8	0.22	0.4	–	0.22	3.9	4.4	3.2	1.76
1-1/4	0.4	0.9	0.26	0.4	–	0.26	4.5	5.1	3.6	2.40
1-5/8	0.4	1.2	0.26	0.4	–	0.25	5.2	5.7	3.8	3.46
2	0.6	1.5	0.35	0.5	0.8	0.33	5.5	6.2	4.2	5.19
2-1/2	0.6	2.0	0.35	0.6	1.3	0.33	5.5	6.2	4.4	9.14

Dimensions are in inches, unless otherwise noted.

Flat cylinders DZF - Inch Series

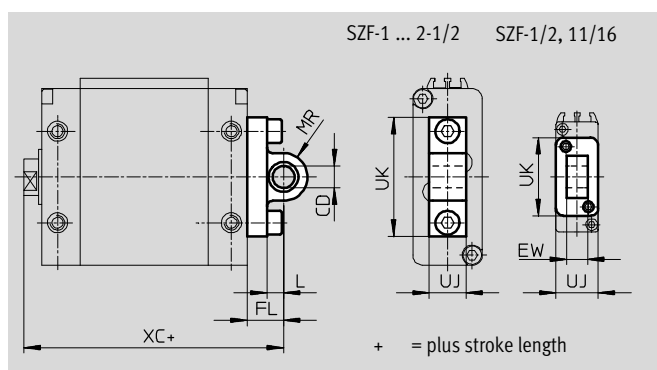
Accessories

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Swivel flange SZF

Material:

Corrosion resistant cast steel



Dimensions and ordering data										
For Ø [in]	CD Ø	EW	FL	L	MR	UJ	UK	XC	CRC ¹⁾	Part No. Type
1/2	0.3	0.3	0.6	0.5	0.3	0.6	1.0	3.3	2	546567 SZF-1/2"
11/16	0.3	0.3	0.7	0.6	0.3	0.6	1.0	3.4	2	546568 SZF-11/16"
1	0.3	–	0.6	0.3	0.3	0.4	1.5	3.3	2	546569 SZF-1"
1-1/4	0.4	–	0.6	0.2	0.4	0.4	1.7	3.7	2	546570 SZF-1 1/4"
1-5/8	0.5	–	0.7	0.4	0.5	0.4	2.0	4.1	2	546571 SZF-1 5/8"
2	0.5	–	0.8	0.4	0.5	0.8	2.6	4.4	2	546572 SZF-2"
2-1/2	0.6	–	0.9	0.5	0.7	1.0	3.1	4.6	2	546573 SZF-2 1/2"

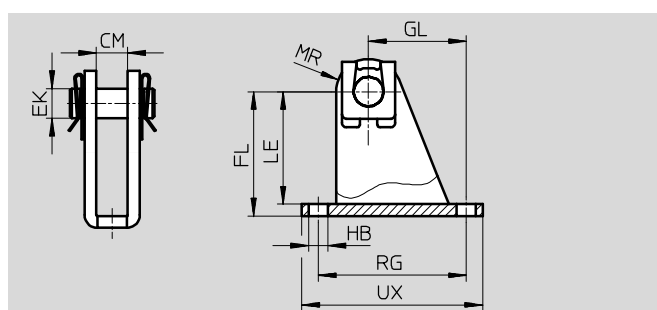
1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Clevis foot LZF

Material:

Steel



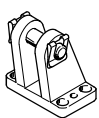
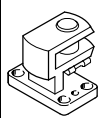
Dimensions and ordering data										
For Ø [in]	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	Part No. Type
1/2	0.28	0.3	1.3	0.7	0.2	1.1	0.3	1.2	1.5	163962 LZF-12/18
11/16	0.28	0.3	1.3	0.7	0.2	1.1	0.3	1.2	1.5	163962 LZF-12/18
1	0.36	0.3	1.4	1.0	0.2	1.3	0.4	1.6	1.9	163963 LZF-25
1-1/4	0.42	0.4	1.7	1.3	0.3	1.5	0.4	2.0	2.4	163964 LZF-32
1-5/8	0.42	0.5	2.0	1.2	0.3	1.9	0.6	2.0	2.4	163965 LZF-40
2	0.79	0.5	2.2	0.9	0.4	2.0	0.6	1.2	1.8	163966 LZF-50
2-1/2	0.99	0.6	2.7	1.3	0.4	2.5	0.7	1.6	2.4	163967 LZF-63

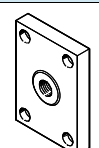
Dimensions are in inches, unless otherwise noted.

Flat cylinders DZF - Inch Series

Accessories

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Ordering data – Mounting attachments							
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Clevis foot LBG				Right-angle clevis foot LQG			
	1-1/4	31761	LBG-32		1-1/4	31768	LQG-32
	1-5/8	31762	LBG-40		1-5/8	31769	LQG-40
	2	31763	LBG-50		2	31770	LQG-50
	2-1/2	31764	LBG-63		2-1/2	31771	LQG-63

Ordering data – Piston rod attachments							
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Rod eye SGS				Coupling piece KSZ			
	1/2	532694	SGS-10-32		1/2	–	
	11/16	13002871	SGS-5/16-24		11/16		
	1, 1-1/4	532696	SGS-3/8-24		1, 1-1/4	36129	KSZ-3/8-24-UNF
	1-5/8	532697	SGS-1/2-20		1-5/8	36130	KSZ-1/2-20-UNF
	2, 2-1/2	532698	SGS-5/8-18		2, 2-1/2	36131	KSZ-5/8-18-UNF
Rod clevis SG				Self-aligning rod coupler FK			
	1/2	13005667	SG-10-32		1/2	532703	FK-10-32
	11/16	11129	SG-5/16"-24		11/16	532704	FK-5/16-24
	1, 1-1/4	546540	SG-3/8"-24-B		1, 1-1/4	532705	FK-3/8-24
	1-5/8	546545	SG-1/2-20-B		1-5/8	532706	FK-1/2-20
	2, 2-1/2	546575	SG-5/8-18-B		2, 2-1/2	532707	FK-5/8-18

Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data → Internet: smt	
	Type of mounting	Switch out-put	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0,3-M12	
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D	
N/C contact							
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE	

Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data ➔ Internet: sme	
	Type of mounting	Switch out-put	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	543 862	SME-8M-DS-24V-K-2,5-OE	
				5.0	543 863	SME-8M-DS-24V-K-5,0-OE	
			Cable, 2-wire	2.5	543 872	SME-8M-ZS-24V-K-2,5-OE	
				Plug M8x1, 3-pin	0.3	543 861	SME-8M-DS-24V-K-0,3-M8D
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150 855	SME-8-K-LED-24	
			Plug M8x1, 3-pin	0.3	150 857	SME-8-S-LED-24	
N/C contact							
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	160 251	SME-8-O-K-LED-24	

Flat cylinders DZF - Inch Series

Accessories

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Ordering data – Connecting cables				Technical data → www.festo.com/catalogue/nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5.0	541334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541363	NEBU-M12G5-K-2.5-LE3
			5.0	541364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3
			5.0	541341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541367	NEBU-M12W5-K-2.5-LE3
			5.0	541370	NEBU-M12W5-K-5-LE3

Ordering data – Slot cover for T-slot				
	Mounting	Length [ft]	Part No.	Type
	inserted from above	2x 0.5	151680	ABP-5-S

Ordering data – One-way flow control valves				
	Connection		Part No.	Type
	Thread	For tubing OD		
For exhaust air				
	10-32 UNF	5/32	165008	GRLA-10-32-UNF-QS-5/32-U
		1/4	192753	GRLA-10-32-UNF-QS-1/4-U
	1/8" NPT	5/32	165009	GRLA-1/8-NPT-QS-5/32-U
		3/16	190941	GRLA-1/8-NPT-QS-3/16-U
		1/4	165010	GRLA-1/8-NPT-QS-1/4-U
		5/16	165013	GRLA-1/8-NPT-QS-5/16-U
	1/4" NPT	3/16	190944	GRLA-1/4-NPT-QS-3/16-U
		1/4	165011	GRLA-1/4-NPT-QS-1/4-U
		5/16	165014	GRLA-1/4-NPT-QS-5/16-U
		3/8	190947	GRLA-1/4-NPT-QS-3/8-U
	3/8" NPT	1/4	165012	GRLA-3/8-NPT-QS-1/4-U
		5/16	165015	GRLA-3/8-NPT-QS-5/16-U
		3/8	190950	GRLA-3/8-NPT-QS-3/8-U
		1/2	190951	GRLA-3/8-NPT-QS-1/2-U
For supply air				
	10-32 UNF	–	151576	GRLZ-10-UNF-B
			151579	GRLZ-10-UNF-RS-B
		3/16	151577	GRLZ-10-UNF-3/16-B
		1/4	151578	GRLZ-10-UNF-1/4-B
	1/8" NPT	–	151561	GRLZ-1/8-NPT-B
			151564	GRLZ-1/8-NPT-RS-B
		1/4	151562	GRLZ-1/8-NPT-1/4-B

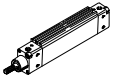
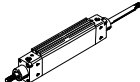
Flat Cylinders DZH - Inch Series

Overview

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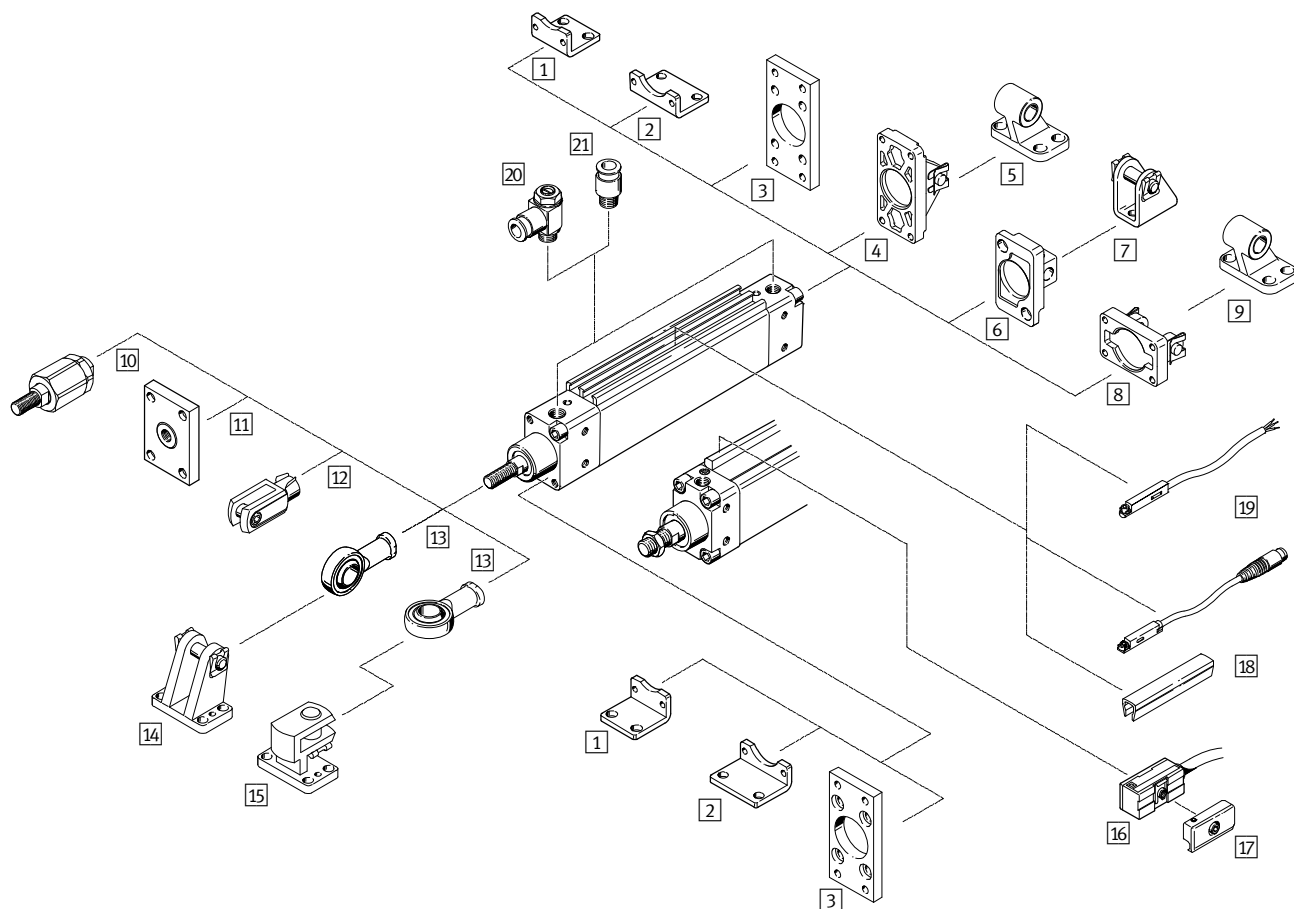
- Non-rotating oval piston
- Piston Ø 5/8" to 2-1/2"
- Strokes up to 40"
- Double-acting
- Moment capacity up to 2.2 lbf-in
- Extensive range of accessories
- Versatile mounting options

Product range overview								
Function	Design	Type	Piston Ø	Variable stroke	Standard stroke	Magnet for position sensing (A)	Piston rod	Heat resistant seals up to 302 °F (S6)
			[in]	[in]	[in]		male thread	
Double-acting flat cylinder		DZH Single-ended piston rod	5/8	0.04 ... 8	1, 2, 3, 4, 5, 6, 8	■	■	■
			3/4	0.04... 13	1, 2, 3, 4, 5, 6, 8, 10, 12			
			1, 1-1/4, 1-5/8, 2, 2-1/2	0.04... 40	1, 2, 3, 4, 5, 6, 8, 10, 12			
		DZH-...-S2 Through piston rod	5/8	0.04... 8	–	■	■	–
			3/4	0.04... 13	–			
			1, 1-1/4, 1-5/8, 2, 2-1/2	0.04... 40	–			

Flat cylinders DZH - Inch Series

Accessories overview

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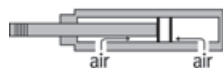
Mounting attachments and accessories		Piston Ø 5/8" ... 1"	1-1/4" ... 2-1/2"
	Description		
1	Foot mounting, narrow HZS	for bearing and end caps	■
2	Foot mounting, wide HZB	for bearing and end caps	■
3	Flange mounting FZS	for bearing and end caps	■
4	Swivel flange, narrow SZS	for end caps	–
5	Clevis foot LBZB/LBZS	–	■
6	Swivel flange, narrow SZSB	for end caps	–
7	Clevis foot LBN	–	–
8	Swivel flange, wide SZB	for end caps	■
9	Clevis foot LN	–	■
10	Self-aligning rod coupler FK	for compensating radial and angular deviations	■
11	Coupling piece KSZ	for cylinders with a non-rotating piston rod to compensate for radial deviations	■
12	Rod clevis SG	permits a swivelling movement of the cylinder in one plane	■
13	Rod eye SGS	with spherical bearing	■
14	Clevis foot LBG	–	■
15	Right-angle clevis foot LQG	–	■
16	Proximity sensors SMxO-1	–	■
17	Mounting kit SMB-1	–	■
18	Slot cover ABP-5-S	to protect the sensor cable and keep dirt out of the sensor slots	–
19	Proximity sensors SME/SMT-8	can be integrated in the cylinder profile barrel	–
20	One-way flow control valve GRLx	to regulate speed	■
21	Push-in fitting QS	for connecting compressed air tubing with standard external diameters	■

Flat cylinders DZH - Inch Series

Technical Data

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Double-acting



Equivalent Piston Diameter

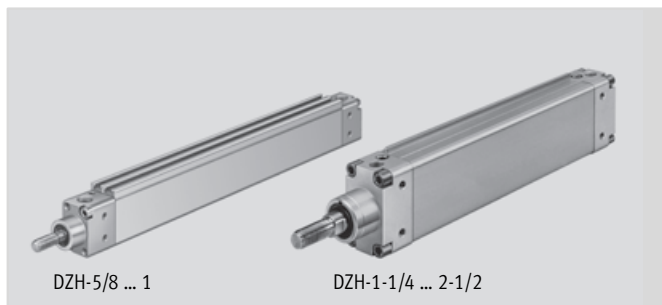
5/8 ... 2-1/2 inch

Stroke length

0.4 ... 40 inch

Options:

- Non rotating
- Through piston rod (S2)
- Heat resistant variant (S6)



Design							
Piston Ø	5/8	3/4	1	1-1/4	1-5/8	2	2-1/2
Pneumatic connection	10-32 UNF	1/8" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	3/8" NPT
End of piston rod Male thread	10-32 UNF	5/16-24 UNF	3/8-24 UNF	3/8-24 UNF	1/2-20 UNF	5/8-18 UNF	5/8-18 UNF
Operating medium	Filtered compressed air, lubricated or unlubricated						
Constructional design	Piston						
	Piston rod						
Protection against torsion	Oval piston						
Cushioning	Adjustable air cushioning at both ends						
Cushioning length [in]	0.55	0.67	0.67	0.75	0.83	0.91	0.23
Magnet for position sensing ¹⁾	Standard						

1) Position sensing via magnetic proximity sensor (ordered separately, see accessories).

Operating pressure [psi]							
Piston Ø	5/8	3/4	1	1-1/4	1-5/8	2	2-1/2
	14.5 ... 145			9 ... 145			

Ambient conditions		
Variant	Basic version	S6
Ambient temperature ¹⁾ [°F]	-4 ... +176	32 ... +302
Corrosion resistance class CRC ²⁾	2	2

1) Observe operating range of proximity sensors.

2) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Forces [lbf] and torques [ft-lbf]							
Piston Ø	5/8	3/4	1	1-1/4	1-5/8	2	2-1/2
Theoretical force at 90 psi, extending	27.2	42.3	66.3	108.6	169.5	264.8	420.4
S2	23.4	35.5	55.5	93.3	142.3	222.3	378.1
Theoretical force at 90 psi, retracting	23.4	35.5	55.5	93.3	142.3	222.3	378.1
S2	23.4	35.5	55.5	93.3	142.3	222.3	378.1
Max. torque at the piston rod ¹⁾	0.55	0.66	0.89	1.11	1.33	1.88	2.21

1) The max. torque must also be observed when fitting mounting attachments to the piston rod.

Weights [oz]							
Piston Ø	5/8	3/4	1	1-1/4	1-5/8	2	2-1/2
Product weight at 0 inch stroke	4.9	8.1	11.6	17.6	29.0	42.3	59.6
Additional weight per 1 inch stroke	1.0	1.3	1.9	2.7	3.6	5.4	7.1

Flat cylinders DZH - Inch Series

Data sheet

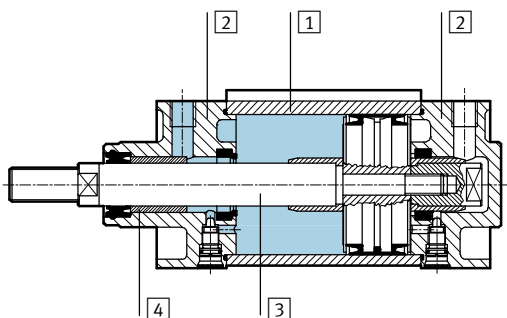
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Minimum stroke length [inch] for magnetic position sensing with one proximity sensor				
Piston Ø	1-1/4	1-5/8	2	2-1/2
SMEO-1/SMT0-1				
Plug	0.4			
Cable				

Minimum stroke length [inch] for magnetic position sensing with two proximity sensors					
Piston Ø		1-1/4	1-5/8	2	2-1/2
SMEO-1					
Plug	outlet towards caps	3.4	3.4	3.5	3.6
	outlet towards center	1.8	1.9	1.9	2.0
Cable	outlet towards caps	2.5	2.5	2.6	2.7
	outlet towards center	1.9	2.0	2.0	2.1
SMT0-1					
Plug	outlet towards caps	4.1	4.2	4.2	4.2
	outlet towards center	not possible as the plug would cover the pneumatic port			
Cable	outlet towards caps	3.2	3.3	3.3	3.4
	outlet towards center	0.7	0.8	0.8	0.9

Materials

Sectional view



Cylinder	Basic version	S6
1 Cylinder barrel	Anodized aluminum	Anodized aluminum
2 Bearing end cap	Aluminum	Aluminum
3 Piston rod	Ø 5/8 ... 1	Stainless steel
	Ø 1-1/4 ... 2-1/2	High-alloy steel
4 Dynamic seals	Polyurethane	Fluorocarbon rubber

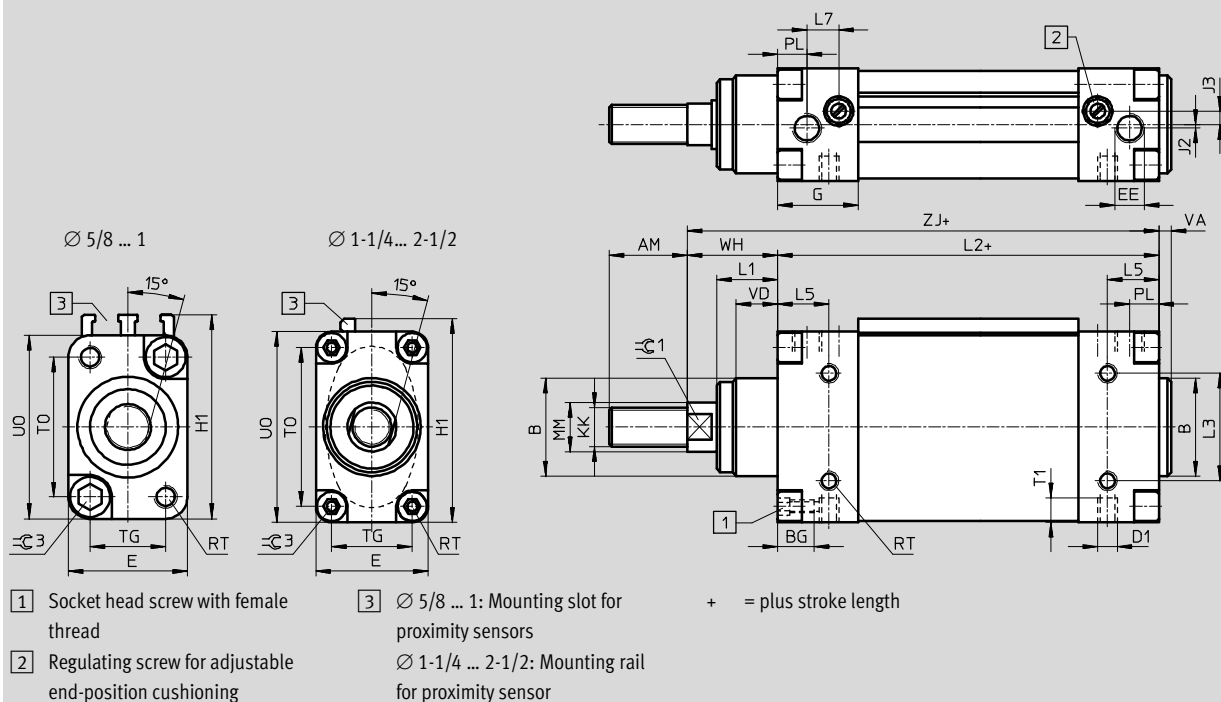
Flat cylinders DZH - Inch Series

Data sheet

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Dimensions

Basic version



Ø [in]	AM	B Ø	BG	D1	D8 Ø	E	EE	G	H1	J2	J3	KK	L1	L2	L3
5/8	0.6	0.6	0.2	8-32 UNC	0.1	0.8	10-32 UNF	0.8	1.4	-0.03	0.1	10-32 UNF	0.5	3.1	0.5
3/4	0.8	0.8	0.2	8-32 UNC	0.1	0.9	1/8" NPT	1.0	1.6	-0.03	0.2	5/16-24 UNF	0.6	3.6	0.6
1	0.9	0.9	0.3	10-24 UNC	0.1	1.0	1/8" NPT	1.0	1.8	-0.01	0.2	3/8-24 UNF	0.6	3.6	0.7
1-1/4	0.9	1.2	0.5	1/4-20 UNC	-	1.4	1/8" NPT	1.1	2.1	-	0.1	3/8-24 UNF	0.6	3.7	0.7
1-5/8	0.9	1.4	0.5	1/4-20 UNC	-	1.6	1/4" NPT	1.3	2.6	-	0.2	1/2-20 UNF	0.8	4.1	1.3
2	1.3	1.6	0.6	5/16-18 UNC	-	1.8	1/4" NPT	1.3	3.2	0.10	0.1	5/8-18 UNF	1.0	4.2	1.7
2-1/2	1.3	1.7	0.6	3/8-16 UNC	-	2.1	3/8" NPT	1.4	4.3	0.16	0.2	5/8-18 UNF	1.1	4.5	2.5

Ø [in]	L5	L7	MM Ø	PL	RT	T1	TG	TO	UO	VA	VD	WH	ZJ	ZM	≈C1 [mm]	≈C3 [mm]
5/8	0.47	0.33	0.2	0.30	M4	0.2	0.5	0.9	1.2	0.1	0.5	0.7	3.8	4.5	5	4
3/4	0.59	0.41	0.3	0.37	M4	0.2	0.6	1.1	1.4	0.1	0.6	0.7	4.3	5.0	7	4
1	0.63	0.39	0.4	0.41	M5	0.3	0.6	1.2	1.6	0.1	0.6	0.8	4.4	5.3	9	5
1-1/4	0.51	0.40	0.5	0.35	M5	0.4	1.0	1.4	1.9	0.2	0.6	1.0	4.7	5.8	10	6
1-5/8	0.65	0.52	0.6	0.43	M5	0.4	1.1	2.0	2.4	0.2	0.8	1.2	5.3	6.5	13	6
2	0.83	0.55	0.8	0.41	M6	0.4	1.3	2.6	3.1	0.2	0.7	1.5	5.6	7.1	17	6
2-1/2	0.89	0.57	0.8	0.49	M6	0.5	1.6	3.5	4.1	0.2	0.8	1.6	6.1	7.7	17	6

Note

The maximum permissible torque must not be exceeded when attaching components onto the piston rod. Counterhold by means of the wrench flats $\approx C1$.

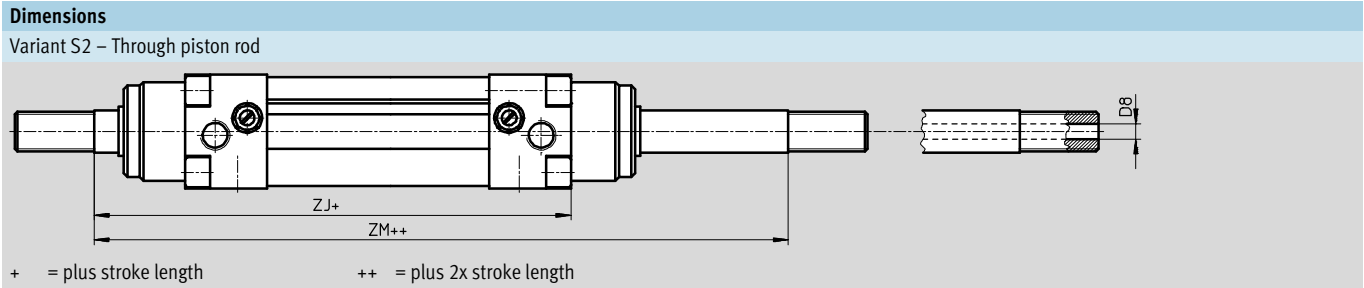
Dimensions are in inches, unless otherwise noted.

2015/04 – Subject to change – DZF/DZH

→ Internet: www.festo.com/catalog/...

Flat cylinders DZH - Inch Series

Data sheet



Ø [in]	D8 Ø	ZJ	ZM
5/8	0.09	3.8	4.5
3/4	0.13	4.3	5.0
1	0.15	4.4	5.3
1-1/4	–	4.7	5.8
1-5/8	–	5.3	6.5
2	–	5.6	7.1
2-1/2	–	6.1	7.7

Dimensions are in inches, unless otherwise noted.

Flat cylinders DZH - Inch Series

Ordering Data

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M Mandatory data					O Options	
Function	Piston Ø	Stroke	Cushioning	Magnet for position sensing	Type of piston rod	Temperature Resistant
DZH	5/8 3/4 1 1 1/4 1 5/8 2 2 1/2	0.04 ... 40	PPV	A	S2	S6
DZH	- 1 5/8	- 10	- PPV	- A	-	S6

Ordering table										
Size	5/8	3/4	1	1 1/4	1 5/8	2	2 1/2	Conditions	Code	Enter code
M Function	Flat, double-acting cylinder								DZH	DZH
Piston Ø [in]	5/8	3/4	1	1 1/4	1 5/8	2	2 1/2		*...	
Stroke [in]	0.04 ... 40								*...	
Cushioning	Adjustable air cushioning at both ends								-PPV	-PPV
Magnet for position sensing	For use with magnetic proximity sensor								-A	-A
O Type of piston rod	Through piston rod								-S2	
Temperature resistant	Heat-resistant seals up to max. 302 °F							1	-S6	

1 Not in combination with S2

Transfer order code

DZH - - **PPV** - **A** -

Flat cylinders DZH - Inch Series

Accessories

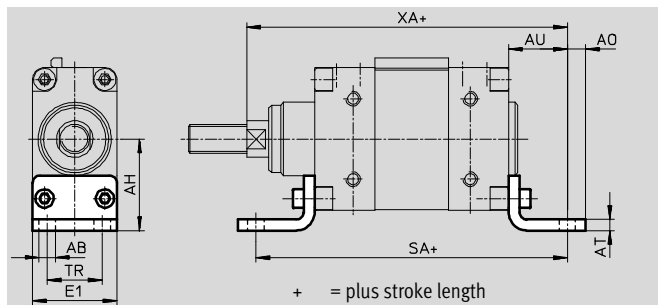
FESTO

Foot mounting HZS, narrow

Material:

Steel

Free of copper, PTFE and silicone



Dimensions and ordering data

For Ø [in]	AB Ø	AH	A0	AT	AU	E1	SA	TR	XA	CRC ¹⁾	Weight [oz]	Part No.	Type
5/8	0.2	1.0	0.2	0.2	0.8	0.8	4.7	0.5	4.6	2	2.1	151933	HZS-16
3/4	0.2	1.1	0.2	0.2	0.8	0.9	5.2	0.6	5.1	2	2.5	151932	HZS-20
1	0.2	1.2	0.2	0.2	1.0	1.0	5.6	0.6	5.4	2	3.2	151931	HZS-25
1-1/4	0.3	1.3	0.3	0.2	0.9	1.4	5.6	0.9	5.7	2	3.7	14879	HZS-32
1-5/8	0.4	1.6	0.4	0.2	1.1	1.6	6.3	1.0	6.4	2	5.8	14880	HZS-40
2	0.4	2.0	0.4	0.2	1.3	1.8	6.7	1.2	6.9	2	9.5	14881	HZS-50
2-1/2	0.4	2.4	0.6	0.2	1.4	2.1	7.3	1.5	7.5	2	12.9	14882	HZS-63

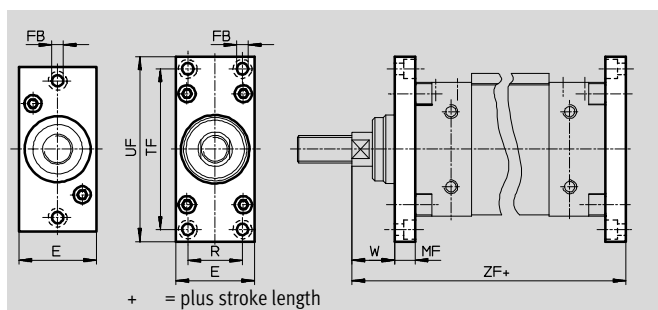
1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Flange mounting FZS

Material:

Wrought aluminum alloy



Dimensions and ordering data

For Ø [in]	E	FB Ø	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight [oz]	Part No.	Type
5/8	0.8	0.19	0.4	–	1.9	2.4	0.3	4.2	2	1.1	151930	FZS-16
3/4	0.9	0.19	0.4	–	2.1	2.8	0.3	4.7	2	1.4	151929	FZS-20
1	1.1	0.23	0.4	–	2.4	3.0	0.4	4.8	2	1.8	151928	FZS-25
1-1/4	1.4	0.23	0.4	0.9	2.4	3.0	0.6	5.1	2	2.1	14887	FZS-32
1-5/8	1.6	0.23	0.4	1.1	3.1	3.5	0.8	5.7	2	2.8	14888	FZS-40
2	1.8	0.27	0.5	1.3	3.7	4.3	1.0	6.1	2	4.8	14889	FZS-50
2-1/2	2.1	0.27	0.6	1.6	4.7	5.3	1.0	6.7	2	9.2	14890	FZS-63

1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

All dimensions are in inches, unless otherwise noted.

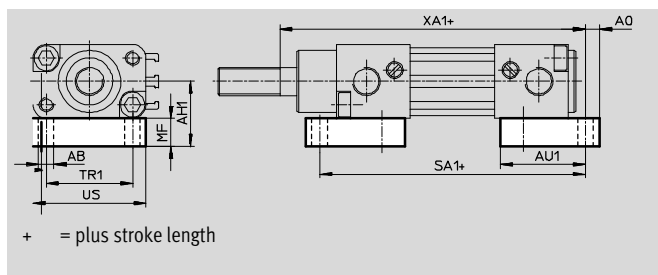
Flat cylinders DZH - Inch Series

Accessories

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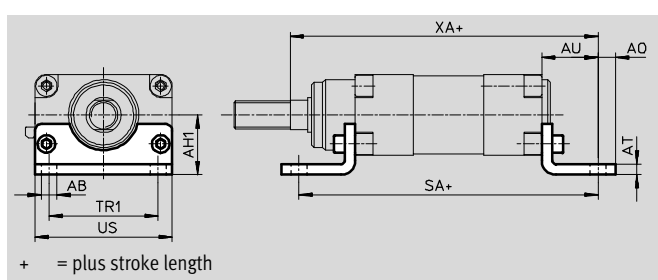
Foot mounting HZB, wide for piston Ø 5/8 ... 1 inch

Material:
Wrought aluminum alloy



for piston Ø 1-1/4 ... 2-1/2 inch

Material:
Steel



Dimensions and ordering data

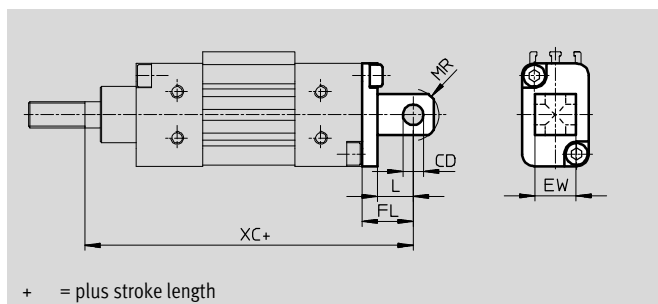
For Ø [in]	AB Ø	AH1	AO	AT	AU	AU1	MF	SA	SA1	TR1	US	XA	XA1	CRC ¹⁾	Weight [oz]	Part No.	Type
5/8	0.2	0.8	0.2	–	–	0.9	0.4	–	3.5	0.9	1.2	–	4.0	2	1.8	151936	HZB-16
3/4	0.2	0.8	0.2	–	–	1.0	0.4	–	4.0	1.1	1.4	–	4.5	2	2.1	151935	HZB-20
1	0.2	0.9	0.2	–	–	1.2	0.4	–	4.1	1.2	1.6	–	4.7	2	2.8	151934	HZB-25
1-1/4	0.3	1.0	0.3	0.2	0.9	–	–	5.6	–	1.3	1.9	5.7	–	2	4.6	14875	HZB-32
1-5/8	0.4	1.1	0.4	0.2	1.1	–	–	6.3	–	1.8	2.4	6.4	–	2	8.3	14876	HZB-40
2	0.4	1.3	0.4	0.2	1.3	–	–	6.7	–	2.4	3.1	6.9	–	2	14.5	14877	HZB-50
2-1/2	0.4	1.5	0.6	0.2	1.4	–	–	7.3	–	3.5	4.1	7.5	–	2	22.6	14878	HZB-63

1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Swivel flange SZSB, narrow/wide for piston Ø 5/8 ... 1 inch

Material:
High-alloy stainless steel



Dimensions and ordering data

For Ø [in]	CD Ø	EW	FL	L	XC	Weight [oz]	Part No.	Type
5/8	0.16	0.3	0.6	0.3	4.3	0.35	151927	SZSB-16
3/4	0.24	0.5	0.6	0.4	4.9	0.71	151926	SZSB-20
1	0.31	0.6	0.8	0.6	5.2	1.41	151925	SZSB-25

All dimensions are in inches, unless otherwise noted.

2015/04 – Subject to change – DZF/DZH

➔ Internet: www.festo.com/catalog/...

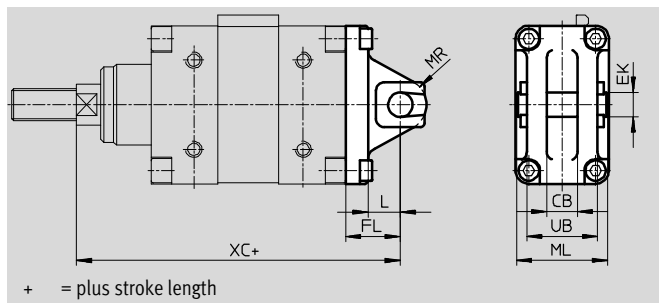
Flat cylinders DZH - Inch Series

Accessories

FESTO

Swivel flange SZS, narrow for piston Ø 1-1/4 ... 2-1/2 inch

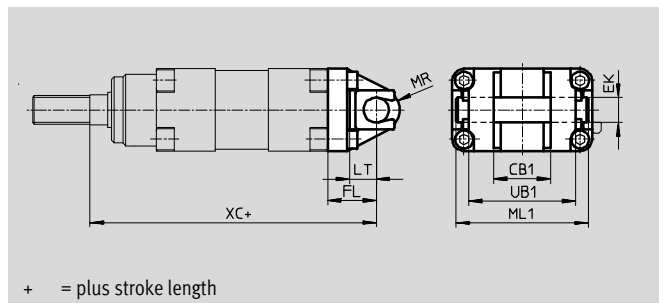
Material:
Die-cast aluminum



Dimensions and ordering data										
For Ø [in]	CB	EK Ø	FL	L	ML	MR	UB	XC	Weight [oz]	Part No. Type
1-1/4	0.37	0.4	0.9	0.53	1.40	0.4	1.02	5.6	2.8	14883 SZS-32
1-5/8	0.49	0.5	1.0	0.61	1.56	0.5	1.13	6.3	4.2	14884 SZS-40
1	0.57	0.5	1.1	0.61	1.80	0.5	1.37	6.7	6.0	14885 SZS-50
2-1/2	0.65	0.6	1.4	0.88	2.11	0.7	1.61	7.5	11.3	14886 SZS-63

Swivel flange SZB, wide for piston Ø 1-1/4 ... 2-1/2 inch

Material:
High-alloy stainless steel



Dimensions and ordering data										
For Ø [in]	CB1	EK Ø	FL	LT	ML1	MR	UB1	XC	Weight [oz]	Part No. Type
1-1/4	0.6	0.4	0.9	0.6	1.9	0.4	1.4	5.6	6.0	30798 SZB-32
1-5/8	1.1	0.5	1.0	0.6	2.4	0.5	2.0	6.3	9.9	30799 SZB-40
2	1.3	0.5	1.1	0.6	3.0	0.5	2.4	6.7	14.5	30629 SZB-50
2-1/2	1.6	0.6	1.4	0.9	4.1	0.7	2.8	7.5	23.3	30630 SZB-63

All dimensions are in inches, unless otherwise noted.

Flat cylinders DZH - Inch Series

Accessories

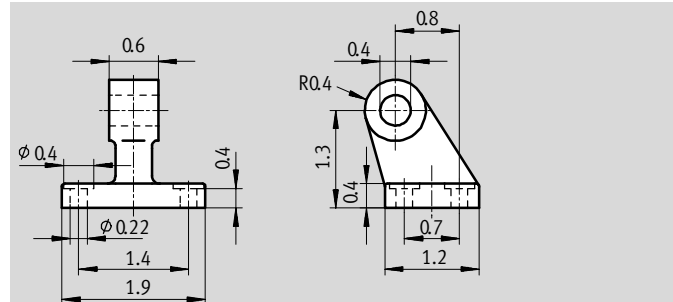
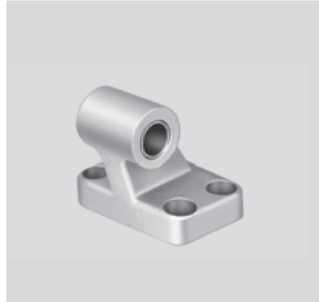
FESTO

Clevis foot LBZB

for piston $\varnothing$ 1-1/4 inch

Material:

High-alloy stainless steel

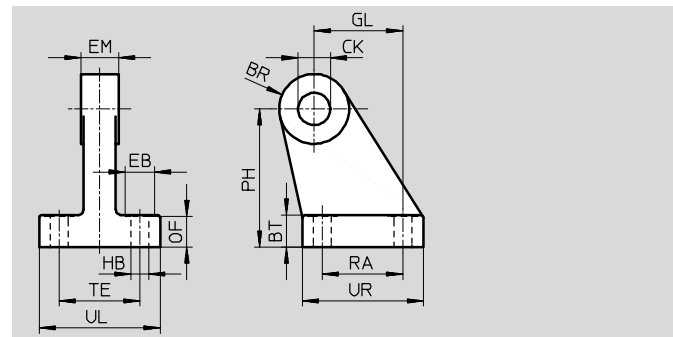


Clevis foot LBZS

for piston $\varnothing$ 1-1/4 ... 2-1/2 inch

Material:

High-alloy stainless steel



Dimensions and ordering data

For Ø [in]	BR	BT	CK Ø	EB Ø	EM	GL	HB Ø	OF	PH	RA	TE	UL	UR	Weight [oz]	Part No.	Type
LBZB																
1-1/4	Dimensions → shown above														33842	LBZB-32
LBZS																
1-1/4	0.4	0.3	0.4	0.4	0.4	0.8	0.22	0.29	1.3	0.7	0.9	1.4	1.2	3.2	33843	LBZS-32
1-5/8	0.4	0.4	0.5	0.4	0.4	0.9	0.22	0.37	1.6	0.9	1.1	1.5	1.4	4.8	33844	LBZS-40
2	0.5	0.5	0.5	0.4	0.5	1.3	0.26	0.45	2.0	1.2	1.2	1.8	1.8	8.3	33845	LBZS-50
2-1/2	0.6	0.5	0.6	0.4	0.6	1.5	0.26	0.44	2.4	1.4	1.5	2.1	2.0	10.8	33846	LBZS-63

All dimensions are in inches, unless otherwise noted.

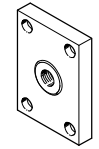
Ordering data – Mounting attachments

Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Clevis foot LBN				Clevis foot LN			
	5/8	6058	LBN-12/16		1-1/4	5147	LN-32
	3/4	6059	LBN-20/25		1-5/8	5148	LN-40
	1				2	5149	LN-50
					2-1/2	5150	LN-63
Clevis foot LBG				Right-angle clevis foot LQG			
	1-1/4	31761	LBG-32		1-1/4	31768	LQG-32
	1-5/8	31762	LBG-40		1-5/8	31769	LQG-40
	2	31763	LBG-50		2	31770	LQG-50
	2-1/2	31764	LBG-63		2-1/2	31771	LQG-63

Flat cylinders DZH - Inch Series

Accessories

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Ordering data – Piston rod attachments							
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Rod eye SGS				Coupling piece KSZ			
	5/8	532694	SGS-10-32		5/8	–	
	3/4	13002871	SGS-5/16-24		3/4		
	1	532696	SGS-3/8-24		1	36129	KSZ-3/8-24-UNF
	1-1/4				1-1/4		
	1-5/8	532697	SGS-1/2-20		1-5/8	36130	KSZ-1/2-20-UNF
	2	532698	SGS-5/8-18		2	36131	KSZ-5/8-18-UNF
	2-1/2				2-1/2		
Rod clevis SG				Self-aligning rod coupler FK			
	5/8	13005667	SG-10-32		5/8	532703	FK-10-32
	3/4	11129	SG-5/16"-24		3/4	532704	FK-5/16-24
	1	546540	SG-3/8"-24-B		1	532705	FK-3/8-24
	1-1/4				1-1/4		
	1-5/8	546545	SG-1/2-20-B		1-5/8	532706	FK-1/2-20
	2	546575	SG-5/8-18-B		2	532707	FK-5/8-18
	2-1/2				2-1/2		

Ordering data – Block-shaped proximity sensor, magneto-resistive							
	Mounting	Switch out-put	Electrical connection		Cable length [ft]	Part No.	Type
			Cables	M8 plug			
NO contact							
	With mounting kit	PNP	3 wires	–	8.2	151 683	SMT0-1-PS-K-LED-24-C
			–	3-pin	–	151 685	SMT0-1-PS-S-LED-24-C
		NPN	3 wires	–	8.2	151 684	SMT0-1-NS-K-LED-24-C
			–	3-pin	–	151 686	SMT0-1-NS-S-LED-24-C

Ordering data – Block-shaped proximity sensor, magnetic reed						
	Mounting	Electrical connection		Cable length [ft]	Part No.	Type
		Cables	M8 plug			
NO contact						
	With mounting kit	3 wires	–	8.2	30459	SME0-1-LED-24-B
		3 wires	–	16.4	151672	SME0-1-LED-24-K5-B
		–	3-pin	–	150848	SME0-1-S-LED-24-B

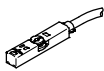
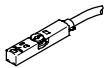
Ordering data – Block-shaped proximity sensor, pneumatic				
	Mounting	Pneumatic connection	Part No.	Type
3/2-way valve, normally closed				
	With mounting kit	Barbed fitting for tubing ID of Q1 inch	31008	SMPO-1-H-B

Ordering data – Mounting kit					
	Mounting			Part No.	Type
	for cylinder with tie rod Ø Q2 inch or DUO rail mounting profile			11886	SMB-1

Flat cylinders DZH - Inch Series

Accessories

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Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data ➔ Internet: smt
	Type of mounting	Switch out-put	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0,3-M12
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D
N/C contact						
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE

Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data → Internet: sme	
	Type of mounting	Switch out-put	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	543 862	SME-8M-DS-24V-K-2,5-OE	
				5.0	543 863	SME-8M-DS-24V-K-5,0-OE	
			Cable, 2-wire Plug M8x1, 3-pin	2.5	543 872	SME-8M-ZS-24V-K-2,5-OE	
				0.3	543 861	SME-8M-DS-24V-K-0,3-M8D	
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150 855	SME-8-K-LED-24	
			Plug M8x1, 3-pin	0.3	150 857	SME-8-S-LED-24	
N/C contact							
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	160 251	SME-8-O-K-LED-24	

Ordering data – Connecting cables				Technical data → www.festo.com/catalogue/nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5.0	541334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541363	NEBU-M12G5-K-2.5-LE3
			5.0	541364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3
			5.0	541341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541367	NEBU-M12W5-K-2.5-LE3
			5.0	541370	NEBU-M12W5-K-5-LE3

Ordering data – Slot cover for T-slot					
	Mounting	Length [ft]	Part No.	Type	
	inserted from above	2x 0.5	151680	ABP-5-S	

Flat cylinders DZH - Inch Series

Accessories

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Ordering data – One-way flow control valves				
	Connection		Part No.	Type
	Thread	For tubing OD		
For exhaust air				
	10-32 UNF	5/32	165008	GRLA-10-32-UNF-QS-5/32-U
		1/4	192753	GRLA-10-32-UNF-QS-1/4-U
	1/8" NPT	5/32	165009	GRLA-1/8-NPT-QS-5/32-U
		3/16	190941	GRLA-1/8-NPT-QS-3/16-U
		1/4	165010	GRLA-1/8-NPT-QS-1/4-U
		5/16	165013	GRLA-1/8-NPT-QS-5/16-U
	1/4" NPT	3/16	190944	GRLA-1/4-NPT-QS-3/16-U
		1/4	165011	GRLA-1/4-NPT-QS-1/4-U
		5/16	165014	GRLA-1/4-NPT-QS-5/16-U
		3/8	190947	GRLA-1/4-NPT-QS-3/8-U
	3/8" NPT	1/4	165012	GRLA-3/8-NPT-QS-1/4-U
		5/16	165015	GRLA-3/8-NPT-QS-5/16-U
		3/8	190950	GRLA-3/8-NPT-QS-3/8-U
		1/2	190951	GRLA-3/8-NPT-QS-1/2-U
For supply air				
	10-32 UNF	–	151576	GRLZ-10-UNF-B
			151579	GRLZ-10-UNF-RS-B
		3/16	151577	GRLZ-10-UNF-3/16-B
		1/4	151578	GRLZ-10-UNF-1/4-B
	1/8" NPT	–	151561	GRLZ-1/8-NPT-B
			151564	GRLZ-1/8-NPT-RS-B
		1/4	151562	GRLZ-1/8-NPT-1/4-B

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