

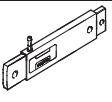
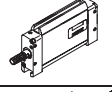
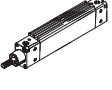


- Extremely flat design
- Protected against torsion thanks to special piston shape
- Compact assembly with block mounting
- Wide variety of mounting options

Flat cylinders EZH/DZF/DZH

Product range overview

FESTO

Function	Design	Type	Piston Ø [mm]	Stroke [mm]
Single-acting		EZH Single-ended piston rod	1.5x6.5	3.6
			2.5x9	5.6
			5x20	12
			10x40	22
				40
Double-acting		DZF Single-ended piston rod	12, 18, 25	10, 25, 40, 50, 80, 100, 125, 160, 200
			32, 40, 50, 63	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 320
		DZF-...-S2 Through piston rod	12, 18, 25	–
			32, 40, 50, 63	–
				–
Double-acting		DZH Single-ended piston rod	16	25, 40, 50, 80, 100, 125, 160, 200
			20	25, 40, 50, 80, 100, 125, 160, 200, 250, 320
			25	25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500
			32, 40, 50, 63	25, 40, 50, 80, 100, 125, 160, 200, 250, 300
				–
		DZH-...-S2 Through piston rod	16	–
			20	–
			25	–
			32, 40, 50, 63	–
				–

Flat cylinders EZH/DZF/DZH

Product range overview

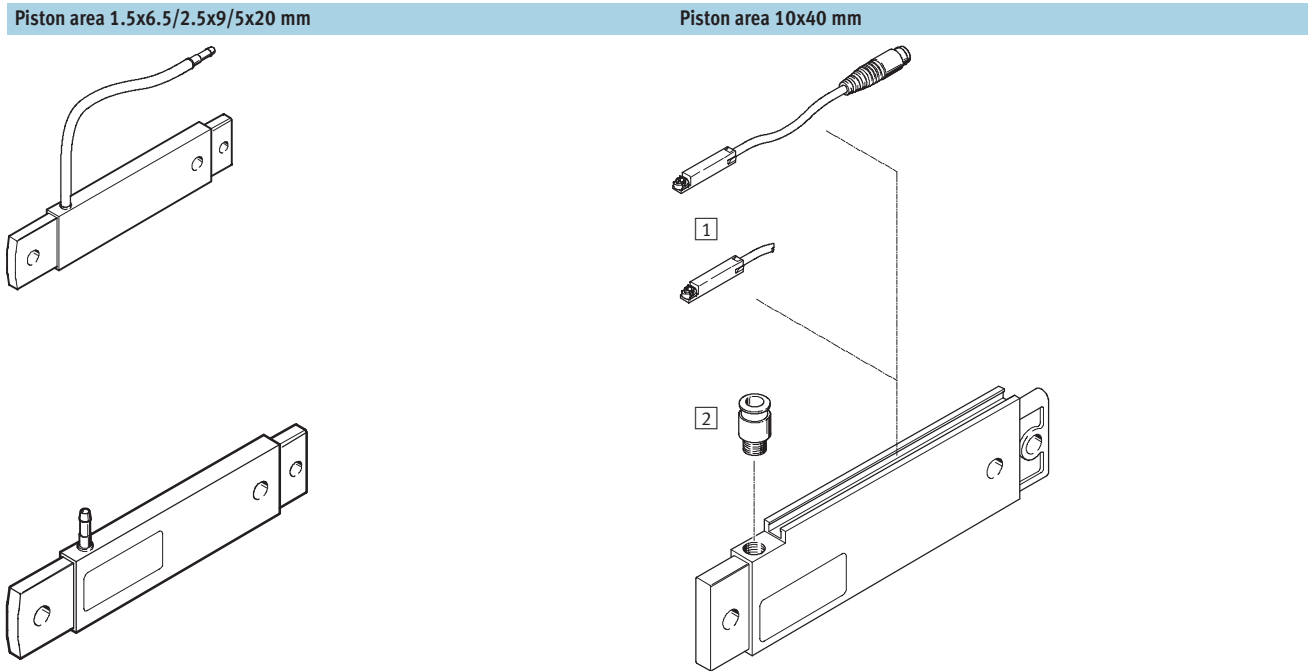
FESTO

Type	Position sensing	Piston rod		Non-rotating	S20 Hollow piston rod	S6 Heat resistant seals up to 120 °C	→ Page
		with female thread	with male thread				
EZH Single-ended piston rod	■ for 10x40	–	–	■	–	–	1 / 2.3-4
DZF Single-ended piston rod	■	■	■	■	–	■	1 / 2.3-8
DZF-...-S2 Through piston rod	■	■	■	■	■	■	1 / 2.3-8
DZH Single-ended piston rod	■	–	■	■	–	■	1 / 2.3-22
DZH-...-S2 Through piston rod	■	–	■	■	■ Ø 16 ... 25	■	1 / 2.3-22

Flat cylinders EZH

Peripherals overview and type codes

FESTO



Accessories		
	Brief description	→ Page
1	Proximity sensor SME/SMT-8	Can be integrated in the cylinder profile barrel 1 / 2.3-37
2	Push-in fitting QSM-G1/8-...-I, QS-G1/8-...-I	For connecting compressed air tubing with standard external diameters Volume 3

EZH		2.5x9		20				B	
Type									
Single-acting									
EZH		Flat cylinder							
Piston area [mm]									
Stroke [mm]									
Position sensing									
No position sensing									
A		For proximity sensing							
Generation									
		Series A							
B		Series B							

Flat cylinders EZH

Technical data

FESTO

Function

EZH-...

Without end-position sensing



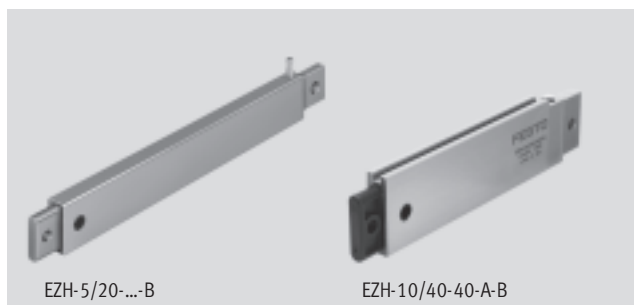
EZH-...-A-B

For end position sensing



- Ø - Diameter
approx. 3.6 ... 22 mm

- I - Stroke length
10 ... 50 mm



General technical data						
Piston area	1.5x6.5	2.5x9	2.5x9	5x20	5x20	10x40
Stroke length	10	10	20	25	50	40
Equivalent piston Ø	3.6	5.6	5.6	12	12	22
Pneumatic connection	Barbed fitting PK-3 for 3 mm plastic tubing					G $\frac{1}{8}$
Operating medium	Filtered compressed air, lubricated or unlubricated					
Constructional design	Piston Piston rod					
Cushioning	None					
Position sensing	-	-	-	-	-	For proximity sensing
Type of mounting	With transverse bore					
Mounting position	Any					

Operating conditions						
Piston area	1.5x6.5	2.5x9	2.5x9	5x20	5x20	10x40
Stroke length	10	10	20	25	50	40
Operating pressure [bar]	3.0 ... 6.0	2.5 ... 6.0	2.8 ... 6.0	2.5 ... 6.0	2.5 ... 6.0	2.5 ... 6.0
Ambient temperature ¹⁾ [°C]	0 ... +60					
Corrosion resistance class CRC ²⁾	2					

1) Observe operating range of proximity sensors

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

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Forces [N]						
Piston area	1.5x6.5	2.5x9	2.5x9	5x20	5x20	10x40
Stroke length	10	10	20	25	50	40
Theoretical force at 6 bar, advancing	3.0	7.5	6.0	42.0	38.0	205.0
Spring return force	1.0	3.0	2.8	8.0	10.6	28.0

Flat cylinders EZH

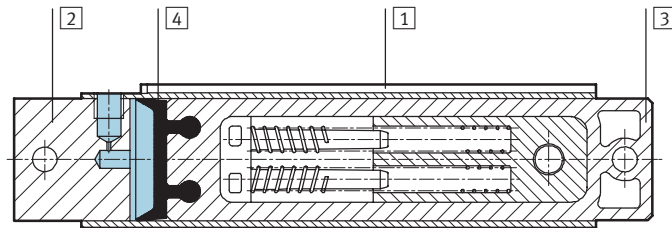
Technical data

FESTO

Weights [g]						
Piston area	1.5x6.5	2.5x9	2.5x9	5x20	5x20	10x40
Stroke length	10	10	20	25	50	40
Product weight	4	11	17	108	145	242

Materials

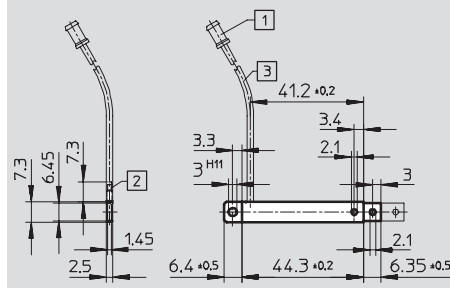
Sectional view



Piston area	1.5x6.5	2.5x9	2.5x9	5x20	5x20	10x40
Stroke length	10	10	20	25	50	40
1 Housing	Aluminium					
2 Cover	Aluminium					
3 Rectangular piston	Polyamide, reinforced	High-alloy steel				Polyamide, reinforced
4 Seal	Polyurethane					

Dimensions EZH-1,5/6,5-10

Download CAD data → www.festo.com/en/engineering



- 1 Barbed fittings for 3 mm plastic tubing
- 2 Barbed fittings for 1.5 mm plastic tubing
- 3 200 mm tubing length

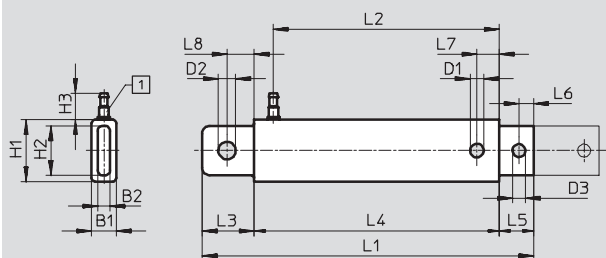
Flat cylinders EZH

Technical data

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Dimensions EZH-2,5/9-... and EZH-5/20-...

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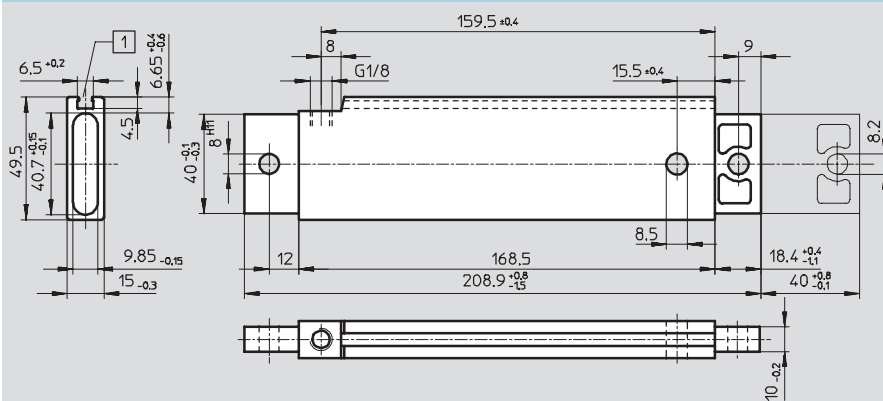
1 Barbed fittings for 3 mm plastic tubing

Type	B1	B2	D1 Ø	D2 Ø H11	D3 Ø	H1	H2	H3
EZH-2,5/9-10	4.9	2.5	3.1	4	3.1	12	9.9	10.7
EZH-2,5/9-20	4.9	2.4	3.1	4	3.1	12	9.9	10.7
EZH-5/20-25	10	4.9	5.5	7	5.2	25	21.9	10.7
EZH-5/20-50	10	4.9	5.5	7	5.2	25	21.9	10.7

Type	L1	L2	L3	L4 +0.2	L5	L6	L7	L8
EZH-2,5/9-10	67 +0.7/-0.8	43.6	10 +0.3/-0.5	48.6	8.4 +0.3/-0.5	4	4.5	5.5
EZH-2,5/9-20	99 ±0.7	75.5	10 +0.3/-0.5	80.6	8.4 +0.3/-0.5	4	4.5	5.5
EZH-5/20-25	133.9 +0.6/-0.8	91.3	21 +0.3/-0.5	99	13.9 +0.3/-0.5	6	9	11
EZH-5/20-50	205.9 +0.8/-1.1	163.3	21 +0.5/-0.7	171	13.9 +0.3/-0.6	6	9	11

Dimensions EZH-10/40-40-A-B

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1 Mounting slot for proximity sensor SME/SMT-8

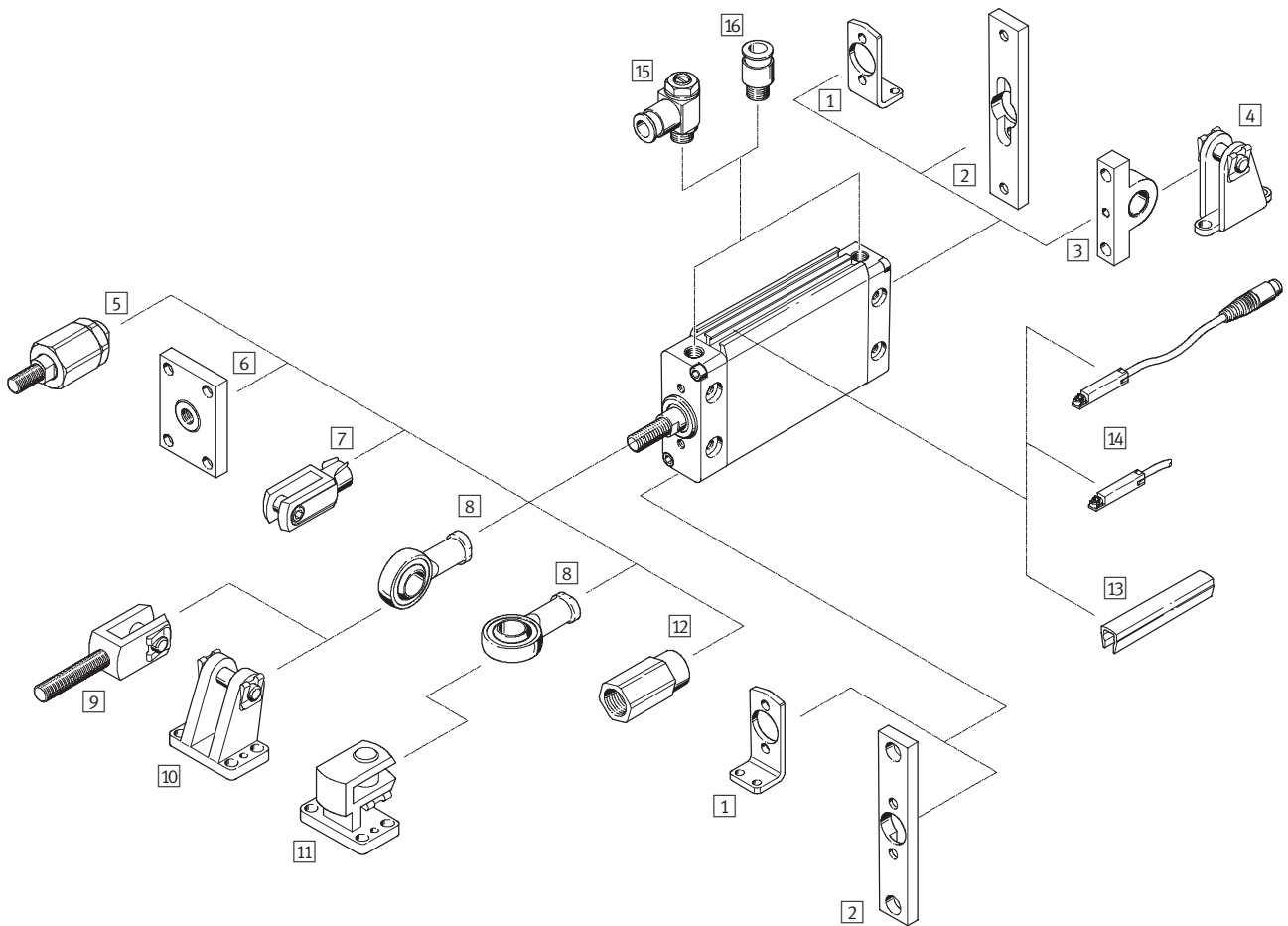
Ordering data

Type	Piston area [mm]	Stroke [mm]	Part No.	Type
Without end-position sensing				
	1.5x6.5	10	13 009	EZH-1,5/6,5-10
	2.5x9	10	164 991	EZH-2,5/9-10-B
		20	164 992	EZH-2,5/9-20-B
	5x20	25	164 993	EZH-5/20-25-B
		50	164 994	EZH-5/20-50-B
For end position sensing				
	10x40	40	164 990	EZH-10/40-40-A-B

Flat cylinders DZF

Peripherals overview

FESTO



Cylinders with piston rod
Flat cylinders

2.3

Flat cylinders DZF

Peripherals overview

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Mounting attachments and accessories				
	Brief description	Piston Ø 16 ... 40 mm	Piston Ø 50 ... 63 mm	→ Page
1	Foot mounting HZF	■	■	1 / 2.3-19
2	Flange mounting FZF	■	■	1 / 2.3-19
3	Swivel flange SZF	■	■	1 / 2.3-20
4	Clevis foot LZF	■	■	1 / 2.3-20
5	Self-aligning rod coupler FK	■	■	1 / 2.3-21
6	Coupling piece KSZ	■	■	1 / 2.3-21
7	Rod clevis SG	■	■	1 / 2.3-21
8	Rod eye SGS	■	■	1 / 2.3-21
9	Rod clevis SGA	■	■	1 / 2.3-21
10	Clevis foot LBG	■	■	1 / 2.3-21
11	Right-angle clevis foot LQG	■	■	1 / 2.3-21
12	Adapter AD	■ S20	–	1 / 2.3-21
13	Slot cover ABP-5-S	■	■	1 / 2.3-37
14	Proximity sensor SME/SMT-8	■	■	1 / 2.3-37
15	One-way flow control valve GRLA/GRLZ	■	■	1 / 2.3-38
16	Push-in fitting QS	■	■	Volume 3

Flat cylinders DZF

Type codes

FESTO

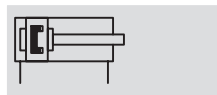
DZF		-	25	-	100	-		-	P	-	A	-	
Type													
Double-acting													
DZF	Flat cylinder												
Piston $\varnothing$ [mm]													
Stroke [mm]													
Piston rod thread													
	Female thread												
A	Male thread												
Cushioning													
P	Flexible cushioning rings/plates at both ends												
Position sensing													
A	For proximity sensing												
Variant													
S2	Through piston rod												
S6	Heat resistant seals up to 120 °C												
S20	Through, hollow piston rod												

Flat cylinders DZF

Technical data

FESTO

Function



-  Diameter
12 ... 63 mm
-  Stroke length
10 ... 320 mm

-  www.festo.com/en/Spare_parts_service

Variants



S2



S6



S20



General technical data							
Piston Ø	12	18	25	32	40	50	63
Pneumatic connection	M5	M5	M5	G $\frac{1}{8}$	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$
Piston rod thread	female	M3	M4	M5	M6	M8	M10
	male	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5
Operating medium	Filtered compressed air, lubricated or unlubricated						
Constructional design	Piston						
	Piston rod						
Cushioning	Flexible cushioning rings/plates at both ends						
Position sensing	For proximity sensing						
Type of mounting	Via through holes						
	With female thread						
	With accessories						
Mounting position	Any						

Operating pressure [bar]							
Piston Ø	12	18	25	32	40	50	63
	1.6 ... 10	1 ... 10					

Ambient conditions		
Variant	Basic version	S6
Ambient temperature ¹⁾ [°C]	0 ... +80	0 ... +120
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 requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Forces [N] and impact energy [J]							
Piston Ø	12	18	25	32	40	50	63
Theoretical force at 6 bar, advancing	68	162	295	483	754	1,178	1,870
	S2/S20	51	122	247	415	633	990
Theoretical force at 6 bar, retracting	51	122	247	415	633	990	1,682
	S2/S20	51	122	247	415	633	990
Max. impact energy at end positions	0.09	0.10	0.10	0.40	0.52	0.64	0.70

Flat cylinders DZF

Technical data

FESTO

Torque [Nm] and torsional backlash [°]							
Piston Ø	12	18	25	32	40	50	63
Max. torque at the piston rod ¹⁾	0.1	0.2	0.5	0.8	1.0	1.2	1.5
Max. torsional backlash of the piston rod	±2.5	±1.2	±1.0	±0.8	±0.6	±0.5	±0.4

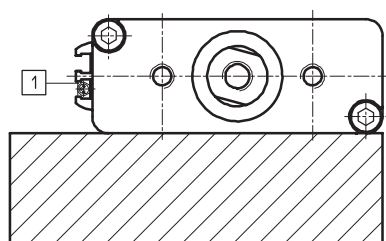
1) The max. torque must also be observed when fitting mounting attachments to the piston rod

Weights [g]							
Piston Ø	12	18	25	32	40	50	63
Product weight at 0 mm stroke	96	107	168	272	480	855	1,380
Additional weight per 10 mm stroke	9	13	18	24	40	64	91

Safety clearances for reliable switching function

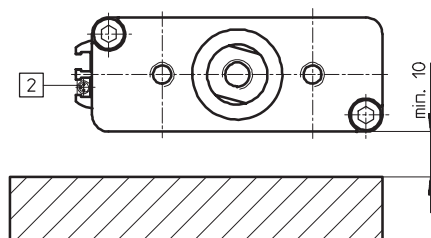
Cylinder – Ferritic components

If the cylinder is mounted on a ferritic component, piston position sensing is possible using proximity sensors SMT-8.



1 SMT-8...

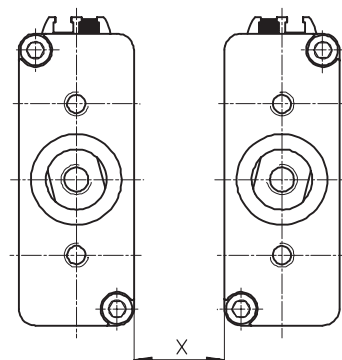
If a proximity sensor SME-8 is used, then with piston Ø 12 to 32 mm, a minimum clearance to the ferritic component of 10 mm must be maintained.



2 SME-8...

Cylinder – Cylinder

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	12	18	25	32	40	50	63
Min. safety clearance X [mm]	SMT-8...			25	45	80	
	SME-8...			45	65	50	

Flat cylinders DZF

Technical data

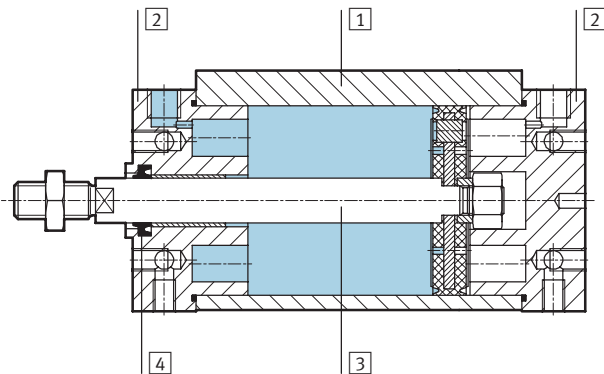
FESTO

Cylinders with piston rod
Flat cylinders

2.3

Materials

Sectional view

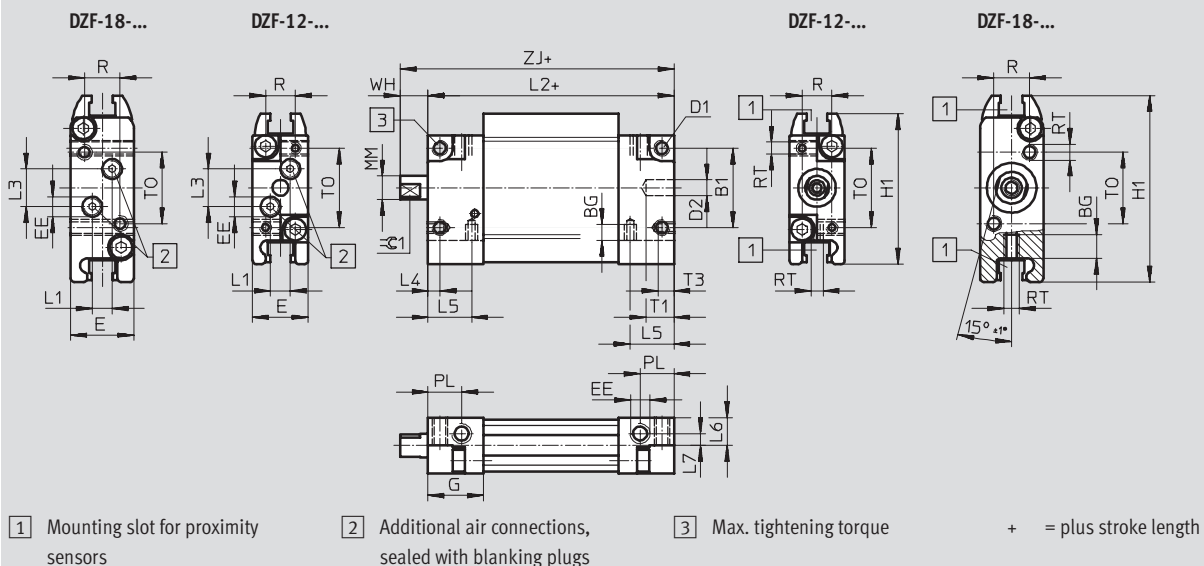


Flat cylinder	Basic version	S6
1 Cylinder barrel	Wrought aluminium alloy, anodised	Wrought aluminium alloy, anodised
2 Bearing end cap	Wrought aluminium alloy	Wrought aluminium alloy
3 Piston rod	$\varnothing 12 \dots 25$ High-alloy stainless steel $\varnothing 32 \dots 63$ High-alloy steel	$\varnothing 12 \dots 25$ High-alloy stainless steel $\varnothing 32 \dots 63$ High-alloy steel
4 Dynamic seals	Polyurethane	Fluorocarbon rubber

Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering

$\varnothing 12, 18$



$\varnothing$ [mm]	B1	BG	D1	D2 $\varnothing$ H9	E	EE	G	H1	L1	L2	L3	L4	L5
12	20	4	M4	4	14	M5	14	38	5	62	9.5	3	11
18	20	6	M4	4	16	M5	14	47	5	62	9.5	3.5	5

$\varnothing$ [mm]	L6	L7	MM $\varnothing$	PL	R	RT	T1	T3	T0	WH	ZJ	$\approx \varnothing$ h13	Max. tightening torque [Nm] +10%
12	7	3	6	8.5	7.5	M3	7	4	20	7	69	5	2.9
18	–	–	8	8.5	9	M4	7	6	18	7	69	7	2.9

Flat cylinders DZF

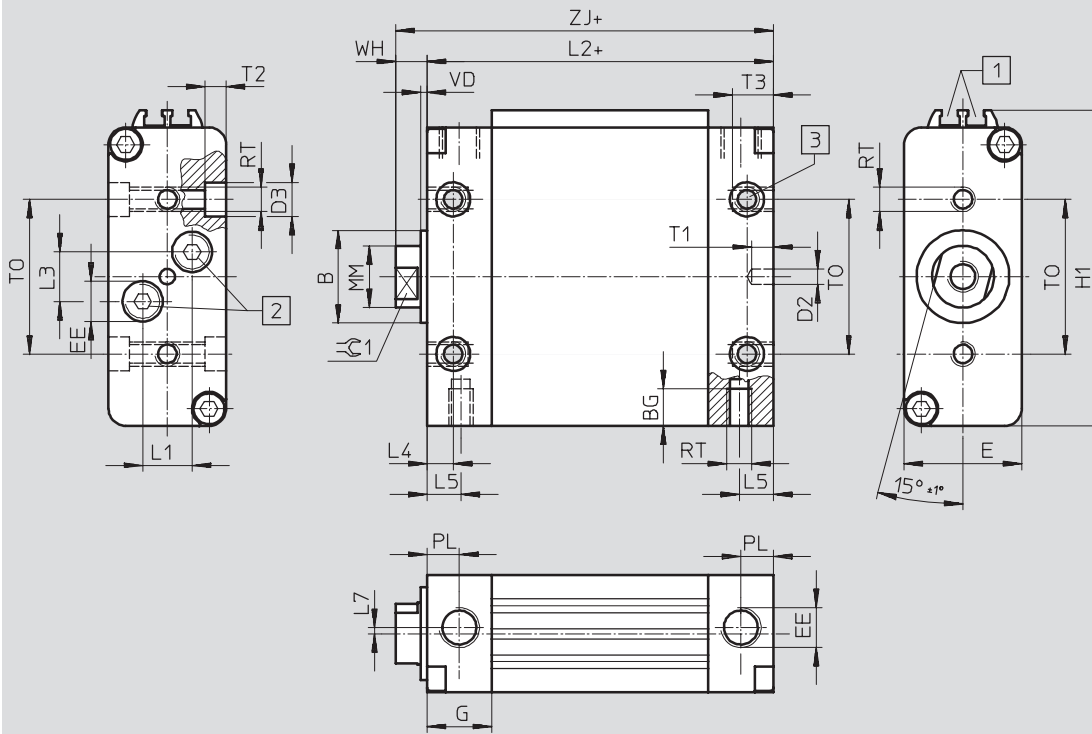
Technical data

FESTO

Dimensions – Basic version

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Piston Ø 25 ... 63



1 Mounting slot for proximity sensors

2 Additional air connections, sealed with blanking plugs

3 Max. tightening torque

+ = plus stroke length

Ø [mm]	B Ø h9	BG	D2 Ø H9	D3 Ø	E	EE	G	H1	L1	L2	L3	L4	L5
25	16	8	4	8	20	M5	12	56	6	62	10	5	5
32	20	9	4	10	24	G $\frac{1}{8}$	17	65	7.5	72	14.5	8.5	8.5
40	25	9	4	10	30	G $\frac{1}{8}$	17	82	7.5	76	14.5	8.5	8.5
50	30	12	5	11	38	G $\frac{1}{4}$	21	102	16	82	16	8.5	8.5
63	30	14	5	15	50	G $\frac{1}{4}$	21	126.5	19	82	21	8.5	8.5

Ø [mm]	L7	MM Ø	PL	RT	T1	T2	T3	T0	VD	WH	ZJ	≈C1 h13	Max. tightening torque [Nm] +10%
25	–	10	6	M5	7	4	8	25	2	8	70	9	4
32	1.5	12	8.5	M6	7	4	9	32	2	8	80	10	9.9
40	–	16	8.5	M6	7	5	9	40	2	9	85	13	9.9
50	–	20	10.5	M8	7	6	12	50	2	10	92	17	20
63	–	20	10.5	M10	7	6	14	60	2	10	92	17	35

Flat cylinders DZF

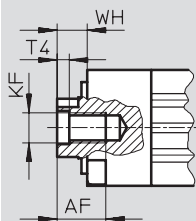
Technical data

FESTO

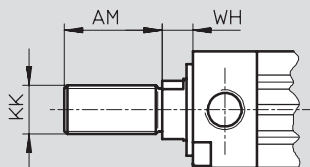
Dimensions – Variants

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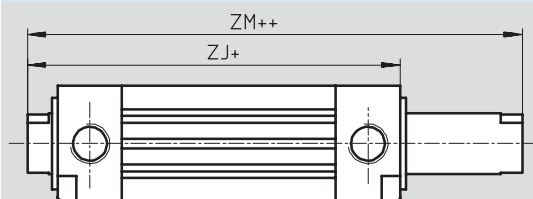
Basic version with female thread



Basic version with male thread

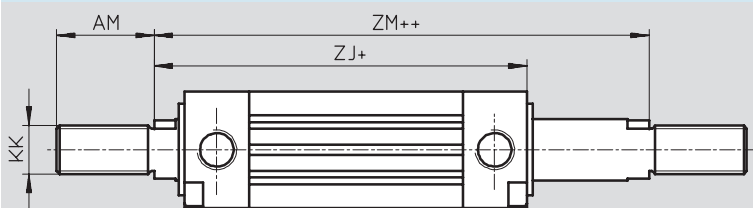


S2 – Through piston rod with female thread



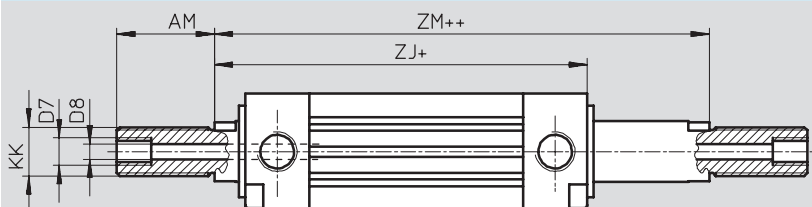
+ = plus stroke length
++ = plus 2x stroke length

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	AF	AM	D7	D8	KF	KK	T4	WH	ZJ	ZM
[mm]				Ø						
12	8	16	–	1.8	M3	M6	1.5	7	69	76
18	10	20	–	2.8	M4	M8	1.5	7	69	76
25	12	22	–	3.8	M5	M10x1.25	2	8	70	78
32	14	22	–	4.5	M6	M10x1.25	2.6	8	80	88
40	16	24	–	6	M8	M12x1.25	3.3	9	85	94
50	20	32	G1/8	8	M10	M16x1.5	4.7	10	92	102
63	20	32	G1/8	8	M10	M16x1.5	4.7	10	92	102

Flat cylinders DZF

Technical data

FESTO

Cylinders with piston rod
Flat cylinders

2.3

Ordering data – Basic version						
Type	Piston Ø [mm]	Stroke [mm]	Piston rod with female thread		Piston rod with male thread	
			Part No.	Type	Part No.	Type
	12	10	164 003	DZF-12-10-P-A	161 224	DZF-12-10-A-P-A
		25	164 004	DZF-12-25-P-A	161 225	DZF-12-25-A-P-A
		40	164 005	DZF-12-40-P-A	161 226	DZF-12-40-A-P-A
		50	164 006	DZF-12-50-P-A	161 227	DZF-12-50-A-P-A
		80	164 007	DZF-12-80-P-A	161 228	DZF-12-80-A-P-A
		100	164 008	DZF-12-100-P-A	161 229	DZF-12-100-A-P-A
		125	164 009	DZF-12-125-P-A	161 230	DZF-12-125-A-P-A
		160	164 010	DZF-12-160-P-A	161 231	DZF-12-160-A-P-A
		200	164 011	DZF-12-200-P-A	161 232	DZF-12-200-A-P-A
	18	10	164 015	DZF-18-10-P-A	161 237	DZF-18-10-A-P-A
		25	164 016	DZF-18-25-P-A	161 238	DZF-18-25-A-P-A
		40	164 017	DZF-18-40-P-A	161 239	DZF-18-40-A-P-A
		50	164 018	DZF-18-50-P-A	161 240	DZF-18-50-A-P-A
		80	164 019	DZF-18-80-P-A	161 241	DZF-18-80-A-P-A
		100	164 020	DZF-18-100-P-A	161 242	DZF-18-100-A-P-A
		125	164 021	DZF-18-125-P-A	161 243	DZF-18-125-A-P-A
		160	164 022	DZF-18-160-P-A	161 244	DZF-18-160-A-P-A
		200	164 023	DZF-18-200-P-A	161 245	DZF-18-200-A-P-A
	25	10	164 027	DZF-25-10-P-A	161 250	DZF-25-10-A-P-A ¹⁾
		25	164 028	DZF-25-25-P-A	161 251	DZF-25-25-A-P-A ¹⁾
		40	164 029	DZF-25-40-P-A	161 252	DZF-25-40-A-P-A ¹⁾
		50	164 030	DZF-25-50-P-A	161 253	DZF-25-50-A-P-A ¹⁾
		80	164 031	DZF-25-80-P-A	161 254	DZF-25-80-A-P-A ¹⁾
		100	164 032	DZF-25-100-P-A	161 255	DZF-25-100-A-P-A ¹⁾
		125	164 033	DZF-25-125-P-A	161 256	DZF-25-125-A-P-A ¹⁾
		160	164 034	DZF-25-160-P-A	161 257	DZF-25-160-A-P-A ¹⁾
		200	164 035	DZF-25-200-P-A	161 258	DZF-25-200-A-P-A ¹⁾
	32	10	164 039	DZF-32-10-P-A	161 263	DZF-32-10-A-P-A ¹⁾
		25	164 040	DZF-32-25-P-A	161 264	DZF-32-25-A-P-A ¹⁾
		40	164 041	DZF-32-40-P-A	161 265	DZF-32-40-A-P-A ¹⁾
		50	164 042	DZF-32-50-P-A	161 266	DZF-32-50-A-P-A ¹⁾
		80	164 043	DZF-32-80-P-A	161 267	DZF-32-80-A-P-A ¹⁾
		100	164 044	DZF-32-100-P-A	161 268	DZF-32-100-A-P-A ¹⁾
		125	164 045	DZF-32-125-P-A	161 269	DZF-32-125-A-P-A ¹⁾
		160	164 046	DZF-32-160-P-A	161 270	DZF-32-160-A-P-A ¹⁾
		200	164 047	DZF-32-200-P-A	161 271	DZF-32-200-A-P-A ¹⁾
		250	164 048	DZF-32-250-P-A	161 272	DZF-32-250-A-P-A ¹⁾
		320	164 049	DZF-32-320-P-A	161 273	DZF-32-320-A-P-A ¹⁾

1) The scope of delivery includes a hexagonal nut for the piston rod thread

 Core Range

Flat cylinders DZF

Technical data

FESTO

Ordering data – Basic version						
Type	Piston Ø [mm]	Stroke [mm]	Piston rod with female thread		Piston rod with male thread	
			Part No.	Type	Part No.	Type
	40	10	164 053	DZF-40-10-P-A	161 278	DZF-40-10-A-P-A ¹⁾
		25	164 054	DZF-40-25-P-A	161 279	DZF-40-25-A-P-A ¹⁾
		40	164 055	DZF-40-40-P-A	161 280	DZF-40-40-A-P-A ¹⁾
		50	164 056	DZF-40-50-P-A	161 281	DZF-40-50-A-P-A ¹⁾
		80	164 057	DZF-40-80-P-A	161 282	DZF-40-80-A-P-A ¹⁾
		100	164 058	DZF-40-100-P-A	161 283	DZF-40-100-A-P-A ¹⁾
		125	164 059	DZF-40-125-P-A	161 284	DZF-40-125-A-P-A ¹⁾
		160	164 060	DZF-40-160-P-A	161 285	DZF-40-160-A-P-A ¹⁾
		200	164 061	DZF-40-200-P-A	161 286	DZF-40-200-A-P-A ¹⁾
		250	164 062	DZF-40-250-P-A	161 287	DZF-40-250-A-P-A ¹⁾
		320	164 063	DZF-40-320-P-A	161 288	DZF-40-320-A-P-A ¹⁾
	50	10	164 067	DZF-50-10-P-A	161 293	DZF-50-10-A-P-A ¹⁾
		25	164 068	DZF-50-25-P-A	161 294	DZF-50-25-A-P-A ¹⁾
		40	164 069	DZF-50-40-P-A	161 295	DZF-50-40-A-P-A ¹⁾
		50	164 070	DZF-50-50-P-A	161 296	DZF-50-50-A-P-A ¹⁾
		80	164 071	DZF-50-80-P-A	161 297	DZF-50-80-A-P-A ¹⁾
		100	164 072	DZF-50-100-P-A	161 298	DZF-50-100-A-P-A ¹⁾
		125	164 073	DZF-50-125-P-A	161 299	DZF-50-125-A-P-A ¹⁾
		160	164 074	DZF-50-160-P-A	161 300	DZF-50-160-A-P-A ¹⁾
		200	164 075	DZF-50-200-P-A	161 301	DZF-50-200-A-P-A ¹⁾
		250	164 076	DZF-50-250-P-A	161 302	DZF-50-250-A-P-A ¹⁾
		320	164 077	DZF-50-320-P-A	161 303	DZF-50-320-A-P-A ¹⁾
	63	10	164 081	DZF-63-10-P-A	161 308	DZF-63-10-A-P-A ¹⁾
		25	164 082	DZF-63-25-P-A	161 309	DZF-63-25-A-P-A ¹⁾
		40	164 083	DZF-63-40-P-A	161 310	DZF-63-40-A-P-A ¹⁾
		50	164 084	DZF-63-50-P-A	161 311	DZF-63-50-A-P-A ¹⁾
		80	164 085	DZF-63-80-P-A	161 312	DZF-63-80-A-P-A ¹⁾
		100	164 086	DZF-63-100-P-A	161 313	DZF-63-100-A-P-A ¹⁾
		125	164 087	DZF-63-125-P-A	161 314	DZF-63-125-A-P-A ¹⁾
		160	164 088	DZF-63-160-P-A	161 315	DZF-63-160-A-P-A ¹⁾
		200	164 089	DZF-63-200-P-A	161 316	DZF-63-200-A-P-A ¹⁾
		250	164 090	DZF-63-250-P-A	161 317	DZF-63-250-A-P-A ¹⁾
		320	164 091	DZF-63-320-P-A	161 318	DZF-63-320-A-P-A ¹⁾

1) The scope of delivery includes a hexagonal nut for the piston rod thread

 Core Range

Flat cylinders DZF

Technical data

FESTO

Ordering data – Variants						
Type	Piston Ø [mm]	Stroke [mm]	Piston rod with female thread		Piston rod with male thread	
			Part No.	Type	Part No.	Type
Variable stroke						
	12	10 ... 200	164 000	DZF-12-...-P-A	161 220	DZF-12-...-A-P-A
	18	10 ... 200	164 012	DZF-18-...-P-A	161 233	DZF-18-...-A-P-A
	25	10 ... 200	164 024	DZF-25-...-P-A	161 246	DZF-25-...-A-P-A ¹⁾
	32	10 ... 320	164 036	DZF-32-...-P-A	161 259	DZF-32-...-A-P-A ¹⁾
	40	10 ... 320	164 050	DZF-40-...-P-A	161 274	DZF-40-...-A-P-A ¹⁾
	50	10 ... 320	164 064	DZF-50-...-P-A	161 289	DZF-50-...-A-P-A ¹⁾
	63	10 ... 320	164 078	DZF-63-...-P-A	161 304	DZF-63-...-A-P-A ¹⁾
S2 – Through piston rod						
	12	10 ... 200	164 001	DZF-12-...-P-A-S2	161 221	DZF-12-...-A-P-A-S2
	18	10 ... 200	164 013	DZF-18-...-P-A-S2	161 234	DZF-18-...-A-P-A-S2
	25	10 ... 200	164 025	DZF-25-...-P-A-S2	161 247	DZF-25-...-A-P-A-S2 ¹⁾
	32	10 ... 320	164 037	DZF-32-...-P-A-S2	161 260	DZF-32-...-A-P-A-S2 ¹⁾
	40	10 ... 320	164 051	DZF-40-...-P-A-S2	161 275	DZF-40-...-A-P-A-S2 ¹⁾
	50	10 ... 320	164 065	DZF-50-...-P-A-S2	161 290	DZF-50-...-A-P-A-S2 ¹⁾
	63	10 ... 320	164 079	DZF-63-...-P-A-S2	161 305	DZF-63-...-A-P-A-S2 ¹⁾
S6 – Heat resistant seals up to 120 °C						
	12	10 ... 200	164 002	DZF-12-...-P-A-S6	161 223	DZF-12-...-A-P-A-S6
	18	10 ... 200	164 014	DZF-18-...-P-A-S6	161 236	DZF-18-...-A-P-A-S6
	25	10 ... 200	164 026	DZF-25-...-P-A-S6	161 249	DZF-25-...-A-P-A-S6 ¹⁾
	32	10 ... 320	164 038	DZF-32-...-P-A-S6	161 262	DZF-32-...-A-P-A-S6 ¹⁾
	40	10 ... 320	164 052	DZF-40-...-P-A-S6	161 277	DZF-40-...-A-P-A-S6 ¹⁾
	50	10 ... 320	164 066	DZF-50-...-P-A-S6	161 292	DZF-50-...-A-P-A-S6 ¹⁾
	63	10 ... 320	164 080	DZF-63-...-P-A-S6	161 307	DZF-63-...-A-P-A-S6 ¹⁾
S20 – Through, hollow piston rod						
	12	10 ... 200	–	–	161 222	DZF-12-...-A-P-A-S20
	18	10 ... 200			161 235	DZF-18-...-A-P-A-S20
	25	10 ... 200			161 248	DZF-25-...-A-P-A-S20 ¹⁾
	32	10 ... 320			161 261	DZF-32-...-A-P-A-S20 ¹⁾
	40	10 ... 320			161 276	DZF-40-...-A-P-A-S20 ¹⁾
	50	10 ... 320			161 291	DZF-50-...-A-P-A-S20 ¹⁾
	63	10 ... 320			161 306	DZF-63-...-A-P-A-S20 ¹⁾

1) The scope of delivery includes a hexagonal nut for the piston rod thread

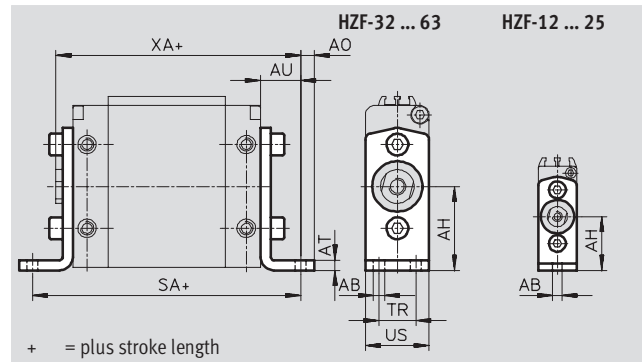
Flat cylinders DZF

Accessories

FESTO

Foot mounting HZF

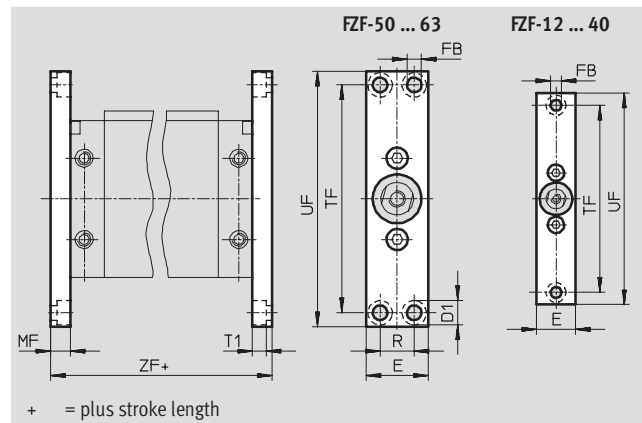
Material:
Steel



Dimensions and ordering data												
For Ø	AB Ø	AH	AO	AT	AU	SA	TR	US	XA	Weight [g]	Part No.	Type
12	4.5	25	5	2	13	88	–	14	82	8	161 804	HZF-12
18	5.5	29	5	2	17	96	–	16	86	10	161 805	HZF-18
25	5.5	28	7	3	16	94	–	20	86	21	161 806	HZF-25
32	5.5	32	5.5	3	18	108	13	24	98	27	161 807	HZF-32
40	5.5	40	7	4	20	116	16	30	105	57	161 808	HZF-40
50	6.6	50	8	4	24	130	22	38	116	97	161 809	HZF-50
63	9	63	10	4	27	136	30	50	119	167	161 810	HZF-63

Flange mounting FZF

Material:
Wrought aluminium alloy



Dimensions and ordering data												
For Ø	D1 Ø	E	FB Ø	MF	R	T1	TF	UF	ZF	Weight [g]	Part No.	Type
12	8	14	4.5	8	–	4.5	75	90	78	20	161 811	FZF-12
18	8	16	4.5	8	–	4.5	80	94	78	24	161 812	FZF-18
25	10	20	5.5	10	–	5.7	100	112	82	50	161 813	FZF-25
32	11	24	6.6	10	–	6.5	115	130	92	68	161 814	FZF-32
40	11	30	6.6	10	–	6.3	132	146	96	98	161 815	FZF-40
50	15	38	9	12	21	8.3	140	157	106	147	161 816	FZF-50
63	15	50	9	15	33	8.3	140	157	112	259	161 817	FZF-63

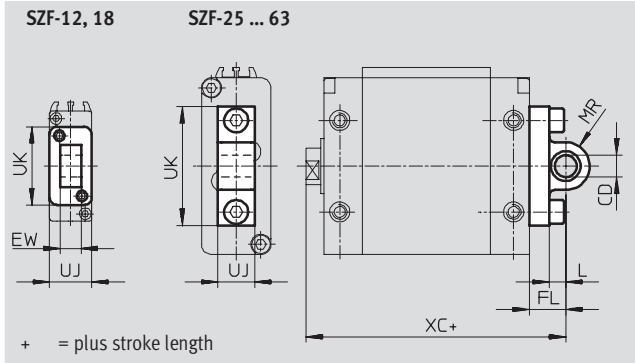
Flat cylinders DZF

Accessories

FESTO

Swivel flange SZF

Material:
Corrosion resistant cast steel

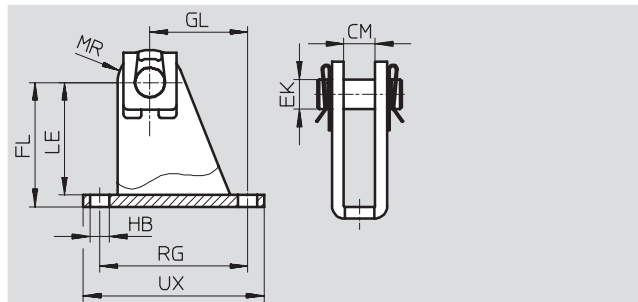


Dimensions and ordering data											
For Ø	CD Ø H7	EW h12	FL	L	MR	UJ	UK	XC	CRC ¹⁾	Part No.	Type
12	8	7	16	13	7	14	26	85	2	161 818	SZF-12
18	8	7	18	15	7	16	26	87	2	161 819	SZF-18
25	8	–	14	8	7.5	9	37	84	2	161 820	SZF-25
32	10	–	15	6	10	10.5	44	95	2	161 821	SZF-32
40	12	–	18	9	13	10.5	52	103	2	161 822	SZF-40
50	12	–	20	9	13	20	65	112	2	161 823	SZF-50
63	16	–	24	13	17	25	78	116	2	161 824	SZF-63

- 1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Clevis foot LZF

Material:
Steel

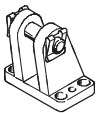
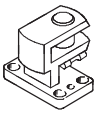


Dimensions and ordering data											
For Ø	CM	EK Ø H8	FL	GL	HB Ø	LE	MR	RG	UX	Part No.	Type
12	7.1 +0.4	8	32 +0.4/-0.2	18	4.5	29	8	30	37	163 962	LZF-12/18
18	7.1 +0.4	8	32 +0.4/-0.2	18	4.5	29	8	30	37	163 962	LZF-12/18
25	9.1 +0.4	8	35 +0.4/-0.2	25.5	5.5	32	9.5	40	49	163 963	LZF-25
32	10.6 +0.4	10	42 +0.4/-0.2	33	6.6	38	11	50	60	163 964	LZF-32
40	10.6 +0.4	12	51 +0.4/-0.2	29.5	6.6	47	14	50	60	163 965	LZF-40
50	20.1 +0.5	12	55 +0.6/-0.2	24	9	50	14	30	46	163 966	LZF-50
63	25.1 +0.5	16	68 +0.6/-0.2	32	11	63	18	40	60	163 967	LZF-63

Flat cylinders DZF

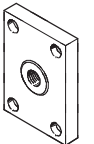
Accessories

FESTO

Ordering data – Mounting attachments				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LBG				Right-angle clevis foot LQG			
	32	31 761	LBG-32		32	31 768	LQG-32
	40	31 762	LBG-40		40	31 769	LQG-40
	50	31 763	LBG-50		50	31 770	LQG-50
	63	31 764	LBG-63		63	31 771	LQG-63

Ordering data – Piston rod attachments

Technical data➔ 1 / 10.3-2

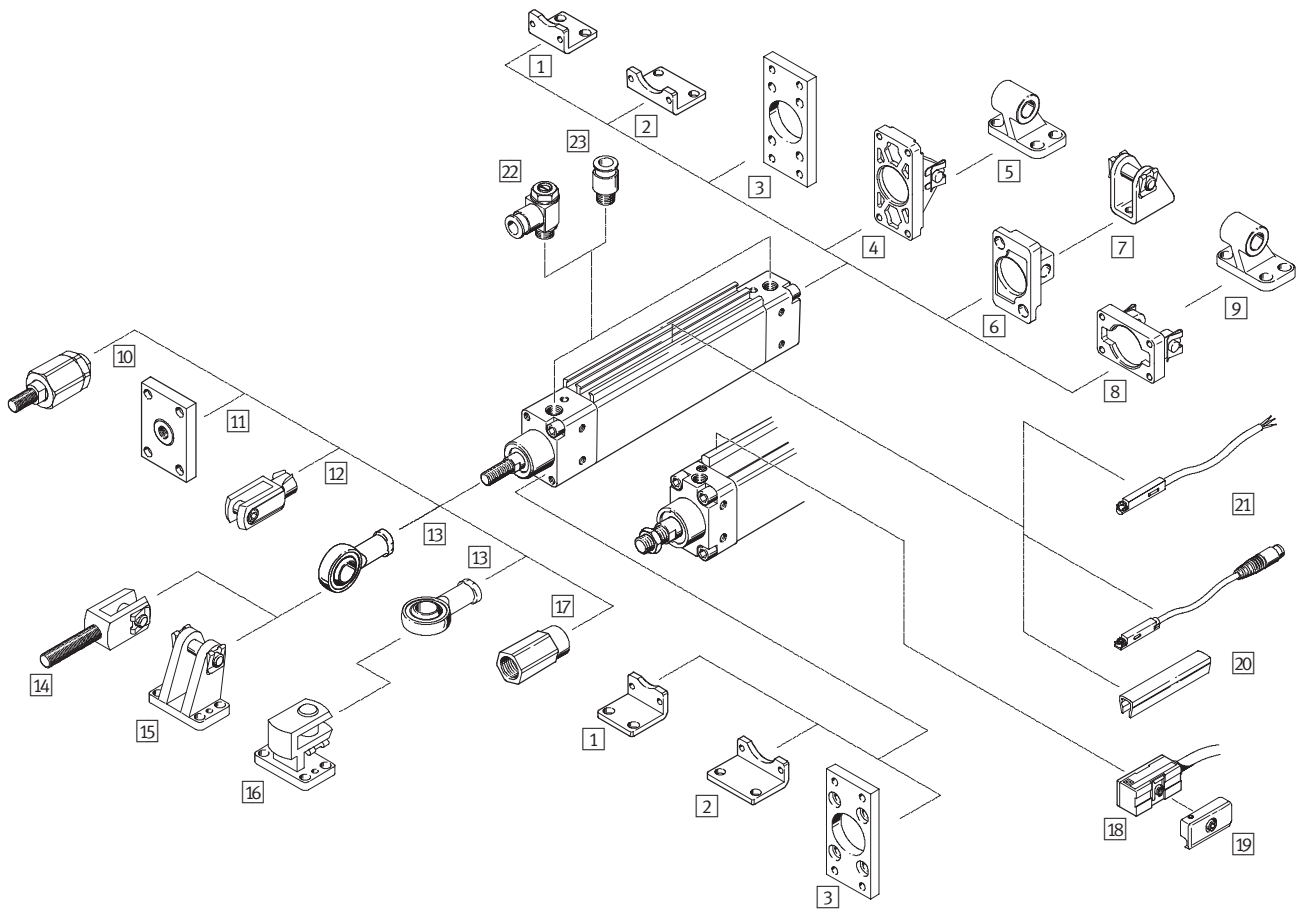
Designation	For Ø	Part No.	Type
Rod eye SGS			
	12	9 254	SGS-M6
	18	9 255	SGS-M8
	25	9 261	SGS-M10x1,25
	32		
	40	9 262	SGS-M12x1,25
	50	9 263	SGS-M16x1,5
	63		
Rod clevis SG			
	12	3 110	SG-M6
	18	3 111	SG-M8
	25	6 144	SG-M10x1,25
	32		
	40	6 145	SG-M12x1,25
	50	6 146	SG-M16x1,5
	63		
Coupling piece KSZ			
	12	36 123	KSZ-M6
	18	36 124	KSZ-M8
	25	36 125	KSZ-M10x1,25
	32		
	40	36 126	KSZ-M12x1,25
	50	36 127	KSZ-M16x1,5
	63		

Designation	For Ø	Part No.	Type
Rod clevis SGA			
	12	–	–
	18	–	–
	25	32 954	SGA-M10x1,25
	32		
	40	10 767	SGA-M12x1,25
	50	10 768	SGA-M16x1,5
	63		
Self-aligning rod coupler FK			
	12	2 061	FK-M6
	18	2 062	FK-M8
	25	6 140	FK-M10x1,25
	32		
	40	6 141	FK-M12x1,25
	50	6 142	FK-M16x1,5
	63		
Adapter AD			
	12	157 328	AD-M6-M5
		157 329	AD-M6-1/8
		157 330	AD-M6-1/4
	18	157 331	AD-M8-1/8
		157 332	AD-M8-1/4
	25	157 333	AD-M10x1,25-1/8
	32	157 334	AD-M10x1,25-1/4
	40	160 256	AD-M12x1,25-1/4
		160 257	AD-M12x1,25-3/8

Flat cylinders DZH

Peripherals overview

FESTO



Cylinders with piston rod
Flat cylinders

2.3

Flat cylinders DZH

Peripherals overview

FESTO

Mounting attachments and accessories					
	Brief description	Piston Ø 16 ... 20	Piston Ø 25	Piston Ø 32 ... 63	→ Page
1	Foot mounting, narrow HZS	for bearing and end caps	■	■	1 / 2.3-31
2	Foot mounting, wide HZB	for bearing and end caps	■	■	1 / 2.3-32
3	Flange mounting FZS	for bearing and end caps	■	■	1 / 2.3-31
4	Swivel flange, narrow SZS	for end caps	–	–	1 / 2.3-33
5	Clevis foot LBZB/LBZS	–	–	■	1 / 2.3-34
6	Swivel flange, narrow SZSB	for end caps	■	■	1 / 2.3-32
7	Clevis foot LBN	–	■	–	1 / 2.3-35
8	Swivel flange, wide SZB	for end caps	–	–	1 / 2.3-33
9	Clevis foot LN	–	–	■	1 / 2.3-35
10	Self-aligning rod coupler FK	for compensating radial and angular deviations	■	■	1 / 2.3-35
11	Coupling piece KSZ	for cylinders with a non-rotating piston rod to compensate for radial deviations	■	■	1 / 2.3-35
12	Rod clevis SG	permits a swivelling movement of the cylinder in one plane	■	■	1 / 2.3-35
13	Rod eye SGS	with spherical bearing	■	■	1 / 2.3-35
14	Rod clevis SGA	with male thread	■	■	1 / 2.3-35
15	Clevis foot LBG	–	■	■	1 / 2.3-35
16	Right-angle clevis foot LQG	–	■	■	1 / 2.3-35
17	Adapter AD	for the vacuum generator	■ S20	■ S20	1 / 2.3-35
18	Proximity sensors SMEO-1/SMT0-1/SMPO-1	–	–	■	1 / 2.3-36
19	Mounting kit SMB-1	–	–	■	1 / 2.3-36
20	Slot cover ABP-5-S	to protect the sensor cable and keep dirt out of the sensor slots	■	■	1 / 2.3-37
21	Proximity sensors SME/SMT-8	can be integrated in the cylinder profile barrel	■	■	1 / 2.3-37
22	One-way flow control valve GRLA/GRLZ	to regulate speed	■	■	1 / 2.3-38
23	Push-in fitting QS	for connecting compressed air tubing with standard external diameters	■	■	Volume 3

Flat cylinders DZH

Type codes

FESTO

		DZH	–	16	–	40	–	PPV	–	A	–	
Type												
Double-acting												
DZH	Flat cylinder											
Piston $\varnothing$ [mm]												
Stroke [mm]												
Cushioning												
PPV	Pneumatic cushioning adjustable at both ends											
Position sensing												
A	For proximity sensing											
Variant												
S2	Through piston rod											
S6	Heat resistant seals up to 120 °C											
S20	Through, hollow piston rod											

Cylinders with piston rod
Flat cylinders

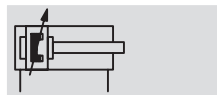
2.3

Flat cylinders DZH

Technical data

FESTO

Function



-  - Diameter
16 ... 63
-  - Stroke length
10 ... 1,000

-  - www.festo.com/en/
Spare_parts_service

Wearing parts kits
→ 1 / 2.3-30

Variants



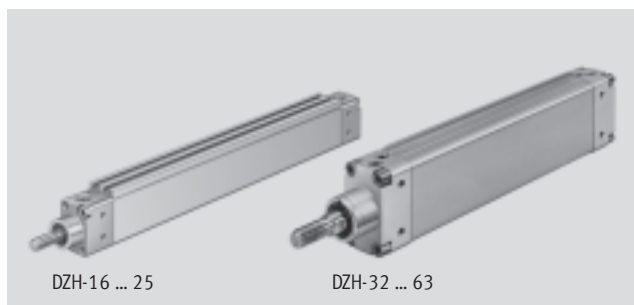
S2



S6



S20



DZH-16 ... 25

DZH-32 ... 63

General technical data							
Piston Ø	16	20	25	32	40	50	63
Pneumatic connection	M5	G $\frac{1}{8}$	G $\frac{1}{8}$	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$
End of piston rod Male thread	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Operating medium	Filtered compressed air, lubricated or unlubricated						
Constructional design	Piston						
	Piston rod						
Protection against torsion/guide	Oval piston						
Cushioning	Pneumatic cushioning adjustable at both ends						
Cushioning length [mm]	14	17	17	19	21	23	23
Position sensing	For proximity sensing						
Type of mounting	With female thread						
	With accessories						
Mounting position	Any						

Operating pressure [bar]							
Piston Ø	16	20	25	32	40	50	63
	1.0 ... 10			0.6 ... 10			

Ambient conditions		
Variant	Basic version	S6
Ambient temperature ¹⁾ [°C]	-20 ... +80	0 ... +120
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 requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents



Pneumatic sizing using ProPneu
www.festo.com/en/engineering

Flat cylinders DZH

Technical data

FESTO

Forces [N] and torques [Nm]							
Piston Ø	16	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	121	188	295	483	754	1,178	1,870
S2/S20	104	158	247	415	633	989	1,682
Theoretical force at 6 bar, retracting	104	158	247	415	633	989	1,682
S2/S20	104	158	247	415	633	989	1,682
Max. torque at the piston rod ¹⁾	0.5	0.6	0.8	1.0	1.2	1.7	2.0

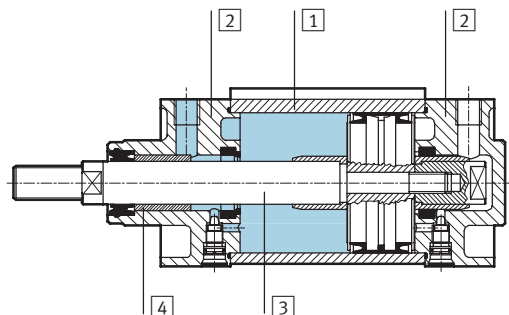
1) The max. torque must also be observed when fitting mounting attachments to the piston rod

Weights [g]							
Piston Ø	16	20	25	32	40	50	63
Product weight at 0 mm stroke	140	230	330	500	820	1,200	1,690
Additional weight per 10 mm stroke	11	15	21	30	40	60	80

Minimum stroke length [mm] for contactless position sensing with one proximity sensor				
Piston Ø	32	40	50	63
SMEO-1/SMT0-1				
Plug	10			
Cable				

Minimum stroke length [mm] for contactless position sensing with two proximity sensors				
Piston Ø	32	40	50	63
SMEO-1				
Plug	outlet towards caps	86	87	90
	outlet towards center	46	48	49
Cable	outlet towards caps	63	64	67
	outlet towards center	48	50	51
SMT0-1				
Plug	outlet towards caps	105	107	106
	outlet towards center	not possible as the plug would cover the pneumatic port		
Cable	outlet towards caps	82	84	85
	outlet towards center	19	21	20

Materials	
Sectional view	



Flat cylinder	Basic version	S6
1 Cylinder barrel	Anodised aluminium	Anodised aluminium
2 Bearing end cap	Aluminium	Aluminium
3 Piston rod	Ø 16 ... 25 Stainless steel	Stainless steel
	Ø 32 ... 63 High-alloy steel	High-alloy steel
4 Dynamic seals	Polyurethane	Fluorocarbon rubber

Flat cylinders DZH

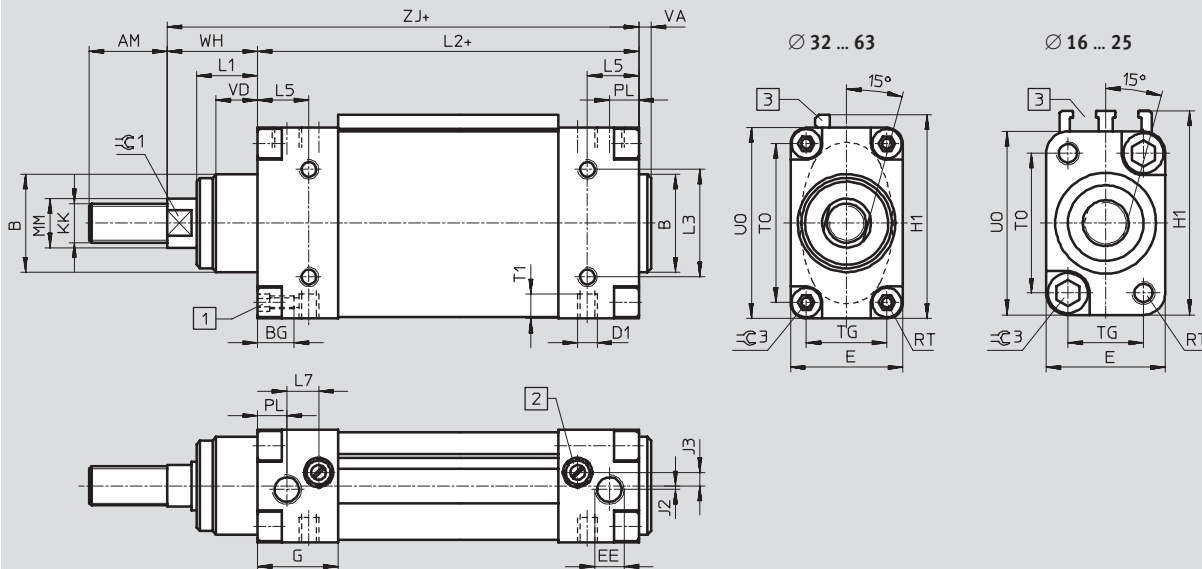
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering

Basic version



- 1 Socket head screw with female thread
2 Regulating screw for adjustable end-position cushioning
3 Ø 16 ... 25: Mounting slot for proximity sensors
Ø 32 ... 63: Mounting rail for proximity sensor
+ = plus stroke length

Ø [mm]	AM	B Ø f8	BG	D1	D8 Ø	E	EE	G	H1	J2	J3	KK	L1	L2	L3
16	16	16	5.5	M4	2.3	20	M5	20.5	35.5	-0.7	2.8	M6	12	78.5 ±0.5	12
20	20	20	5.5	M4	3.2	23	G½	25	39.5	-0.7	5	M8	14	90.5 ±0.5	15
25	22	22	7	M5	3.8	26	G½	26	44.5	-0.3	4.2	M10x1.25	14	92.5 ±0.5	18
32	22	30	13	M6	-	36	G½	27	53.3	-	3	M10x1.25	16	94 ±0.7	18
40	24	35	13	M6	-	40	G¾	33	66.3	-	6	M12x1.25	20	105 ±0.7	32
50	32	40	15	M8	-	46	G¾	32.5	82.3	2.5	3	M16x1.5	25	106 ±0.7	44
63	32	42	15	M10	-	54	G¾	36.5	108.3	4	5	M16x1.5	28	115 ±0.7	64

Ø [mm]	L5	L7	MM Ø	PL	RT	T1	TG	TO	U0	VA	VD	WH ±1	ZJ	ZM	≈C1	≈C3
16	12	8.5	6	7.5	M4	5.5	12	23	31	2.5	12	17.5	96	114.4 ±0.4	5	4
20	15	10.5	8	9.3	M4	5.5	15	27	35	2.5	14	18.5	109	128 ±0.4	7	4
25	16	10	10	10.5	M5	7	16.5	30.5	40	2.5	14	20.5	113	134 ±0.4	9	5
32	13	10.2	12	9	M5	9	24.5	36.5	48	4	16	26	120	147.1 ±0.5	10	6
40	16.5	13.2	16	11	M5	9	28	50	62	5.5	20	30	135	165.3 ±0.5	13	6
50	21	14	20	10.5	M6	10	33	65	78	5	17	37.5	143.5	181.5 ±0.5	17	6
63	22.5	14.5	20	12.5	M6	12	40	90	104	6	20	40	155	195.3 ±0.5	17	6

Note

The maximum permissible torque must not be exceeded when additional components are screwed onto the piston rod. Counterhold by means of the spanner flats ≈C1.

Cylinders with piston rod
Flat cylinders

2.3

Flat cylinders DZH

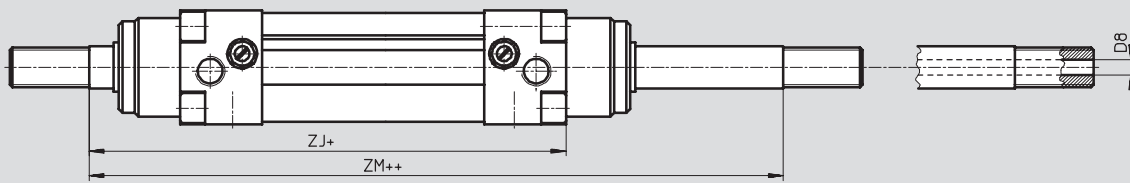
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering

Variant S2 – Through piston rod, S20 – Through, hollow piston rod



+ = plus stroke length

++ = plus 2x stroke length

Ø [mm]	D8 Ø	ZJ	ZM
16	2,3	96	114,4 ±0,4
20	3,2	109	128 ±0,4
25	3,8	113	134 ±0,4
32	–	120	147,1 ±0,5
40	–	135	165,3 ±0,5
50	–	143,5	181,5 ±0,5
63	–	155	195,3 ±0,5

Flat cylinders DZH

Technical data

FESTO

Ordering data – Basic version					
Type	Stroke [mm]	Part No.	Type	Stroke [mm]	Part No. Type
	Piston Ø16 mm			Piston Ø20 mm	
	25	151 145	DZH-16-25-PPV-A	25	151 134 DZH-20-25-PPV-A
	40	151 146	DZH-16-40-PPV-A	40	151 135 DZH-20-40-PPV-A
	50	151 147	DZH-16-50-PPV-A	50	151 136 DZH-20-50-PPV-A
	80	151 148	DZH-16-80-PPV-A	80	151 137 DZH-20-80-PPV-A
	100	151 149	DZH-16-100-PPV-A	100	151 138 DZH-20-100-PPV-A
	125	151 150	DZH-16-125-PPV-A	125	151 139 DZH-20-125-PPV-A
	160	151 151	DZH-16-160-PPV-A	160	151 140 DZH-20-160-PPV-A
	200	151 152	DZH-16-200-PPV-A	200	151 141 DZH-20-200-PPV-A
	250	–	–	250	151 142 DZH-20-250-PPV-A
	300	–	–	300	– –
	320	–	–	320	151 143 DZH-20-320-PPV-A
	Piston Ø25 mm			Piston Ø32 mm	
	25	151 121	DZH-25-25-PPV-A ¹⁾	25	14 041 DZH-32-25-PPV-A ¹⁾
	40	151 122	DZH-25-40-PPV-A ¹⁾	40	14 042 DZH-32-40-PPV-A ¹⁾
	50	151 123	DZH-25-50-PPV-A ¹⁾	50	14 043 DZH-32-50-PPV-A ¹⁾
	80	151 124	DZH-25-80-PPV-A ¹⁾	80	14 044 DZH-32-80-PPV-A ¹⁾
	100	151 125	DZH-25-100-PPV-A ¹⁾	100	14 045 DZH-32-100-PPV-A ¹⁾
	125	151 126	DZH-25-125-PPV-A ¹⁾	125	14 046 DZH-32-125-PPV-A ¹⁾
	160	151 127	DZH-25-160-PPV-A ¹⁾	160	14 047 DZH-32-160-PPV-A ¹⁾
	200	151 128	DZH-25-200-PPV-A ¹⁾	200	14 048 DZH-32-200-PPV-A ¹⁾
	250	151 129	DZH-25-250-PPV-A ¹⁾	250	14 049 DZH-32-250-PPV-A ¹⁾
	300	–	–	300	14 050 DZH-32-300-PPV-A ¹⁾
	320	151 130	DZH-25-320-PPV-A ¹⁾	320	– –
	400	151 131	DZH-25-400-PPV-A ¹⁾	400	– –
	500	151 132	DZH-25-500-PPV-A ¹⁾	500	– –
	Piston Ø40 mm			Piston Ø50 mm	
	25	14 052	DZH-40-25-PPV-A ¹⁾	25	14 063 DZH-50-25-PPV-A ¹⁾
	40	14 053	DZH-40-40-PPV-A ¹⁾	40	14 064 DZH-50-40-PPV-A ¹⁾
	50	14 054	DZH-40-50-PPV-A ¹⁾	50	14 065 DZH-50-50-PPV-A ¹⁾
	80	14 055	DZH-40-80-PPV-A ¹⁾	80	14 066 DZH-50-80-PPV-A ¹⁾
	100	14 056	DZH-40-100-PPV-A ¹⁾	100	14 067 DZH-50-100-PPV-A ¹⁾
	125	14 057	DZH-40-125-PPV-A ¹⁾	125	14 068 DZH-50-125-PPV-A ¹⁾
	160	14 058	DZH-40-160-PPV-A ¹⁾	160	14 069 DZH-50-160-PPV-A ¹⁾
	200	14 059	DZH-40-200-PPV-A ¹⁾	200	14 070 DZH-50-200-PPV-A ¹⁾
	250	14 060	DZH-40-250-PPV-A ¹⁾	250	14 071 DZH-50-250-PPV-A ¹⁾
	300	14 061	DZH-40-300-PPV-A ¹⁾	300	14 072 DZH-50-300-PPV-A ¹⁾
	Piston Ø63 mm				
	25	14 074	DZH-63-25-PPV-A ¹⁾		
	40	14 075	DZH-63-40-PPV-A ¹⁾		
	50	14 076	DZH-63-50-PPV-A ¹⁾		
	80	14 077	DZH-63-80-PPV-A ¹⁾		
	100	14 078	DZH-63-100-PPV-A ¹⁾		
	125	14 079	DZH-63-125-PPV-A ¹⁾		
	160	14 080	DZH-63-160-PPV-A ¹⁾		
	200	14 081	DZH-63-200-PPV-A ¹⁾		
	250	14 082	DZH-63-250-PPV-A ¹⁾		
	300	14 083	DZH-63-300-PPV-A ¹⁾		

1) The scope of delivery includes a hexagonal nut for the piston rod thread

Cylinders with piston rod
Flat cylinders

2.3

Flat cylinders DZH

Technical data

FESTO

Ordering data – Variants				
Type	Piston Ø [mm]	Stroke [mm]	Part No.	Type
Variable stroke				
	16	10 ... 200	150 295	DZH-16-...-PPV-A
	20	10 ... 320	150 294	DZH-20-...-PPV-A
	25	10 ... 500	150 293	DZH-25-...-PPV-A ¹⁾
	32	10 ... 1,000	14 040	DZH-32-...-PPV-A ¹⁾
	40	10 ... 1,000	14 051	DZH-40-...-PPV-A ¹⁾
	50	10 ... 1,000	14 062	DZH-50-...-PPV-A ¹⁾
	63	10 ... 1,000	14 073	DZH-63-...-PPV-A ¹⁾
S2 – Through piston rod				
	16	10 ... 200	151 155	DZH-16-...-PPV-A-S2
	20	10 ... 320	151 154	DZH-20-...-PPV-A-S2
	25	10 ... 500	151 153	DZH-25-...-PPV-A-S2 ¹⁾
	32	10 ... 1,000	151 772	DZH-32-...-PPV-A-S2 ¹⁾
	40	10 ... 1,000	151 773	DZH-40-...-PPV-A-S2 ¹⁾
	50	10 ... 1,000	151 774	DZH-50-...-PPV-A-S2 ¹⁾
	63	10 ... 1,000	151 775	DZH-63-...-PPV-A-S2 ¹⁾
S6 – Heat resistant seals up to 120 °C				
	16	10 ... 200	151 156	DZH-16-...-PPV-A-S6
	20	10 ... 320	151 157	DZH-20-...-PPV-A-S6
	25	10 ... 500	151 158	DZH-25-...-PPV-A-S6 ¹⁾
	32	10 ... 1,000	16 531	DZH-32-...-PPV-A-S6 ¹⁾
	40	10 ... 1,000	16 532	DZH-40-...-PPV-A-S6 ¹⁾
	50	10 ... 1,000	16 533	DZH-50-...-PPV-A-S6 ¹⁾
	63	10 ... 1,000	16 534	DZH-63-...-PPV-A-S6 ¹⁾
S20 – Through, hollow piston rod				
	16	10 ... 200	158 379	DZH-16-...-PPV-A-S20
	20	10 ... 320	158 380	DZH-20-...-PPV-A-S20
	25	10 ... 500	158 381	DZH-25-...-PPV-A-S20 ¹⁾

1) The scope of delivery includes a hexagonal nut for the piston rod thread

Ordering data – Wearing parts kits		
Piston Ø	Part No.	Type
16	121 125	DZH-16-PPV-A
20	121 126	DZH-20-PPV-A
25	121 127	DZH-25-PPV-A
32	108 706	DZH-32-PPV-A
40	108 707	DZH-40-PPV-A
50	108 708	DZH-50-PPV-A
63	108 709	DZH-63-PPV-A

Flat cylinders DZH

Accessories

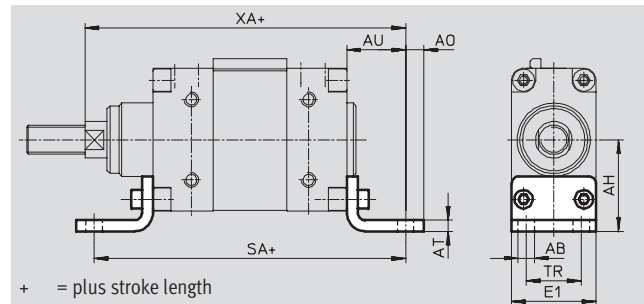
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Foot mounting HZS, narrow

Material:

Steel

Free of copper, PTFE and silicone



Dimensions and ordering data												
For Ø	AB Ø	AH	AO	AT	AU	E1	SA	TR	XA	CRC ¹⁾	Weight [g]	Part No. Type
16	4.5	24.5	4	4	21	20	120.5	12	117	2	60	151 933 HZS-16
20	4.5	27.5	4	4	21	23	132.5	15	130	2	70	151 932 HZS-20
25	5.5	30	5	4	25	26	142.5	16.5	138	2	90	151 931 HZS-25
32	7	32	8	4	24	36	142	24	144	2	105	14 879 HZS-32
40	9	40	10	5	28	40	161	25	163	2	165	14 880 HZS-40
50	9	50	10	6	32	46	170	30	175.5	2	270	14 881 HZS-50
63	9	62	15	6	35	54	185	38	190	2	365	14 882 HZS-63

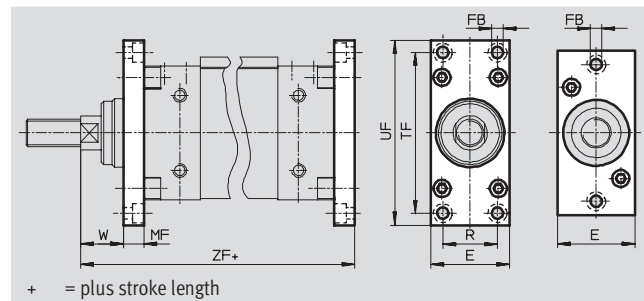
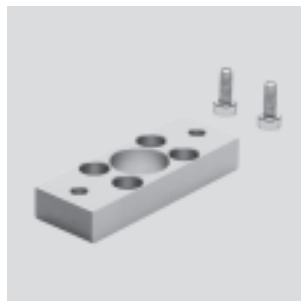
1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Flange mounting FZS

Material:

Wrought aluminium alloy



Dimensions and ordering data												
For Ø	E	FB Ø	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight [g]	Part No.	Type
16	21	4.8	10	–	48	60	7.5	106	2	30	151 930	FZS-16
20	24	4.8	10	–	54	70	8.5	119	2	40	151 929	FZS-20
25	27	5.8	10	–	60	75	10.5	123	2	50	151 928	FZS-25
32	36	5.8	10	24	62	75	16	130	2	60	14 887	FZS-32
40	40	5.8	10	28	78	90	20	145	2	80	14 888	FZS-40
50	46	6.8	12	32	94	108	25.5	155.5	2	135	14 889	FZS-50
63	54	6.8	15	40	120	134	25	170	2	260	14 890	FZS-63

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

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

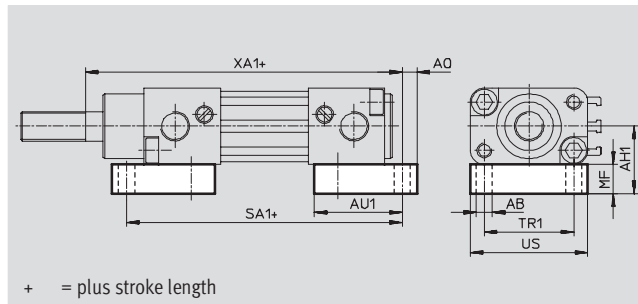
Flat cylinders DZH

Accessories

FESTO

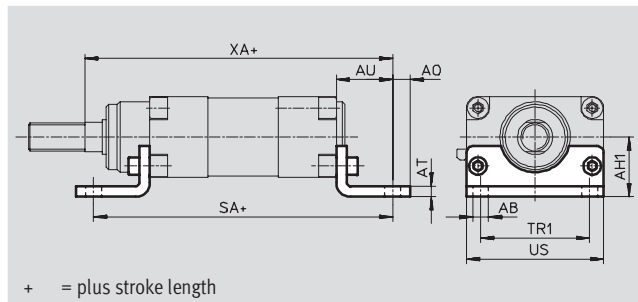
Foot mounting HZB, wide for piston $\varnothing$ 16 ... 25 mm

Material:
Wrought aluminium alloy



for piston $\varnothing$ 32 ... 63 mm

Material:
Steel



Dimensions and ordering data

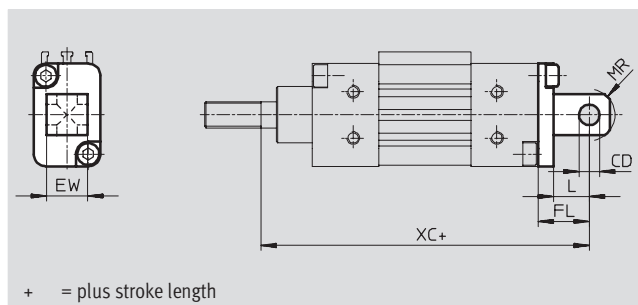
For $\varnothing$	AB $\varnothing$	AH1	AO	AT	AU	AU1	MF	SA	SA1	TR1	US	XA	XA1	CRC ¹⁾	Weight [g]	Part No.	Type
16	4.5	20	4	—	—	23	10	—	88.5	23	30	—	101	2	50	151 936	HZB-16
20	4.5	21.5	4	—	—	26	10	—	100.5	27	35	—	114	2	60	151 935	HZB-20
25	5.5	23	5	—	—	30	10	—	104.5	30.5	40	—	119	2	80	151 934	HZB-25
32	7	26	8	4	24	—	—	142	—	32	48	144	—	2	130	14 875	HZB-32
40	9	29	10	5	28	—	—	161	—	46	62	163	—	2	235	14 876	HZB-40
50	9	34	10	6	32	—	—	170	—	62	78	175.5	—	2	410	14 877	HZB-50
63	9	38	15	6	35	—	—	185	—	88	104	190	—	2	640	14 878	HZB-63

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

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Swivel flange SZSB, narrow/wide for piston $\varnothing$ 16 ... 25 mm

Material:
High-alloy stainless steel



Dimensions and ordering data

For $\varnothing$	CD $\varnothing$ H8	EW	FL	L	XC	Weight [g]	Part No.	Type
16	4	8	14	8	110	10	151 927	SZSB-16
20	6	12	16	10	125	20	151 926	SZSB-20
25	8	16	20	14	133	40	151 925	SZSB-25

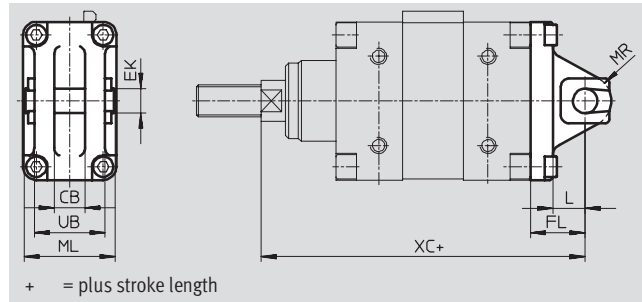
Flat cylinders DZH

Accessories

FESTO

Swivel flange SZS, narrow for piston $\varnothing$ 32 ... 63 mm

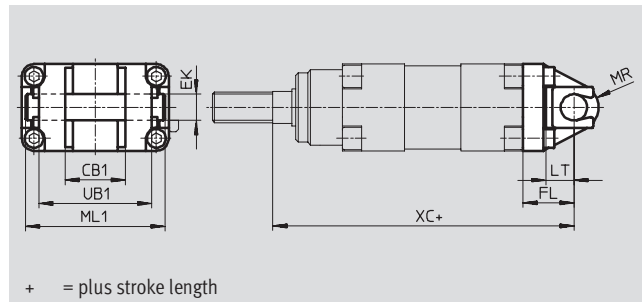
Material:
Die-cast aluminium



Dimensions and ordering data										
For $\varnothing$	CB	EK $\varnothing$ e8	FL	L	ML	MR	UB ± 0.1	XC	Weight [g]	Part No. Type
32	9.4	10	22	13.5	35.6	11	25.8	142	80	14 883 SZS-32
40	12.4	12	25	15.5	39.6	13	28.8	160	120	14 884 SZS-40
50	14.4	12	27	15.5	45.6	13	34.8	170.5	170	14 885 SZS-50
63	16.4	16	35	22.4	53.6	17	40.8	190	320	14 886 SZS-63

Swivel flange SZB, wide for piston $\varnothing$ 32 ... 63 mm

Material:
High-alloy stainless steel



Dimensions and ordering data										
For $\varnothing$	CB1 H14	EK $\varnothing$ e8	FL	LT	ML1	MR	UB1	XC	Weight [g]	Part No. Type
32	16	10	22	14	47	11	36 -0.7	142	170	30 798 SZB-32
40	28	12	25	15.5	61	13	52 -1	160	280	30 799 SZB-40
50	32	12	27	16	77	13	60 -1	170.5	410	30 629 SZB-50
63	40	16	35	23	103	17	70 -1	190	660	30 630 SZB-63

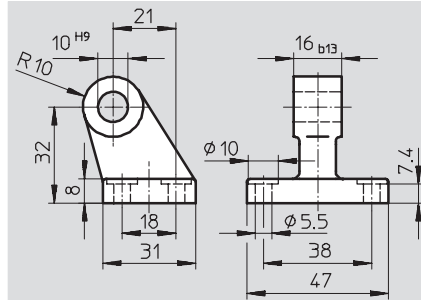
Flat cylinders DZH

Accessories

FESTO

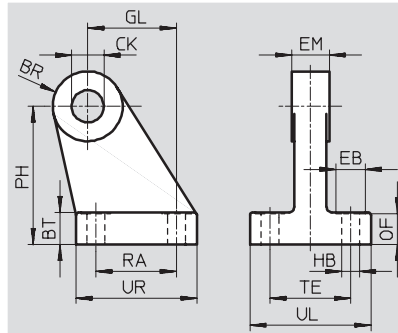
Clevis foot LBZB for piston $\varnothing$ 32 mm

Material:
High-alloy stainless steel



Clevis foot LBZS for piston $\varnothing$ 32 ... 63 mm

Material:
High-alloy stainless steel

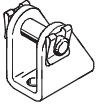
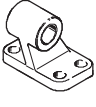
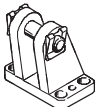
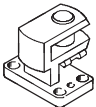


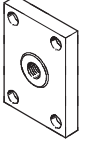
Dimensions and ordering data																
For Ø	BR	BT	CK Ø H9	EB Ø	EM b13	GL	HB Ø	OF	PH	RA	TE	UL	UR	Weight [g]	Part No.	Type
LBZB																
32	Dimensions ➔ shown above														33 842	LBZB-32
LBZS																
32	10	8	10	10	9	21	5.5	7.4	33.5	18	24	35	31	90	33 843	LBZS-32
40	11	10	12	10	12	24	5.5	9.4	40	22	28	39	35	135	33 844	LBZS-40
50	13	12	12	11	14	33	6.6	11.4	51.5	30	30	45	45	235	33 845	LBZS-50
63	15	12	16	11	16	37	6.6	11.3	62	35	38	53	51	305	33 846	LBZS-63

Flat cylinders DZH

Accessories

FESTO

Ordering data – Mounting attachments				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LBN				Clevis foot LN			
	16	6 058	LBN-12/16		32	5 147	LN-32
	20	6 059	LBN-20/25		40	5 148	LN-40
	25				50	5 149	LN-50
					63	5 150	LN-63
Clevis foot LBG				Right-angle clevis foot LQG			
	32	31 761	LBG-32		32	31 768	LQG-32
	40	31 762	LBG-40		40	31 769	LQG-40
	50	31 763	LBG-50		50	31 770	LQG-50
	63	31 764	LBG-63		63	31 771	LQG-63

Ordering data – Piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SGA			
	16	9 254	SGS-M6		16	–	–
	20	9 255	SGS-M8		20	–	–
	25	9 261	SGS-M10x1,25		25	32 954	SGA-M10x1,25
	32				32		
	40	9 262	SGS-M12x1,25		40	10 767	SGA-M12x1,25
	50	9 263	SGS-M16x1,5		50	10 768	SGA-M16x1,5
	63				63		
Rod clevis SG				Self-aligning rod coupler FK			
	16	3 110	SG-M6		16	2 061	FK-M6
	20	3 111	SG-M8		20	2 062	FK-M8
	25	6 144	SG-M10x1,25		25	6 140	FK-M10x1,25
	32				32		
	40	6 145	SG-M12x1,25		40	6 141	FK-M12x1,25
	50	6 146	SG-M16x1,5		50	6 142	FK-M16x1,5
	63				63		
Coupling piece KSZ				Adapter AD			
	16	36 123	KSZ-M6		16	157 328	AD-M6-M5
	20	36 124	KSZ-M8			157 329	AD-M6-1/8
	25	36 125	KSZ-M10x1,25			157 330	AD-M6-1/4
	32				20	157 331	AD-M8-1/8
	40	36 126	KSZ-M12x1,25			157 332	AD-M8-1/4
	50	36 127	KSZ-M16x1,5		25	157 333	AD-M10x1,25-1/8
	63					157 334	AD-M10x1,25-1/4

Cylinders with piston rod
Flat cylinders

2.3

Flat cylinders DZH

Accessories

FESTO

Ordering data – Block-shaped proximity sensor, magneto-resistive							Technical data➔ 1 / 10.2-85	
	Mounting	Switch output	Electrical connection		Cable length [m]	Part No.	Type	
			Cables	M8 plug				
NO contact								
	With accessories	PNP	3 wires	–	2.5	151 683	SMT0-1-PS-K-LED-24-C	
			–	3-pin	–	151 685	SMT0-1-PS-S-LED-24-C	
		NPN	3 wires	–	2.5	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						Technical data➔ 1 / 10.2-85	
	Mounting	Electrical connection		Cable length [m]	Part No.	Type	
		Cables	M8 plug				
NO contact							
	With accessories	3 wires	–	2.5	30 459	SME0-1-LED-24-B	
		3 wires	–	5.0	151 672	SME0-1-LED-24-K5-B	
		–	3-pin	–	150 848	SME0-1-S-LED-24-B	

Ordering data – Block-shaped proximity sensor, pneumatic				Technical data➔ 1 / 10.2-85	
	Mounting	Pneumatic connection	Part No.	Type	
3/2-way valve, normally closed					
	With accessories	Barbed fitting for tubing ID of 3 mm	31 008	SMPO-1-H-B	

Ordering data – Mounting kit					Technical data → 1 / 10.2-102	
	Mounting				Part No.	Type
	for cylinder with tie rod Ø 6 mm or DUO rail mounting profile				11 886	SMB-1

Flat cylinders EZH/DZF/DZH

Accessories

FESTO

Ordering data – Proximity sensor for T-slot, magneto-resistive							Technical data➔ 1 / 10.2-13	
	Mounting	Switch output	Electrical connection			Cable length [m]	Part No.	Type
			Cable	M8 plug	M12 plug			
NO contact								
	inserted from above	PNP	3 wires	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE
		NPN					525 909	SMT-8F-NS-24V-K2,5-OE
		–	2 wires	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE
		PNP					–	3-pin
		NPN	–	525 910	SMT-8F-NS-24V-K0,3-M8D			
		PNP	–	–	3-pin	0.3	525 900	SMT-8F-PS-24V-K0,3-M12
	flush	PNP	3 wires	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B
			–	3-pin	–	0.3	175 484	SMT-8-PS-S-LED-24-B
NC contact								
	inserted from above	PNP	3 wires	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE

Ordering data – Proximity sensor for T-slot, magnetic reed						Technical data➔ 1 / 10.2-18	
	Mounting	Electrical connection		Cable length [m]	Part No.	Type	
		Cable	M8 plug				
NO contact							
	inserted from above	3 wires	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	
				5.0	525 897	SME-8F-DS-24V-K5,0-OE	
		2 wires	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	
		–	3-pin	0.3	525 896	SME-8F-DS-24V-K0,3-M8D	
	flush	3 wires	–	2.5	150 855	SME-8-K-LED-24	
		–	3-pin	0.3	150 857	SME-8-S-LED-24	
NC contact							
	Insertable from end, flush with the cylinder profile	3-wire	–	7.5	160 251	SME-8-O-K-LED-24	

Ordering data – Plug sockets with cable						Technical data➔1 / 10.2-114	
	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type
		PNP	NPN				
Straight plug socket							
	M8 union nut	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU
					5	159 421	SIM-M8-3GD-5-PU
	M12 union nut	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU
					5	159 429	SIM-M12-3GD-5-PU
Angled plug socket							
	M8 union nut	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU
					5	159 423	SIM-M8-3WD-5-PU
	M12 union nut	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
					5	159 431	SIM-M12-3WD-5-PU

Ordering data – Slot cover for T-slot				
	Mounting	Length	Part No.	Type
	inserted from above	2x 0.5 m	151 680	ABP-5-S

Flat cylinders EZH/DZF/DZH

Accessories

FESTO

Ordering data – One-way flow control valves				Technical data ➔ Volume 2				
	Connection		Material	Part No.	Type			
	Thread	For tubing OD						
for exhaust air								
	M5	3	Metal design	193 137	GRLA-M5-QS-3-D			
		4		193 138	GRLA-M5-QS-4-D			
		6		193 139	GRLA-M5-QS-6-D			
	G1/8	3		193 142	GRLA-1/8-QS-3-D			
		4		193 143	GRLA-1/8-QS-4-D			
		6		193 144	GRLA-1/8-QS-6-D			
		8		193 145	GRLA-1/8-QS-8-D			
	G1/4	6		193 146	GRLA-1/4-QS-6-D			
		8		193 147	GRLA-1/4-QS-8-D			
		10		193 148	GRLA-1/4-QS-10-D			
	G3/8	6		193 149	GRLA-3/8-QS-6-D			
		8		193 150	GRLA-3/8-QS-8-D			
		10		193 151	GRLA-3/8-QS-10-D			
	for supply air							
	M5	3	Metal design	193 153	GRLZ-M5-QS-3-D			
		4		193 154	GRLZ-M5-QS-4-D			
		6		193 155	GRLZ-M5-QS-6-D			
	G1/8	3		193 156	GRLZ-1/8-QS-3-D			
		4		193 157	GRLZ-1/8-QS-4-D			
		6		193 158	GRLZ-1/8-QS-6-D			
		8		193 159	GRLZ-1/8-QS-8-D			