

## Flat cylinder EZH

**FESTO**



## Characteristics

### At a glance

[Link](#) [ezh](#)

The single-acting miniature cylinder with rectangular cross-section is perfect for the smallest of spaces.

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

### Position sensing

[A] For proximity sensor

By using proximity switches, any position can be detected.

### Generation

[B] Function-optimised

Sturdy version with space-optimised design

## Type code

001	Series
<b>EZH</b>	Flat cylinder, single-acting

002	Equivalent piston diameter
<b>1,5/6,5</b>	3.4 mm
<b>2,5/9</b>	5.5 mm
<b>5/20</b>	11.5 mm
<b>10/40</b>	22.2 mm

003	Stroke [mm]
<b>10</b>	10
<b>20</b>	20
<b>25</b>	25
<b>40</b>	40
<b>50</b>	50

004	Position sensing
	None
<b>A</b>	For proximity sensor

005	Generation
	Standard
<b>B</b>	Function-optimised

## Datasheet

## General technical data

Equivalent piston diameter	3.4 mm [1,5/6,5]	5.5 mm [2,5/9]	11.5 mm [5/20]	22.2 mm [10/40]	
Stroke	10 mm	20 mm	25 mm	50 mm	40 mm
Pneumatic connection	Barbed fitting PK-3				G1/8
Design	Piston Rectangular piston rod				
Protection against torque/ guide	Rectangular piston rod				
Mode of operation	Pushing Single-acting				
Cushioning	No cushioning				
Position detection	Without				Via proximity switch
Type of mounting	With transverse bore				
Mounting position	optional				

## Operating and ambient conditions

Equivalent piston diameter	3.4 mm [1,5/6,5]	5.5 mm [2,5/9]	11.5 mm [5/20]	22.2 mm [10/40]	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]				
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)				
Operating pressure	0.3 ... 0.6 MPa	0.28 ... 0.6 MPa	0.25 ... 0.6 MPa		
Operating pressure	3 ... 6 bar	2.8 ... 6 bar	2.5 ... 6 bar		
Operating pressure	43.5 ... 87 psi	40.6 ... 87 psi	36.25 ... 87 psi		
Ambient temperature <sup>1)</sup>	0 ... 60°C				
Corrosion resistance class CRC <sup>2)</sup>	2 - Moderate corrosion stress				

1) Note the application range of the proximity switches

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

## Forces

Equivalent piston diameter	3.4 mm [1,5/6,5]	5.5 mm [2,5/9]	11.5 mm [5/20]	22.2 mm [10/40]		
Stroke	10 mm	20 mm	25 mm	50 mm	40 mm	
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	3.8 N	10 N	52 N	49 N	205 N	
Theoretical min. spring return force	1 N	3 N	2.8 N	8 N	10.6 N	18 N
Theoretical max. spring return force	1.7 N	4 N	4.4 N	10.6 N	13.6 N	28 N

## Weights

Equivalent piston diameter	3.4 mm [1,5/6,5]	5.5 mm [2,5/9]	11.5 mm [5/20]	22.2 mm [10/40]		
Stroke	10 mm	20 mm	25 mm	50 mm	40 mm	
Product weight	4 g	11 g	17 g	108 g	145 g	242 g

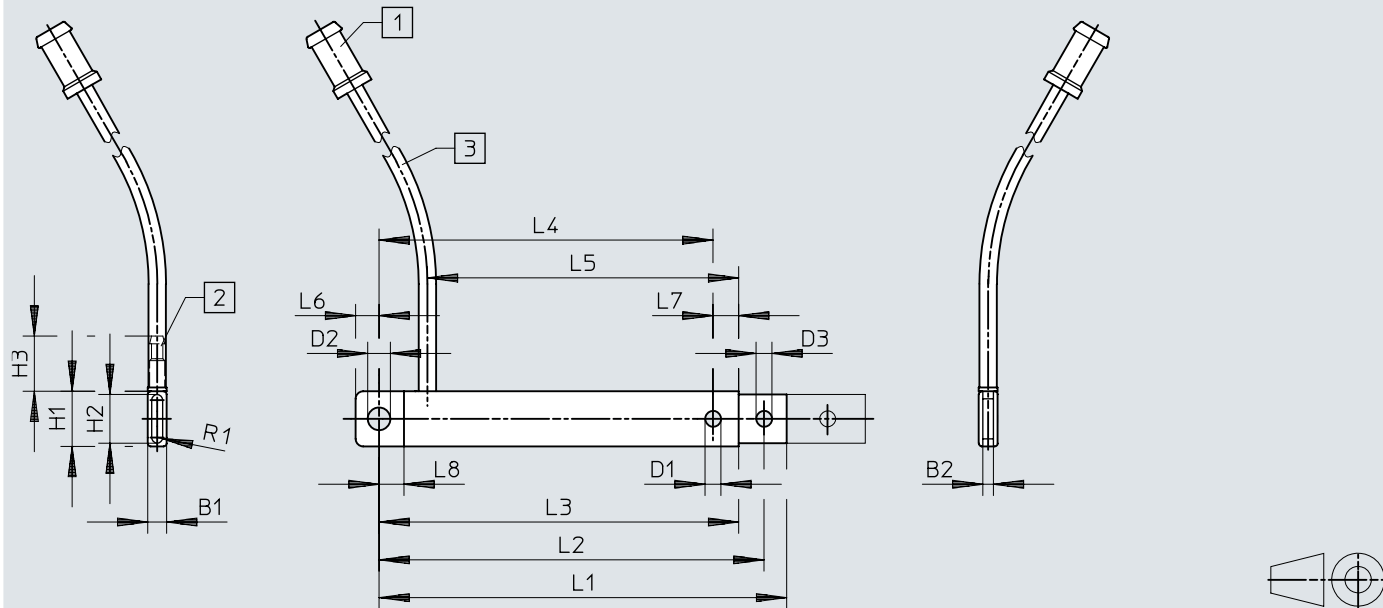
## Materials

Equivalent piston diameter	3.4 mm [1,5/6,5]	5.5 mm [2,5/9]	11.5 mm [5/20]	22.2 mm [10/40]	
Material housing	Aluminium				
Material cover	Aluminium				
Material piston rod	PA-reinforced	Copper alloy, Nickel-plated	Steel, Nickel-plated	PA-reinforced	
Material seals	NBR				
LABS (PWS) conformity	VDMA24364 zone III	VDMA24364-B2-L			

## Dimensions

### Dimensions – Flat cylinder EZH-1.5/6.5-10

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



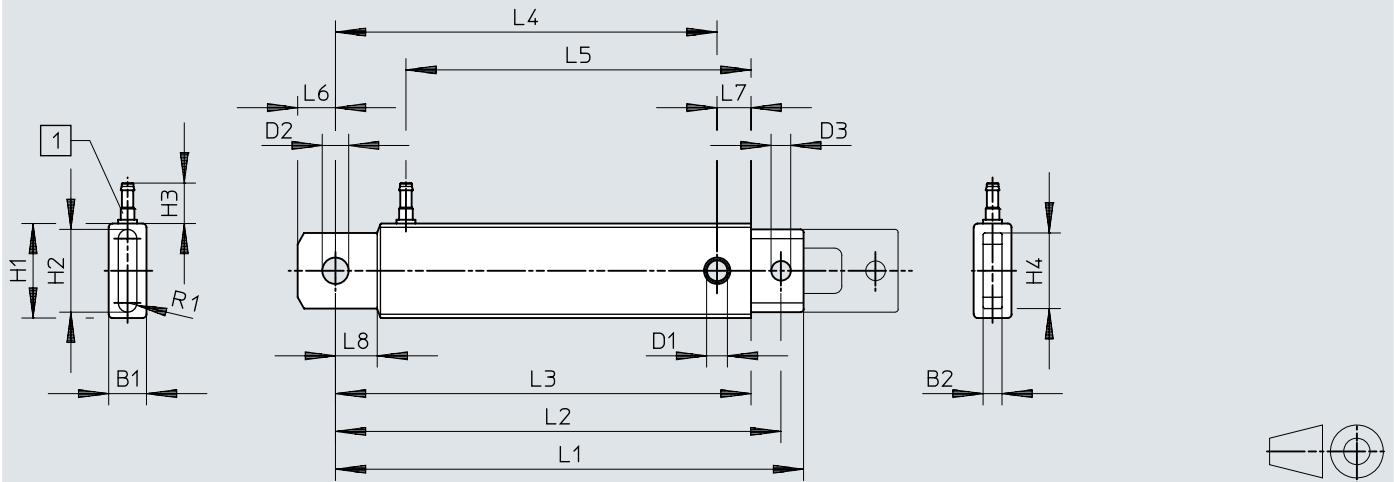
- [1] Barbed connector for plastic tubing NW 3
- [2] Barbed connector for plastic tubing NW 1.5
- [3] Tubing length 200 mm

	B1	B2	D1	D2	D3	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	R1
	-0,1		∅	∅	∅				±0,8	±0,9	±0,3	±0,4					
EZH-1,5/6,5-10	2,5	1,4	2,1	3	2,1	7,3	6,45	7,3	54	51	47,6	44,2	41,2	3,1	3,4	3,3	0,725

## Dimensions

Dimensions – Flat cylinder EZH-2.5/9-... and EZH-5/20-...

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



[1] Barbed connector for plastic tubing NW 3

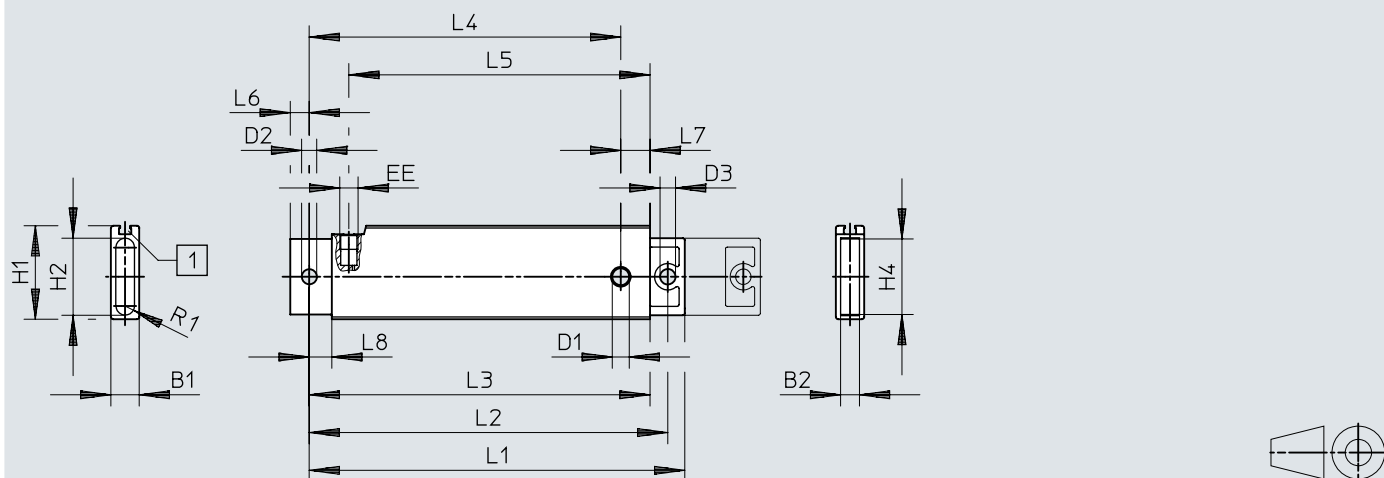
	B1	B2	D1 ∅	D2 ∅ H11	D3 ∅	H1	H2	H3	H4
EZH-2,5/9-10	4,9±0,05	2,5	3,1	4	3,1	12	9,9	10,7	9
EZH-2,5/9-20	4,9±0,05	2,5	3,1	4	3,1	12	9,9	10,7	9
EZH-5/20-25	10 <sub>-0,1</sub>	5	5,5	7	5,2	25	21,9	10,7	20
EZH-5/20-50	10 <sub>-0,1</sub>	5	5,5	7	5,2	25	21,9	10,7	20

	L1	L2	L3 ±0,3	L4 ±0,4	L5	L6	L7	L8	R1
EZH-2,5/9-10	62,4±0,7	58,4±0,8	54	49,5	43,6	4,5	4,5	5,5	1,2
EZH-2,5/9-20	94,5±0,7	90,5±0,8	86,1	81,6	75,5	4,5	4,5	5,5	1,2
EZH-5/20-25	123,9 <sub>+0,6/-0,8</sub>	117,9 <sub>+0,7/-0,9</sub>	110	101	91,3	10	9	11	2,45
EZH-5/20-50	195,9 <sub>+0,6/-0,8</sub>	189,9 <sub>+0,7/-0,9</sub>	182	173	163,3	10	9	11	2,45

## Dimensions

Dimensions – Flat cylinder EZH-10/40-40-A-B


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



[1] Mounting slot for proximity switch SME/SMT-8

	B1	B2	D1 ∅	D2 ∅ H11	D3 ∅	EE	H1	H2	H4
EZH-10/40-40-A-B	15	10	8,5	8	8,2	G1/8	49,5	40,7	40 -0,1/-0,3
	L1	L2	L3	L4	L5	L6	L7	L8	R1
EZH-10/40-40-A-B	198,9 +0,7/-1,4	189,9 +0,9/-1,6	180,5 ±0,4	165 ±0,4	159,5	10	15,5	12	4,925

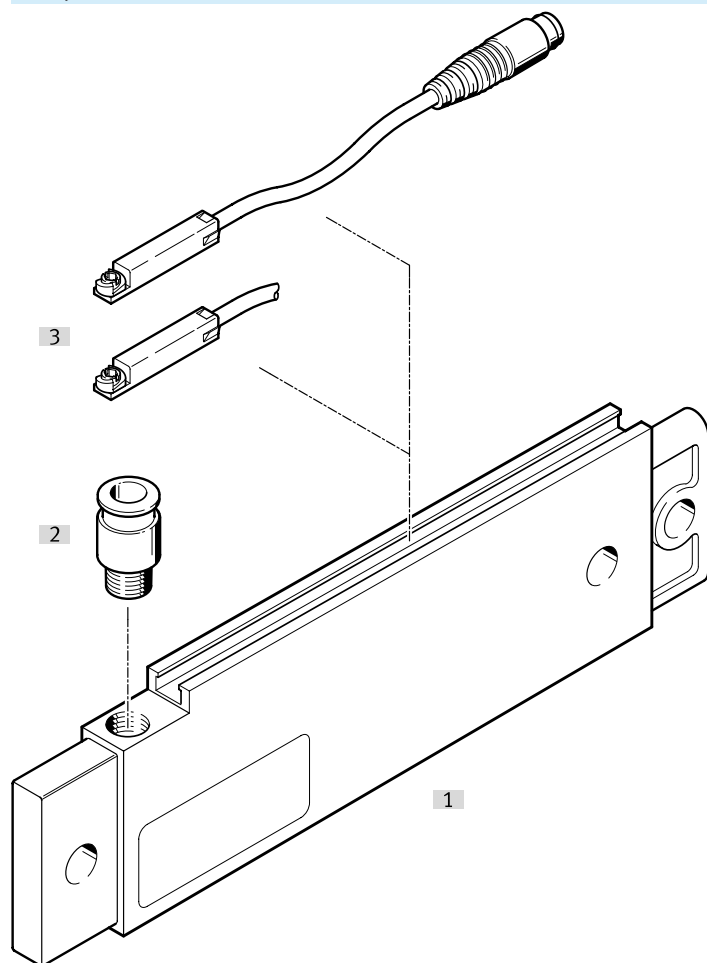
Ordering data

Flat cylinder EZH					
	Equivalent piston diameter	Stroke	Position detection	Part no.	Type
	3.4 mm	10 mm	Without	<b>13009</b>	<b>EZH-1,5/6,5-10</b>
	5.5 mm			<b>164991</b>	<b>EZH-2,5/9-10-B</b>
	11.5 mm	20 mm		<b>164992</b>	<b>EZH-2,5/9-20-B</b>
		25 mm		<b>164993</b>	<b>EZH-5/20-25-B</b>
		50 mm		<b>164994</b>	<b>EZH-5/20-50-B</b>
	22.2 mm	40 mm	Via proximity switch	<b>164990</b>	<b>EZH-10/40-40-A-B</b>



## Peripherals

## Flat cylinder EZH-10/40-...

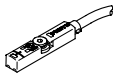


Accessories			→ Link
Type/order code	Description		
[1] Flat cylinder EZH-10/40-...	Single-acting cylinder		<a href="#">ezh</a>
[2] Push-in fitting QS	For connecting compressed air tubing with standard O.D.		<a href="#">qs</a>
[3] Proximity switch SME/SMT-8	Can be integrated in the cylinder profile barrel		10

## Accessories

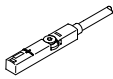
### Proximity switch SMT-8M for T-slot, magneto-resistive

[Link](#) 

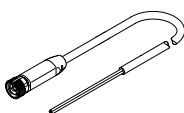
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	574339	SMT-8M-A-NS-24V-E-0,3-M8D
		3-wire PNP N/C contact	Open end	7.5 m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

### Proximity switch SME-8 for T-slot, magnetic reed

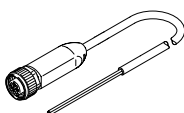
[Link](#) 

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

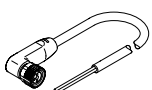
### Connecting cables NEBA, straight, M8 connection

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3

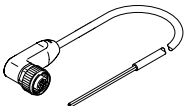
### Connecting cables NEBA, straight, M12 connection

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

### Connecting cables NEBA, angled, M8 connection

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3

## Accessories

Connecting cables NEBA, angled, M12 connection						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3
				5 m	8078246	NEBA-M12W5-U-5-N-LE3