

Soft-start valve MS-EDE-B



Characteristics

At a glance

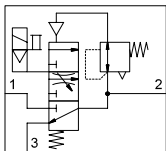
- Very compact and extremely lightweight series for use close to the process directly in the machine.
- Grid dimension: 40 mm; 62 mm
- With solenoid coil, without plug socket
- Supply voltage: 24 VDC

Diagrams

Link [ms-edc-b](#)



Function



Electrically operated soft-start valve for slowly pressurising and exhausting pneumatic systems.

- The drives move slowly and safely to the initial position
- Sudden and unpredictable movements are avoided
- Adjustable switching time delay
- Detenting and non-detenting manual override

Pneumatic connection

Individual fittings that are fastened via a female thread

Pressure gauge alternatives

[AD7] Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/O

The optional pressure sensor SDE5 provides immediate information about the current pressure and is just as impressive for detecting compressed air, regulation and vacuum as it is for detecting objects. It can be used wherever simple sensing of the applied pressure is required.

Special material properties

[F1A] Recommended for production plants for manufacturing lithium-ion batteries, F1A

Metals with copper, zinc or nickel as the main component are excluded from use. Exceptions are nickel in steels, chemically nickel-plated surfaces, circuit boards, cables, electrical plug connectors and coils

Version

[B] Second generation

Basic component with sturdy and lightweight polymer housing. Fully compatible with the MS series.

Type code

001	Series	
MS	MS series	

002	Size	
4	Grid dimension 40 mm	
6	Grid dimension 62 mm	

003	Function	
EDE	Soft-start valve, electrically actuated	

004	Pneumatic connection	
1/4	Female thread G1/4	
1/2	Female thread G1/2	

005	Supply voltage	
V24	24 V DC (connection pattern to EN 175301)	

006	Special material properties	
	None	
F1A	Recommended for production plants for manufacturing lithium-ion batteries, F1A	

007	Pressure gauge alternatives	
AD7	Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/O	

008	Version	
B	Second generation	

Datasheet

General technical data		
Size	4	6
Grid dimension	40 mm	62 mm
Pneumatic connection, port 1	G1/4	G1/2
Pneumatic connection, port 2	G1/4	G1/2
Pneumatic connection, port 3	G1/4	G1/2
Design	Poppet valve, electrically actuated	
lap	Underlap	
Type of mounting	Via wall/surface bracket	
Mounting position	optional	
Valve function	3/2-way, closed, monostable	
Exhaust-air function	Without flow control option	
Manual override	Detenting, Non-detenting	
Type of actuation	Electric	
Type of reset	Mechanical spring	
Type of piloting	Pilot actuated	
Pilot air supply	Internal	
Signal status display	With accessories	
Selection of additional functions	With silencer	

Electrical data	
Characteristic coil data	24 V DC: 2.3 W
Permissible voltage fluctuations	+/- 10%
Electrical connection	Type C, To EN 175301-803
Degree of protection	IP65
Switch-on time	31 ms

Flow characteristics		
Size	4	6
Pneumatic connection, port 1	G1/4	G1/2
Standard nominal flow rate (standardised to DIN 1343) ¹⁾	2,000 l/min	5,000 l/min
Standard nominal flow rate, exhaust 0.6->0 MPa (6->0 bar, 87->0 psi)	1,600 l/min	4,000 l/min
C value	8.52 l/sbar	23.9 l/sbar
b value	0.45	0.46

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar.

Operating and environmental conditions	
Operating pressure	0.3 ... 0.7 MPa
Operating pressure	3 ... 7 bar
Operating pressure	43.5 ... 101.5 psi
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)
Storage temperature	-10 ... 60°C
Ambient temperature ¹⁾	-5 ... 50°C
Media temperature ²⁾	-5 ... 50°C
Corrosion resistance class CRC ³⁾	1 - Low corrosion stress

1) With pressure sensor: 0... 50 °C

2) With pressure sensor: 0... 50 °C

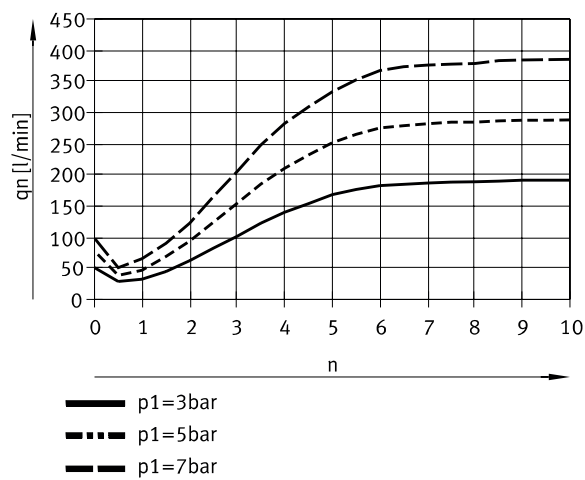
3) More information www.festo.com/x/topic/kbk

Datasheet

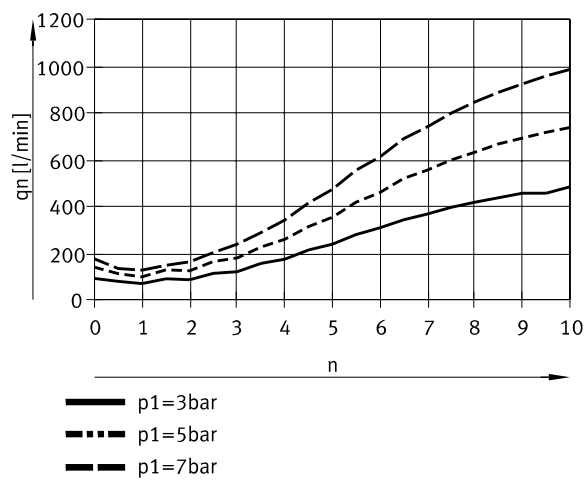
Materials	
Material housing	PA-reinforced
Material seals	HNBR, NBR
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Cleanroom class	Class 7 according to ISO 14644-1

Additional material specifications – products for battery production (MS...-F1A-B)	
Suitability for the production of Li-ion batteries	Suitable for battery production according to the Festo internal definition of the degree of severity F1A with restrictions regarding the use of Cu/Zn/Ni

Flow rate qn as a function of flow control screw turns n, measured: P1 against ambient pressure (MS4-EDE-B)

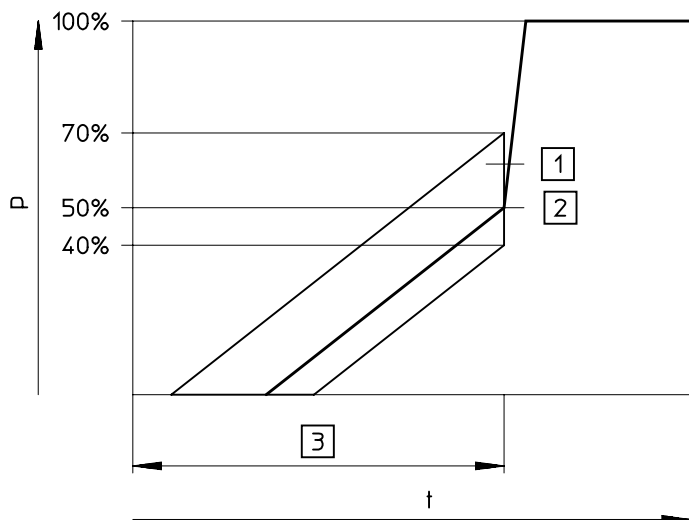


Flow rate qn as a function of flow control screw turns n, measured: P1 against ambient pressure (MS6-EDE-B)



Datasheet

Pressure p as a function of time t (switching pressure)

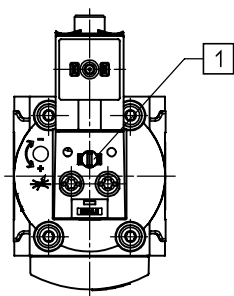


- [1] Tolerance range
- [2] Switching point
- [3] Filling time adjustable via flow control

The +20%/–10% switching pressure tolerance refers to the operating pressure p_1 .

Example: a switching pressure from 1.6 bar to 2.8 bar is permissible at an operating pressure of 4 bar.

Manual override

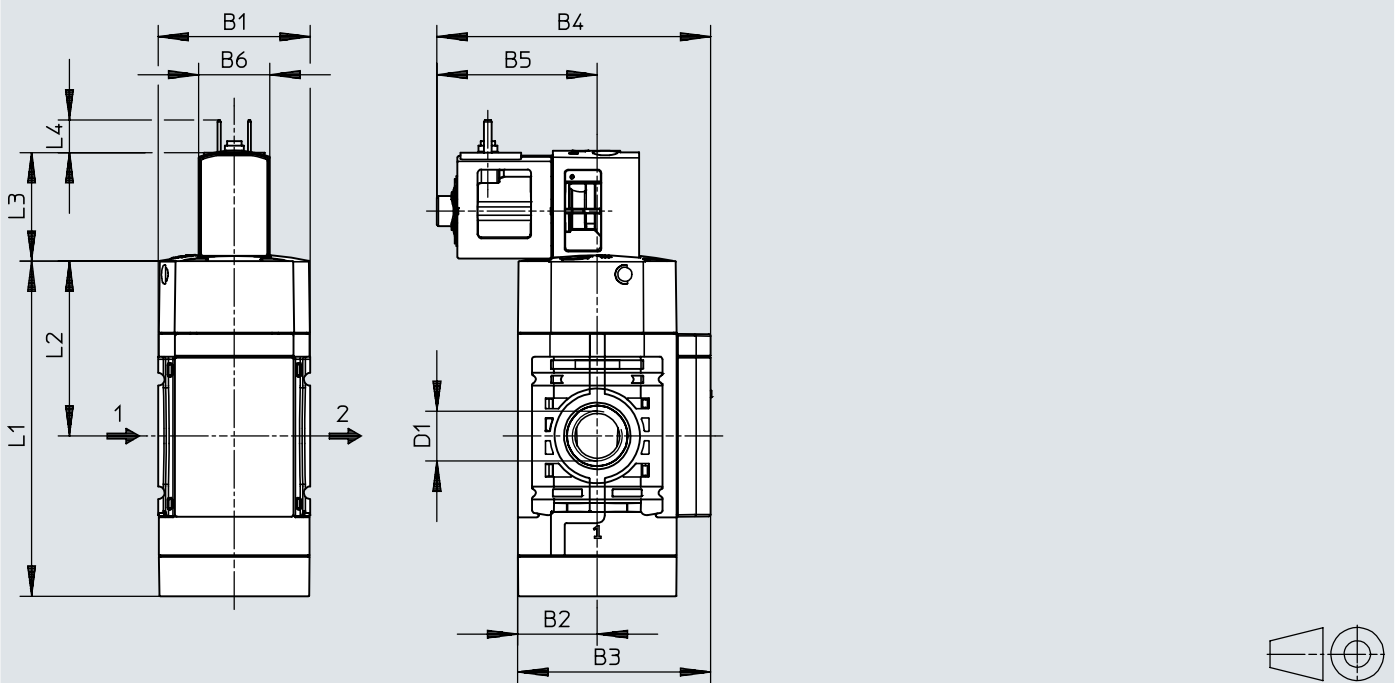


- [1] Detenting and non-detenting manual override

Dimensions

Dimensions – Basic version

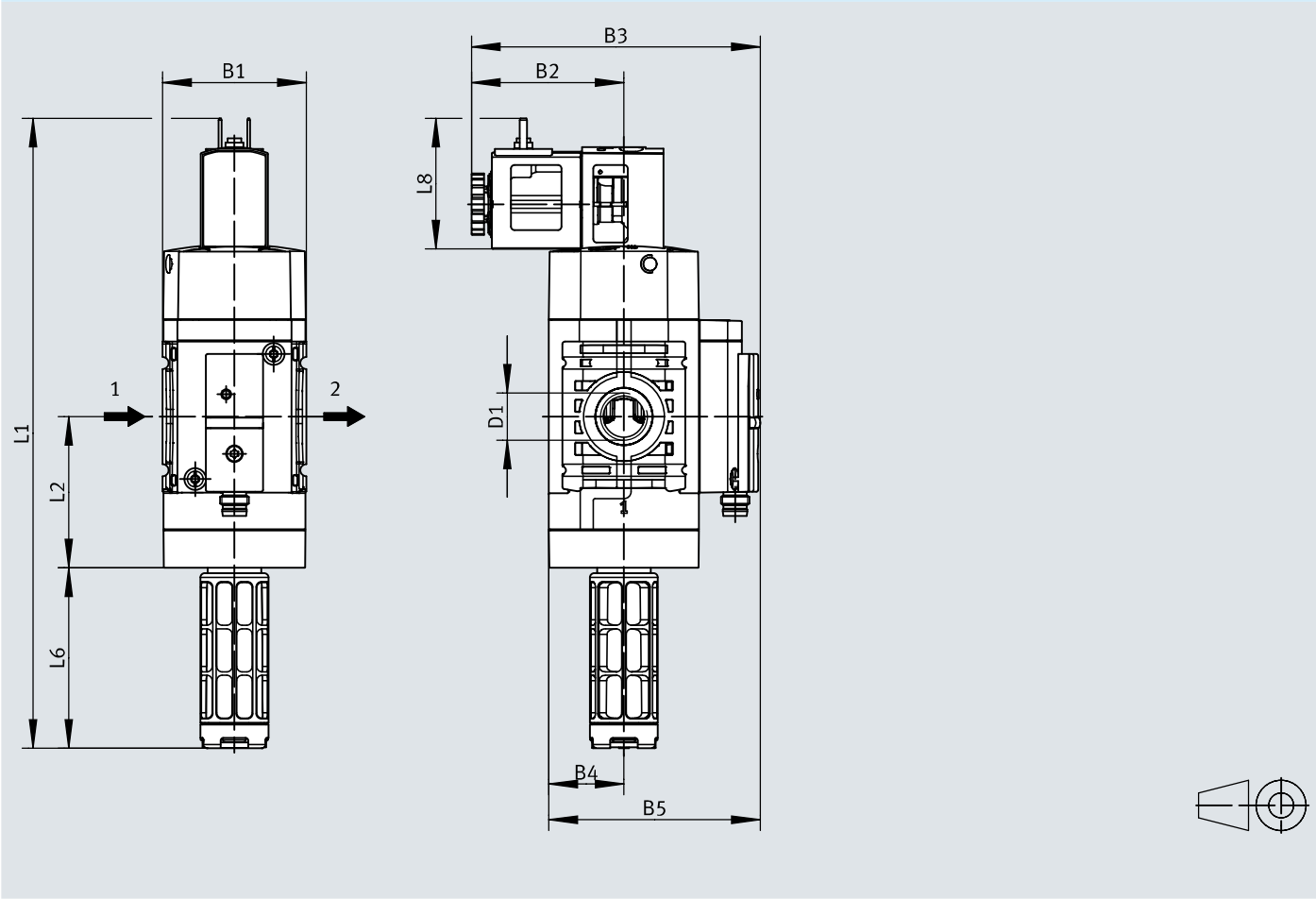
Download CAD data www.festo.com



	B1	B2	B3	B4	B5	B6	D1	L1	L2	L3	L4
MS4-EE-...-B	40,2	21	50,9	72,3	42,4	18,8	G1/4	88,5	46,2	28,7	8,6
MS6-EE-...-B	62	31	76	87,7	42,7	18,8	G1/2	140	75,5	28,2	8,6

Dimensions

Dimensions – With pressure sensor SDE5 Download CAD data www.festo.com

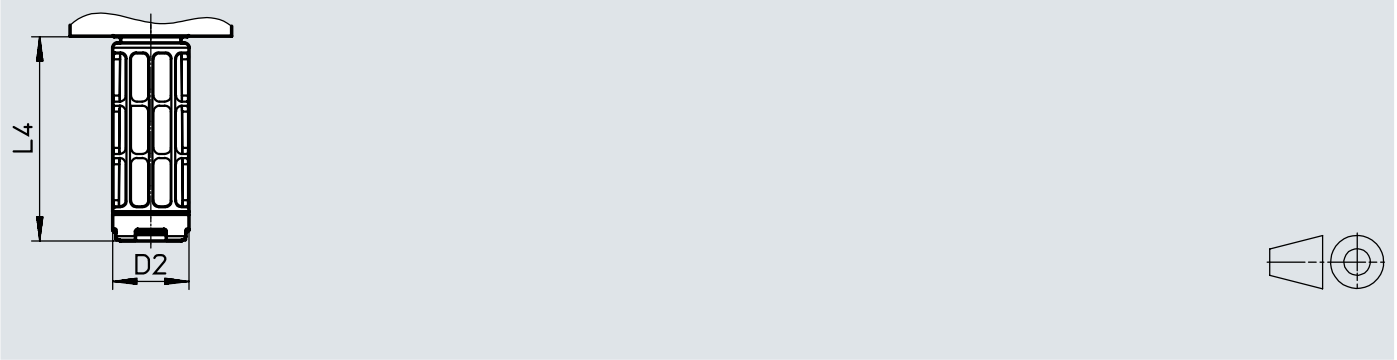


	B1	B2	B3	B4	B5	D1	L1	L2	L6	L8
MS4-EE-1/4-V24-SP-AD7-B	40,2	~42,7	~80,8	21	~59,2	G1/4	~176,3	42,3	50,5	~36,6
MS6-EE-1/2-V24-SP-AD7-B	62	~43	~ 91,3	31	79,3	G1/2	~256,2	64,5	79,4	~36,8

Dimensions

Dimensions – Silencer (accessory)

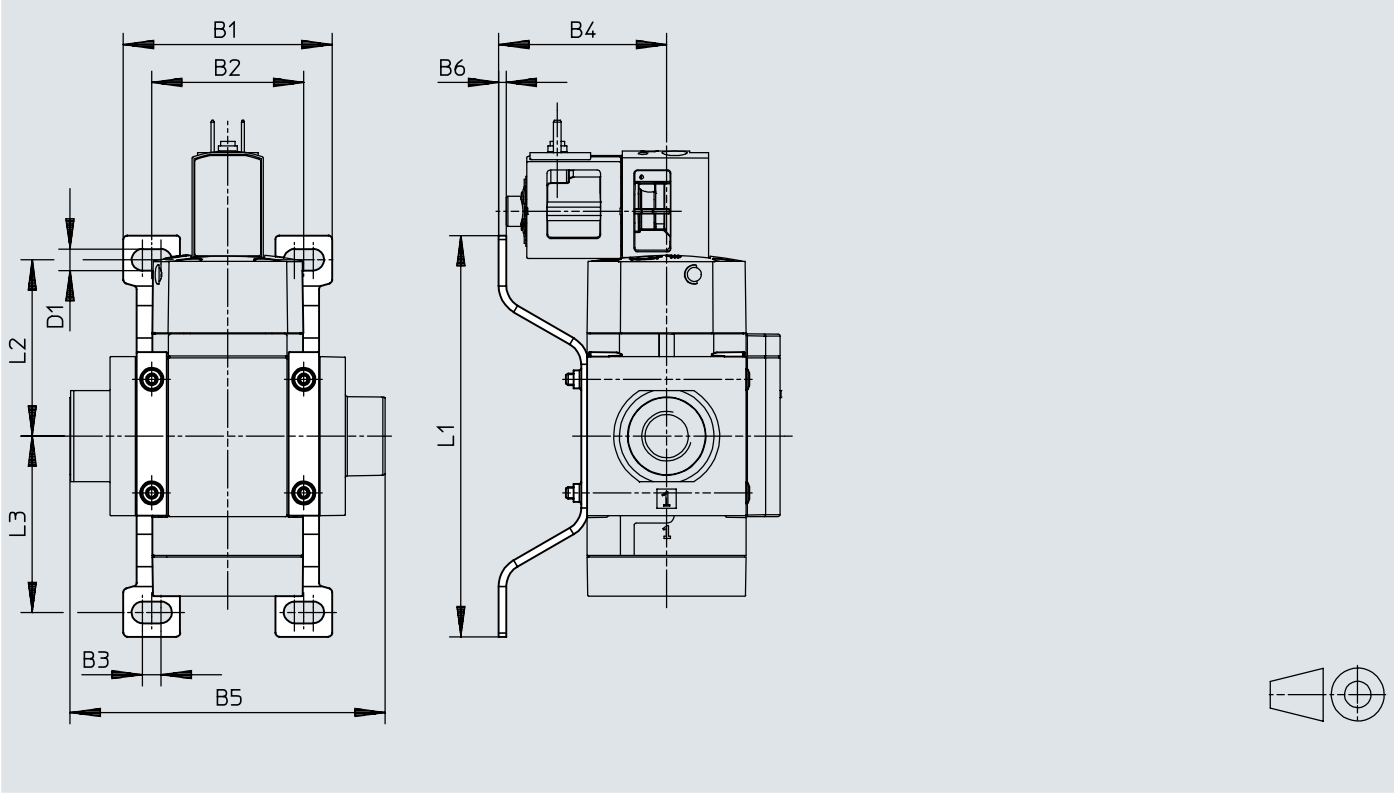
Download CAD data www.festo.com



	D2 Ø	L4
U-1/4	20	55
U-1/2	28	108

Dimensions

Dimensions – Wall mounting kit MS...-WPE-B (accessories) Download CAD data www.festo.com



	B1	B2	B3	B4	B5	B6	D1 Ø	L1	L2	L3
MS4-WPE-B	55,2	40,2	5	44,4	83,3	2	5,7	106	46,6	46,6
MS6-WPE-B	79	62	4,3	53,9	114,9	2	6,5	158	71	71

Ordering data

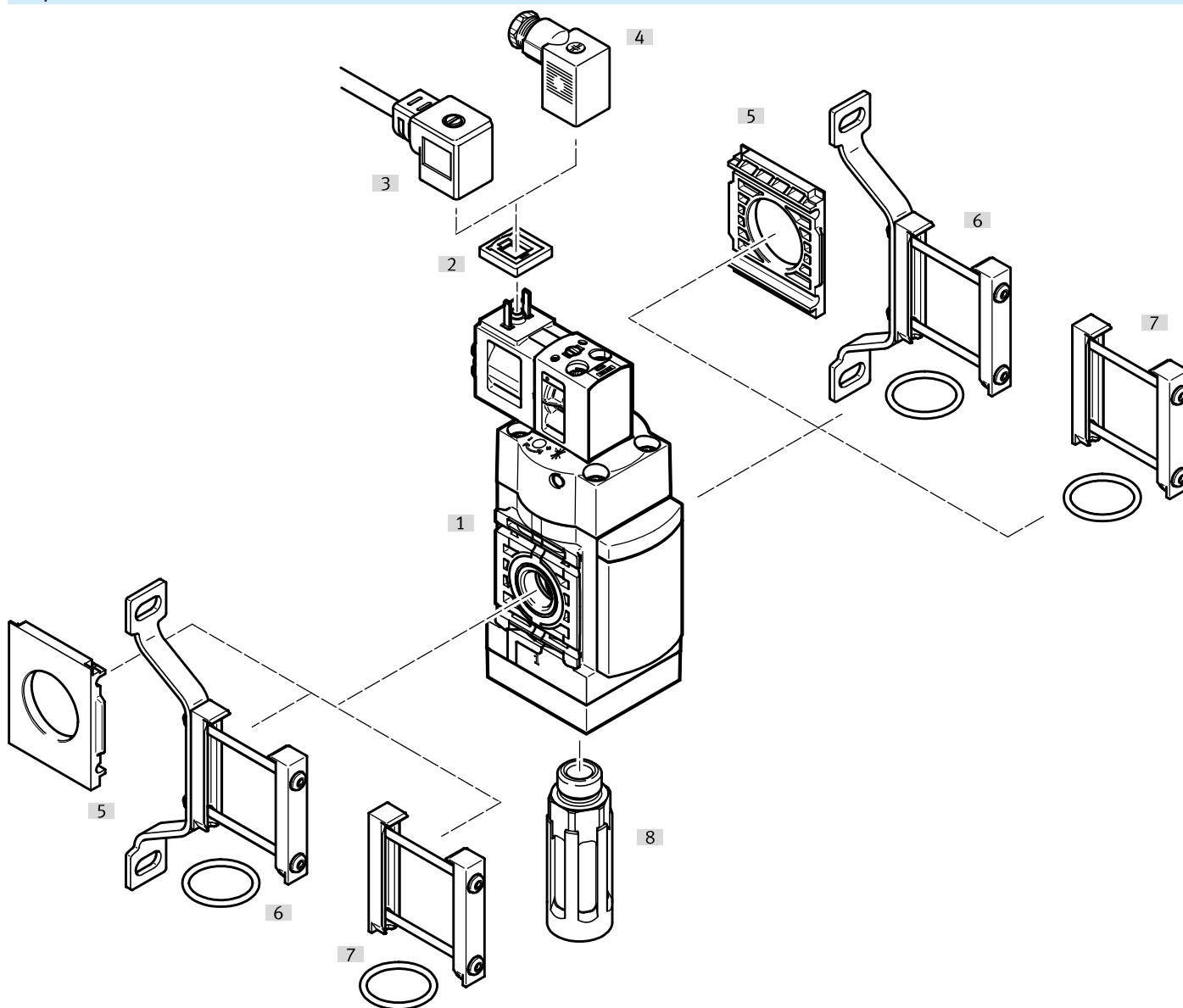
Ordering data					
	Size	Pneumatic connection, port 1	Product weight	Part no.	Type
	4	G1/4	196 g	8080815	MS4-EDE-1/4-V24-B
	6	G1/2	499 g	8080855	MS6-EDE-1/2-V24-B

Ordering data						
	Size	Pneumatic connection, port 1	Pressure gauge (ANALOG) or Pressure display (DIGITAL)	Product weight	Part no.	Type
	6	G1/2	With pressure sensor with LCD display	499 g	8201358	MS6-EDE-1/2-V24-AD7-B

Ordering data – Products for battery production					
	Size	Pneumatic connection, port 1	Product weight	Part no.	Type
	4	G1/4	196 g	8176511	MS4-EDE-1/4-V24-F1A-B
	6	G1/2	499 g	8176513	MS6-EDE-1/2-V24-F1A-B

Peripherals

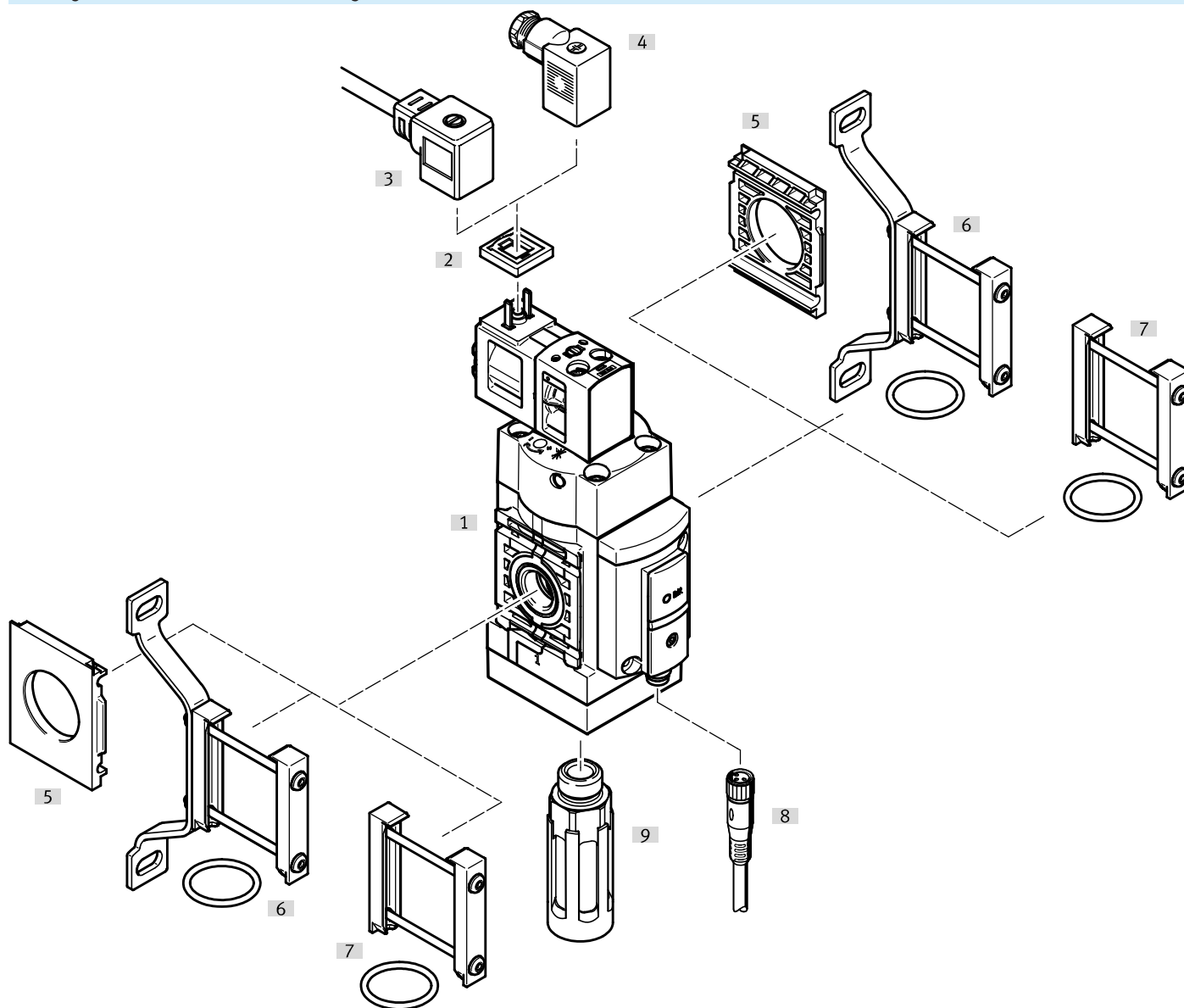
Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] On/off valve MS4/6-EDE-B		ms-e-de-b
[2] Illuminating seal MEB-LD		14
[3] Plug socket with cable KMEB		15
[4] Plug socket MSSD-EB	For on/off valve MS...-V24P and MS...-V24...-EX2, the plug socket is included in the scope of delivery.	14
[5] Mounting plate MS...-AEND	Module connector MS4/6-MV [2] or mounting bracket MS4-WP, WPB, WPE, WPM [3] is required for mounting.	14
[6] Wall mounting kit MS...-WPE-B	Without illustration	14
[7] Module connector MS...-MV1		14
[8] Silencer U		15

Peripherals

Ordering data – Pressure sensor with switching indicator



Accessories		→ Link
Type/order code	Description	
[1] On/off valve MS-EDE-B		ms-edc-b
[2] Illuminating seal MEB-LD		14
[3] Plug socket with cable KMEB		15
[4] Plug socket MSSD-EB	For on/off valve MS...-V24P and MS...-V24...-EX2, the plug socket is included in the scope of delivery.	14
[5] Mounting plate MS...-AEND	Module connector MS4/6-MV [2] or mounting bracket MS4-WP, WPB, WPE, WPM [3] is required for mounting.	14
[6] Wall mounting kit MS...-WPE-B	Without illustration	14
[7] Module connector MS...-MV1		14
[8] Connecting cable NEBA-M8...-LE3		15
[9] Silencer U		15

Accessories

Module connector MS...-MV1					
	Size	Suitability for the production of Li-ion batteries	Product weight	Part no.	Type
	4		13 g	★ 8119201	MS4-MV1
		F1a	36 g	8176695	MS4-MV1-F1A
	6		33 g	★ 8119204	MS6-MV1
		F1a	54 g	8176697	MS6-MV1-F1A

Wall mounting kit MS...-WPE-B				
	Size	Product weight	Part no.	Type
	4	30 g	★ 8118600	MS4-WPE-B
	6	58 g	★ 8118599	MS6-WPE-B

Mounting plate MS...-AEND				
	Size	Product weight	Part no.	Type
	4	4 g	542966	MS4-AEND
	6	11.1 g	535408	MS6-AEND1

Plug socket MSSD-EB					
	Electrical connection	Type of mounting	Product weight	Part no.	Type
	3-pin, Socket, Angled socket, Type C, To DIN EN 175301-803, To DIN EN 61984, Square design MSEB, Square design MSN2	On solenoid valve via M2.5 central screw	11 g	★ 151687	MSSD-EB
	4-pin, Socket, Type C		17 g	192745	MSSD-EB-S-M14

Illuminating seal MEB-LD					
	Operational voltage range DC	Switching position indicator	Product weight	Part no.	Type
	12 ... 24 V	LED	0.6 g	151717	MEB-LD-12-24DC

Accessories

Silencer U						
	Pneumatic connection	Flow rate to atmosphere	Sound pressure level	Product weight	Part no.	Type
	G1/4	3,300 l/min	76 dB(A)	7.7 g	★ 2316	U-1/4
	G1/2	10,300 l/min	82 dB(A)	58.2 g	★ 2310	U-1/2

Plug socket with cable KMEB						
	Nominal operating voltage DC	Electrical connection 2, number of connections/cores	Signal status display	Cable length	Part no.	Type
	24 V	2		2.5 m	547270	KMEB-3-24-2.5
				5 m	547271	KMEB-3-24-5
			Yellow LED	2.5 m	★ 547268	KMEB-3-24-2.5-LED
				5 m	★ 547269	KMEB-3-24-5-LED
		3		2.5 m	★ 151688	KMEB-1-24-2.5-LED
				5 m	151689	KMEB-1-24-5-LED
			10 m	193457	KMEB-1-24-10-LED	

Connecting cable NEBA-M8						
	Electrical connection 1, connector system	Electrical connection 1, number of connections/cores	Electrical connection 1, cable outlet	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	3	Straight	2.5 m	★ 8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	★ 8078224	NEBA-M8G3-U-5-N-LE3
			Angled	2.5 m	★ 8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	★ 8078231	NEBA-M8W3-U-5-N-LE3