

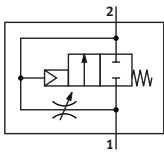
Soft-start valve MS12N-DL

FESTO



Characteristics

At a glance

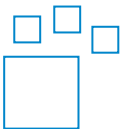


Pneumatically operated soft-start valve for slowly pressurising and exhausting pneumatic systems (for use with on/off valves EM1 and EE)

- The duration of the pressure build-up is set using the restrictor attached to the valve cap. The output pressure p2 rises slowly according to the restrictor setting. The main seat opens when the switch-through pressure is reached.
- The drives move slowly and safely to the initial position
- Sudden and unpredictable movements are avoided
- Main seat opening at approx. 50% of the operating pressure
- Adjustable switching time delay
- Optional pressure sensor

Ordering data - modular system

Link [ms12n_dl](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

Pneumatic connection

By installing connecting plates it is easier to replace the module if necessary (e.g. when using piping).

Pressure gauge alternatives

- Key features [AG]: integrated pressure gauge
- Key features [A4]: Adapter for pressure gauge

Type of mounting

[WP] Mounting bracket basic design



- For connecting the modules for wall mounting
- In combination with connecting plate for wall mounting an individual unit

Type code

001	Series	
MS	MS series	
002	Size	
12	Grid dimension 124 mm	
003	Thread type	
N	NPT thread	
004	Function	
DL	Soft-start valve, pneumatic	
005	Pneumatic connection, inch	
AQT	Sub-base NPT1	
AQU	Sub-base NPT11/4	
AQV	Sub-base NPT11/2	
AQW	Sub-base NPT2	
G	Module without connecting thread, without sub-base	

006	Pressure gauge alternatives	
	None	
A4	Adapter for EN pressure gauge 1/4, without pressure gauge	
AG	MS pressure gauge	
007	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	bar	
MPA	MPa	
008	Type of mounting	
	Without mounting bracket	
WP	Mounting bracket basic design	
009	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

General technical data

Pneumatic connection, port 1 ¹⁾	–
Pneumatic connection, port 2 ²⁾	–
Design	Piston seat
Type of mounting	Either: Inline installation With accessories
Mounting position ³⁾	Any
Valve function	2/2
Exhaust-air function	Can be throttled
Type of actuation	Pneumatic
Type of piloting	Direct
Flow direction	Non-reversible

1) With connecting plates: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

2) With connecting plates: 1 NPT, 1 1/4 NPT, 1 1/2 NPT or 2 NPT

3) Soft-start valve mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

Flow characteristics

Standard nominal flow rate (standardised to DIN 1343) ¹⁾	25,000 ... 42,000 l/min
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1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar, depending on the selected connecting plates, which must be ordered separately → Accessories page: ms12-aq

Operating and environmental conditions

Operating pressure	2 ... 20 bar
Operating medium	Compressed air to ISO 8573-1:2010 [7:::]
Ambient temperature	-10 ... 60°C
Media temperature	-10 ... 60°C
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress

1) Corrosion resistance class CRC 2 to Festo standard FN 940070. Moderate corrosion stress. Indoor application where condensation can occur. External visible parts with primarily decorative surface requirements that are in direct contact with a normal industrial environment.

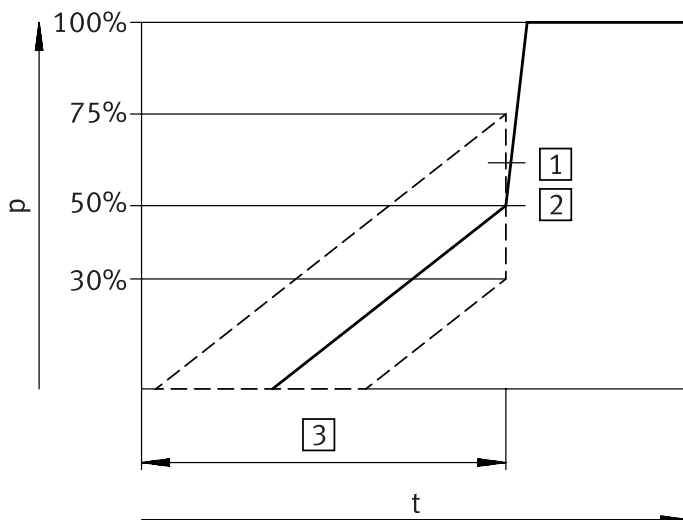
Weight without silencer

Product weight	3,600 g
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Materials

Material housing	Die-cast aluminium
Material seals	NBR
LABS (PWIS) conformity	VDMA24364-B2-L

Datasheet

Switching point – pressure p as a function of time t 

[1] Tolerance range

[2] Switching point

[3] Filling time adjustable via flow control

Note:

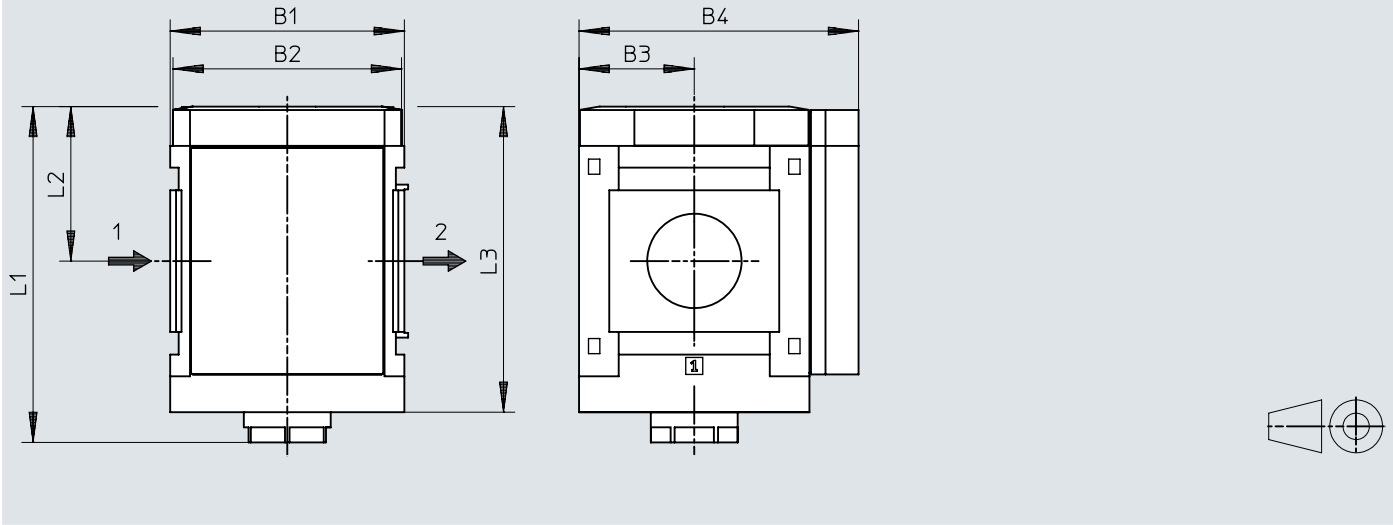
The tolerance specification +20%/-10% of the switch-on point refers to the operating pressure p_1 .

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

Dimensions

Dimensions – Basic type, module without connecting thread, without connecting plate, with cover plate

Download CAD data www.festo.com

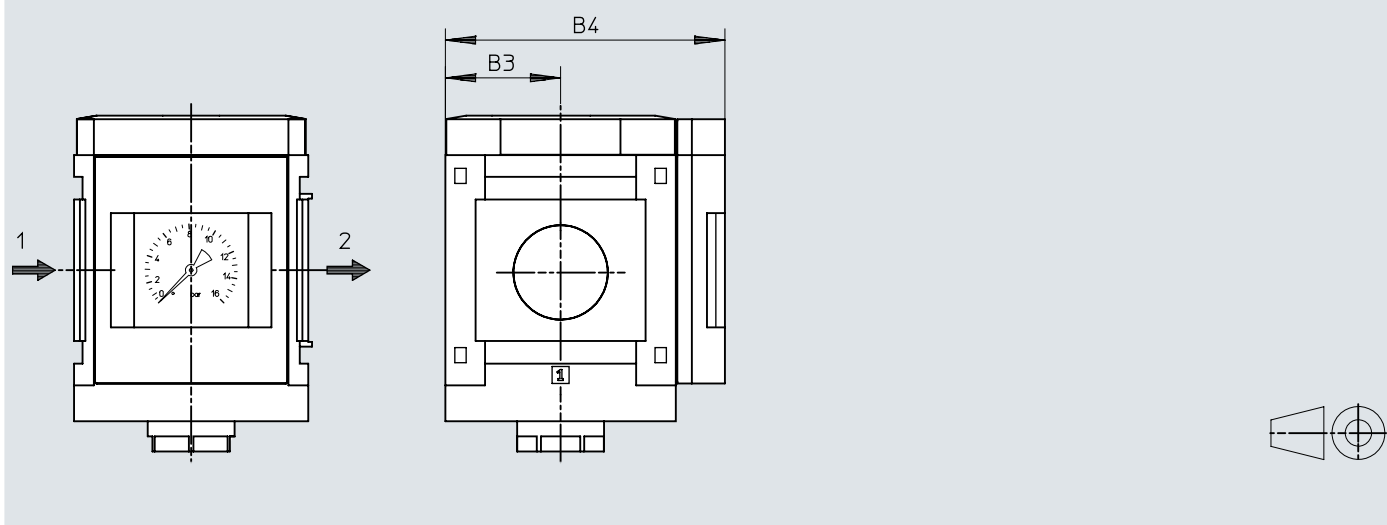


	B1 [inch]	B2 [inch]	B3 [inch]	B4 [inch]	L1 [inch]	L2 [inch]	L3 [inch]
MS12N-DL-G	4,88	4,80	2,40	5,83	7,01	3,23	6,38

Dimensions

Dimensions – Integrated MS pressure gauge with standard scale, display unit
[bar]

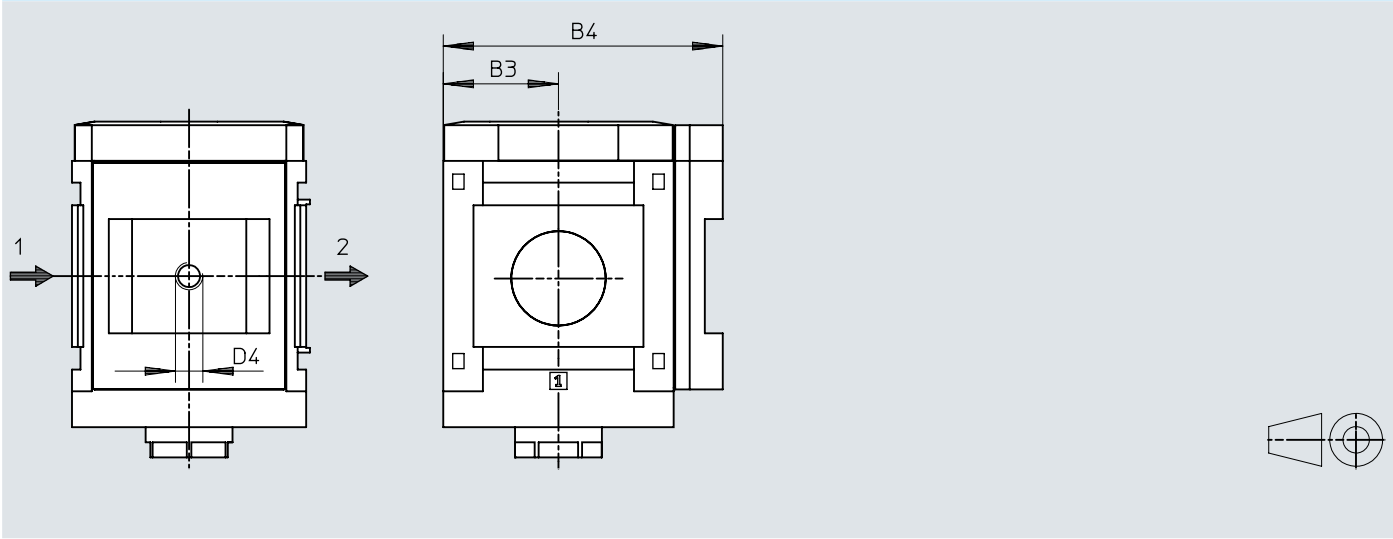
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	B3 [inch]	B4 [inch]
MS12N-DL-...-AG	2,40	5,83

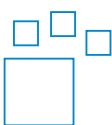
Dimensions

Dimensions – Adapter for EN pressure gauge 1/4, without pressure gauge www.festo.com



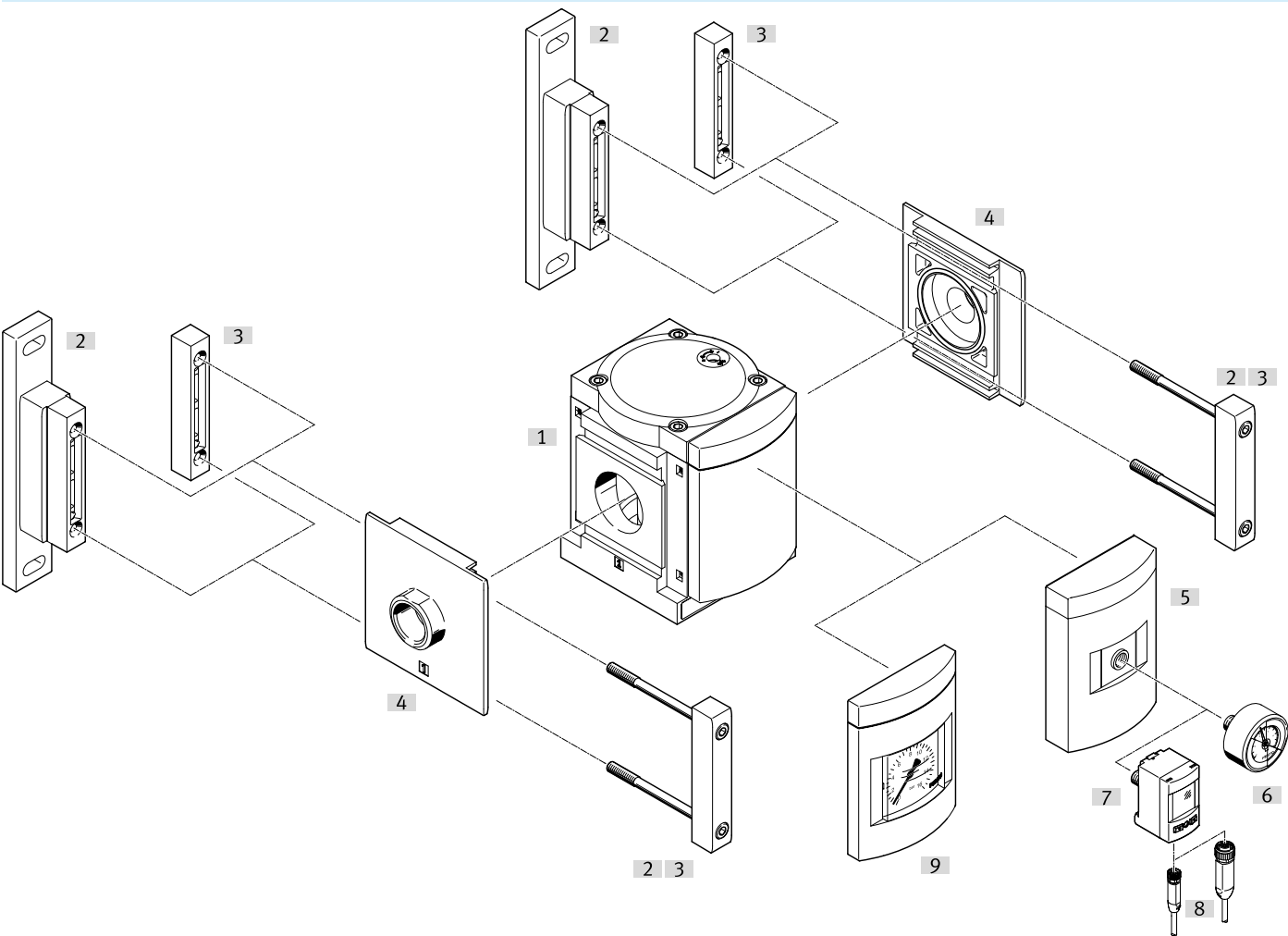
	B3 [inch]	B4 [inch]	D4
MS12N-DL-...-A4	2,40	5,83	G1/4

Ordering data

Ordering information – Modular product system			
	Short type code	Part no.	Type
	MS12N-DL	535038	MS12N-DL

Peripherals

Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] On/off valve MS4-EE		ms12n-dl
[2] Mounting bracket MS4-WP	Order code [WP]	11
[3] Module connector MS4-MV1		11
[4] Connecting plate SET MS4-AQ...	Order code [AQ...]	11
[5] Adapter for EN pressure gauge 1/8, 1/4	Order code [A8], [A4]	ms12n-dl
[6] Pressure gauge MA		11
[7] Pressure sensor SPAU-...-T		12
[8] Connecting cable NEBU-M8....-LE3		12
[8] Connecting cable NEBU-M8....-LE3		12
[9] Pressure gauge MS	Order code [AG], [RG]	ms12n-dl

Accessories

Module connector MS12-MV					
	Material plate	LABS (PWIS) conformity	Product weight	Part no.	Type
	Die-cast aluminium	VDMA24364-B1/B2-L	500 g	537134	MS12-MV

Mounting bracket MS12-WP					
	Material bracket	LABS (PWIS) conformity	Product weight	Part no.	Type
	Die-cast aluminium	VDMA24364-B1/B2-L	700 g	537133	MS12-WP

Connecting plate SET MS12-AQ...						
	Pneumatic connection, port 1	Material sub-base	LABS (PWIS) conformity	Product weight	Part no.	Type
	1 NPT	Die-cast aluminium	VDMA24364-B1/B2-L	1,300 g	537139	MS12-AQT
	1 1/4 NPT		VDMA24364-B2-L		537140	MS12-AQU
	1 1/2 NPT		VDMA24364-B1/B2-L		537141	MS12-AQV
	2 NPT				537142	MS12-AQW

Pressure gauge MA					
	Pneumatic connection	Indicating range	Indicating range	Product weight	Part no. Type
	R1/4	0 ... 232 psi	0 ... 16 bar	70 g	187080 MA-40-16-R1/4-EN

Pressure sensor SPAU					
	Pneumatic connection	Switching output	Electrical connection 1, connector system	Part no.	Type
	R1/4	2 x PNP or 2 x NPN, switchable	M12x1, A-coded to EN 61076-2-101	8001208	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M12D

Accessories

Pressure sensor SPAU						
	Pneumatic connection	Switching output	Electrical connection 1, connector system	Part no.	Type	
	R1/4	2 x PNP or 2 x NPN, switchable	M8x1, A-coded, to EN 61076-2-104	8001209	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M8D	

Connecting cables NEBA, straight						
	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	4	2.5 m	8078239	NEBA-M12G5-U-2.5-N-LE4
				5 m	8078240	NEBA-M12G5-U-5-N-LE4
	M8x1, A-coded, to EN 61076-2-104			2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
				5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cables NEBA, angled						
	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	4	2.5 m	8078248	NEBA-M12W5-U-2.5-N-LE4
				5 m	8078249	NEBA-M12W5-U-5-N-LE4
	M8x1, A-coded, to EN 61076-2-104			2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4
				5 m	8078234	NEBA-M8W4-U-5-N-LE4