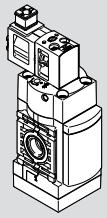
MS4-EDE-...-B

Soft start valve



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Operating instruction

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[8181838]

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Translation of the original instructions

1 Applicable documents

All available documents for the product ➔ www.festo.com/sp.

Document	Product	Contents
Assembly instructions	Wall mounting kit MS...-WPE(-B)	–

Tab. 1: Applicable documents

2 Safety

2.1 Safety instructions

- Only use the product in its original condition without unauthorised modifications.
- Only use the product if it is in perfect technical condition.
- Observe the identifications on the product.
- Take into account the ambient conditions at the location of use.
- Before working on the product, switch off the compressed air supply and lock it to prevent it from being switched on again.

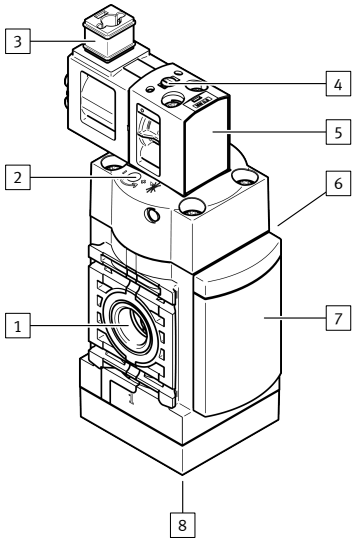
2.2 Intended use

The soft-start valve pressurises and exhausts pneumatic systems. The pressurisation process is slow. The soft-start valve is not suitable for continuous switching operation for pneumatic components.

3 Additional information

- Accessories ➔ www.festo.com/catalogue.

4 Product design



1 Pneumatic port P1
2 Flow control screw
3 Solenoid coil plug (not in scope of delivery)
4 Manual override
5 Pilot valve
6 Pneumatic port P2
7 Orifice
8 Pneumatic port P3

Fig. 1: Product design

5 Assembly

5.1 Preparing assembly

For use with reduced particle emission:

- Remove soil from the product.

5.2 Wall mounting

- Space required above the product: ≥ 250 mm
- Space required under the product: ≥ 100 mm
- Space required left and right of the product: ≥ 30 mm
- Shut-off valves are installed in the compressed air supply line.
- Fasten the product to the mounting surface with the mounting accessories ➔ 3 Additional information.

6 Installation, pneumatic

1. Screw the fittings into the pneumatic ports.
2. Note the maximum screw-in depth of the connector thread. Screwing in deeper will reduce the flow rate and can damage the housing. Maximum screw-in depth: 8.5 mm
3. Insert suitable tubing into the fitting to the stop.
   - Position tubing axial to the pneumatic ports.
   - Do not bend the tubing more than the minimum bending radius.

7 Commissioning

1. Screw the silencers into pneumatic port P3 [8] to the stop. Suitable silencers ➔ 3 Additional information.
2. Mount the solenoid coil plug [3] on the pilot valve [5]. Suitable plugs ➔ 3 Additional information.
3. Pressurise the system.
4. Switch the pilot valve [5].
   - The product can also be switched on and off with the integrated manual override [4].
   - ↳ There is pressure at pneumatic port P2 [6].
5. When the pilot valve [5] is switched off, the system is exhausted via pneumatic port P3 [8].

There is a flow control screw in the cover of the product [2]. The flow control screw can be used to generate a gradual pressure increase of output pressure p2. The flow rate and thus the pressure increase can be adjusted by turning the flow control screw. When the output pressure p2 has reached about 50% of operating pressure p1, the maximum flow rate performance is enabled.

- The flow control screw is closed by turning it clockwise to the stop. Tightening torque: 0.1 Nm ± 20%

8 Cleaning

- Clean the outside of the product as required with a soft cloth.
  Permissible cleaning agents:
  - Soap solution, maximum +60 °C
  - Petroleum ether, free of aromatic compounds

9 Fault clearance

Malfunction	Cause	Remedy
Low flow rate (operating pressure is lost with air consumption).	Constriction in the supply line.	– Check the line.
Continuous audible blowing off at the exhaust outlet.	The valve seat is damaged.	– Replace the product.

Tab. 2: Fault clearance

10 Technical data

10.1 Technical data, mechanical

MS4-EDE-...-B		
Mounting position	[°]	Vertical ± 5
Manual override		Non-detenting and detenting
Vibration resistance in accordance with IEC 60068-2-6		Severity level 2
Shock resistance in accordance with IEC 60068-2-27		Severity level 2
Pneumatic port P1		G 1/4
Pneumatic port P2		
Pneumatic port P3		
Temperature of medium	[°C]	–5 ... +50
Ambient temperature	[°C]	–5 ... +50
Storage temperature	[°C]	–10 ... +60

Tab. 3: Technical data, mechanical

Type of severity level (SL)					
Vibration load					
Frequency range [Hz]		Acceleration [m/s²]		Deflection [mm]	
SL1	SL2	SL1	SG2	SL1	SL2
2 ... 8	2 ... 8	–	–	±3.5	±3.5
8 ... 27	8 ... 27	10	10	–	–
27 ... 58	27 ... 60	–	–	±0.15	±0.35
58 ... 160	60 ... 160	20	50	–	–

Type of severity level (SL)					
160 … 200	160 … 200	10	10	–	–
Shock load					
Acceleration [m/s²]		Duration [ms]		Shocks per direction	
SL1	SL2	SL1	SL2	SL1	SL2
±150	±300	11	11	5	5
Continuous shock load					
Acceleration [m/s²]		Duration [ms]		Shocks per direction	
±150		6		1000	

Tab. 4: Type of severity level (SL)

10.2 Technical data, pneumatic

MS4-EDE-...-B		
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
		Inert gases
Information on the operating medium		Lubricated operation not possible
Operating pressure	[MPa]	0.3 ... 0.7
	[bar]	3 ... 7
	[psi]	43.5 ... 101.5
Standard nominal flow rate	[l/min]	2000
Standard exhaust flow rate	[l/min]	≥ 1600
Filling time		Adjustable by flow control valve

Tab. 5: Technical data, pneumatic

10.3 Technical data, electrical

MS4-EDE-...-B		
Electrical connection		Plug pattern C
Nominal voltage	[V DC]	24 ± 10%
Coil characteristics	[V DC]	24

Tab. 6: Technical data, electrical