

AB 08 EN

Filter Check Valve

Integrated into a screw-on body with G 1/4 thread, degree of protection IP 56/66 or NEMA 4

Application

The filter check valve is installed in the exhaust air connection of pneumatic and electropneumatic devices (see Application notes on page 2) to ensure functional safety of these devices in rough ambient conditions. It reliably prevents dust and jets of water from entering the device.

Special features

- Can be used in devices with an exhaust air pressure ≤ 2.5 bar
- Screw-on body with G 1/4 thread, made of 1.4305 or polyamide
- Degree of protection IP 65/66 or NEMA 4 when mounted
- Ambient temperature -45 (-20) to $+80$ °C

Function

The filter check valve consists of a diaphragm (1) and a filter disk (2) integrated into a screw-on body. The exhaust air from the device flows across the diaphragm (1) through the filter disk (2) to the atmosphere. In the reverse direction of flow, the exhaust air port is sealed by the diaphragm (1) to prevent dust or water entering the device mounted to it.

Technical data

Order no.	1790-	7253	9646	7408	9645
Process medium	Instrument air, free from corrosive substances				
Exhaust air pressure p_A	≤ 2.5 bar				
$K_{VS}^{1)}$	1.1 · The user must check whether the arising back-pressure can impair the functioning of the device when the filter check valve is installed (see Application notes).				
Mounting position	Not with filter disk on top · Make sure that the filter disk cannot be covered by dirt, snow etc. when the device is installed outdoors.				
Connection	G 1/4				
Tightening torque	≤ 6 Nm		≤ 4 Nm		
Material					
Diaphragm	Silicone rubber ²⁾ , not compatible with paint				
Filter disk	Polyethylene, average pore size 80 μ m				
Screw-on body	1.4305		Polyamide		
Ambient temperature	-45 to $+80$ °C		-20 to $+80$ °C		
Degree of protection	IP 66	NEMA 4	IP 65	NEMA 4	
Weight	approx.	30 g		10 g	

¹⁾ The air flow rate when $p_1 = 2.4$ bar and $p_2 = 1.0$ bar is calculated using the following formula: $Q = K_{VS} \times 36.22$ in m^3/h .

²⁾ A polyethylene filter (order no. 1099-1103) with a protective metal cap, G 1/4 connection, degree of protection IP 65, is available for silicone-free applications.

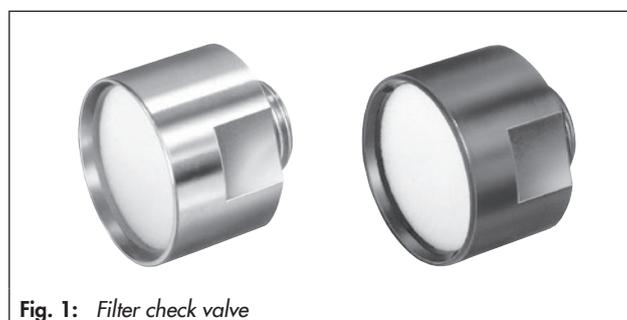


Fig. 1: Filter check valve

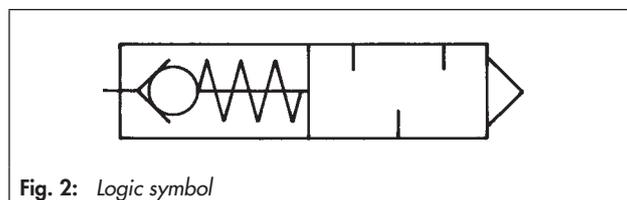


Fig. 2: Logic symbol

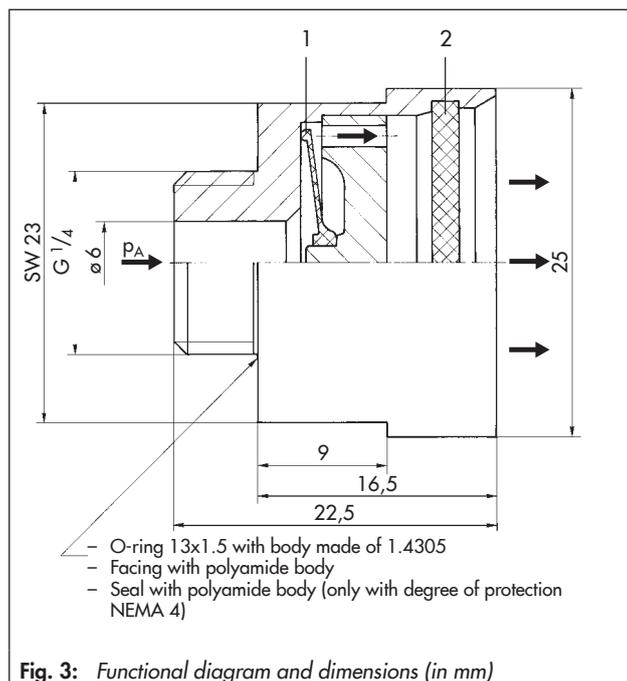


Fig. 3: Functional diagram and dimensions (in mm)

Application notes

The filter check valve can be used for the following devices:

- Solenoid valves (e.g. Types 3701, 3963 and 3966)
- i/p converters (e.g. Types 6116 and 6126)
- p/i converters (e.g. Type 6134-04)
- Pneumatic positioners (e.g. Types 3766 and 4765)
- Electropneumatic positioners (e.g. Types 4763, 3767, 3725 and 3730)
- Limit switches (e.g. Type 3776)

When the pressure and flow rate of the air exhausted from the device to be protected are unknown, check to ensure that the installed filter check valve does not impair the functioning of the device. Proceed as follows:

1. Use a tee to connect the filter check valve and a pressure gauge to the exhaust air connection of the device.
2. Apply the supply air at the operating pressure specified for the device.
3. Place the device in a state at which the largest exhaust air flow is produced.
4. Check whether the device functions properly and the exhaust air pressure does not exceed 2.5 bar.

Ordering data

Filter check valve integrated into a screw-on body with G ¼ thread

- 1.4305, degree of protection IP 66
Order no. 1790-7253
- Polyamide, degree of protection IP 65
Order no. 1790-7408
- 1.4305, degree of protection NEMA 4
Order no. 1790-9646
- Polyamide, degree of protection NEMA 4
Order no. 1790-9645

Spare parts

- O-ring 13x1.5, NBR
(for screw-on body with G ¼ thread made of 1.4305)
Order no. 8421-0327
- ECO seal
(for screw-on body with G ¼ thread made of polyamide, degree of protection NEMA 4)
Order no. 0430-2807