Filter Regulator Type 3999-0096

for filtering and control of compressed air

CE

General

The reliability and efficiency of a pneumatic instrumentation and control system depends largely on the condition of the supply air. Supply air conditioning to meet the operational requirements is essential for the functional reliability of pneumatic components.

The Type 3999-0096 Filter Regulator is used for the compressed air supply of pneumatic volume boosters for large actuators. It removes dirt, water and oil from the compressed air. At the same time, the air pressure is regulated to a constant output pressure.

The Type 3999-009X Service Unit (see Data Sheet T 3999-6 EN) can be used for the compressed air supply of pneumatic transmitters, controllers and positioners.

Version

Filter regulator with bracket
comprising filter, pressure regulator and pressure gauge, condensate drainage over drain valve **Order no. 3999-0096**

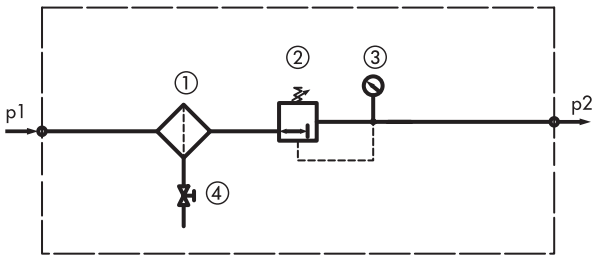
Principle of operation

The compressed air flows across a filter ① with a maximum input pressure p1 of 16 bar. The air is cleaned of coarse dirt particles larger than 8 µm as well as water and oil, while the pressure is reduced to a constant output pressure p2 of 0.5 to 10 bar by a pressure reducer ②. The output pressure p2 is indicated on a pressure gauge ③.

The filter ① is fitted with a drain valve. The condensate receptacle must drained at regular intervals by unscrewing the drain plug, depending on the degree of contamination of the compressed air.

Fig. 1 · Type 3999-0096 Filter Regulator

Block diagram



① Filter
② Pressure reducer
③ Pressure gauge
④ Drain valve

Fig. 2

Technical data

General data		
Attachment		Pipe or wall mounting
Mounting position		Upright, condensate drainage downwards
Ambient temperature		−40 ... +60 °C
Degree of protection		IP 54
Connection		G $^1/_2$ female
Weight, approx.		1.8 kg
Bracket		
Material		Steel, chromated
Filter unit		
Version		Filter, pressure reducer with secondary venting, pressure gauge
Material	Filter cartridge	Sintered bronze
	Condensat receptacle	Aluminium, powder-coated, gray-beige RAL 1019
Medium		Compressed air, free of corrosive particles
Input pressure p1		Max. 16 bar
Output pressure p2		0.5 ... 10 bar, adjustable
Flow rate		According to characteristic (see Fig. 3)
Filter mesh		8 µm particle size
Receptacle volume		65 cm^3 condensate
Condensate drainage		Manual over drain valve

Flow rate diagram

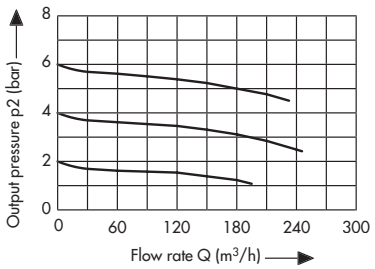
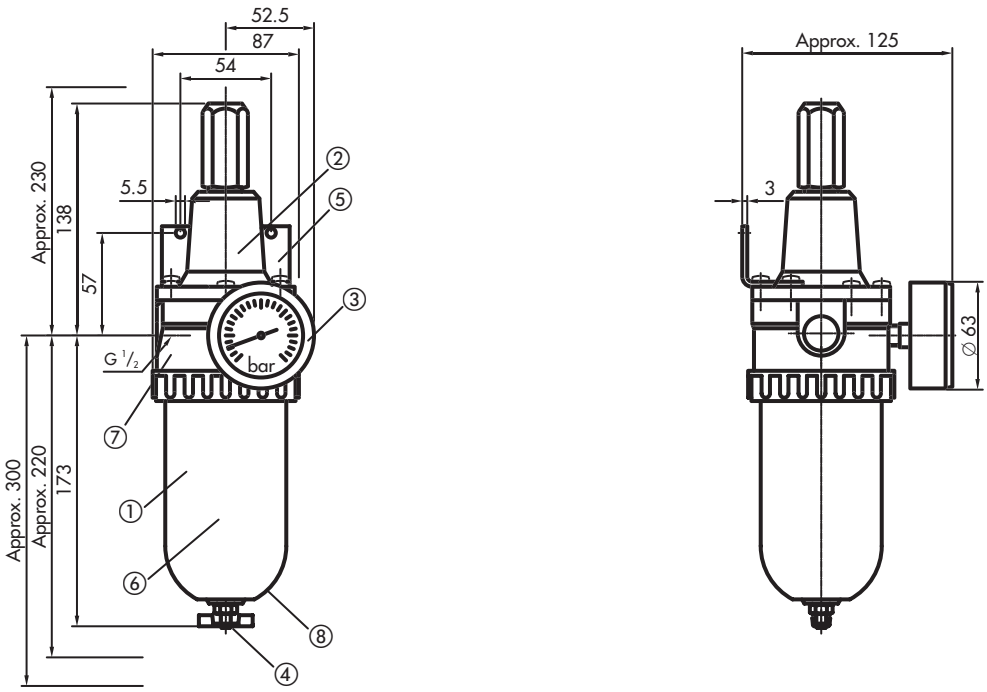


Fig. 3 · Flow rate Q at an input pressure p1 of 8 bar

Dimensions



Designation	Order no.
① Filter	–
② Pressure reducer	–
③ Pressure gauge	0790-6967
④ Drain valve	–

Designation	Order no.
⑤ Bracket	–
⑥ Filter cartridge 8 µm	0790-6691
⑦ Diaphragm	0790-6694
⑧ Condensate receptacle	0790-6693

Fig. 4 · Dimensions in mm

Installation instructions

Mounting position
The filter regulator must be installed in the output pressure pipe with the condensate drainage in the upright position facing downwards. It must be installed at the lowest point of the output pressure pipe so that condensate can flow always to the filter regulator.

Output pressure pipe
The output pressure pipe must be adequately sized so that the pressure loss is negligible.

Operation

The maximum permissible input pressure p1 of 16 bar must not be exceeded!

Maintenance instructions

The following maintenance must be performed at regular intervals, depending on the degree of contamination of the compressed air (see Fig. 4):

Filter cartridge
Check filter cartridge ⑥ for contamination and replace when heavily contaminated.

Condensate drainage
Drain the condensate receptacle ⑧ over the drain valve ④ by unscrewing the drain plug. The condensate receptacle ⑧ must be then resealed by retightening the drain plug.

(Specifications subject to change without notice.)

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