

# Supply Pressure Regulator Type 4708-45

for increased air capacity

**SAMSON**



Fig. 1 · Type 4708-45 Supply Pressure Regulator

## Mounting and Operating Instructions

**EB 8546-1 EN**

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### **General safety instructions**

- ▶ *The supply pressure regulator may only be mounted, started up or serviced by fully trained and qualified personnel, observing the accepted industry codes and practices.  
Make sure employees or third persons are not exposed to any danger. All safety instructions and warnings in these mounting and operating instructions, particularly those concerning assembly, start-up and maintenance, must be observed.*
- ▶ *Proper shipping and appropriate storage of the regulator are assumed.*

## 1 Design and principle of operation

The supply pressure regulator is used to supply pneumatic measuring and control equipment with a constant air supply.

The maximum 12 bar pressure of the compressed air network in a plant is reduced to an adjustable minimum pressure of 0.5 to 6 bar.

The compressed air at the inlet (supply) flows across the filter and leaves the output

with a reduced pressure depending on the set point adjusted. The plug is balanced to eliminate the forces created by the upstream pressure acting on the plug.

Any water contained in the compressed air is separated and collected as condensate in the filter receptacle, which must be mounted suspended downwards. The collected condensate in the filter receptacle can be drained off by briefly pushing the drain plug.

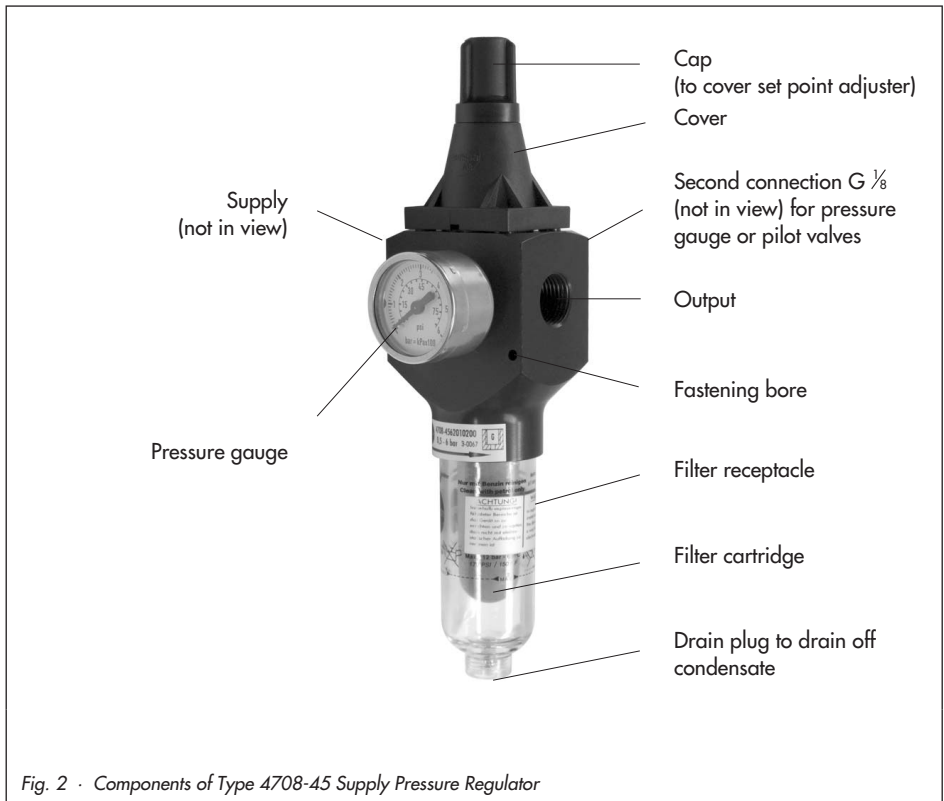


Fig. 2 · Components of Type 4708-45 Supply Pressure Regulator

### 1.1 Versions

The supply pressure regulator is available with an aluminum or stainless steel body and a transparent plastic or metal filter receptacle. The filter cartridge installed has a mesh size of 15 µm.

Supply Pressure Regulator	Type	4	7	0	x	x	x	x	x	0	0	x
Aluminum or stainless steel body, plastic cover, transparent plastic or metal filter receptacle, increased air capacity	6	1			1	0	2					0
	7	2				1	3					
							4					
Threaded connection												
ISO-228/1 - G ½	6											
½-14 NPT	7											
Set point range												
0.5 to 6 bar, with pressure gauge, completely of CrNiMo steel (instrument free of copper)		1										
0.5 to 6 bar, with pressure gauge (nickel-plated brass connection)		2										
Quantity of pressure gauges												
1 pressure gauge				1								
Body material												
Aluminum					0							
Stainless steel					1							
Filter												
in transparent plastic receptacle						2						
in aluminum receptacle						3						
in stainless steel receptacle						4						
Temperature range												
-25 to 70 °C, standard							0					
-50 to 70 °C, low-temperature version							2					
Application												
Standard								0				
Instrument compatible with paint								0	1			
Special version												
Without										0	0	0

## 1.2 Technical data

Supply pressure regulator	Type 4708-45 · ½" connections
Supply pressure	Min. 1 bar (15 psi) above the adjusted set point
Maximum supply pressure	12 bar (180 psi)
Set point range	0.5 to 6 bar (8 to 90 psi)
Air consumption	≤ 0.1 m <sub>n</sub> <sup>3</sup> /h (with 7 bar supply air)
Permissible ambient temperature	-25 to 70 °C
Low temperature version	-50 to 70 °C
Input pressure dependance	Negligible (< 10 mbar/4 bar)
Reversing error	50 mbar with a set point range 0.5 to 6 bar (8 to 90 psi)
Hysteresis	50 mbar with a set point range 0.5 to 6 bar (8 to 90 psi)
Filter cartridge mesh size	15 μm
<b>Pressure gauge</b>	
Reading range	0 to 6 bar (0 to 90 psi)
Connection	G ⅛
<b>Weight</b>	
Weight, approx.	0.74 kg for aluminum body and polyamide filter receptacle
<b>Materials</b>	
Body	Aluminum (3.2315) or stainless steel (1.4404)
Plastic parts (cover, cap)	Polyamide, glass fiber reinforced
Plug	1.4305 and polyoxymethylene
Diaphragm	NBR · FVMQ for low temperature version
Diaphragm plate	Polyamide, glass fiber reinforced, or aluminum
Set point spring	1.4310
Filter receptacle	UV-resistant polyamide (Trogamid T 5004)
Filter cartridge	Polypropylene and polyethylene
<b>Pressure gauge</b>	
Housing	Stainless steel
Connection and measuring unit	Brass, nickel-plated or stainless steel (version free of copper)

## 2 Mounting the supply pressure regulator

To prevent excessive amounts of condensed water from collecting, the distance between the compressor and supply pressure regulator should be kept as short as possible.

Install the regulator directly in the pipe of the air supply. If necessary, the regulator can be attached to a rail or bracket over the two fastening bores (see section 7).

The prescribed direction of flow is indicated by an arrow.

Depending on how the regulator is installed in the pipe, it may be necessary to mount the pressure gauge at the back of the supply pressure regulator (see section 3.1).

## 3 Pneumatic connections

The pneumatic connections are designed with either ISO-228/1 - G ½ or ½-14 NPT threads.

As shown in Fig. 2, the supply port is marked SUPPLY and the output port OUTPUT.

The second pressure gauge on the back of the regulator can be used to additionally supply pilot valves with a constant supply pressure. This connection at the back has a G ⅛ thread.

### 3.1 Pressure gauge

Mount the pressure gauge in such a way that there is a 2 to 3 mm gap between the lock nut and pressure gauge's square end after tightening the lock nut.

If the pressure gauge is to be mounted at the back of the regulator, remove the stopper (hex socket screw G ⅛) and screw it into the other free pressure gauge connection.

## 4 Set point adjustment

Unscrew the cap and adjust the set point of the regulator at the set point screw:

- ▶ Turn the screw clockwise to increase the set point
- ▶ Turn it counterclockwise to reduce the set point.

Use the lock nut to secure the setting.

## 5 Maintenance

We recommend to check the filter as often as possible.

The maximum level of the condensate must remain below the filter cartridge. If too much condensate is collected, it may enter into the filter cartridge.

Push the drain plug to drain off the condensate.

**Note:** In case of any malfunctions, e.g. due to a drop in pressure, unscrew the filter receptacle and replace the filter cartridge with a new one.

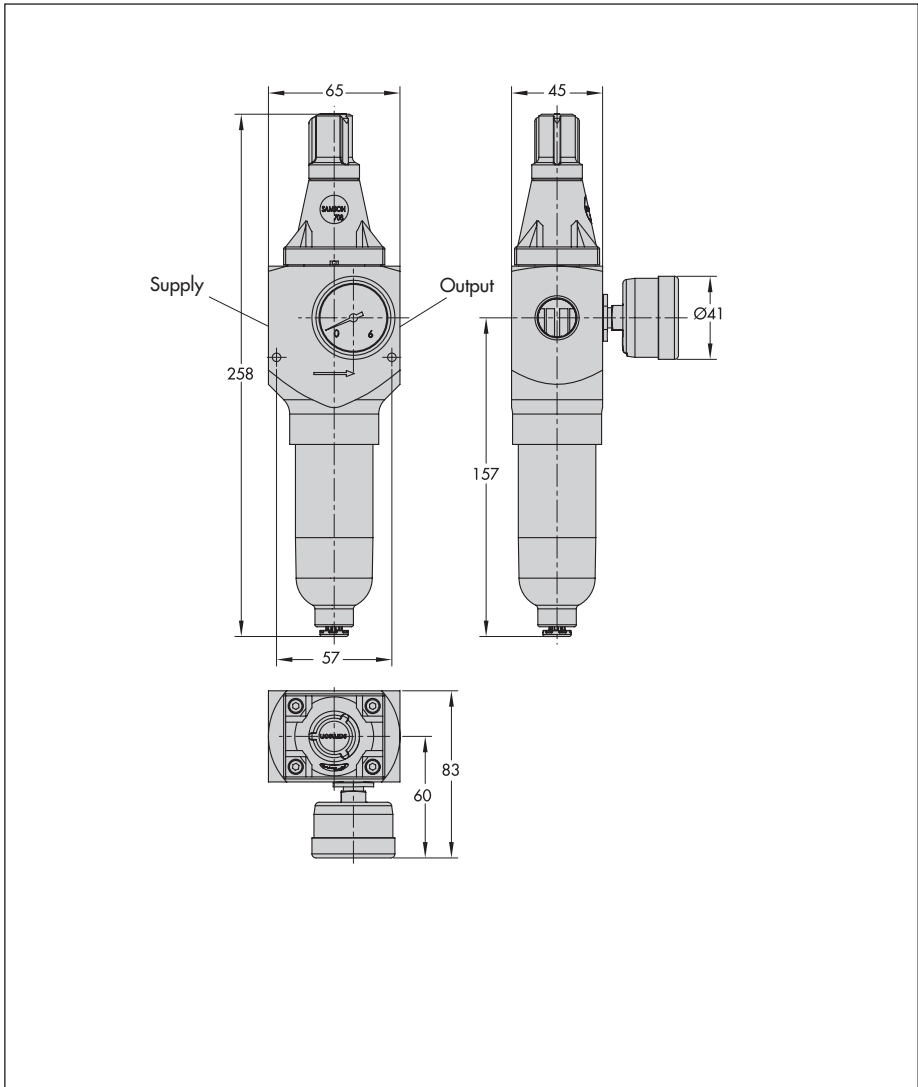
## 6 Troubleshooting

- ▶ Leakage between supply pressure regulator and pneumatic connections -> Check to make sure the pipe fittings are fitted properly.
- ▶ Leakage between supply pressure regulator and filter receptacle -> Make sure that the filter receptacle is attached properly.
- ▶ Leakage at the drain plug -> Check the drain plug for dirt and clean or replace the filter receptacle, if necessary.
- ▶ Air capacity drops and the output pressure drops -> Check the filter cartridge for dirt and clean or replace it, if necessary.  
-> Check the set point adjustment.

## 7 Accessories/spare parts

<u>Article</u>	<u>Order no.</u>
Filter cartridge 15 µm	8504-0068
Filter receptacle, plastic	1199-0423
Filter receptacle, aluminum	1199-0424
Filter receptacle, st. steel	1199-0425
Filter receptacle compatible with paint on request.	
Filter receptacle seal (in housing)	8421-0101
Stopper (hex socket G 1/8)	0079-0100
Pressure gauge	
Completely of stainless steel	0089-0009
Brass/st. steel	0089-0018
Pressure gauge seal	1099-4304
Mounting bracket for Type 3271/3277 Actuator	1400-7343

## 8 Dimensions in mm



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