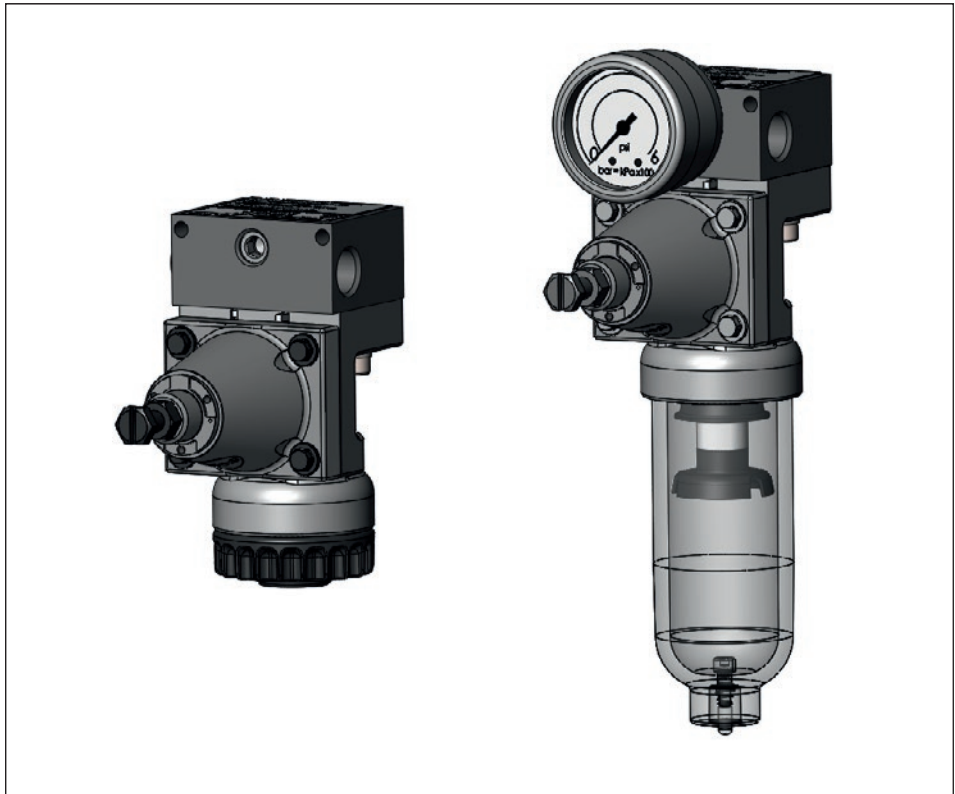


# MOUNTING AND OPERATING INSTRUCTIONS



## EB 8546-2 EN

Translation of original instructions



## SAMSTATION Type 7029 Supply Pressure Regulator

Edition February 2019

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## Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices.

- For the safe and proper use of these instructions, read them carefully and keep them for later reference.
- If you have any questions about these instructions, contact SAMSON's After-sales Service Department (aftersaleservice@samson.de).



The mounting and operating instructions for the devices are included in the scope of delivery. The latest documentation is available on our website at [www.samson.de](http://www.samson.de) > **Service & Support** > **Downloads** > **Documentation**.

## Definition of signal words

### **DANGER**

*Hazardous situations which, if not avoided, will result in death or serious injury*

### **WARNING**

*Hazardous situations which, if not avoided, could result in death or serious injury*

### **NOTICE**

*Property damage message or malfunction*

### **Note**

*Additional information*

### **Tip**

*Recommended action*

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# 1 Safety instructions and safety measures

## Intended use

The SAMSTATION Type 7029 Supply Pressure Regulator reduces and controls the pressure of a compressed air network (max. 12 bar/180 psi) to the pressure adjusted at the set point adjuster. The device is designed to operate under exactly defined conditions (e.g. operating pressure, temperature). Therefore, operators must ensure that the supply pressure regulator is only used in applications where the operating conditions correspond to the technical data. In case operators intend to use the supply pressure regulator in other applications or conditions than specified, contact SAMSON.

SAMSON does not assume any liability for damage resulting from the failure to use the device for its intended purpose or for damage caused by external forces or any other external factors.

➔ Refer to the technical data for limits and fields of application as well as possible uses.

## Reasonably foreseeable misuse

The SAMSTATION Type 7029 Supply Pressure Regulator is **not** suitable for the following applications:

- Use outside the limits defined during sizing and in the technical data

Furthermore, the following activities do not comply with the intended use:

- Use of non-original spare parts

- Performing maintenance activities not specified by SAMSON

## Qualifications of operating personnel

The supply pressure regulator must be mounted, started up and serviced by fully trained and qualified personnel only; the accepted industry codes and practices are to be observed. According to these mounting and operating instructions, trained personnel refers to individuals who are able to judge the work they are assigned to and recognize possible hazards due to their specialized training, their knowledge and experience as well as their knowledge of the applicable standards.

## **Safety instructions and safety measures**

### **Personal protective equipment**

No personal protective equipment is required for the direct handling of the supply pressure regulator. Work on the control valve may be necessary when mounting or removing the device.

- ➔ Observe the requirements for personal protective equipment specified in the valve documentation.
- ➔ Check with the plant operator for details on further protective equipment.

### **Revisions and other modifications**

Revisions, conversions or other modifications of the product are not authorized by SAMSON. They are performed at the user's own risk and may lead to safety hazards, for example. Furthermore, the product may no longer meet the requirements for its intended use.

### **Warning against residual hazards**

To avoid personal injury or property damage, plant operators and operating personnel must prevent hazards that could be caused in the pneumatic instrumentation by the signal pressure or by moving parts by taking appropriate precautions. They must observe all hazard statements, warning and caution notes in these mounting and operating instructions, especially for installation, start-up and service work.

### **Responsibilities of the operator**

The operator is responsible for proper operation and compliance with the safety regulations. Operators are obliged to provide these mounting and operating instructions to the operating personnel and to instruct them in proper operation. Furthermore, the operator must ensure that operating personnel or third persons are not exposed to any danger.

### **Responsibilities of operating personnel**

Operating personnel must read and understand these mounting and operating instructions as well as the specified hazard statements, warning and caution notes. Furthermore, the operating personnel must be familiar with the applicable health, safety and accident prevention regulations and comply with them.

### **Referenced documentation**

The following documents apply in addition to these mounting and operating instructions:

- The mounting and operating instructions of the components on which the supply pressure regulator is mounted (valve, actuator, positioner etc.).

## 1.1 Notes on possible personal injury

### WARNING

**Risk of injury due to high pressure.**

- Shut off the air line before performing work on the supply pressure regulator.

## 1.2 Notes on possible property damage

### NOTICE

**Risk of damage to the supply pressure regulator due to excessively high tightening torque.**

- Do not exceed the maximum permissible torques specified in these mounting and operating instructions.



## 2 Markings on the device

### 2.1 Article code

SAMSTATION Supply Pressure Regulator	Type 7029-	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0
Version																
Aluminum connecting part, plastic body	1															
Connecting thread																
G ¼		0														
¼-18 NPT		2														
Set point range																
0.5 to 6.0 bar			0	1												
Pressure gauge																
Without					0											
1 pressure gauge, 0 to 6 bar, plastic body					2											
Material																
Aluminum connecting part, plastic body						0										
Filter																
20 µm							1									
5 µm							2									
Temperature range																
-20 to +60 °C								2								
Filter receptacle																
With transparent filter housing									0							
With stopper									1							
Special version																
Without										0	0					
Packaging																
Without packaging															0	



## 2.2 Nameplate

<p><b>ACHTUNG!</b>          Innerhalb explosionsgefährdeter Bereiche ist das Gerät so zu errichten und zu warten, dass nicht mit elektrostatischer Aufladung zu rechnen ist.</p> <p><b>WARNING!</b>          In explosive areas install and service the device in such a way to avoid any electrostatic charging.</p> <p><b>ATTENTION!</b>          En zone explosible, le montage et l'entretien de l'appareil doivent être effectués de manière à éviter tout danger de charge électrostatique.</p>	
	<p><b>SAMSTATION</b></p> <p>Var.-ID <span style="border: 1px solid black; padding: 0 5px;">1</span></p> <p><span style="border: 1px solid black; padding: 0 5px;">2</span> bar 3- <span style="border: 1px solid black; padding: 0 5px;">3</span> <span style="border: 1px solid black; padding: 0 5px;">4</span> . <span style="border: 1px solid black; padding: 0 5px;">5</span></p> <p style="text-align: right;">Made in France</p>
<p><b>P max. 12 bar</b> </p>	

- 1 Configuration ID
- 2 Set point range
- 3 Serial number
- 4 Date (month) of manufacture
- 5 Date (year) of manufacture

### 3 Design and principle of operation

The supply pressure regulator is used to provide pneumatic measuring and control equipment with a constant supply pressure. 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 supply pressure regulator operates according to the force-balance principle. By turning the set point screw (9), the tension of the set point spring (8) is changed and the output pressure is adjusted accordingly.

The supply pressure regulator contains a filter cartridge (11). The condensate is drained by opening the screw lid (13) by half a turn.

The manual drain (12) of versions with separate filter receptacle (14) can be activated to drain condensed water.

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#### **i Note**

*The filter cartridge can be replaced (see spare parts in section 3.3).*

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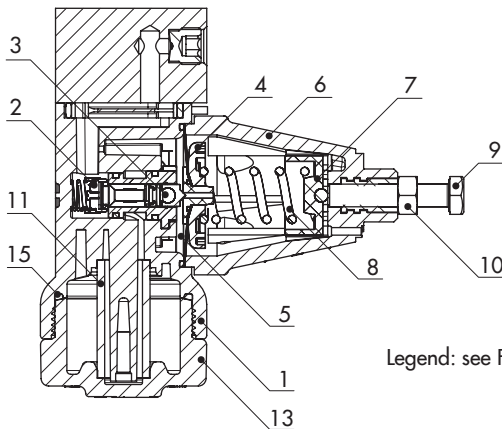
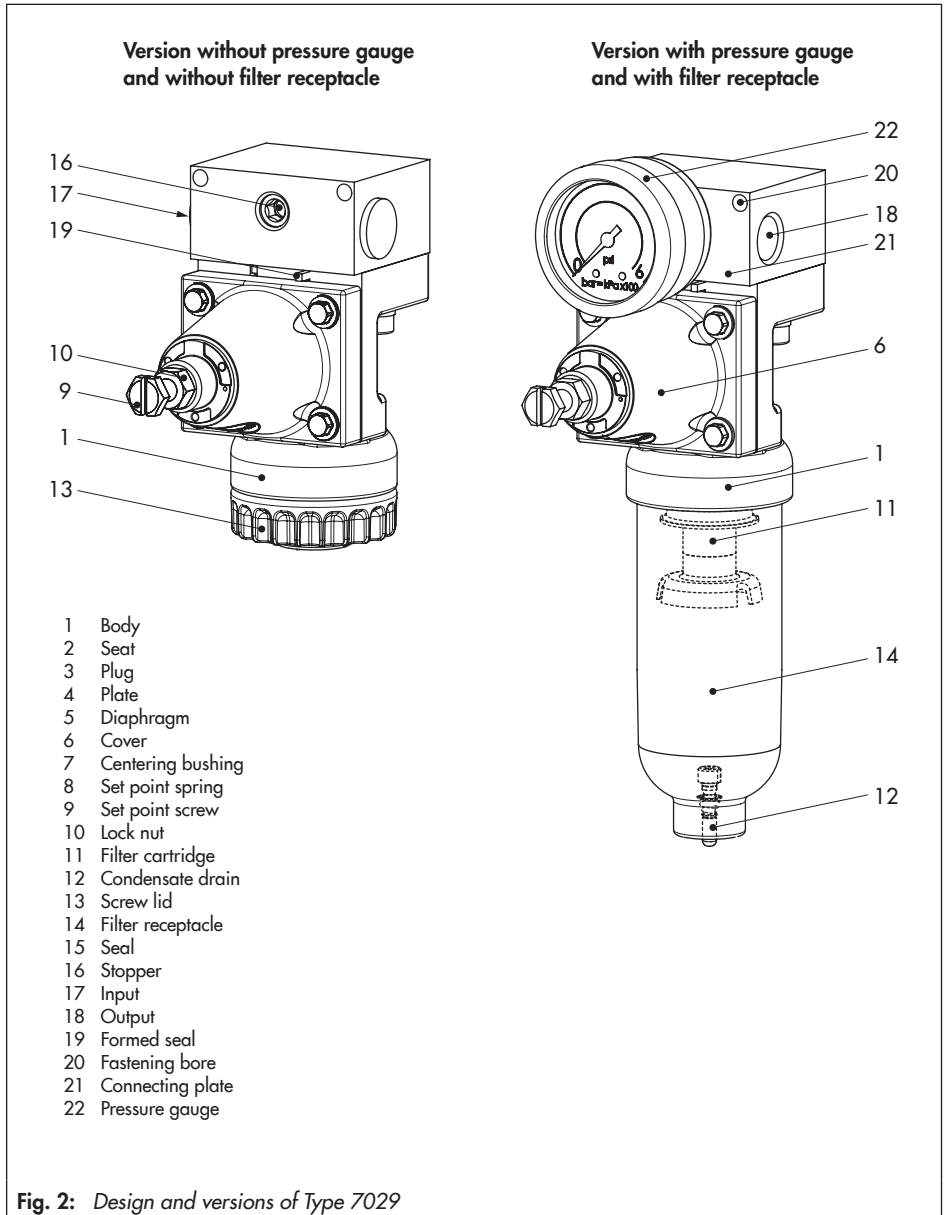


Fig. 1: Design of Type 7029



### 3.1 Technical data

Table 1: Technical data

Type 7029 Supply Pressure Regulator	
Supply pressure <sup>1)</sup>	1 to 12 bar (15 to 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)
Air output	Refer to Fig. 3
Permissible ambient temperature	-20 to +60 °C
Dependency on inlet pressure	<150 mbar/Δp = 1 bar
Reversing error	100 to 400 mbar (depending on set point)
Hysteresis	<100 mbar
Filter cartridge mesh size	20 μm (optionally 5 μm)
Connection	G ¼ or ¼-18 NPT
Pressure gauge	
Indicating range	0 to 6 bar (0 to 90 psi)
Connection	G ⅛
Degree of protection	IP 53 <sup>2)</sup>
Weight	
Approx.	320 to 425 g (depending on version)

1) Recommendation: min. 1.0 bar (15 psi) above the adjusted set point

2) If a higher degree of protection is required due to the ambient conditions, use Type 4708 Supply Pressure Regulator (► EB 8546)

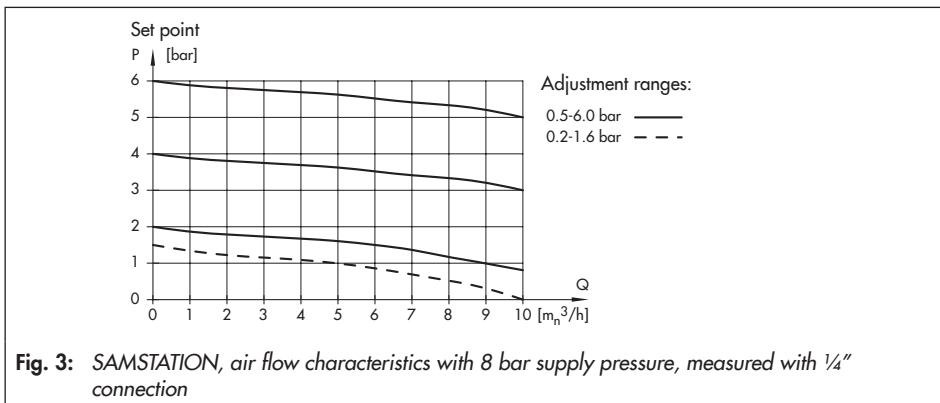


Fig. 3: SAMSTATION, air flow characteristics with 8 bar supply pressure, measured with ¼" connection

**Table 2: Materials**

Connecting plate	Aluminum
Cover, body, filter stopper	PA glass fiber reinforced
Plug	PA glass fiber reinforced and POM
Plug lip seal	PVMQ
Screw (plug)	Nickel-plated steel
O-rings	PVMQ
Diaphragm	NBR
Diaphragm plate	PA
Screws	A4
Set point spring	1.4310
Filter receptacle	UV-resistant PA
Filter cartridge	PE

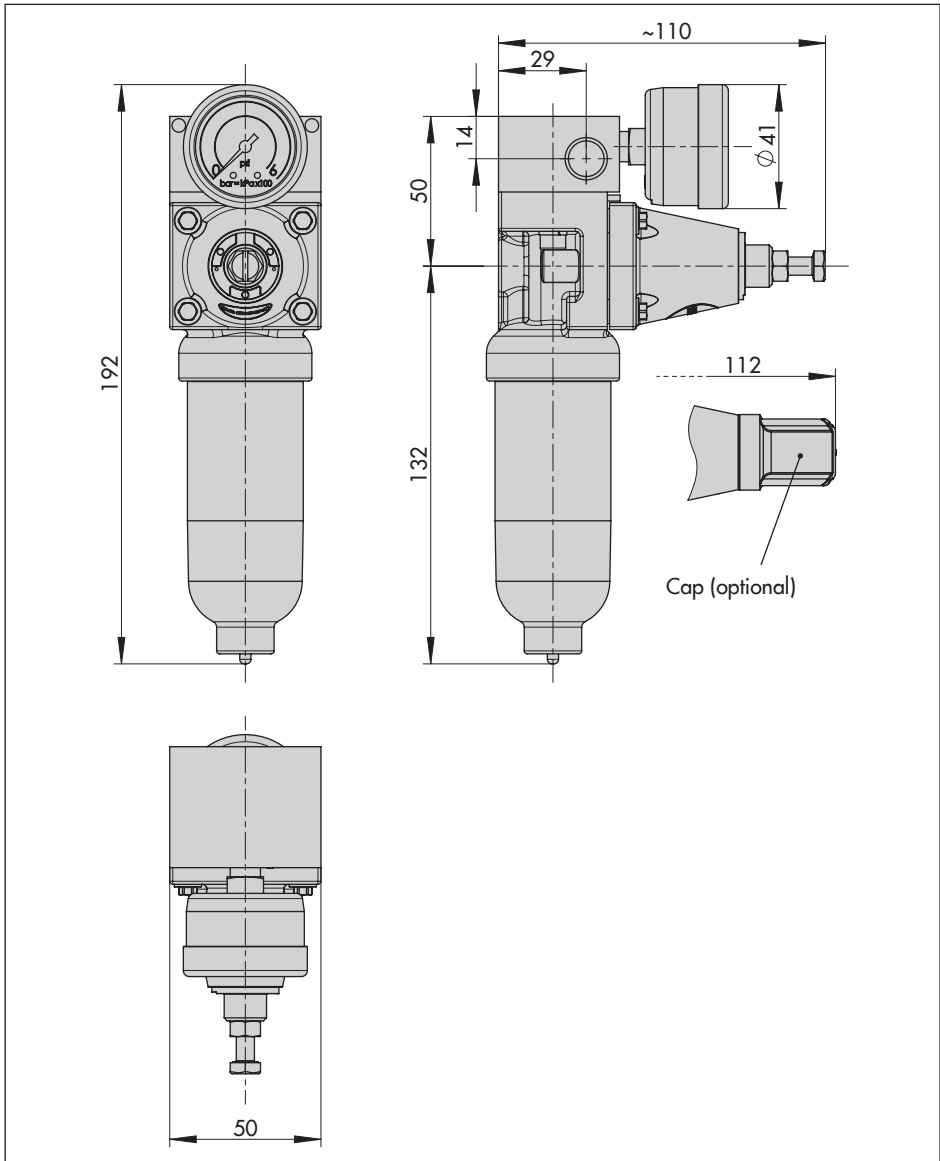
### 3.2 Accessories

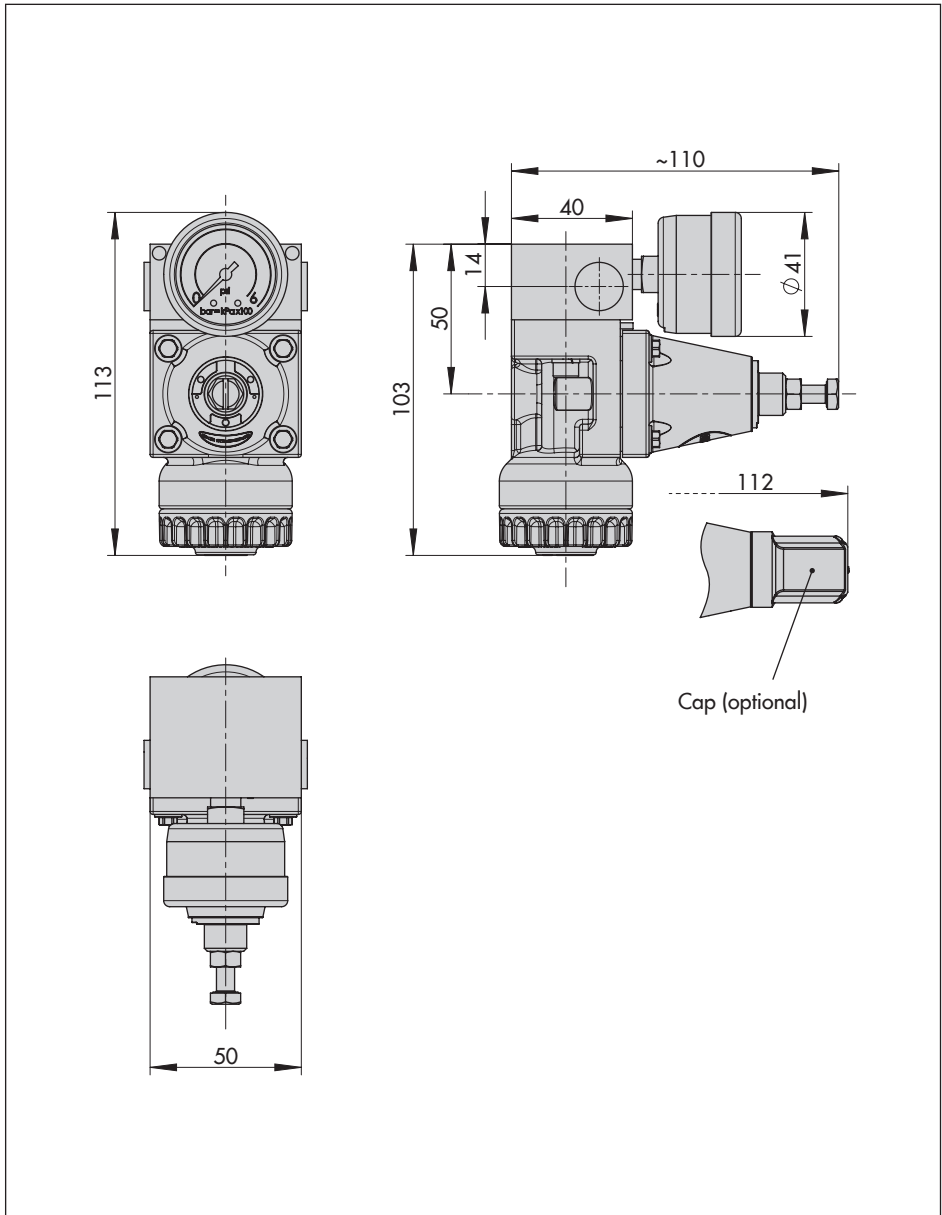
Accessories	Order no.
20 caps to cover the set point screw	1402-1165
Bracket for mounting onto a Type 3271/3277 Actuator	1400-7343

### 3.3 Spare parts

Accessories	Order no.
Filter cartridge 20 µm	8504-9027
Filter cartridge 5 µm	8504-9030

### 3.4 Dimensions in mm





### 4 Installing the supply pressure regulator

Install the device directly in the pipe of the air supply. The supply pressure regulator can be attached to a rail or bracket using the two fastening bores (see Fig. 4).

- Observe the flow direction. An arrow indicates the direction.
- To prevent excessive amounts of condensed water from collecting, keep the distance between the compressor and supply pressure regulator as short as possible.
- Make sure the drain plug faces downwards in versions with a filter receptacle.

#### 4.1 Pneumatic connections

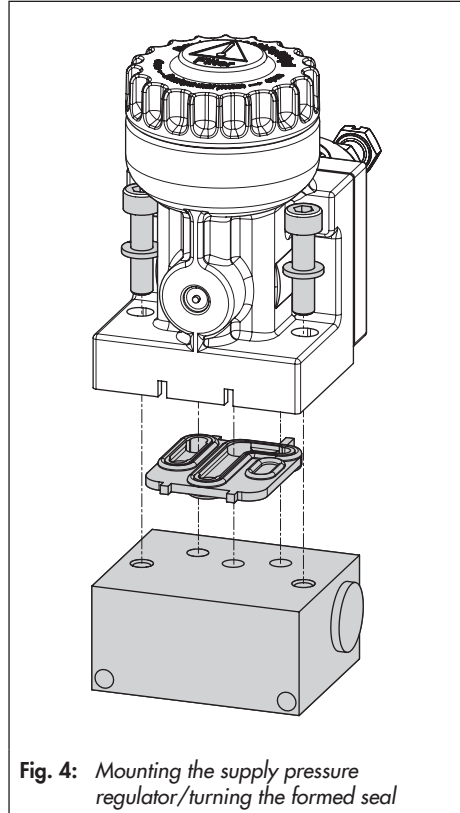
The air connections are designed either with G  $\frac{1}{4}$  or  $\frac{1}{4}$ -18 NPT threads according to ISO 228. The connecting thread of the pressure gauge is designed as a G  $\frac{1}{8}$  thread.

#### 4.2 Direction of flow

Depending on how the device is installed in the pipeline, it may be necessary to change the direction of flow.

In this case, the formed seal between the connecting plate and the supply pressure regulator must be turned (disassembly according to Fig. 4). The seal's protruding tip points towards the outlet side.

- Use the enclosed adhesive label to indicate the new flow direction.



**Fig. 4:** Mounting the supply pressure regulator/turning the formed seal



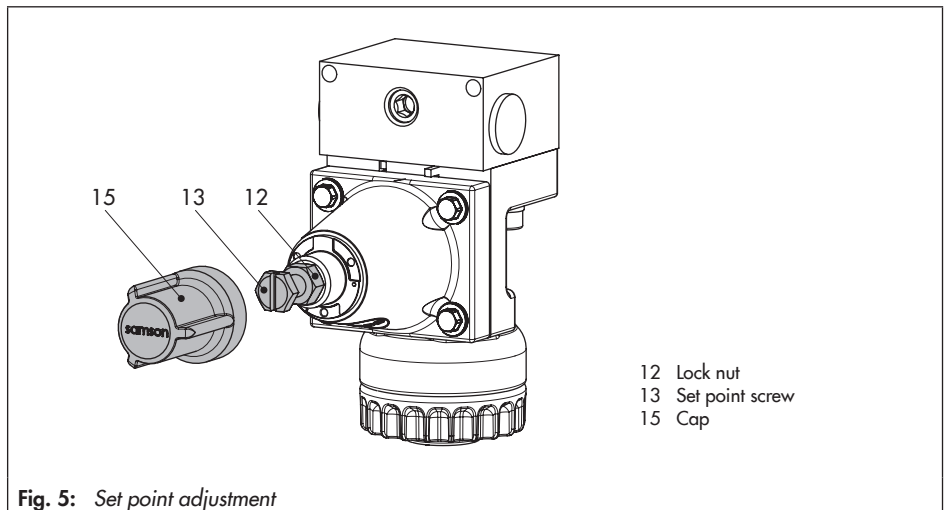
## 5 Set point adjustment

- Refer to Fig. 5
- Unscrew the cap (15), if used.
- Adjust the set point of the supply pressure regulator at the set point screw (13).
- Turning the screw clockwise increases the output pressure and turning it counter-clockwise reduces the output pressure.
- Lock the setting with the lock nut (12).

### NOTICE

*Risk of damage to the supply pressure regulator due to excessive tightening of the lock nut.*

*Do not exceed the maximum torque of 7 Nm.*



## 6 Maintenance

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### **WARNING**

*Risk of injury due to high pressure.  
Shut off the air line before performing work  
on the supply pressure regulator.*

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### **Tip**

*We recommend checking the filter regularly  
and to renew the filter cartridge (depending  
on the degree of contamination in the plant).*

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### **Drain condensed water that has collected:**

- Activate the manual drain (12, Fig. 2).
- Do not allow too much condensed water to accumulate so that it gets into the filter cartridge.

### **Replacing the filter cartridge:**

When the flow rate decreases (higher drop in output pressure), the filter cartridge needs to be replaced with a new one (see section 3.3).

## 7 Troubleshooting

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### **⚠ WARNING**

*Risk of injury due to high pressure.  
Shut off the air line before performing work  
on the supply pressure regulator.*

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#### **Leakage between supply pressure regulator and pneumatic connections:**

→ Check the pipe fittings are fitted properly.

#### **Leakage between supply pressure regulator and filter receptacle or screw lid:**

→ Ensure the filter receptacle or screw lid is screwed on properly.

#### **Leakage at the condensate drain of the filter receptacle.**

→ Check the drain for dirt and clean it, if necessary.

#### **Leakage between connecting plate and supply pressure regulator:**

→ Ensure the formed seal is seated correctly and check it for damage.

#### **Air capacity drops and the output pressure drops:**

→ Check the filter cartridge for dirt and make sure the set point is correctly adjusted.

#### **Pressure drop**

→ Unscrew the filter receptacle and renew the filter cartridge (see section 6/3.3).

**EB 8546-2 EN**



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