



1. Intended use

Filter regulator for compressed air or gas; for filtering and reducing the outlet pressure to a pressure independent of the flow. Filter regulators cannot be used to control flow or as a shut-off valve. These stainless steel filter regulators also act as a compact spring-loaded pressure regulator; in addition to pressure regulation, filter regulators are equipped with filtration and water extraction features.

The compressed air sucked in by a compressor contains many tiny dirt particles, which, when concentrated and travelling at high velocity, may block openings and make it more difficult for parts to move. When compressed air cools, the dew point drops and, depending on the weather conditions, considerable quantities of water may be extracted. The consequences are rusting of compressed air tools, pneumatic elements and piping systems. The filter function extracts liquids and impurities from the compressed air, ensuring low-maintenance operation of compressed air devices. Selecting the right pore size of the filter element depends on your requirements. The filter regulator ensures that compressed air or gas is first cleaned and after that the pressure is reduced.

Stainless steel filter regulators are not equipped with a swirl cap; because of this design they are not suitable for extracting liquid, only for filtering solid particles.

2. Note on the operating manual

Any handling of the device requires expert knowledge and compliance with this operating manual. The device is only intended for the use described.

2.1 Symbols



This symbol indicates special information or any dos and don'ts to prevent damage. These instructions serve to ensure **occupational safety!**



This symbol appears in front of particularly important information regarding compliance with regulations or if there is a risk of property damage!

3. Safety



3.1 Safety instructions

Do not put yourself or others in danger. Read the following safety instructions before installing, operating or maintaining the product in question.

They serve to avoid harm to people and the product itself. Handling technical gases – especially flammable, combustible or poisonous gases – requires expertise, compliance with this operating manual and special safety measures. In addition, any relevant regulations and guidelines may need to be observed. (see 3.2)

Use the product only as intended (see section on "Intended Use"). The same applies to the gas used with the product: improper handling may result in damage to the system or injury or even death to people. Use gas monitoring devices when working with dangerous gases. These monitoring devices detect leaks and alert personnel.

Wear a respirator mask, safety goggles and safety gloves when working with toxic gases and ensure the space is well ventilated. Ensure that exhaust vents do not become blocked and that toxic gases are properly expelled from fittings and systems with ventilation valves. Some gases may displace oxygen from the air and cause suffocation. Ensure good ventilation when handling such gases. It is highly recommended to install detectors that sound an alarm when there is a lack of oxygen in the workplace.

Oils and fats must never be used on gas control systems. These can easily ignite and react violently with some pressurized gases. **In certain cases, lubricants may be used, but they must be specially designed for the respective application.**

The use of filter regulators in oxygen applications is only permitted with appropriately marked devices.

Special safety instructions for filter regulators.

When connecting devices to the filter regulator, special protective devices must be used to ensure that no dangerous pressure can build up inside them. The secondary venting of a filter regulator (if applicable) does not count as protection for these devices.

When changing the gas type, the filter regulator should be sufficiently flushed with inert gas.

For technical gases, only filter regulators with an internal screw plug and without a drain may be used.

3.2 Regulations and Guidelines



The following regulations and guidelines must be observed on a case-by-case basis in Germany:

- Preventative principles
- Operating work equipment
- Laboratory guidelines
- Industrial safety regulations
- Information sheets "Working with Dangerous Materials"

4. Installation

4.1 Transport and packaging

Upon delivery, please check the filter regulators for any damage caused by transport or factory defects. Any filter regulator connections may be closed with caps for transport to prevent dirt particles from entering. Only remove the caps immediately before assembly. If the system is to be dismantled at a later date, any connections must be closed again before storage or transport. A strip of adhesive tape can be affixed over the openings as a makeshift solution. The filter regulator may only be transported in proper, sturdy packaging.

4.2 Preparation

Turn the adjusting screw (handwheel, spindle, hexagon) on the filter regulator counter-clockwise until the spring range is completely slack.

When installing a filter regulator the applicable system must be depressurized.

Connect the filter regulator – connection threads must match.

To ensure that the filter regulator functions properly, all pipes must be blown out before installation. Deposits and other foreign objects may damage the valve seat and thus impair or completely hinder operation.

No lubricant should be used during installation. The filter regulator may become dirty and, if used for oxygen or nitrous oxide, there is a risk of cauterisation.

The filter regulator must be installed in such a way that the flow direction corresponds to the arrows stamped/glued on the casing (IN to OUT).

The installation position must be taken into account. The container must always be on the bottom.

4.3 Operation

The supply pressure should be switched on slowly. The manual discharge must be closed.

A semi-automatic or automatic discharge only shuts at an operating pressure of approx. 2 bar. For filter regulators with a manual or semi-automatic discharge, the condensate must be drained regularly; this is not necessary with a filter regulator with an automatic discharge.

The desired output pressure is set by turning the adjusting screw (handwheel, spindle, hexagon).

Turning clockwise increases the output pressure; turning counter-clockwise reduces the output pressure. If the filter regulator is not reversible (without secondary venting), the medium must be discharged from the outlet on the filter regulator; otherwise the outlet pressure will not be reduced.

In order to achieve the right setting point, any minor adjustments to the pressure should always be increased, not decreased. These filter regulators work with all media that are compatible with the specified materials. The filter regulators may only be operated within the values specified in the technical data. Operation outside the permissible values may overload and damage the seals.

The filter regulator was developed and tested exclusively for operation with clean, dry, and chemical additives and unladen compressed air. Operating with media or additives other than those specified by the manufacturer is not permissible and requires the agreement of the manufacturer.

Warning:

On some devices, "over-tightening" the adjusting screw (handwheel, spindle, hexagon) may cause much higher maximum outlet pressure than the factory-specified maximum outlet pressure. Using a filter regulator with an outlet pressure much higher than the factory-specified values may result in the following:

The adjusting spring, which is compressed to a value close to the block length, may significantly change its characteristic curved shape and negatively impact the filter regulator operation (e.g. incomplete closing of the main regulator valve can result in a gradual decrease/increase in the outlet pressure).

Internal parts are subjected to loads beyond their intended design and may therefore be permanently deformed. Damage caused by excessive outlet pressure is not covered by any warranty.

4.4 End of operations

- Turn off outlet.
- Completely use up or discharge any remaining medium.
- Turn the handwheel counter-clockwise until the pressure spring range is completely slack.
- The casing can be opened for maintenance once the pressure has been completely released.

5. Maintenance



Do not carry out any maintenance/repair work on fittings that are under pressure!

Maintenance and servicing may only be carried out by trained professionals! With normal use, it is recommended to carry out an inspection every 6 months, during which the device is examined externally for damage and the filter element and discharge are checked for functionality. In the event of unusually heavy use, more frequent maintenance may be required.

5.1 Troubleshooting

1. Problem: The outlet pressure continues to rise after adjusting the controller, without turning the adjusting screw (handwheel, spindle, hexagon).

Possible cause: The valve seat is dirty or damaged!

Solution: The valve seat must be cleaned or replaced.

2. Problem: Leakage around or on the spring cap

Possible cause:

1. The spring cap needs to be tightened.
2. There is dirt or scratches on the valve tappet/membrane/piston.
Solution: Replace the membrane/piston or tappet (repair kit)

3. Problem: Flow too low

Possible cause: The filter element is dirty.

Solution: The filter element needs to be cleaned or replaced.

4. Problem: Leakage around or at the discharge

Possible cause: Manual discharge is loose; semi-automatic or automatic discharge is dirty.

Solution: Tighten the manual discharge, remove and clean or replace the semi-automatic or automatic discharge.

5.1 Spare parts

Only original spare parts should be used for repairs. Parts should only be replaced by trained professionals!

Reversible, stainless steel pressure regulator with self-relieving design, manual drain valve and stainless steel pressure gauge

Item no.

Type no.

129274

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