

Operating and maintenance instructions

Pressure regulators for drinking water

Please read these instructions carefully for your own safety, before proceeding to the installation, use or maintenance of the pressure regulators for drinking water. This instructions must be conserved for future consultation.

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Pressure regulators for drinking water (cold water)

Installation Size	Max. Inlet Pressure	Control Range	Max. Temperature
DN 15 - 50	16 bar	1,5 - 6 bar	75 °C

All pressure regulators comply with the Pressure Equipment Directive 2014/68/EU.

Transport and Storage

Pressure regulators must be handled, transported and stored with care. The pressure regulator has to be transported and stored in its protective packaging until the date of final installation. Even packaged pressure regulators must be transported with caution. When stored prior to installation, the pressure regulator must be placed in closed rooms and protected from harmful influences such as dirt, moisture and frost.

Functional Description

The pressure regulators are generally designed for the pressure control of water and other neutral and non-viscous fluids. Nevertheless, they can also be used for the pressure control of air and neutral gases. They are qualified for the use in domestic water systems. The regulations of the DVGW directive W382 "Installation and operation of pressure regulator in drinking water systems" have to be kept without fail as well as DIN 1988 "Technical regulations for drinking water installations". Same applies

for the required inspection and maintenance intervals.

DN 15 - 32 is DVGW certified according to DIN EN 1567 for drinking water applications up to 30 °C.

A pressure regulator reduces a high inlet pressure to a constant lower outlet pressure. The strict observance of pressure and temperature limits and the sufficient dimensioning are mandatory for the proper functioning of the device (see also chapter "Application Area").



NOTICE! Pressure regulators must not be used as a substitute for safety valves or shut off valves.

Application Area

Media: Water and chemical neutral, liquids, air and non-combustible inert gases.

All media must belong to group 2, Article 14 of the Pressure Equipment Directive 2014/68/EU. If not explicitly marked for use with steam, not suitable for steam!



WARNING! Make sure that the maximum pressures will not be exceeded. The pressure regulator must be protected against possible pressure surges in the system. In case of uncertainties regarding the use please contact the manufacturer.

Installation and Adjustment



WARNING! Installation should be carried out by qualified staff. Personal protective equipment must be worn.

The pipe must be free of dirt and foreign particles. A prior flushing is mandatory. The installation has to be carried out in close proximity to a floor drain in order to avoid structural damage in case of a medium leakage. DIN 1988 is to be followed!



WARNING! Make sure that the system is depressurized before starting the assembly! Ensure that the statics of the pipeline are suitable for the weight of the valve.

The flow direction is indicated by the directional arrows on the valve body. The correct mounting direction must be observed. The connections are internal threads as per ISO 7. The installation instructions for the actual connection type are to be observed. The appropriate sealing material has to be selected, depending on the medium and the operating conditions.

A conical fitting should never be screwed into an internal thread ISO 228 with high force or torque, this might cause a rupture of the body.



NOTICE! After completion of the installation no major torque or forces should be transmitted from the pipeline to the valve.

The outlet pressure is to be set at zero flow (all system components are closed) using the hand wheel at the top (hood). Turn it clockwise to increase the pressure and counterclockwise to reduce it. It is recommended to open and close one or more valves after setting, to double-check the actual system pressure and to readjust the outlet pressure if necessary as soon as the system flow is stable.

Maintenance

Pressure regulators are sensitive to dirt. Dirt or foreign particles inside or a clogging of the strainer in the inlet can lead to loss of function or functional failure. Depending on the medium pressure regulators must be serviced annually.

In some rare cases foreign particles, excessive temperatures or aggressive media can lead to damage of the diaphragm or the piston seal and might cause a leak on the outside. Such a leak will be immediately visible as the medium will enter through the small venting holes into the bonnet. Pressure regulators should therefore be inspected regularly to ensure that such damage will be detected at an early stage.

When opening pressure regulators for the purpose of cleaning or replacement of internal components proceed as follows:



WARNING! The disassembly and maintenance should be carried out by qualified staff. Personal protective equipment must be worn.



WARNING! Make sure that the system is depressurized before starting the assembly. Ensure that the statics of the pipeline are suitable for the weight of the valve.



WARNING! Turn counterclockwise the screw at the top hand wheel (bonnet) in order to completely release the spring in the bonnet.

Bonnets with fine threads (up to DN 32) can be unscrewed with the cast hexagon and a suitable tool e.g. a box wrench. Do not use a pipe wrench! Bonnets larger than DN 32 can be removed by loosening the fastening screws.

Up to DN 32: After removing the bonnet remove one of the two lateral G 1/4 plugs or the pressure gauge. Bring in a screwdriver through the G 1/4 hole and lift up the inner parts. The internal parts are assembled as a unit (= cartridge). If no external damage is visible, clean the cartridge, especially the filters, otherwise use a new cartridge. Assemble the pressure regulator in reverse order. The O-rings should be slightly lubricated with grease.

Up to DN 50: After removing the bonnet remove the plug at the bottom with ring- or open-end wrench. Do not use a pipe wrench! Raise spring disc (placed above the diaphragm) with a pipe wrench and unscrew the hexagonal nut. Remove spring disc and diaphragm and pull out all inner parts at the bottom side. Press out the valve seat. Caution - do not use sharp objects! Clean the inlet parts, especially the strainer and assemble in reverse order. O-rings and seals should be slightly lubricated with grease.



NOTICE! Only use KTW-approved greases for drinking water applications.

Replacement of Spare Parts

Only original spare parts must be used. The exchange may only be done by qualified staff following strictly these instructions. If the valve is modified by the user, e.g. by replacing the components during cleaning or repair, all warranty claims are void. In case of uncertainties please contact the manufacturer.

Pressure Gauge



NOTICE! When fitting the gauges for nominal widths R 1/4 to R 3/4 the maximum screw in depth must not exceed 13 mm.

Useful Contacts and Addresses

If you need any clarification or in case of doubts about this operating instruction, please contact RIEGLER & Co. KG to the following addresses:

RIEGLER & Co. KG, Sales Engineering
Schützenstraße 27
72574 Bad Urach
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technik@riegler.de

Applies to the following articles:

Pressure regulators for drinking water

Pressure regulator for drinking water, DVGW-tested acc. to EN 1567

Article No.	Type No.
101349	100.101
145385	100.102-2
145386	100.103-2
101352	100.104

Pressure regulator for drinking water, without DVGW approval

Article No.	Type No.
101353	100.105
101354	100.106