## INSTALLATION AND OPERATING MANUAL

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# AFRISOBasic

# Compact pressure reducing valve BPR

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## NOTE!

The product may only be used if you have fully read and understood these operating instructions. The manual is also available on the AFRISO websites in the Internet.

## WARNING!

Pressure reducing valves may only be installed, commissioned, and dismantled by trained personnel.

Changes and modifications carried out by unauthorised persons may cause danger and are prohibited for safety reasons.

Risk of scalding by hot medium! Perform all installation and maintenance work after the system has cooled down.

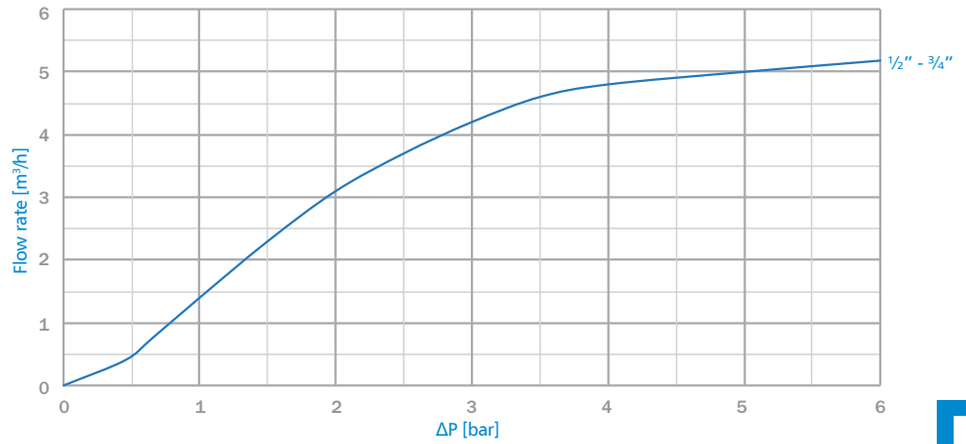
Before starting maintenance, the system must be drained of any medium and the minimum pressure at the outlet must be set. Failure to follow these instructions may result in personal injury or property damage.

## APPLICATION

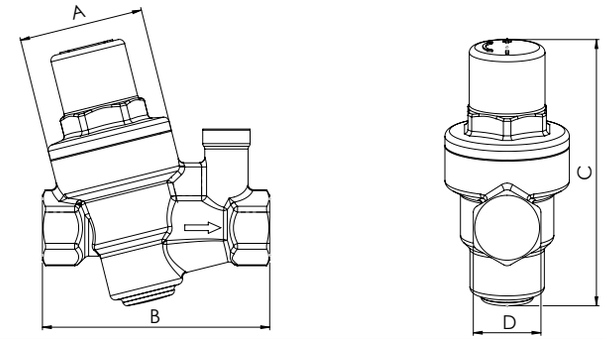
Used in domestic water systems or heating/cooling systems, it is installed on the mains water supply after the water meter or at any other point where pressure reduction is needed. It reduces and stabilizes the water pressure to the value set on the pressure reducing valve. A mesh filter inside the valve catches any dirt.

## CONSTRUCTION


## FLOW DIAGRAM (at maximum pressure setting on the pressure reducing valve)




## DIMENSIONS [mm]




| Model | BPR 411 | BPR 412 |
|---|---|---|
| Connections | G½" F | G¾" F |
| A | 46 | 46 |
| B | 84 | 94 |
| C | 98 | 98 |
| D | 25 | 31 |

## MOUNTING

The BPR pressure reducing valve should be installed on the main water connection after the water meter or wherever pressure reduction is required. The room where the BPR reducing valve is located should be protected against frost. In addition, the installation site should allow free access to the reducing valve for adjustment and maintenance. Before installing the reducing valve, rinse the system thoroughly, paying particular attention to removing residues from soldering, pipe cutting, etc.

Although the pressure reducing valve is fitted with a built-in mesh filter, it is recommended that an additional filter (e.g. AWF AFRISO) be installed upstream of the device to increase the protection of the entire system, including in areas where there is unreduced pressure. It is recommended that shut-off valves be installed at the connections of the pressure reducing valve to facilitate maintenance. The direction of water flow through the BPR pressure reducing valve must correspond with the arrow on the housing. When installing at the inlet to water heaters or domestic hot water tanks, it is necessary to use a proper diaphragm vessel after the reducing valve.

Fig. 1. Arrow indicating the direction of water flow through the BPR reducing valve

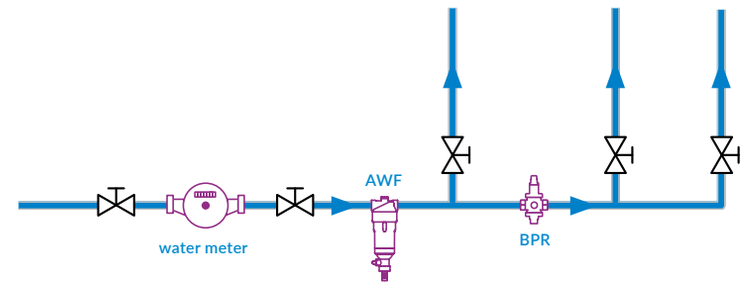



Fig. 2. Example application diagram of a BPR compact reducing valve in a system

An optional pressure gauge, which is not included in the scope of delivery of the pressure reducing valve, indicates the pressure of the medium at the outlet of the pressure reducing valve. Installing it in a dedicated connection allows for setting the proper pressure of the medium in the system and controlling the operation of the pressure reducing valve.

All BPR compact pressure reducing valves are preset to an outlet pressure of 3 bar. To set a different outlet pressure, follow these steps:

1. Close the shut-off valve located behind the pressure reducing valve.
2. To **REDUCE** the outlet pressure, turn the adjusting screw inside the head **counterclockwise** using a size 5 Allen key.
3. To **INCREASE** the pressure, turn the adjusting screw **clockwise** using a size 5 Allen key.

After each adjustment of the adjusting screw, the outlet pressure must be equalized by opening the shut-off valve and then closing it again after a few seconds. When lowering the pressure set on the pressure reducing valve, open any tapping point downstream of the valve to release excess pressure from the system. Then, check whether the outlet pressure of the pressure reducing valve is at the desired level. We recommend recording the set pressure for future maintenance purposes.

After completing the service, open all shut-off valves.

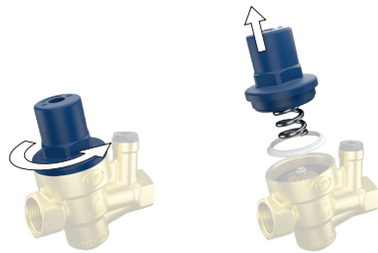
## MAINTENANCE

Periodically check that the outlet pressure value from the pressure reducing valve corresponds to the value set during installation. To read the pressure correctly, install a pressure gauge in the dedicated connection on the housing of the reducing valve. Then close the shut-off valve located behind the reducing valve and check the pressure gauge reading. It is important to make sure that the shut-off valve is completely closed, as the pressure must be measured in the absence of flow.

If the detected outlet pressure differs significantly from the previously set pressure or if there is a significant drop in the flow available to users, it is necessary to check the inner cartridge, the seals and the filtration mesh, proceeding as follows:

1. Close the shut-off valve at the inlet of the pressure reducing valve and depressurize the system by opening the extraction point for a few seconds. Then close the extraction point and the valve behind the pressure reducing valve.
2. Use a size 5 Allen key to turn the adjusting screw inside the head counterclockwise to the minimum value to reduce the spring tension.

3. Use an adjustable spanner or a 29 mm open-ended spanner to unscrew and remove the blue cover to access the spring and plastic ring.



4. Carefully remove the entire inner cartridge with the mesh filter using pliers, taking care not to damage any components.

5. Carefully remove the O-ring and the filter mesh from the inner cartridge. Rinse the filter mesh under running water to remove any dirt. If the mesh is damaged, it must be replaced.

Carefully check the entire inner cartridge. Make sure that all components are intact and that there is no dirt between the seal and the seal slot. If the seal is damaged or affected by dirt and sand, it is advisable to replace the entire inner cartridge. If it is not damaged, simply rinse it under running water.

Before reinserting the cartridge into the pressure reducing valve, place the filtration mesh back in position (see figure, point 5). Then, lubricate the O-rings with a small amount of silicone approved for contact with domestic water. Reinsert the entire cartridge into the reducting valve housing in its original position. Place the white plastic ring on the membrane, the spring in the blue cover, and screw the unit together until fully tightened, applying a torque of 15±2 Nm.

Once the pressure reducing valve has been reassembled, it can be used again. Before putting it back into operation, repeat the pressure setting check as described in the MOUNTING chapter to ensure the maintenance was effective. If the pressure gauge does not display the set pressure and the cartridge has not been replaced, this indicates that the cleaning was insufficient. In this case, we recommend replacing the entire inner cartridge.

## TECHNICAL DATA

| Parameter / part | Value / material |
|---|---|
| Operating pressure | max. 16 bar |
| Operating temperature | 0 (excluding ice)÷80°C |
| Pressure adjustment range | 1÷6 bar (factory setting 3 bar) |
| Degree of filtration | 500 $\mu$m |
| Connections (depending on version) | BPR 411: G½" F<br>BPR 412: G¾" F |
| Kvs (at a factory setting of 3 bar) | BPR 411: 1.5 m³/h<br>BPR 412: 1.9 m³/h |
| Pressure gauge connection | Rp¼" |
| Housing material | CW617N brass |
| Spring material | EN10270-1 galvanised steel |
| Filter mesh material | AISI 304 stainless steel |
| Sealing material | EPDM |
| Compatible media | water, a mixture of water and glycol with a max. concentration of 50% |

## APPROVALS AND CERTIFICATES

Compact reducing valves BPR are subject to the Pressure Directive 2014 /68/EU and are not CE marked in accordance with Article 4.3 (recognised engineering practice). They are hygienically certified by the National Institute of Public Health NIH in Poland.

## DECOMISSIONING, DISPOSAL

1. Dismount the product.
2. Dispose of the product according to local directives and guidelines.

The product is built from recyclable materials.

If you have any questions or problems with disposal, please contact the appropriate distributor or manufacturer's point.

## WARRANTY

Product guarantee in accordance with the general conditions of sale and delivery.

## CUSTOMER SATISFACTION

For AFRISO customer satisfaction is paramount. If you have any questions, suggestions or product problems, please contact us.