Pressure Reducing Valve (PRV) Fig. 425 - PN25

- The Pressure Reducing Valve reduces and stabilises the fluid pressure on a water distribution system, according to a preset value.
- Setting is by means of an integral adjustable mechanism, which includes a scaled guide for setting outlet pressure.
- Designed in accordance with BS EN 1567.
- Adheres to requirements for use on potable water systems and is approved by WRAS (UK Water Regulations Advisory Scheme).
- Includes serviceable in-line strainer.
- ¼" threaded tapping point included for optional fitting of a pressure gauge, for direct reading of outlet pressure.

Technical Specification

Maximum allowable working pressure (PN):	25 bar
Outlet Pressure Setting:	From 1 to 6 bar
Factory Set Outlet Pressure:	3 bar
Outlet Set Pressure Tolerance:	According to BS EN 1567
Temperature Limits:	0°C (excluding ice) to 80 °C
Compatible fluids:	Water Glycolate solutions max glycol 50%
Pipe connection threads:	Male ended fittings to BS EN 10226-1
Gauge connection:	Rp1/4" according to EN 10226-1
Approval:	BS EN 1567 WRAS Approved

CE Marking and the Pressure Equipment Directive 2014/68/EU

Valves must be installed into a well-designed system and it is recommended that the system be inspected in accordance with the appropriate member state legislation.

This product complies with the Pressure Equipment Directive 2014/68/EU.

Product Life Cycle

The life of the valve is dependent on its application, frequency of use and freedom from misuse. Compatibility with the system into which it is installed must be considered.

The properties of the fluid being transported such as pressure, temperature and the nature of the fluid must be taken into account to minimise or avoid premature failure or non-operability.

Product Life Cycle (CONTINUED)

A well-designed system will take into consideration all the factors considered in the valve design, but additionally electrolytic interaction between dissimilar metals in the valve and the system must be examined.

Before commissioning a system, it should be flushed to eliminate debris and chemically cleaned as appropriate to eliminate contamination, all of which will prolong the life of the valve.

Limits of Use

These valves have been categorised in accordance with the Pressure Equipment Directive 2014/68/EU.

The fluid to be transported is limited to group 2 liquids i.e. non-hazardous.

On no account must these valves be used on any group 1 liquids, group 1 gases, group 2 gases, or unstable fluids.

Note: Valves are classified as SEP (sound engineering practice) and as such cannot be CE marked and do not require a declaration of conformity.

Fig. No		Fig. 425
PED Category by Valve Size (DN)	SEP	15-50
	CAT 1	
	CAT 2	
	CAT 3	
Product Application	Group 1 Gas	
	Group 2 Gas	
	Group 1 Liquid	
	Group 2 Liquid	✓

Not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive or erosive service, transporting fluids with abrasive solids, high velocity gases that can cause shock waves.

The valves have been designed for loadings, appropriate to its intended use and other reasonably foreseeable operating conditions. Loadings caused by traffic, wind and earthquake have not been taken into account.

If the limits of use specified in these instructions are exceeded or if the valve is used on applications for which it was not designed, a potential hazard could result.

Safety Requirements

The pressure reducing valve conditions must never exceed the permitted maximum working pressure, maximum setting pressure and temperature.

Only use the pressure reducing valve with compatible fluids.

In case of installation at boilers entrance, water heaters or hot water storage tanks, it is fundamental to use, after the pressure reducing valve, an expansion vessel for sanitary use even if a check valve has already been installed.

The pressure reducing valve must be installed by qualified personnel, according to the provisions set forth by the national regulations concerning safety.

Do not perform any investigation or maintenance procedures on the valve without having completely discharged the pressure of the system.

If water temperature exceeds 50°C, take the necessary actions to avoid serious burns and hazards to people.
The operator should use suitable hand protection at high temperature conditions.

Maintenance Engineers & Operators are reminded to use correct fitting tools and equipment.

A full risk assessment and methodology statement must be compiled prior to any maintenance.

The risk assessment must take into account the possibility of the limits of use being exceeded whereby a potential hazard could result.

Failure to comply with these instructions may lead to an incorrect installation, poor put into operation or maintenance, which may cause the device malfunctioning and may result in damage or injury.

For more information on the product, please contact your Hattersley representative.

Installation

Installation must be carried out by a qualified individual.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body.

Although the pressure reducing valve is already equipped with a built-in filter, to ease maintenance and pipeline cleaning it is recommended to install another strainer before the pressure reducing valve, in order to eliminate any impurities in the water which could compromise the functioning of the hydraulic system.

The valve can be installed in either horizontal or vertical pipework.

Proceed as follows:

1. The pipes should be flushed thoroughly prior to installation of the PRV to prevent impurities from damaging the device.

2. Make sure that the operating pressures and temperatures are within the permitted range.

3. Prior to installation, check the product is in a satisfactory condition and ensure the system is in accordance with the operating pressure and temperature stated. The manufacturer shall not be responsible for damage caused by external influences.

4. Make sure that the water flow follows the direction of the arrow.

5. The housing of the device must ensure sufficient space for operation, adjustments and maintenance.

6. Install shut-off valves upstream and downstream the pressure reducing valve.

7. If required, assemble the pressure gauge (included in the package or sold separately) in the provided port.

8. CAUTION! Before commissioning the PRV, it should be ensured that pressure gauge connections on the valve body are sealed with pressure gauges or sealing plugs.

At the end of the installation, the pressure reducing valve must be put into operation by qualified personnel, as specified by the applicable current legislation.

We advise to put out of operation the device if these instructions have not been completely read and understood or if there are aspects of the installation or the system which do not meet the stated requirements.

Adjustment

The pressure reducing valves with outlet pressure setting from 1 to 6 bar are pre-set during testing at an outlet pressure of 3 bar.

The regulation hand wheel and the pressure gauge (optional) show the Set Pressure of the already reduced pressure of the outgoing fluid.

To set a different outlet pressure, just turn the hand wheel **CLOCKWISE** to **INCREASE** the outlet pressure, or **COUNTERCLOCKWISE** to **DECREASE** the outlet pressure, in order to have the indicator in line with the set point on the graduating scale.

The desired outlet pressure should be set at idle pressure (zero flow).

Maintenance

Periodically check that the outlet pressure value from the pressure reducing valve corresponds to the one set during installation.

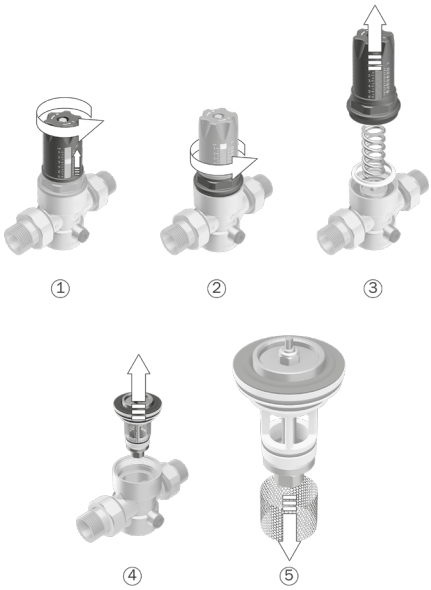
In order to effectuate a correct check it is necessary to assemble a pressure gauge in one of the threaded seats provided on the body of the valve. Then close the shut-off valve placed downstream the pressure reducing valve and check the value on the pressure gauge; it is important to make sure the shut-off valve is hermetically closed as the pressure has to be measured in absence of flow.

Replacing the strainer / cartridge:

It is necessary to inspect the internal cartridge and the gasket of the sealing seat of the pressure reducing valve if any of the following situations occur:

- If the outlet pressure is considerably different from the set pressure indicated on the hand wheel;
- If the outlet pressure of the PRV increases or water discharges at the upper part of the valve;
- Rinsing the filtering unit is also necessary in case of a considerable flow decrease in the points of use.

Proceed as follows:



1. Close the shut-off valve placed at the inlet of the pressure reducing valve and drain the pressure for a few seconds by opening a point of use and the shut-off valve placed at the outlet; then close both.
2. Record the Outlet Pressure setting value and then turn the hand wheel to the minimum value. (fig.1).
3. Use a suitable tool to unscrew and take off the bonnet to reach to the spring and the plastic ring. Take care of them as they will be reassembled later. (fig. 2-3).

Maintenance (CONTINUED)

ATTENTION: do not unscrew the hexagonal head nipple on the top of the hand wheel, in order to avoid a change in the device's calibration and a consequent wrong pressure setting.

4. Take off the complete internal cartridge with the filtering unit by using a pliers and be careful not to damage the threads (fig.4).
5. Carefully remove the filtering element from the cartridge and clean; if the filtering unit is damaged, then it should be replaced (fig.5).
6. Inspect accurately the complete cartridge to verify that all the components are intact and there are no impurities between the gasket and the sealing seat. In case the gasket is damaged or compromised by dirt and sand, it's recommended to replace the complete internal cartridge. If there are no visual indications of damage, then it can be cleaned and refitted.
7. Before reassembling the cartridge in the pressure reducing valve, apply lubrication to the O-rings on the cartridge with a silicone lubricant compatible with WRAS / Potable water systems. This will assist with re-assembly. Place the filtering unit back in its seat and reposition the whole cartridge back into in to the valve body.
8. Place the plastic ring on the diaphragm, the spring in its seat and screw the bonnet with the setting system until it reaches the mechanical stop by applying the following tightening torques: 19±2Nm (for 1/2" and 3/4" sized models), 20±2Nm (for 1" and 1"1/4 sized models), 28±2Nm (for 1"1/2 and 2" sized models).
9. Return the adjustment hand wheel to the previous set point.

Once re-assembly is complete, repeat the pressure setting check as explained before to verify the maintenance efficiency.

In case the pressure on the gauge is not the same as the pressure set on the hand wheel and the cartridge has not been substituted, it is recommended that the cartridge is replaced.

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- Designed and manufactured under quality management systems in accordance with BS EN ISO 9001:2015

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