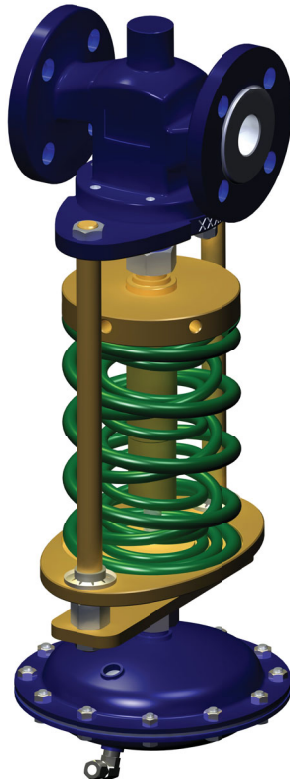


Pressure Reducing Valves G1PR & H1PR

Instructions



General safety instructions

The regulators must be installed, started up and serviced by fully trained and qualified personnel only, observing the accepted industry codes and practices. Make sure employees or third persons are not exposed to any danger. Springs must be relieved before disassembly actuator from body.

Design

The pressure reducing valve is a self acting unit consisting of:

- Valve
- Two or three springs
- Diaphragm in the actuator
- One capillary tube on upper side of the actuator
- Compensation chamber (for steam applications)

Function

The medium flows through the free area between the seat and cone in the direction indicated by the arrow on the body.

The position of the valve cone determines the flow rate and consequently the pressure ratio across the valve.

The downstream pressure is transmitted through the compensation chamber and the capillary to the diaphragm, where it is converted into a positioning force. This positioning force is adjusting the cone with dependence on the force of the operating springs. The spring force can be adjusted by using the set point adjuster.

The valve cone is pressure balanced.

The fluid pressure acts onto the bottom and top surfaces of the cone at the same time. In this way, the forces produced by the fluid pressure on the cone, are compensated.

Technical Data

Materials:

- | | |
|---------------------------------|---------------------------------|
| - H1PR valve body | Cast steel GP240GH (GS-C25) |
| - G1PR valve body | Nodular cast iron EN-GJS-400-15 |
| - Cone, Seat | Stainless steel |
| - O-ring | A70H FEPM |
| - Bolts, nuts | 24 CrMo 4/A4 |
| - Stag bolt, Set point adjuster | St. 42, 1.0503, electroplated |
| - Spindle housing | St. 42, 1.0503, electroplated |
| - Spring | W. Nr. 1.4568, powder coated |
| - Diaphragm housing | Steel 1.0122 |
| - Diaphragm | NBR / EPDM |

Nominal pressure:

- | | |
|--------|-------|
| - G1PR | PN 25 |
| - H1PR | PN 40 |

- | | |
|----------------------|----------------|
| Seating | Single-seated |
| Valve characteristic | Quadratic |
| Leakage rate | ≤ 0.05% of kvs |

Flanges drilled according to:

- | | |
|-----------------|-----------------|
| - G1PR | EN 1092-2 PN 25 |
| - H1PR | EN 1092-1 PN 40 |
| Counter flanges | DIN 2634 |

Colour (valve body, cover):

- | | |
|--------|-------|
| - H1PR | Green |
| - G1PR | Blue |

Mounting

Install the pressure reducing valve in a horizontal pipeline. On installing the valve, make sure the direction of flow corresponds with the arrow on the body. For media with a tendency to condensate, install the pipeline with a slight downward slope on both sides

so that the condensate can drain properly. Make sure you choose a place of installation that allows you to freely access the regulator even after the entire plant has been completed. The regulator must be installed free of stress. If necessary, support the piping near the connections. Capillary is recommended to be installed on the center line of the pipe and approx. 1 m from pressure reducing valve on the secondary side.

NOTICE !

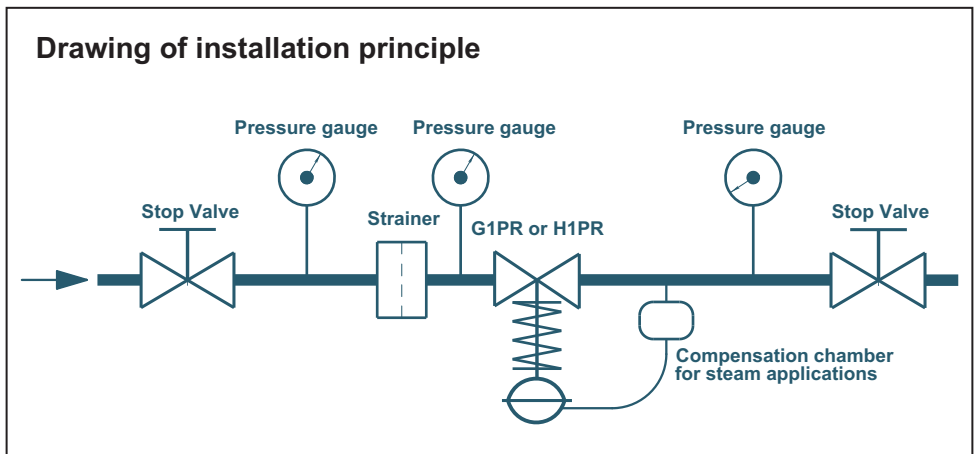
Install a strainer upstream of the regulator. We recommend installing a hand-operated shut-off valve both upstream of the strainer and downstream of the regulator to be able to shut down the plant for cleaning and maintenance, and when the plant is not used for longer periods of time.

To monitor the pressures in the plant, install a pressure gauge both upstream and downstream of the regulator. Install the pressure gauge on the downstream side behind the downstream pressure tapping point (not between the tapping point and the valve!). Condensation chamber is needed for all steam applications.

Replacing the operating diaphragm

If the downstream pressure deviates from the set point considerably, check if the diaphragm is leaking and, if necessary, replace it.

1. Shut down the plant by slowly closing the shut-off valves. Relieve the relevant section of the pipeline of pressure and, if necessary, drain it as well.
2. Unscrew the control line and clean it.
3. Loosen the bolts at the actuator and remove the cover plate.
4. Unscrew the nut and lift off the diaphragm plate.
5. Replace the operating diaphragm with a new one.
6. Proceed in the reverse order to reassemble the regulator.



Transport and storage

The valve must be transported and stored dry and clean.

In humid rooms, a drying material or heating must be used to avoid condensation.

During transport and intermediate storage the valve should not be exposed to temperatures lower than -10°C .

If the valves are painted (coated) on the outside, this coating must remain without damage, otherwise the faulty spots must be repaired immediately.

The standard packaging protects valves and equipment against rain and snow during trucking.

For critical transports such as sea freight equipment will be protected by VCI (Volatile Corrosion Inhibitor) material.

If protected by VCI do not remove the packaging until the equipment is going to be installed.



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