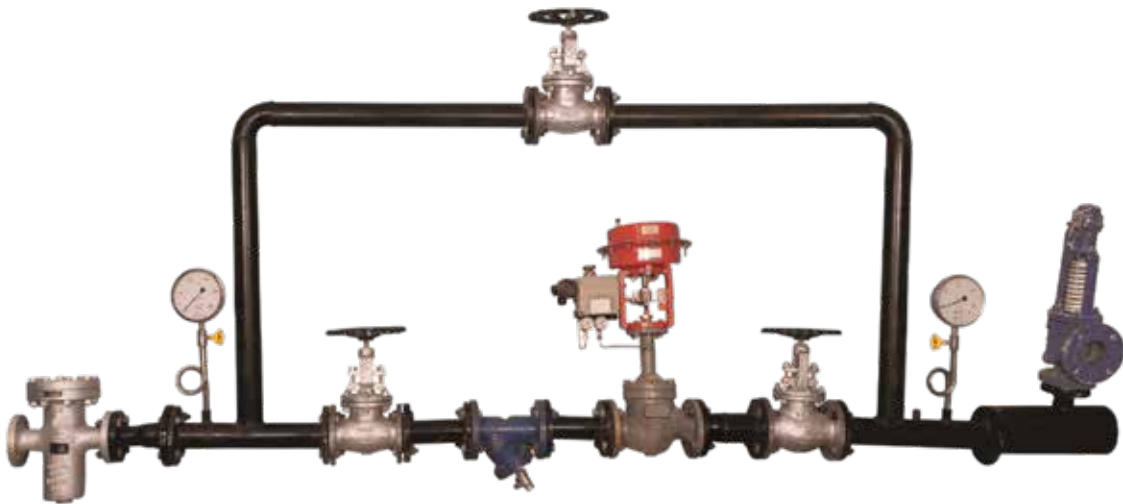


PERFECT ENGINEERING SERVICES
ONE STOP INDUSTRIAL VALVE SOLUTIONS



PERFECT ENGINEERING SERVICES PRESSURE REDUCING STATIONS

Pressure Reducing Stations

Steam Pressure reduction is basic need of every process plant, as it is always recommended to operate boiler at its rated pressure, distribute steam at higher pressure & use the lowest possible steam pressure at utilization point.

Why distribute steam at high pressure & Reduce Pressure at utilisation point?

- Boiler running at lower pressure can cause moisture carryover along with the steam.
- High pressure steam has lower specific volume, which means lower pipe sizes for distribution of steam.
- This reduces initial cost for piping & insulation. Also this reduces the radiation losses.
- Lower the steam pressure higher is the latent heat.
- We offer multiple options for pressure reduction to suit customer requirement.

Self Operated Pressure Reducing Valve

Self operated steam control valve is the most trusted pressure reduction solution for consistent pressure at user point.

Self Operated Pressure Reducing Valve

- **Purely Mechanical:** Needs no Power / Pneumatic Supply.
- **Accuracy:** The Self Operated PRV operates with +/- 2% which is the best accuracy in its range.
- **Running Cost:** The valve is purely mechanical & works on the direct feedback from the downstream of the Pressure Reducing Valve. Hence no pneumatic or electric supply is needed.
- **Easy To Maintain:** Self Operated PRV is very easy to maintain as it has very simple mechanism & it can be repaired without removing from the line.

- **Higher Turn Down Ratio:** Self Operated PRV has high turn down ratio due to which it responds well to the fluctuating loads.

PID Based Pressure Control Valve:

We also offer PID based Pressure control valve for the critical applications where process is very sensitive to steam pressure & has heavy steam loads. This type of valve can maintain pressure within + 0.05 bar.

The system consists of Pneumatic control valve with Electro-pneumatic positioner, pressure transmitter & PID based pressure controller.



PID Controller



Pressure Transmitter

Our PRS Variants

**PRESSURE REDUCING STATION
with Pressure Transmitter and
PID controller**



**PRESSURE REDUCING STATION
with Robotrol**



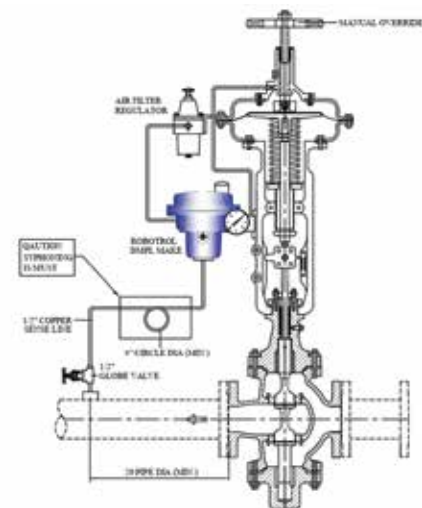
**PRESSURE REDUCING STATION
with Pilot Operated PRV**



ROBOTROL

Advantages

- ▶ Latest technology in control valves.
- ▶ This device is completely mechanical as only air goes into the controlling element.
- ▶ Steam does not enter in the controlling element at all. It is very robust.
- ▶ It is almost maintenance free as the elements involved in this are mechanical and hence last longer.
- ▶ As a valve and system it cannot be messed with by the staff.
- ▶ It has the highest accuracy and it has very high turn-down ratio. (1:40 for flow & 1:20 for Pressure)



Flow diagram with part names & connections

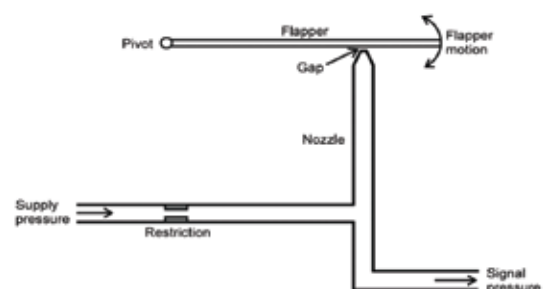
Flapper - Nozzle system

The Robotrol works on a flapper-nozzle principle.

A regulated supply of pressure, usually 20 psig, provides a source of air through the restriction. The nozzle is open at the end where the gap exists between the nozzle and flapper, and air escapes in this region.

If the flapper moves down and closes off the nozzle opening so that no air leaks, the signal pressure will rise to the supply pressure.

As the flapper moves away, the signal pressure will drop because of leaking of the leaking air. Finally, when the flapper is far away, the pressure will stabilize at some value determined by the maximum leak through the nozzle



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