Steam Regulators
by Proportion-Air
Proportion-air Steam Regulator

Pressures up to 400 PSI (27.6 Bar)
Temperatures up to 450 °F (232 °C)
1/2” to 4” Bodies
With the option of 6” and 8” Flanges

Nine Spring Ranges
For superior control, accuracy and regulation.

Top Entry
Easy in-line maintenance. Quicker repairs and lower repair costs.

Body Materials
Alloy 20, Bronze, Cast Iron, Carbon Steel, Stainless Steel & Hastelloy

End Connections
NPT, Flanged, Butt Weld, Socket Weld

Integral Cage Design
Simple removal and repair of all soft goods.

High Cv Valves
Allows more flow through smaller valves, reducing piping costs

Dynamic U-Cup
Specially designed U-Cup maintains a consistent seal between the stem and cage.

Dead End Shutoff
Class VI soft seat steam shutoff

Seat Selection
Soft seats including PTFE, RTFE, Kel-F, EPDM & TFM 1600 to meet a wide range of pressure and temperature conditions.
Standard Operating Cycle of the PABV Steam Regulator

Valve is normally open. Incoming steam fills the chamber (red)

As steam moves through the regulator, it fills the void on the bottom side of the diaphragm via the sensing port. (downstream sensing is also an option)

When the pressure below the diaphragm equalizes with the spring pressure, the valve closes at the set pressure.

As pressure decreases downstream, the spring forces the valve open and allows steam to pass through to the process at the desired pressure and temperature

BS-Series Valve

Typical Installation Pressure Reducing Valve Station
**Typical Installation**

**Pressure Reducing**

**Two Stage (Series)**

**Typical Installation**

**Parallel Reducing**

**Station**
BS-1 Series
Direct Operated \textit{(Spring)}
Internally or Externally Sensed
\textbf{Accuracy:} \(\pm 7\) psi

BD-3 Series
Dome-Loaded \textit{with} Manual Air Pilot
Internally or Externally Sensed
\textbf{Accuracy:} \(\pm 1\)-2 psi

BD-7 Series
Dome-Loaded \textit{with} Steam Pilot
\textbf{Accuracy:} \(\pm 0.1\)-0.2 psi
**BD-4 Series**

In Single-Loop configuration, the electronic pilot controls pressure to the dome of the PABD steam regulator. As the diaphragm forces equal out, the pressure in the main line is controlled.

However, the electronic controller does not know the pressure in the main line and cannot adjust to leaks, backpressure and mechanical deficiencies.

**Accuracy:** ± 2-4%

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**BD-4 Series**

With Dual-Loop control, the electronic pilot controls pressure to the dome of the PABD steam regulator. As the diaphragm forces equal out, the pressure in the main line is controlled.

But, instead of sensing pressure in the dome, a 2nd loop is added that senses pressure in the main line and allows the electronic regulator to compensate for leaks, back pressure and any mechanical deficiencies.

**Accuracy:** ± 0.5%
Universal Selections

Trim Material
17-4PH SS

Seat Material
RTFE, PTFE, TFM 1600

Dynamic Seal
RTFE, PTFE, TFM 1600

Static Seal
RTFE, PTFE, TFM 1600

Membrane Material
PTFE 6-PLY

125 PSI
350°F

250 PSI
400°F

400 PSI
450°F

Membrane Material
316 SS
or
17-7 PH

Membrane Material
No Membrane
*Requires BD9

*For temperatures between 450°F & 500°F contact factory