



PR50 SERIES

INLET & OUTLET to 10,000 PSIG

HIGH PRESSURE SELF-VENTING PRESSURE REGULATOR

Features

- **Balanced Poppet Design**
- **Self-Relieving Captured Vent**
- **Low Operating Torque**

Applications

- **High Pressure Testing**
- **Purging & Charging**
- **Research Laboratories**
- **Chemical/Petroleum Plants**
- **Manufacturing Processes**

Technical Data

Materials of Construction

- Body – Brass, 303 or 316 Stainless Steel
- Seats – Kel F or Vespel®
- Seals – Buna N, Ethylene Propylene, Neoprene or Viton®

Port Sizes & Connections

- 1/4", 1/2" NPT; 1/2" Male Tube; or 1/2" British Parallel Pipe

Pressure Ratings

- Inlet – CRES to 10,000 PSIG (690 BAR)
Brass to 6,000 PSIG (414 BAR)
- Outlet – 40 to 10,000 PSIG (2.7 to 690 BAR)

Leakage

Bubble Tight (Air)

Weight

8 lbs.

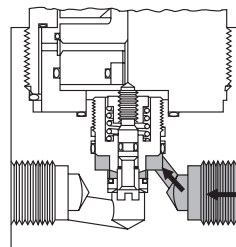
Temperature Range

-40°F to +165°F;
-40°C to +68°C

Flow Capacity

$C_V = 0.30$
ESOD = 0.13"

How It Works

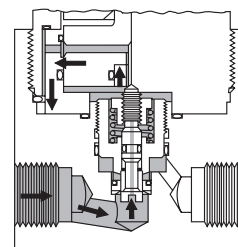
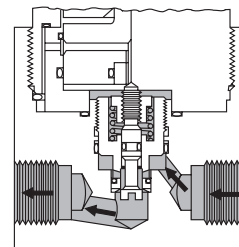


CLOSED

Balanced Poppet is spring loaded against the seat. When full upstream pressure is applied, a slightly unbalanced force is developed which enhances sealing.

REGULATING

As downstream process demands flow, the pressure acting on the piston decays, allowing the adjusting spring force to push the piston down. This unseats the poppet, allowing flow to begin and pressure under the piston to increase until balance is achieved between adjusting spring force and downstream pressure. This condition continues until process demand ceases. At this point, increasing pressure overcomes spring force, moving the piston up, allowing the poppet to close.



VENTING

If the downstream pressure should increase beyond regulation set point, or handle is backed off to decrease regulated pressure level, downstream pressure will vent through the piston and guide to the vent port. The pressure load from the piston overcomes the "set" spring load

and moves the piston upward. The poppet is thereby unseated to allow venting flow. As pressure decreases under the piston the reverse action occurs and the vent seat is closed off.



CIRCLE SEAL CONTROLS, INC.

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