

PRECISION PRESSURE REGULATORS

STANDARD HAND-WHEEL ADJUSTMENT

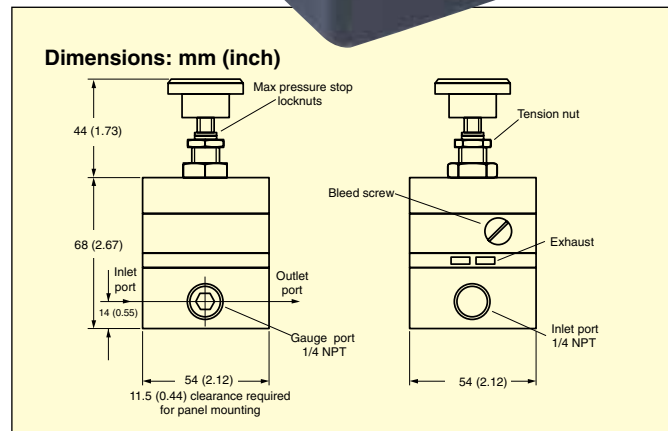
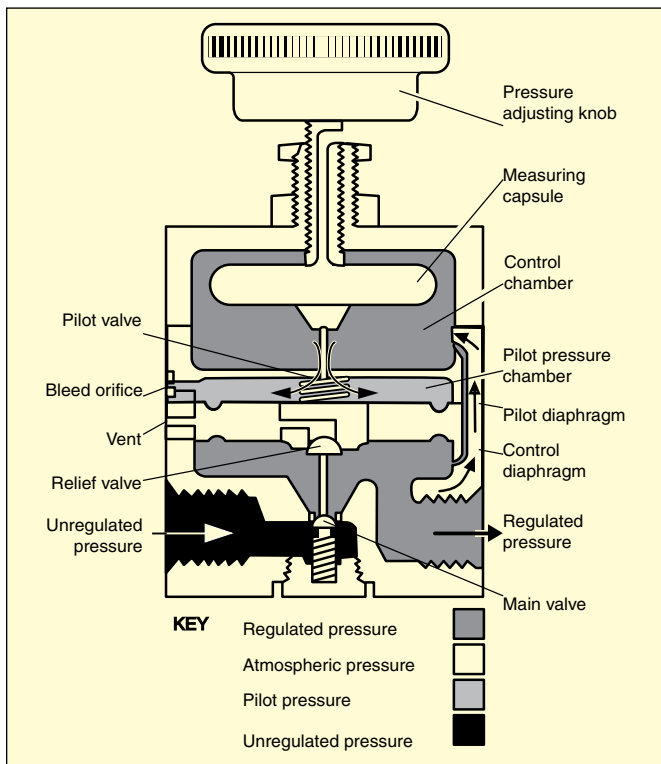
PRG101 Series Base Units
PRG501 Series Base Units with 4" Dia Gauge

PRG501 Series



- ✓ Two ¼ NPT Gauge Ports Standard
- ✓ High-Accuracy Regulation
- ✓ High-Relief Capability
- ✓ Unaffected by Vibration
- ✓ Unaffected by Mounting Position
- ✓ Setpoint Locknut Provided

PRG101 pressure regulator, shown slightly smaller than actual size.



OPERATION

The PRG101 and PRG501 regulators employ piston control to achieve their high-gain pneumatic 2-stage servo system. To increase the regulated pressure, the hand wheel is turned clockwise, forcing the measuring capsule/piston assembly downward.

This pushes the pilot diaphragm and control diaphragm downward. As a result, the main valve opens and the supply pressure enters the regulator. The resulting pressure change causes the measuring capsule to compress. This compression causes the pilot diaphragm and control diaphragm to move upward, which then shuts the main valve. To decrease the regulated pressure, the hand-wheel is turned counterclockwise, forcing the measuring capsule/piston assembly upward. This allows the pilot diaphragm and control diaphragm to move upward. As a result, the relief valve opens and air is exhausted through the vent. The resulting pressure drop causes the measuring capsule to expand. This expansion causes the pilot diaphragm and control diaphragm to move down, which then shuts the relief valve.

The PRG101 and PRG501 Series pressure regulators have an advanced design consisting of a precision measurement capsule and a high-gain servo amplifier to achieve high performance. The regulator can be used in a "dead end" application and will exhaust whenever the setpoint is lowered. Changes in supply pressure have a minimal effect on regulation accuracy. The regulator can be panel or pipe mounted. The PRG101 has 2 gauge ports available for mounting OMEGA pressure gauges for local indication. The PRG501 is ideal for dial gauge readings when the unit is panel mounted. The dial gauge is outside the panel.

PRG101 SERIES HAND-WHEEL ADJUSTMENT PRG501 SERIES 4" DIAMETER DIAL GAUGE WITH HAND-WHEEL ADJUSTMENT

PRG501 Series



Maintaining a state of equilibrium, the action of the measuring capsule described on the preceding page ensures precise, constant pressure regulation. Air is bled at a constant rate through the bleed orifice so that a very small movement of the pilot valve induces a substantial pilot pressure change, which creates a high servo amplification.

SPECIFICATIONS

Maximum Supply (Input) Pressure: 150 psi (1000 kPa)

Minimum Supply (Input) Pressure: 3 psi above desired output pressure

Minimum Regulated Pressure: 2 psi

Media: Dry gases only (oil free), filtered to better than 25 microns

Flow Capacity: 10 SCFM max

Consumption @ Midrange:

- 0.01 SCFM (PRG101-25, PRG501-15, PRG501-30)
- 0.02 SCFM (PRG101-60, PRG501-60)
- 0.04 SCFM (PRG101-120, PRG501-120)

PRG501-120 dial gauge, shown smaller than actual size.



Regulation Accuracy (15 psi Supply Pressure Change at Midrange):

- 0.1% (PRG101-25, PRG501-15, PRG501-30)
- 0.05% (PRG101-60, PRG501-60)
- 0.02% (PRG101-120, PRG501-120)

Sensitivity: 0.005 psi

Hysteresis and Repeatability: 0.05% of setting

Operating Temperature: -20 to 70°C (0 to 160°F)

PRG501 Dial Gauge: Dual scale, psi and bar

Response Time to 50% Load Change: 0.2 seconds

Housing Material: IP65 sealed, zinc diecasting, epoxy painted

Diaphragm Material: Nitrile-reinforced elastomers

Capsule Material: Beryllium-copper

Mounting: Any attitude; integral mounting nut supplied

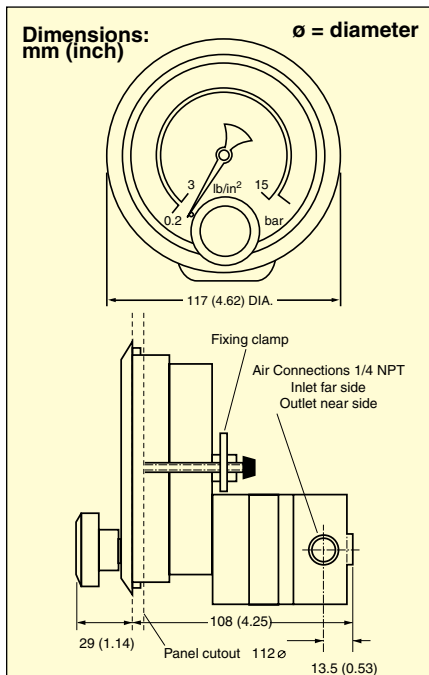
Pressure Gauge (PRG501): Phosphor bronze Bourdon tube

Process Connection: ¼ FNPT (pneumatic only)

Number of Turns in Control Range: 2½ hand-wheel turns

Weight:

- PRG101: 0.75 kg (1.60 lb)
- PRG501: 1.15 kg (2.50 lb)



To Order

MODEL NO.	ADJUSTABLE REGULATION RANGE	MAX INPUT PRESSURE
Hand-Wheel Adjustment Models		
PRG101-25	2 to 25 psig	150 psig
PRG101-60	2 to 60 psig	150 psig
PRG101-120	2 to 120 psig	150 psig
Hand-Wheel Adjustment Models with 4" Dia. Dial Gauge (Dual Scale psi and bar)		
*PRG501-X15	3 to 15 psig	150 psig
*PRG501-30	2 to 30 psig	150 psig
*PRG501-60	2 to 60 psig	150 psig
*PRG501-120	2 to 120 psig	150 psig

OPTION

MODEL NO.	DESCRIPTION
PRG101-BKT	Mounting bracket for PRG101 (included with PRG501)

* PRG501, while supplies last.

Comes complete with operator's manual.

Ordering Examples: PRG501-X15, pressure regulator with 4" dial gauge, dual scale psi and bar, 3 to 15 psig adjustable regulation range, 150 psi max input pressure.

PRG501-30, pressure regulator with 4" dial gauge, dual scale psi and bar, 2 to 30 psig adjustable regulation range, 150 psi max input pressure.