EASY TO ADJUST

AR90 Series

- **Designed for Applications with Limited Space and for Low-Flow or Dead-End Service**
- **Small Package Size and Lightweight Construction**
- **Corrosion-Resistant Anodized Aluminum Exterior**
- **Excellent Stability and Repeatability**
- **Self Relieving**
- **Low Cost**

The AR91 and AR92 Series miniature pressure regulators are compact, low-cost units that operate in pressure ranges up to 100 psi, with a maximum supply pressure of 250 psi.

They provide dependable reliability and accuracy for low-flow and dead-end applications, but are not designed for critical flow applications. Each unit has a corrosion-resistant anodized aluminum body with a standard fluorocarbon diaphragm.

SPECIFICATIONS

Effect of Supply Pressure Variation (25 psig) on Outlet Pressure: <0.25 psig (17.02 mbar)

Exhaust Capacity (5 psig Above 20 psig Setpoint): 0.1 to 0.3 SCFM (2.8 to 8.5 LPM) typical

Maximum Supply Pressure: 250 psig (17.2 bar)

Flow Capacity at 100 psig (6.9 bar) Supply and 20 psig (1.4 bar) Outlet: 2.5 SCFM (71 LPM)

Total Air Consumption @ Maximum Output: 3 SCFH (84.6 LPM)

Port Size: 1/16-27 NPT or 5 mm metric thread

Materials of Construction:
- **Body:** Anodized aluminum
- **Adjusting Screw:** Plated steel
- **Trim:** Brass, acetal
- **Diaphragm:** Fluorocarbon with polyester fabric
- **Knob:** Acetal resin
- **Spring:** Music wire

Dimensions: 22.2 x 22.2 x 84.6 mm (0.875 x 0.875 x 3.33")

Weight: 2.2 oz (0.06 kg)

Mounting Options: Pipe or panel

To Order

MODEL NO.	ADJUSTABLE RANGE	MAXIMUM INPUT PRESSURE
1/16" 27 NPT Thread Models		
AR91-005	0 to 5 psig (0 to 0.35 bar)	250 psig (17.2 bar)
AR91-015	0 to 15 psig (0 to 1.0 bar)	250 psig (17.2 bar)
AR91-030	0 to 30 psig (0 to 2.1 bar)	250 psig (17.2 bar)
AR91-060	0 to 60 psig (0 to 4.1 bar)	250 psig (17.2 bar)
AR91-100	0 to 100 psig (0 to 7 bar)	250 psig (17.2 bar)
5 mm (Metric Thread Models)		
AR92-005	0 to 5 psig (0 to 0.35 bar)	250 psig (17.2 bar)
AR92-015	0 to 15 psig (0 to 1.0 bar)	250 psig (17.2 bar)
AR92-030	0 to 30 psig (0 to 2.1 bar)	250 psig (17.2 bar)
AR92-060	0 to 60 psig (0 to 4.1 bar)	250 psig (17.2 bar)
AR92-100	0 to 100 psig (0 to 7 bar)	250 psig (17.2 bar)

Comes complete with operator's manual.

Ordering Example: AR91-015, *miniature pressure regulator, 0 to 15 psig 1/16-27 NPT pressure connections.*

PRECISION PRESSURE REGULATORS

STANDARD HAND-WHEEL ADJUSTMENT

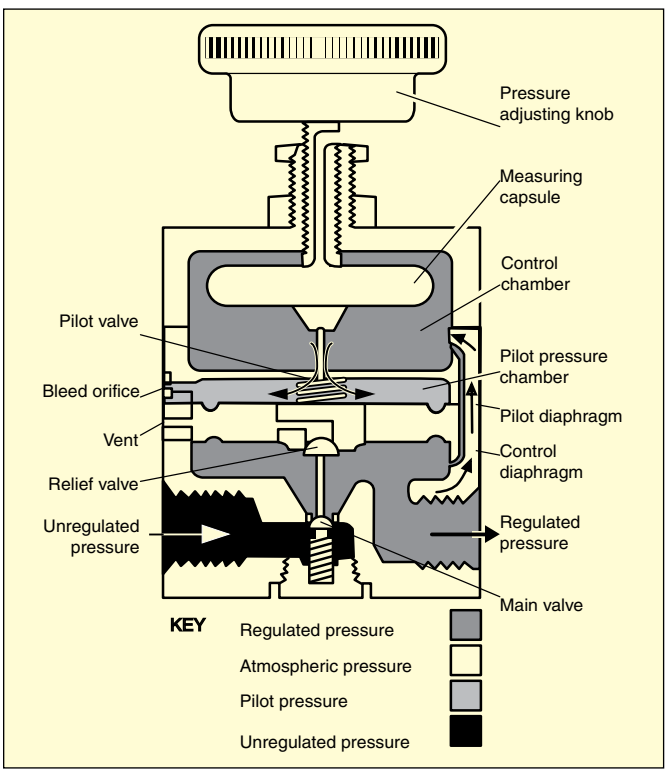
PRG101 Series Base Units
PRG501 Series Base Units with 4" Dia Gauge

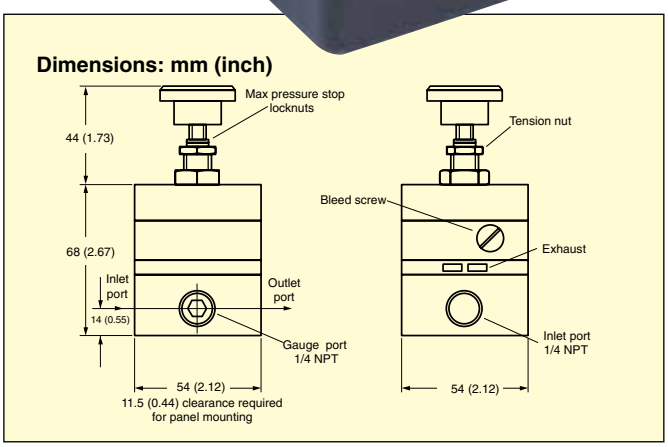
PRG501 Series

1 YEAR WARRANTY

- 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.





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.

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.

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

PRG501 Series

1 YEAR WARRANTY

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

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)

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

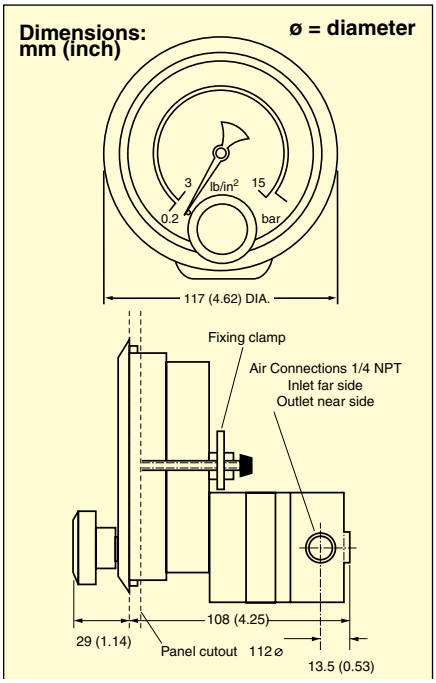
Pressure Gauge (PRG501): Phosphor bronze Bourdon tube

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)

Dimensions: mm (inch) **ø = diameter**



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.*

PRECISION AIR
PRESSURE REGULATOR
FOR ACCURATE, STABLE PRESSURE CONTROL

14 scfm at 100 psi

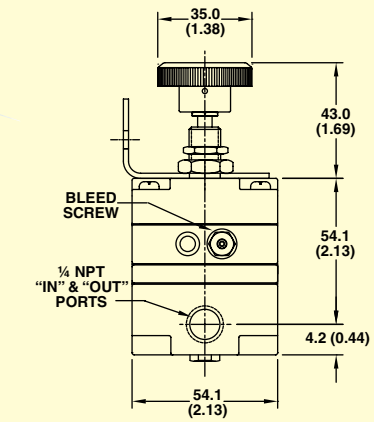
PRG200 Series

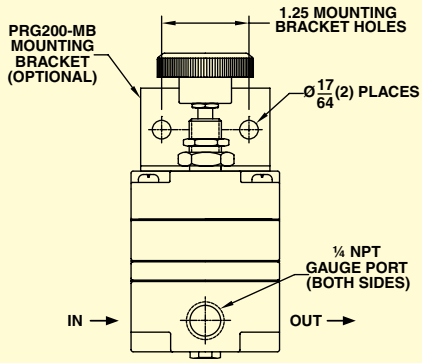
1 YEAR WARRANTY

- **Accurate Pressure Regulation to Within 0.1%**
- **Stable Output Across Full Flow Range**
- **High Relief Capacity**
- **Locking Nut Included**
- **Built In Gauge Ports**

PRG200-40, shown actual size.

Dimensions: mm (inch)
ø = diameter





12.7 mm (0.5") diameter hole for panel mounting; max panel thickness 12.7 mm (0.5")

Materials:
Body: Diecast zinc alloy
Capsule and Adjusting Screw: stainless steel
Assemblies: Stainless steel, brass, plated steel, acetal
Diaphragms: Buna-N elastomer and polyester fabric
Knob: Phenolic plastic
Weight: 635 g (1.4 lb)
Port Size: ¼ NPT
Gauge Ports (2): ¼ NPT
Mounting: Pipe, panel or optional bracket

The PRG200 Series is a high precision multi-stage regulator, which provides the highest level of regulation accuracy and repeatability available. A stainless steel measuring capsule is used as a sensing element to activate the high gain servo balanced control mechanism in which the main valve is controlled by a pilot valve. This allows for greater accuracy and eliminates many of the problems associated with conventional regulators using range springs and diaphragms.

SPECIFICATIONS

Flow Capacity: 14 scfm at 100 psig supply – 20 psig outlet
Exhaust Capacity: 3 scfm (5 psig above 20 psig set point); 11 scfm for PRG200-120H
Sensitivity: ⅛" (3.2 mm) H_2O
Pilot Pressure Chamber Bleed Rate: < 0.08 scfm (0.15 m^3/hr)
Total Air Consumption: 6 scfh
Supply Pressure Effect: < 0.005 psig (for 25 psig supply change)
Supply Pressure, Maximum: 150 psig (50 psig for PRG200-25)

To Order

MODEL NO.	OUTPUT PRESSURE RANGE psi	bar
PRG200-25	0.5 to 25	0.03 to 1.72
PRG200-40	2 to 40	0.14 to 2.76
PRG200-60	2 to 60	0.14 to 4.14
PRG200-120	2 to 120	0.14 to 8.27
HIGH RELIEF MODEL		
PRG200-120H	2 to 120	0.14 to 8.27

ACCESSORY

MODEL NO.	DESCRIPTION
PRG200-MB	Mounting bracket

Comes complete with operator's manual.

Ordering Example: PRG200-60, *precision air pressure regulator, 2 to 60 psi (0.14 to 4.14 bar).*

FILTER REGULATORS
FOR HARSH ENVIRONMENTS

PRG354A up to 20 scfm
PRG352A up to 160 scfm

PRG350A Series

1 YEAR WARRANTY

- **All 316 Stainless Steel Construction**
- **High Flow Capacity**
- **Tapped Exhaust Port for Remote Venting**
- **Minimal Air Consumption**
- **25 Micron Filter**

The PRG350A series of stainless steel filter regulators are designed to stand up to the harshest environments while providing highly accurate pressure regulation. Proven 316 stainless steel housing and filter assemblies along with fluorocarbon elastomers make the PRG350A compatible with sour gas and adaptable to off shore environments.

PRG354A shown smaller than actual size.

SPECIFICATIONS

Exhaust Capacity: 1.0 scfm (1.7 m³/hr) (outlet pressure 10 psig above set point)
Air Consumption: 4 scfh (0.1 m³/hr) max
Maximum Supply Pressure: 425 psig (29.3 bar)
Operating Temperatures: -20 to 80°C (-4 to 176°F)
Filter: 25 micron
Porting:
Inlet/Outlet: ¼" NPT or ½" NPT
Gauge : ¼" NPT
Exhaust: ¼" NPT
Materials: Meets NACE #MR-0175 material requirement for sulfide stress cracking
Body, Bonnet, Filter: AISI 316 stainless steel
Diaphragm Seals: Fluorocarbon
Range Spring, Pintle Spring: Inconel
Weight:
PRG352A: 1.3 kg (2.9 lb)
PRG354A: 1.0 kg (2.2 lb)

To Order

MODEL NO.	OUTPUT PRESSURE RANGE	
	psi	bar
¼ NPT PRESSURE PORTS		
PRG354A-30	0 to 30	0 to 2.1
PRG354A-60	0 to 60	0 to 4.1
PRG354A-100	0 to 100	0 to 6.9
PRG354A-150	0 to 150	0 to 10.3
½ NPT PRESSURE PORTS		
PRG352A-30	0 to 30	0 to 2.1
PRG352A-60	0 to 60	0 to 4.1
PRG352A-100	0 to 100	0 to 6.9
PRG352A-150	0 to 150	0 to 10.3

ACCESSORIES

MODELNO.	DESCRIPTION
PRG350A-MN	Mountingnut
PRG350A-MB	Mounting bracket and nut

Comes complete with operator's manual.
Ordering Example: PRG354A-30, *stainless steel pressure regulator with 0 to 30 psi range and*

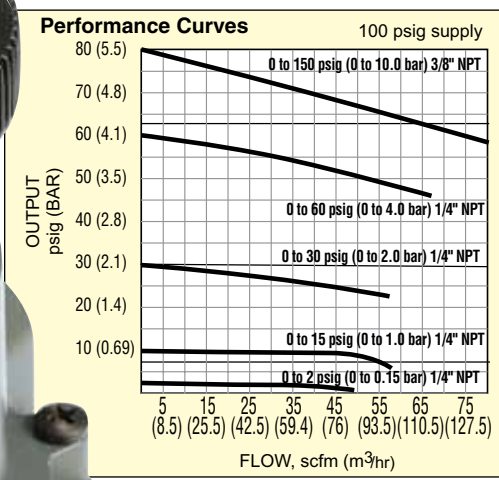
AIR PRESSURE REGULATOR
FOR HIGH FLOW APPLICATIONS

Up to 80 scfm

PRG700 Series

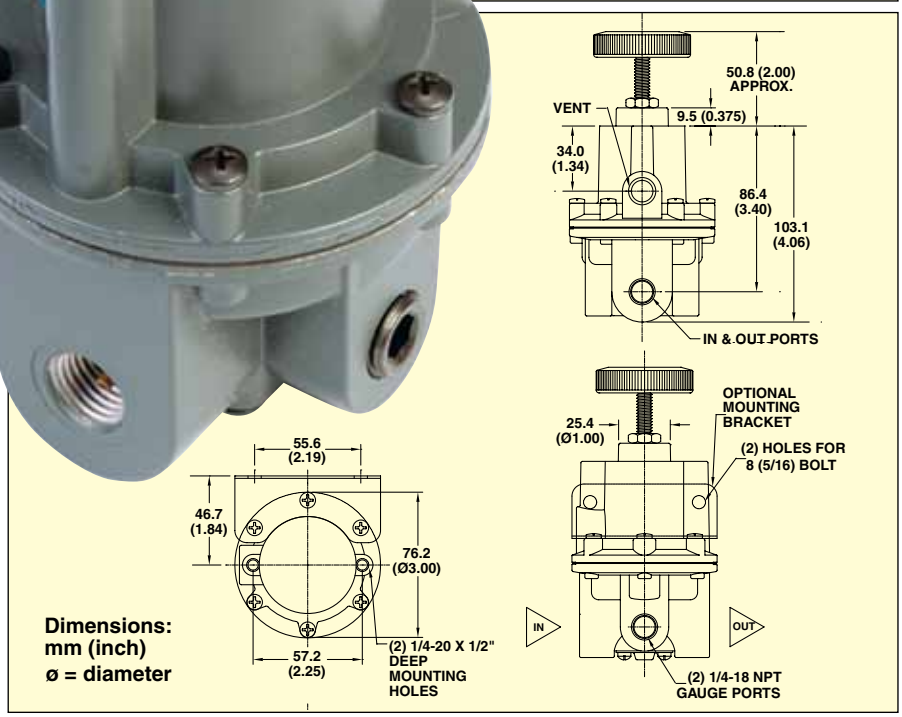
1 YEAR WARRANTY

PRG700-2, shown actual size.



- **High Flow Capacity—Up to 80 scfm**
- **Output Pressure Insensitive to Flow Changes**
- **Can be Serviced Without Removing From Air Line**
- **Insensitive to Changes in Flow**

The OMEGA PRG700 Series regulators are designed for applications that require high flow capacity and accurate process control. A poppet valve balanced by a rolling diaphragm insures a constant output pressure even during wide supply pressure variations. Stability of regulated pressure is maintained under varying flow conditions through the use of an aspirator tube, which adjusts the air supply in accordance with the flow velocity.



SPECIFICATIONS

Flow Capacity: See performance curves
Exhaust Capacity: 4 scfm [outlet pressure 5 psi > set pressure]
Sensitivity: ⅛" (3.2 mm) H_2O
Supply Pressure Effect: < 0.1 psi for 100 psi change
Air Consumption (Steady State): From 1.0 to 12.5 scfh
Supply Pressure: 250 psig (17.5 bar) maximum
Operating Temperature: -40 to 71°C (-40 to 160°F)
Weight: 0.74 kg (1.625 lb)
Mounting: Pipe, panel, or optional bracket
Port Sizes: ¼ NPT female

To Order

MODEL NO.	OUTPUT PRESSURE RANGE psi	OUTPUT PRESSURE RANGE bar
PRG700-2	0 to 2	0 to 0.15
PRG700-15	0 to 15	0 to 1.0
PRG700-30	0 to 30	0 to 2.0
PRG700-60	0 to 60	0 to 4.0
PRG700-150	0 to 150	0 to 10

ACCESSORY

MODEL NO.	DESCRIPTION
PRG700-MB	Mounting bracket

Comes complete with operator's manual.

Ordering Example: PRG700-30, *high flow regulator with 0 to 30 psi range and ¼ NPT fittings.*

MINIATURE PRECISION AIR PRESSURE REGULATOR

PRG98A Series

1 YEAR WARRANTY

- **High Resolution Adjustment of Set Pressure**
- **Highly Accurate Air Pressure Regulation in a Small Package**
- **Three Pressure Ranges Available**
- **Compact and Lightweight**

PRG98-30 shown actual size.

OMEGA's PRG98A miniature air pressure regulator provides the highest level of regulation accuracy and repeatability available in a compact lightweight housing. It is ideal for applications that require precise pressure control and substantial flow capacity under variable operating conditions and limited space.

SPECIFCATIONS

Maximum Supply Pressure: 10 bar (150 psi)
Supply Pressure Effect: 0.5 psi for 100 psi change
Flow Capacity: 10 SCFM @ 100 psi inlet
Exhaust Capacity: 7 SCFM
Sensitivity: 0.25 inH_2O
Repeatability: 0.3% of span
Air Consumption: 6 SCFH maximum at 150 psi supply
Temperature Limits: -18 to 71°C (0 to 160°F)
Port Sizes (In/Out/Gauge): $^{1}/_{16\text{ - }27}$ NPT

Mounting: Pipe, panel, through body or optional bracket
Dimensions: 35.1 W x 35.1 D x 98.5 mm H (1.38 x 1.38 x 3.88")
Weight: 0.16 kg (0.35 lbs)
Materials:
Body: Diecast aluminum alloy, chromate and epoxy paint
Elastomers: Nitrile
Trim: Zinc plated steel
Additional Materials: Brass, aluminum, stainless steel, zinc plated steel

Add a Gauge to Your System!

PGU-15B-160PSI/11BAR, with back-mount fitting, shown actual size.

Visit omega.com/pgu_series for PGU-15B series for compatible pressure gauges.

To Order

MODEL NO.	OUTPUT PRESSURE RANGE	
	psi	bar
PRG98A-30	0 to 30	0 to 2.1
PRG98A-60	0 to 60	0 to 4.1
PRG98A-120	0 to 120	0 to 6.9

Comes complete with operator's manual.
***Ordering Example: PRG98-60,** miniature pressure regulator with 1.4 to 60 psi adjustable range.*

MINIATURE PRECISION AIR PRESSURE REGULATOR

PRG98A Series

1 YEAR WARRANTY

- **High Resolution Adjustment of Set Pressure**
- **Highly Accurate Air Pressure Regulation in a Small Package**
- **Three Pressure Ranges Available**
- **Compact and Lightweight**

PRG98A-30 shown actual size.

OMEGA's PRG98A miniature air pressure regulator provides the highest level of regulation accuracy and repeatability available in a compact lightweight housing. It is ideal for applications that require precise pressure control and substantial flow capacity under variable operating conditions and limited space.

SPECIFCATIONS

Maximum Supply Pressure: 10 bar (150 psi)
Supply Pressure Effect: 0.5 psi for 100 psi change
Flow Capacity: 10 SCFM @ 100 psi inlet
Exhaust Capacity: 7 SCFM
Sensitivity: 0.25 inH_2O
Repeatability: 0.3% of span
Air Consumption: 6 SCFH maximum at 150 psi supply
Temperature Limits: -18 to 71°C (0 to 160°F)
Port Sizes (In/Out/Gauge): $^1/_{16\ -\ 27}$ NPT

Mounting: Pipe, panel, through body or optional bracket
Dimensions: 35.1 W x 35.1 D x 98.5 mm H (1.38 x 1.38 x 3.88")
Weight: 0.16 kg (0.35 lbs)
Materials:
Body: Diecast aluminum alloy, chromate and epoxy paint
Elastomers: Nitrile
Trim: Zinc plated steel
Additional Materials: Brass, aluminum, stainless steel, zinc plated steel

Add a Gauge to Your System!

PGU-15B-160PSI/11BAR, with back-mount fitting, shown actual size.

Visit omega.com/pgu_series for PGU-15B series for compatible pressure gauges.

To Order

MODEL NO.	OUTPUT PRESSURE RANGE	
	psi	bar
PRG98A-30	0 to 30	0 to 2.1
PRG98A-60	0 to 60	0 to 4.1
PRG98A-120	0 to 120	0 to 6.9

Comes complete with operator's manual.
***Ordering Example: PRG98A-60,** miniature pressure regulator with 0 to 60 psi adjustable range.*

Pressure Regulators

For Compressed Air, Carbon Dioxide and Inert Gases

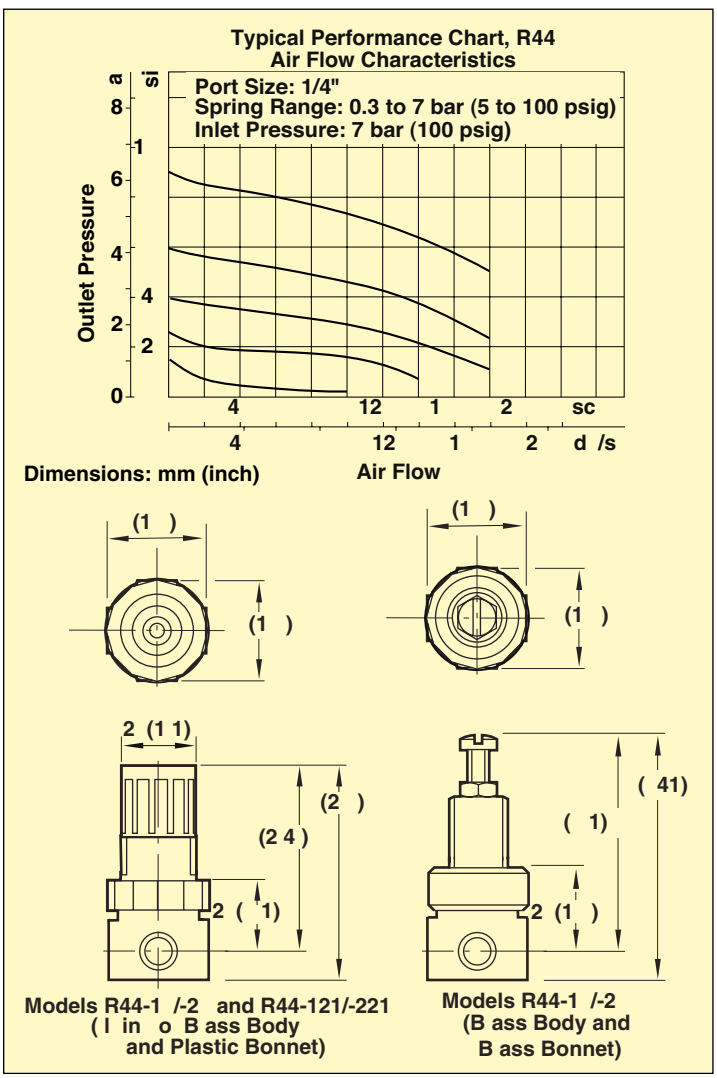
R44 Series

1 YEAR WARRANTY

R44-221-RNEA, shown actual size.

- **Compact Design**
- **High/Low Pressure Models for Primary/Secondary Regulation**
- **Plastic Locking Knob for Fast and Easy Adjustment**
- **Regulate Output Pressure From 0.1 to 12 bar (1 to 175 psig)**
- **Standard Relieving Models Allow Reduction of Outlet Pressure When System is Dead-Ended**
- **Panel or Bracket Mount**

The R44 Series are industrial pressure regulators for use with compressed air and inert gases such as carbon dioxide, argon helium, krypton, neon nitrogen and xenon. The R83 models are for primary high pressure regulation, while the R44 models are for secondary low pressure regulation. These regulators are intended for industrial use and are not to be used for beverage dispensing applications.



SPECIFICATIONS

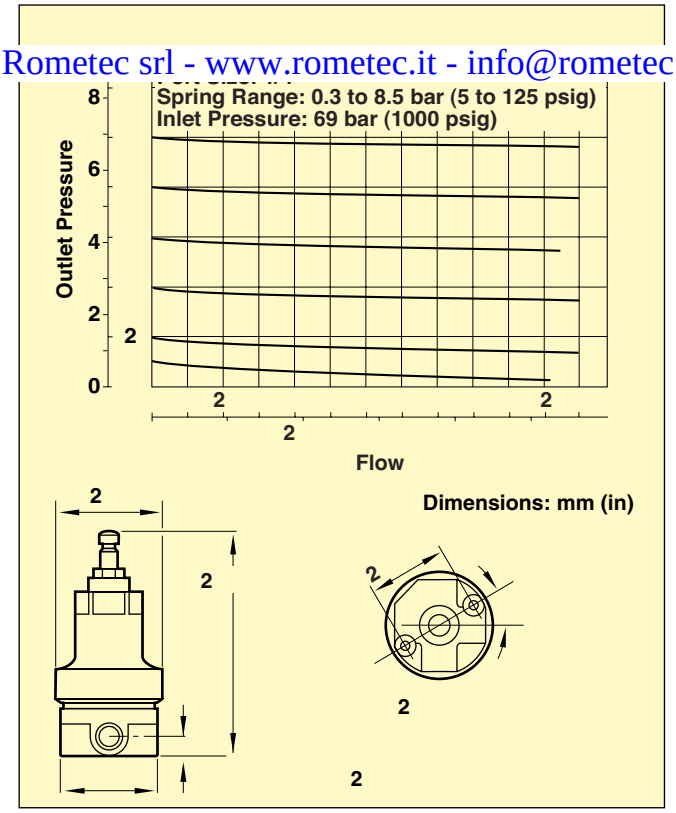
R44 MODELS

Operating Temperature: -34 to 66ºC (-30 to 150ºF)
Maximum Inlet Pressure: 17 bar (250 psig)
Materials R44:
R44-221: Brass body; acetal plastic bonnet
R44-233: Brass body, brass bonnet
Valve: Brass/nitrile
Seat: Acetal
Elastomers: Nitrile

R83 MODELS

Operating Temperature: -34 to 60ºC (-30 to 140ºF)
Maximum Inlet Pressure: 207 bar (3000 psig)
Materials R88: Brass body, zinc bonnet
Cartridge Valve: PTFE, brass, stainless steel
Diaphram: Acetal/nitrile
Seals: Nitrile

R83-200-RNLA, shown smaller than actual size.



To Order

MODEL NO.	INLET/OUT PORT (in)	GAUGE PORT PORT (in)	DESCRIPTION
R44-221-RNAA	¼	⅛	Low pressure regulator with plastic locking knob, 0.1 to 0.7 bar (1 to 10 psig)
R44-221-RNEA	¼	⅛	Low pressure regulator with plastic locking knob, 0.3 to 3.5 bar (5 to 50 psig)
R44-221-RNKA	¼	⅛	Low pressure regulator with plastic locking knob, 0.3 to 7 bar (5 to 100 psig)
R44-233-RNAA	¼	⅛	Low pressure regulator brass adjusting screw, 0.1 to 0.7 bar (1 to 10 psig)
R44-233-RNEA	¼	⅛	Low pressure regulator brass adjusting screw, 0.3 to 3.5 bar (5 to 50 psig)
R44-233-RNKA	¼	⅛	Low pressure regulator brass adjusting screw, 0.3 to 7 bar (5 to 100 psig)
R83-200-RNEA	¼	¼	High pressure regulator, 0.1 to 3.5 bar (2 to 50 psig)
R83-200-RNLA	¼	¼	High pressure regulator, 0.3 to 8.5 bar (5 to 125 psig)
R83-200-RNNA	¼	¼	High pressure regulator, 0.7 to 12 bar (10 to 175 psig)

ACCESSORIES

MODEL NO.	DESCRIPTION
OM-AIR-18-025-003	Wall bracket for R44 low pressure regulators
OM-AIR-2962-04	Panel nut for R44 low regulators
OM-AIR-5095-51	Neck bracket for R83 high pressure regulators
OM-AIR-18-013-214	40 mm (1.5”) pressure gauge with ⅛ NPT, 0 to 2 bar (0 to 30 psig)
OM-AIR-18-013-211	40 mm (1.5”) pressure gauge with ⅛ NPT, 0 to 4 bar (0 to 60 psig)
OM-AIR-18-013-212	40 mm (1.5”) pressure gauge with ⅛ NPT, 0 to 7 bar (0 to 100 psig)
OM-AIR-18-013-208	50 mm (2”) pressure gauge with ¼ NPT, 0 to 4 bar (0 to 60 psig)
OM-AIR-18-013-209	50 mm (2”) pressure gauge with ¼ NPT, 0 to 11 bar (0 to 160 psig)

Ordering Examples: R44-221-RNEA, *low pressure regulator for inert gasses with plastic locking knob for pressure range of 0.3 to 3.5 bar (5 to 50 psig),* ***OM-AIR-18-013-211,*** *pressure gauge 0 to 4 bar (0 to 60 psig), and* ***OM-AIR-18-025-003,*** *wall bracket for R44 regulator, $40 + 14 + 7 =* ***$61.***

R83-200-RNNA, *high pressure regulator for inert gasses with pressure range 0.7 to 12 bar (10 to 175 psig), and* ***OM-AIR-18-013-209,*** *pressure gauge for 0 to 11 bar (0 to 160 psig),* ***R44-233-RNAA,*** *low pressure regulator with brass adjusting screw for pressure range of 0.1 to 0.7 bar (1 to 10 psig), and* ***OM-AIR-18-013-214,*** *pressure gauge for 0 to 2 bar (0 to 30 psig), $65 + 45 + 14 =* ***$124.***