



Installation, Operation and Maintenance Instructions

TYPE 7100 Precision Air Pressure Regulator

The Type 7100 is a high precision, multi-stage pressure regulator offering fine adjustment and maximum stability under variable operating conditions. The Type 7100 combines the proven and reliable technology of the ControlAir Type 100 with the high forward and reverse flow of the Type 6100 1:1 Relay Volume Booster. A highly sensitive capsule controls the pilot pressure which offers crisp and accurate adjustment, superior to conventional spring-operated regulators.

1. SPECIFICATIONS

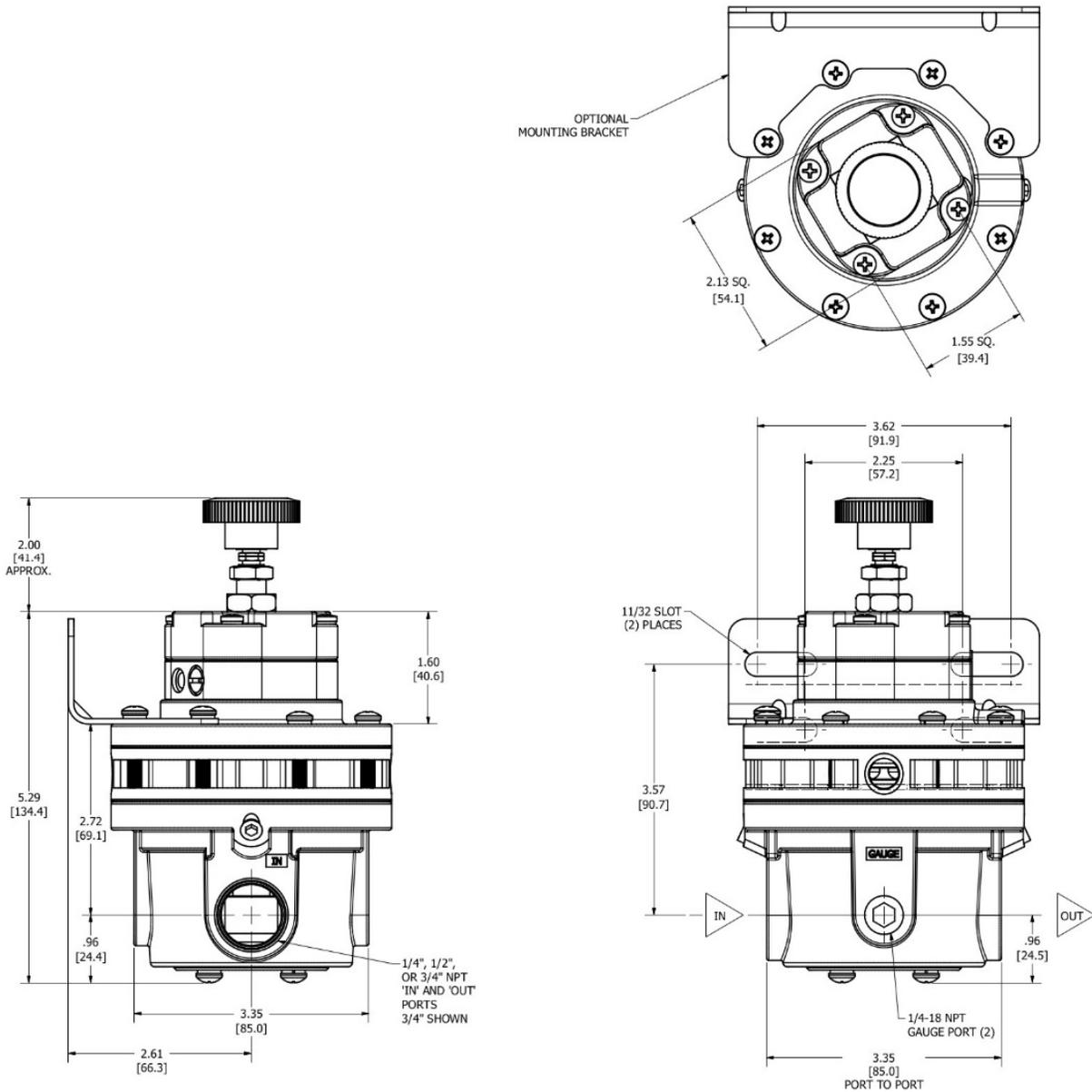
Functional Specifications

Output Ranges psi (BAR)	2-40 (0.14-2.7), 2-60 (0.14-4.1), 2-120 (0.14-8.2)		
Supply Pressure	250 psig (17.0 BAR) maximum		
Air Consumption	14 scfh (6.6 NI/min)		
Maximum Flow Coefficients (Cv)	Port	Forward	Exhaust
	3/4"	5.0	3.5
	1/2"	4.3	3.5
	1/4"	2.0	2.5
Exhaust Capacity 5 psig (0.35 bar) above 20 psig (1.38 bar) setpoint	3/4"	80 scfm (2,264 NL/min)	
	1/2"	75 scfm (2,123 NL/min)	
	1/4"	35 scfm (991 NL/min)	
Sensitivity	Less than 1/4-inch water (6.3 mm)		
Supply Pressure Effect	0.05 psig (3.4m BAR) for a 100 psig (6.9 BAR) change		
Temperature Limits	-20 to 160 ^o F (-29 to 71 ^o C)		

Physical Specifications

MATERIALS	
Housing:	Aluminum Alloy and Zinc Alloy
Bolting:	Zinc Plated Steel
Other Trim:	Aluminum
Internal Components:	Aluminum, Stainless Steel, Brass, Plated Steel
Elastomers:	Nitrile
Knob:	Phenolic plastic
Weight	2.5 lbs (1.13 kg)
Supply / Output Ports	1/4", 1/2", or 3/4" NPT
Exhaust Ports (2)	Ø 7/16" or 1/4" NPT option
Gauge Ports (2)	1/4" NPT

2. DIMENSIONAL DRAWING



(Drawing downloads available at <http://www.controlair.com>)

3. INSTALLATION



WARNING: Only qualified personnel should install or service a regulator. Regulators should be installed, operated, and maintained in accordance with international and applicable codes and regulations, and ControlAir instructions. If the regulator vents fluid or a leak develops in the system, it indicates that service is required. Failure to take the regulator out of service immediately may create a hazardous condition. Personal injury, equipment damage, or leakage due to escaping fluid or bursting of pressure-containing parts may result if this regulator is over pressured or is installed where service conditions could exceed the limits given in the Specifications section, or where conditions exceed any rating of the adjacent piping or piping connections. To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices (as required by the appropriate code, regulation, or standard) to prevent service conditions from exceeding limits. Additionally, physical damage to the regulator could result in personal injury and property damage due to escaping fluid. To avoid such injury and damage, install the regulator in a safe location.

3.1 Pre-Installation Requirements

- 3.1.1 The Type 7100 requires a source of clean, oil-free dry instrument grade air filtered to 40 microns.
- 3.1.2 Air should be free of all contaminants and hazardous gases, flammable or toxic.
- 3.1.3 Clean all pipelines of dirt and scale prior to installation.

NOTE

Failures attributable to instrument air supply contamination are not covered by the warranty.

CAUTION

This instrument vents to atmosphere. The use of supply gas other than air can create a hazardous environment.

- 3.1.4 Apply a minimum amount of pipe compound to the male threads of the fitting only. Do not use thread sealant tape on pipe fittings as it tends to contaminate the valve causing the regulator to malfunction.

3.2 Installation

- 3.2.1 Install the regulator so that direction of flow is from Inlet to Outlet as labeled "IN" and "OUT" marked on the body. Inlet and outlet porting are 1/4", 1/2" or 3/4" NPT. Tighten all connections securely.
- 3.2.2 Regulator can be mounted in any position and is typically pipe-mounted between the pneumatic supply source and the downstream system.

NOTE

Avoid undersized fittings that will limit flow through the regulator and cause pressure drop downstream.

NOTE

The use of a filter regulator to remove dirt and liquid in the air line ahead of the regulator is recommended for best performance.

NOTE

If an air lubricator is used, it should be located downstream beyond the regulator in order to avoid interference with the regulator performance.

- 3.2.3 Ensure that piping to and from the regulator is of proper size to meet the capacity demands of the system.

4. OPERATION

4.1 The Type 7100 is a high flow capacity regulator that provides a uniform output pressure independent of supply pressure variations. Before putting the regulator into service for the first time, adjust output setting to a minimum by turning the knob counterclockwise. Note that the minimum output setting will be approximately 1.5 psig. To operate, turn the pressure adjusting knob slowly in a clockwise direction until required downstream pressure is obtained. Turned in this direction, the regulator will increase output pressure.

5. MAINTENANCE AND REPAIRS

NOTE

Under normal circumstances, no maintenance should be required.

5.1 Repairs

- 5.1.1 In the event of unit failure, the Type 7100 can be returned to the factory through point of purchase for warranty repair if the warranty period has not expired.
- 5.1.2 All units returned for repair must be authorized prior to receipt at the factory. Contact a representative at the point of purchase to receive a Return Authorization Number
- 5.1.3 Repair kit for the Type 7100 is available.

Repair Kit P/N: 449-871-144

Repair Kit includes: * Items

6. WARRANTY & DISCLAIMER

ControlAir LLC products are warranted to be free from defects in materials and workmanship for a period of eighteen months from the date of sale, provided said products are used according to ControlAir recommended usages. ControlAir's liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir's sole option, of any products proved defective. ControlAir reserves the right to discontinue manufacture of any products or change products materials, designs or specifications without notice. Note: ControlAir does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for the proper selection, use, and maintenance of any ControlAir product remains solely with the purchaser and end user.

WARNING

These products are intended for use in industrial compressed-air systems only. Do not use these products where pressures and temperatures can exceed those listed under Specification.

