

# Type 90

## Miniature Precision Air Pressure Regulator

### Installation, Operation and Maintenance Instructions

The ControlAir Type 90 miniature precision air pressure regulator is designed to provide the highest level of regulation accuracy and repeatability available to control equipment in a lightweight, compact housing. The Type 90 is ideal for applications that require exact pressure control and substantial flow capacity under variable operating conditions and limited space.

#### SPECIFICATIONS

<b>Outputs</b>	0.7 - 30 psig      0.05 - 2 BAR 1.4 - 60 psig      0.1 - 4 BAR 1.4 - 120 psig     0.1 - 8 BAR
<b>Flow Capacity</b>	14 scfm (396 Nl/min)
<b>Exhaust Capacity</b>	7 scfm (199 Nl/min)
<b>Sensitivity</b>	0.25 in. (6.4mm) water
<b>Supply Pressure max.</b>	150 psig (10 BAR)
<b>Supply Pressure Sensitivity</b>	0.5 psig (0.034 BAR) for a 100 psig (6.9 BAR) change
<b>Air Consumption</b>	6.0 scfh (170 Nl/min) maximum at 150 psig (10 BAR) supply
<b>Repeatability</b>	± 0.3% of span
<b>Approximate Size (inches)</b>	1.38 x 1.38 x 3.88
<b>Approximate Size (mm)</b>	35.1 x 35.1 x 98.5
<b>Temperature Limits</b>	0°F to 160°F (-18°C to 71°C)
<b>Weight</b>	0.35 lb (0.16 kg)
<b>Port Size NPT/BSP</b>	1.8" (In, Out, Gauge (2))

#### MATERIALS OF CONSTRUCTION

<b>Housing</b>	Diecast aluminum alloy, chromate and epoxy paint
<b>Elastomers</b>	Nitrile
<b>Trim</b>	Zinc-plated steel
<b>Additional Materials</b>	Brass, aluminum, stainless steel, zinc-plated steel

#### 1. INSTALLATION

##### 1.1 Pre-Installation Requirements

- 1.1.1 These products are intended for use with industrial compressed air systems only.

**CAUTION** *Contact factory prior to use with other gases.*

- 1.1.2 Clean all pipe lines to remove dirt and scale prior to installation.

**NOTE** *Failures attributable to contamination are not covered by the warranty.*

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

- 1.1.3 A filter (40 micron or less is recommended) should be installed ahead of the regulator to prevent foreign matter in the air line from affecting the performance of the regulator. If an air line lubricator is used, it should be located downstream of the regulator.

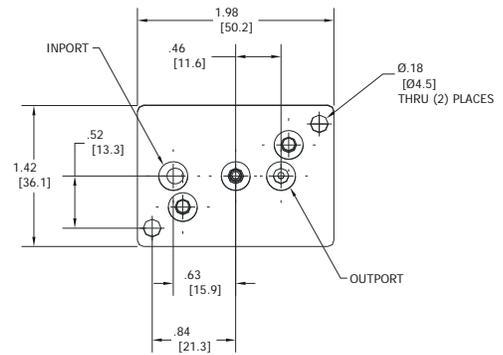
##### 1.2 Panel Mounting

- 1.2.1 Install regulator in air line; body is fitted with a 1/8" NPT/BSP for inlet and outlet connections. The regulator can be mounted in any position without affecting its operation. Apply a small amount of compound to the male threads only.
- 1.2.2 Inlet and outlet connections are labeled and should be tightly secured. Make sure all connections are right and that the exhaust vents in the bottom and side of the regulator are not blocked.
- 1.2.3 For panel mounting, the panel mounting nut should be tightened with a torque of 60 in. lbs.

**CAUTION** *Repeated cycling of supply pressure may cause increased leakage and premature product failure.*

### 1.3 Manifold Mounting

- 1.3.1 Install supplied O-rings into IN port and OUT port counterbores before mounting to manifold.
- 1.3.2 Venting will occur through center hole of mounting plate; Prevent obstruction for proper venting.



## 2. OPERATION

### 2.1 Operation

- 2.1.1 Turn on the supply pressure slowly and then turn the adjusting knob until the desired output pressure is reached.

**NOTE**

*Since this instrument utilizes an air bleed servo-control action, a slight sound of escaping air may be heard in the area of the housing. This is normal and is required for the precise control which this regulator offers.*

## 3. MAINTENANCE AND REPAIRS

### 3.1 Repairs

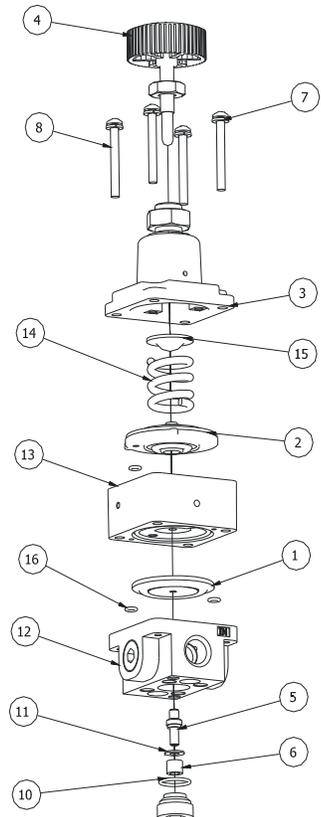
- 3.1.1 In the event of unit failure, the Type 90 can be returned to the factory through point of purchase for repair during the warranty period.
- 3.1.2 All units returned for repair must be authorized prior to receipt at the factory. Contact a representative at the point of purchase to receive a Return Authorization Number.
- 3.1.3 Repair kits for the Type 90 are available. Repair Kit P/N: 449-871-105

Parts List		
ITEM	QTY	DESCRIPTION
1	1*	LOWER DIAPHRAGM ASS'Y
2	1*	SIGNAL DIAPHRAGM ASS'Y
3	1	BONNET ASSEMBLY
4	1	KNOB ASSEMBLY
5	1*	PINTLE
6	1*	RUBBER SLEEVE
7	4	LOCK WASHER
8	4	4-40-UNC BUILD SCREW

\*INCLUDED IN REPAIR KIT

Parts List		
ITEM	QTY	DESCRIPTION
9	1	BOTTOM PLUG
10	1*	BODY O-RING
11	1	PINTLE WASHER
12	1	BODY
13	1	HOUSING
14	1	SPRING
15	1	SPRING GUIDE
16	3*	O-RING, SMALL

\*INCLUDED IN REPAIR KIT



## 4. WARRANTY & DISCLAIMER

ControlAir, Inc. 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, Inc. recommended usages. ControlAir, Inc.'s liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir, Inc.'s sole option, of any products proved defective. ControlAir, Inc. 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 Specifications.*

*Before using these products with fluids other than air, for non-industrial applications, life-support systems, or other applications not within published specifications, consult ControlAir, Inc.*



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