



# Installation, Operation and Maintenance Instructions

## TYPE 7200 Precision Back Pressure Regulator

The Type 7200BP Back Pressure Regulator is a high flow, highly accurate and repeatable pneumatic relief valve with an adjustable set point. It is a normally closed valve that will remain closed until the pressure at the inlet exceeds the regulator's set point. When pressure does exceed the regulator's setpoint, the valve will open and vent air until the pressure decreases to below the setpoint. A typical application is to provide protection against over pressurization in the downstream portion of a pneumatic system. In an over pressurization scenario, the air flowing through the 7200BP can be vented to atmosphere or could be captured and directed to trigger an emergency shut-off valve.

### 1. SPECIFICATIONS

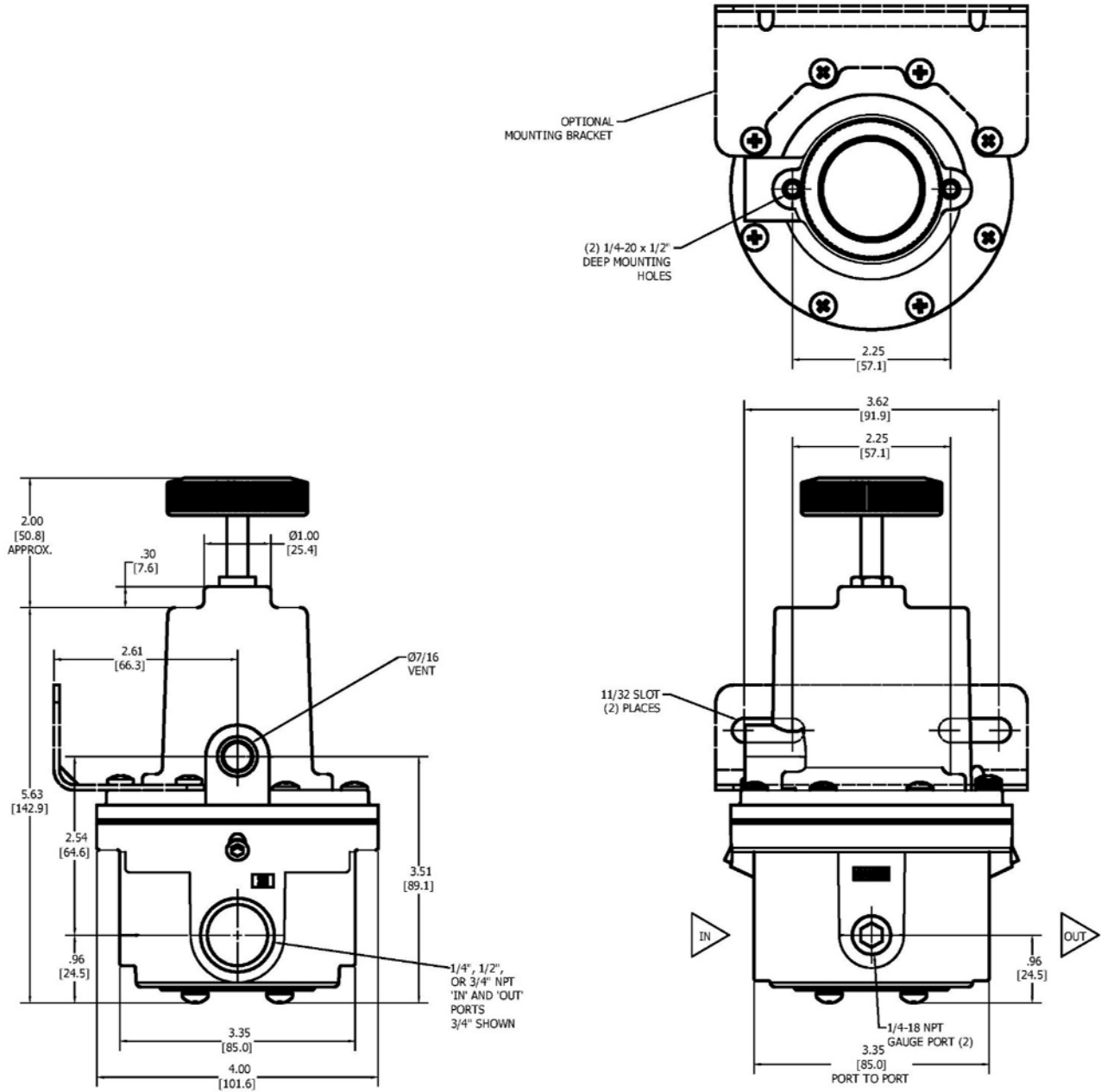
#### Functional Specifications

<b>Output Ranges psi (bar)</b>	0-2 (0-0.15), 0-10 (0-0.69), 0-30 (0-2.0), 0-60 (0-4.0), 0-100 (0-6.89), 0-150 (0-10)								
<b>System Pressure</b>	250 psig (17.0 bar) maximum								
<b>Maximum Flow Coefficients (Cv)</b>	<table border="1"> <tr> <td><b>Port</b></td> <td></td> </tr> <tr> <td>3/4"</td> <td>7.5</td> </tr> <tr> <td>1/2"</td> <td>6.2</td> </tr> <tr> <td>1/4"</td> <td>4.6</td> </tr> </table>	<b>Port</b>		3/4"	7.5	1/2"	6.2	1/4"	4.6
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3/4"	7.5								
1/2"	6.2								
1/4"	4.6								
<b>Sensitivity</b>	Less than 1/2" water								
<b>Temperature Limits</b>	-40 to 200° F (-40 to 93° C)								

#### Physical Specifications

<b>MATERIALS</b>	
<b>Housing:</b>	Aluminum
<b>Bolting:</b>	Zinc Plated Steel
<b>Other Trim:</b>	Aluminum
<b>Internal Components:</b>	Aluminum, Stainless Steel, Brass
<b>Elastomers:</b>	Nitrile
<b>Knob:</b>	Phenolic plastic
<b>Weight</b>	2.5 lbs (1.13 kg)
<b>Supply / Output Ports</b>	1/4", 1/2", or 3/4" NPT
<b>Gauge Ports (2)</b>	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 7200BP 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 is 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 actuator.

**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

Before putting the Type 7200BP into service for the first time, remove compression from the range spring by turning the knob counter-clockwise. Turning the adjusting knob clockwise will increase the set point while turning counter-clockwise will decrease the set point. A common way to adjust to the desired set point is to apply the pressure at which relief is desired. Note that air will be flowing through the unit at this point. Turn the knob clockwise until flow through the unit stops. This indicates that the internal valve is now closed. The set point can be verified by increasing the pressure to the unit above the set point to reestablish relief flow.

## 5. MAINTENANCE AND REPAIRS

### NOTE

*Under normal circumstances, no maintenance should be required.*

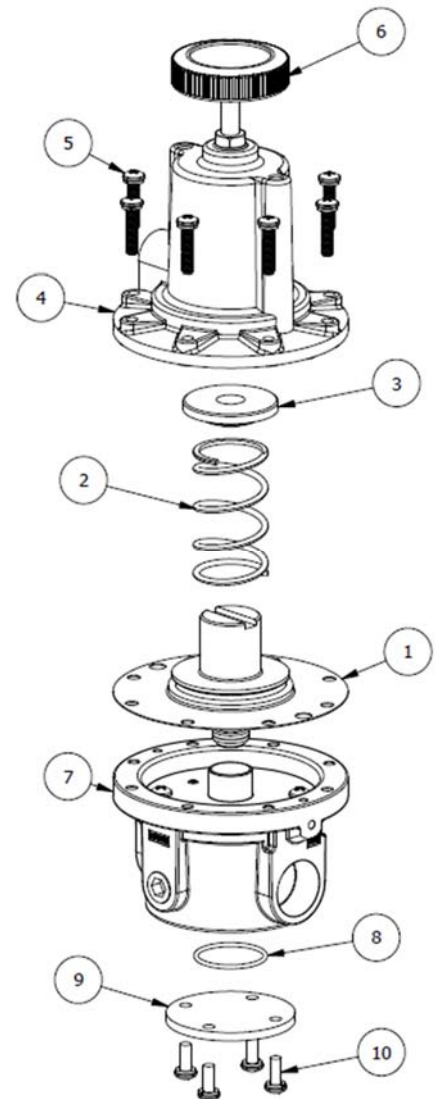
### 5.1 Repairs

- 5.1.1 In the event of unit failure, the Type 7200BP 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 7200BP is available.  
Repair Kit includes: \* Items  
Contact factory to order.

Repair Kit P/N: 449-871-166

T-7200 PARTS LIST		
ITEM	QTY	DESCRIPTION
1*	1	DIAPHRAGM ASSEMBLY
2	1	SPRING
3	1	SPRING GUIDE
4	1	BONNET ASSEMBLY
5	8	10-32 x 7/8 SCREWS & WASHERS
6	1	KNOB ASSEMBLY
7	1	BODY ASSEMBLY
8*	1	O-RING
9	1	BOTTOM PLATE
10	4	10-32 x 1/2 SCREWS & WASHERS

\*INCLUDED IN REPAIR KIT



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

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