Installation, Operation and Maintenance Instructions

TYPE 7500V
Vacuum Regulator

The Type 7500V controls pressure in high flow systems above and below atmosphere pressure. A fixed negative 15 psig bias spring maintains vacuum outputs up to 29" Hg. An adjustable opposing range spring controls positive pressure outputs up to 150 psig. Stability of output pressure droop is minimized by use of an aspirator. An isolated output pressure control chamber eliminates vibrations during high flow conditions.

1. SPECIFICATIONS

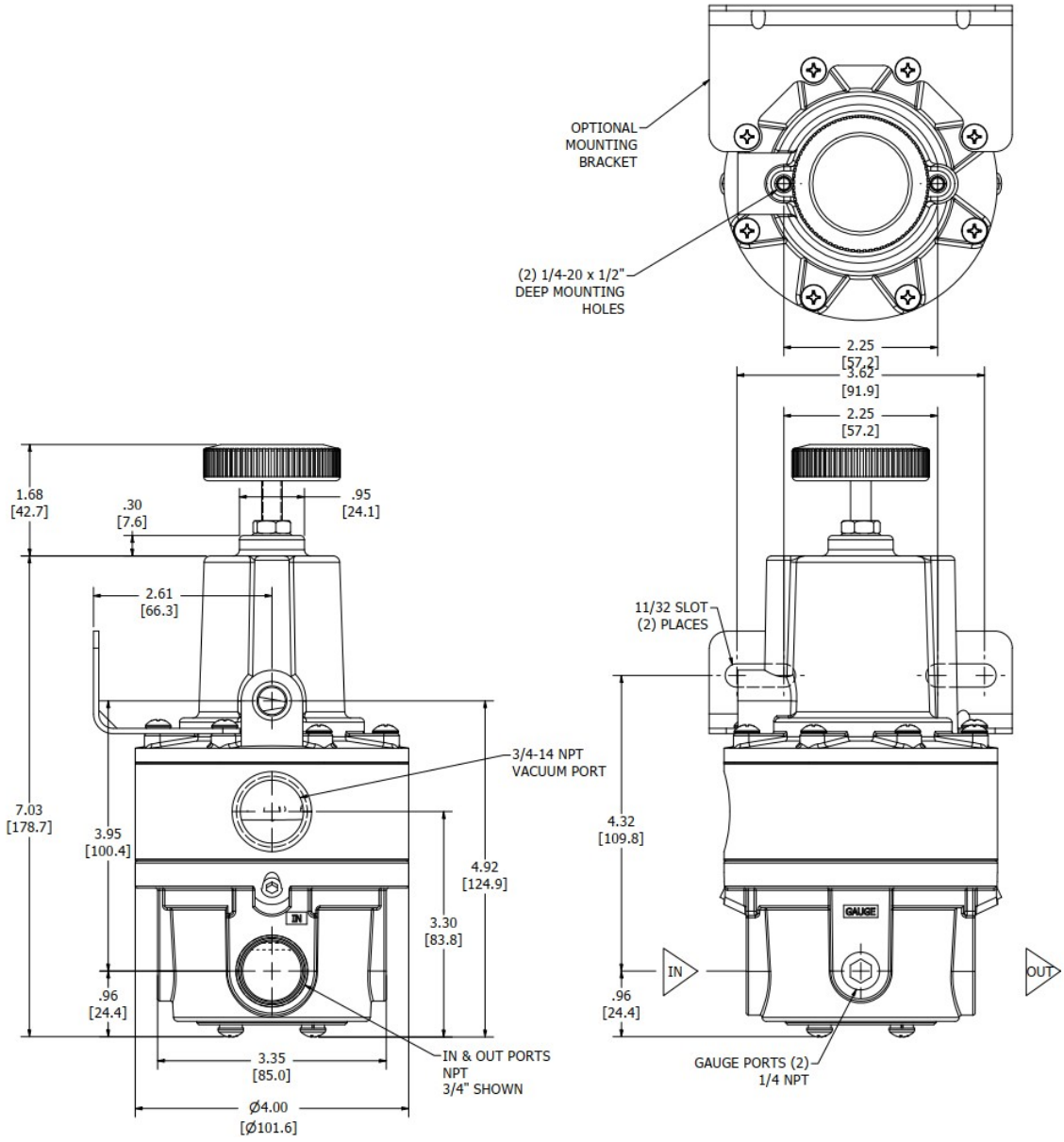
Functional Specifications

Output Ranges	Vacuum to 15 psig (-1 to 1 bar), Vacuum to 30 psig (-1 to 2 bar), Vacuum to 150 psig (-1 to 10 bar)
Supply Pressure	250 psig (17.0 bar) maximum
Flow Capacity	30 scfm (793 Nl/min) @ 29 Hg Vacuum 250 scfm (4,248 Nl/min) @ 100 psig (6.9 bar) supply, 80 psig (5.5 bar) output
Effect of Supply Pressure Variation on Output	Less than 0.1 psig (0.07 bar) for 100 psig (7.0 bar) change
Sensitivity	1" (25.4mm) water
Operating Temperature	-40 to 200^0 F (-40 to 93^0 C)

Physical Specifications

MATERIALS	
Body:	Diecast aluminum alloy
Internal Components:	Stainless Steel, brass, plated steel, acetal
Diaphragm:	Buna-N elastomer, polyester fabric
Knob:	Phenolic plastic
Spring:	Music wire
Weight	4 lbs. (1.81 kg)
Port Sizes	Inlet/Outlet: 1/4", 1/2", or 3/4" NPT Gauge (2): 1/4 NPT
Mounting	Pipe, panel, or bracket

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 7500V consumes atmospheric air, therefore, do not install in dusty or dirty environments.

3.1.2 Air must be free of corrosive gases, chemicals, steam, etc.

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.***

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 may be installed either upstream or downstream from the vacuum pump. Upstream installation is preferred when rapid evacuation of a vessel or system is required, because the exhaust capacity of the pump is normally greater than that of the regulator. In all other applications, the regulator can be located between the pump and the vessel.

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 General

4.1.1 The regulator can be operated at either below-atmospheric pressure (vacuum) or above-atmospheric pressure. Before placing the regulator into service for the first time, relieve all compression on the range spring by turning the adjustment knob fully counterclockwise.

4.2 Vacuum Operation (Below Atmospheric Pressure)

4.2.1 With no pressure on the range spring, the regulator will allow a higher downstream vacuum. Turning the adjustment screw clockwise compresses the range spring, which reduces the downstream vacuum (i.e., results in a lower vacuum setting). Adjust slowly until the desired downstream vacuum level is achieved.

4.3 Positive Pressure Operation (Above Atmospheric Pressure)

4.3.1 With no pressure on the range spring, the regulator will provide no downstream pressure. Turning the adjustment knob clockwise increases compression on the range spring and raises the downstream pressure. Once downstream pressure is established, turning the knob counterclockwise will further increase the downstream pressure. Adjust slowly until the desired downstream pressure is reached.

5. MAINTENANCE AND REPAIRS

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

5.1 Repairs

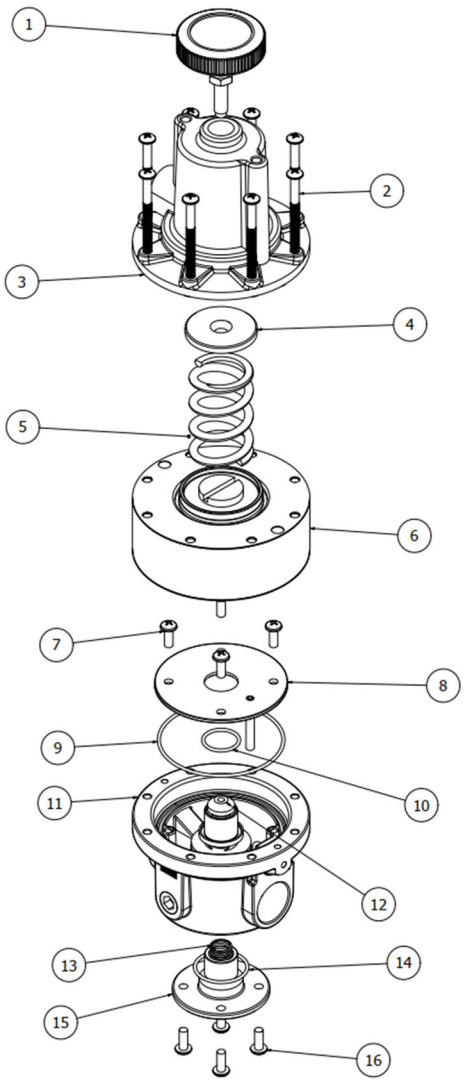
5.1.1 In the event of unit failure, the Type 7500V can be returned to the factory through point of purchase for warranty repair if the warranty period has not expired.

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 7500V is available.
Repair Kit Part number: 449-871-263 Contact factory to order.

TYPE 7500V PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	KNOB ASSEMBLY
2	8	10-32 BUILD SCREWS
3	1	BONNET
4	1	SPRING GUIDE
5	1	RANGE SPRING
6*	1	SPACER ASSEMBLY
7	4	BAFFLE SCREWS
8	1	BAFFLE ASSEMBLY
9*	1	O-RING
10*	1	O-RING
11	1	BODY ASSEMBLY
12	1	VALVE ASSEMBLY
13	1	VALVE SPRING
14*	1	O-RING
15	1	VALVE HOUSING
16	4	10-32 HOUSING SCREWS

*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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