



Installation, Operation and Maintenance Instructions

TYPE 750V Vacuum Regulator

The Type 750V Vacuum Regulator is designed to incorporate a fixed negative 15 PSIG bias spring to maintain vacuum outputs up to 29" Hg and an adjustable opposing range spring that increases controlled positive pressure outputs up to 150 PSIG. Output pressure droop is minimized by use of an aspirator tube which adjusts the air supply in accordance with the flow velocity.

1. SPECIFICATIONS

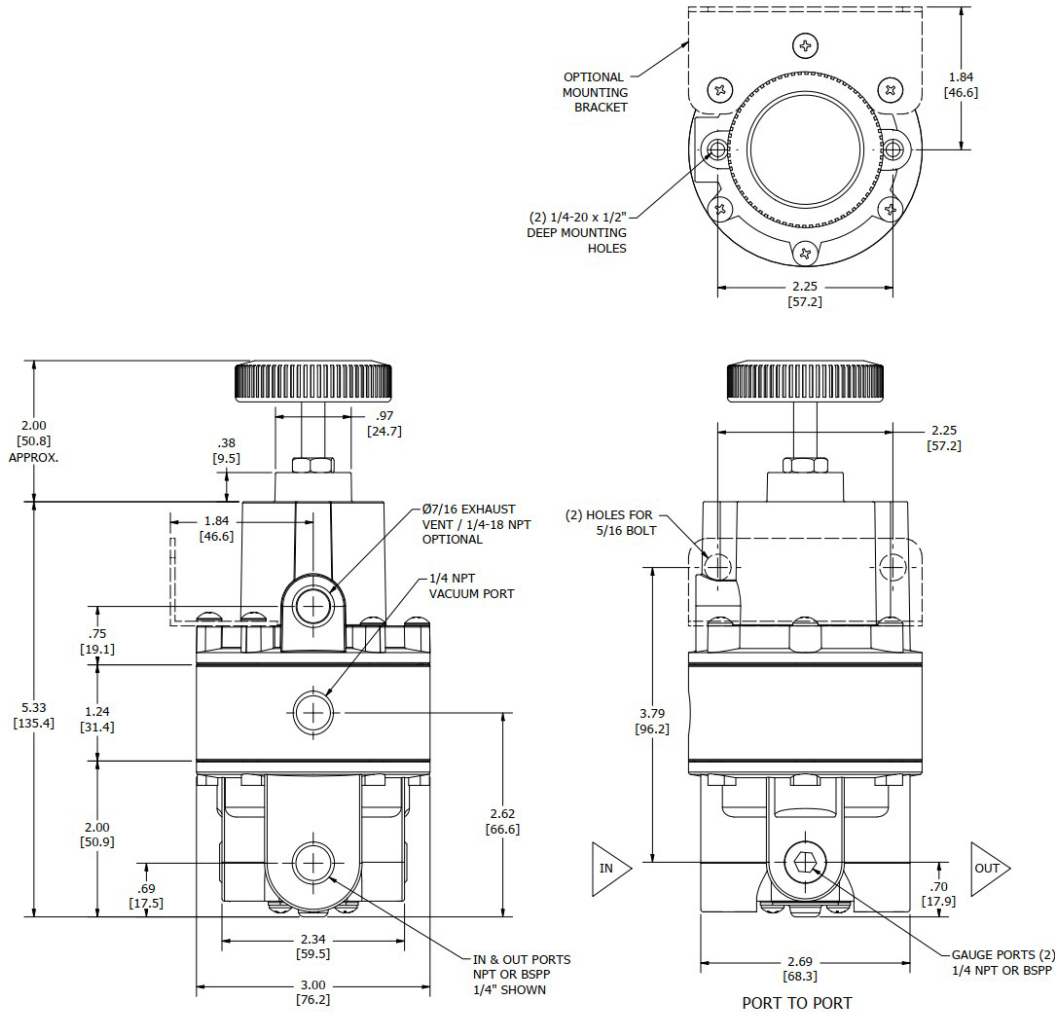
Functional Specifications

Flow Capacity	2.5 scfm (71 NI/min) @ 29 Hg Vacuum (740mm Hg) 40 scfm (1,132 NI/min) @ 100 psi (6.9 bar) supply, 20 psi (1.4 bar) output
Exhaust Capacity	4 scfm (120 NI/min) [downstream pressure 5 psig (0.35 bar) above set pressure]
Sensitivity	1/2" (12.7 mm) water
Effect of Supply Pressure Variation on Output	Less than 0.1 psig (0.01 bar) for 25 psig (1.7 bar) change
Supply Pressure	250 psig (17.5 bar) maximum
Operating Temperature	-40 to 200 ⁰ F (-40 to 93 ⁰ C)
Output Pressure Ranges	Vacuum to 2 psi (-1 to 0.15 bar), Vacuum to 15 psi (-1 to 1 bar), Vacuum to 30 psi (-1 to 2 bar), Vacuum to 60 psi (-1 to 4 bar), Vacuum to 100 psi (-1 to 7 bar), Vacuum to 150 psi (-1 to 10 bar)

Physical Specifications

MATERIALS Body: Internal Components: Diaphragm: Knob: Spring:	Diecast aluminum alloy Stainless steel, brass, plated steel, acetal Buna-N elastomer, polyester fabric Phenolic plastic Music wire
Weight	1 lb, 15 oz (0.88 kg)
Mounting	Pipe, panel, or bracket
Port Sizes	Inlet/Outlet: 1/4", 3/8", or 1/2" NPT/BSPP Gauge (2): 1/4" NPT/BSPP

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 750V 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/BSPP. 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 (Figure 1) 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 (Figure 2).

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.

FIG. 1 FOR APPLICATIONS WHEN RAPID EVACUATIONS OF A TANK OR VACUUM SYSTEM IS REQUIRED, THE VACUUM CAPACITY OF THE PUMP IS NORMALLY GREATER THAN THAT OF THE TYPE 750V.

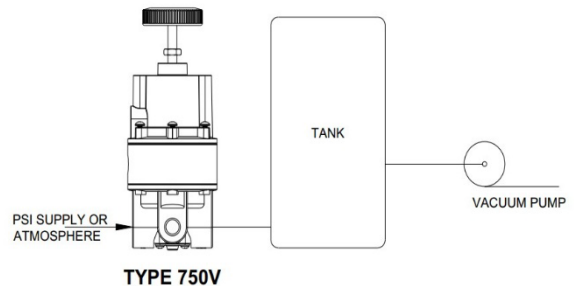
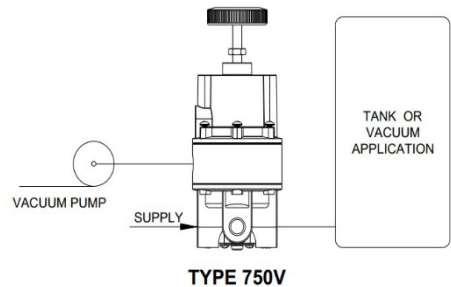


FIG. 2 FOR MORE CONVENTIONAL APPLICATIONS, THE TYPE 750V WILL PROVIDE PRECISE CONTROL OF THE VACUUM LEVEL AT THE TANK OR APPLICATION.

**4. OPERATION**

The regulator can operate under either vacuum (below atmospheric pressure) or positive pressure (above atmospheric pressure). Before putting the regulator into service for the first time, relieve the pressure on the range spring by turning the adjustment knob counterclockwise.

When operating below atmospheric pressure, no pressure on the range spring will result in a higher vacuum downstream. Turning the adjustment screw clockwise compresses the range spring, which decreases the vacuum (raises the pressure). Turn the screw slowly until the desired downstream vacuum is reached.

When operating above atmospheric pressure, no pressure on the range spring will result in zero downstream pressure. Turn the adjustment knob clockwise until the desired downstream pressure is achieved. Turning the knob counterclockwise will reduce the downstream pressure.

5. MAINTENANCE AND REPAIRS

NOTE

Under normal circumstances, no maintenance should be required.

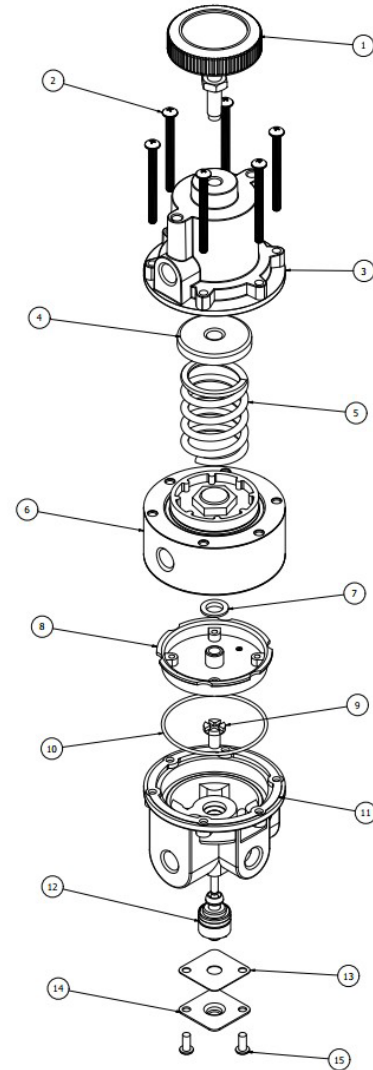
5.1 Repairs

- 5.1.1 In the event of unit failure, the Type 750V 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 750V is available. Contact factory to order.

Repair Kit P/N: 449-871-262

Repair Kit includes: * Items

TYPE 750V PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	442-517-001	KNOB ASSEMBLY
2	6	445-748-325	8-32 BUILD SCREWS
3	1	442-704-014	BONNET
4	1	446-726-005	SPRING GUIDE
5	1	446-755-038	RANGE SPRING
6*	1	448-524-035	SPACER ASSEMBLY
7	1	446-749-013	LIP SEAL
8	1	438-514-001	BAFFLE ASSEMBLY
9	1	446-786-001	BAFFLE TUBE
10	1	445-749-014	O-RING
11	1	448-505-423	BODY ASSEMBLY
12*	1	438-513-001	VALVE ASSEMBLY
13	1	446-724-010	SEALING GASKET
14	1	446-738-001	BODY PLATE
15	1	445-748-027	8-32 BODY SCREW



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.