



# Installation, Operation and Maintenance Instructions

## TYPE 480V Precision Vacuum Regulator

The Type 480V vacuum regulator provides precise control up to full vacuum. The push type locking knob provides smooth adjustment. The standard bracket and integral panel nut allows for versatile installation options. Its compact size and low weight allows for in-line pipe mounting. The soft valve seat provides tight shut off and eliminates leakage in steady state operation.

### 1. SPECIFICATIONS

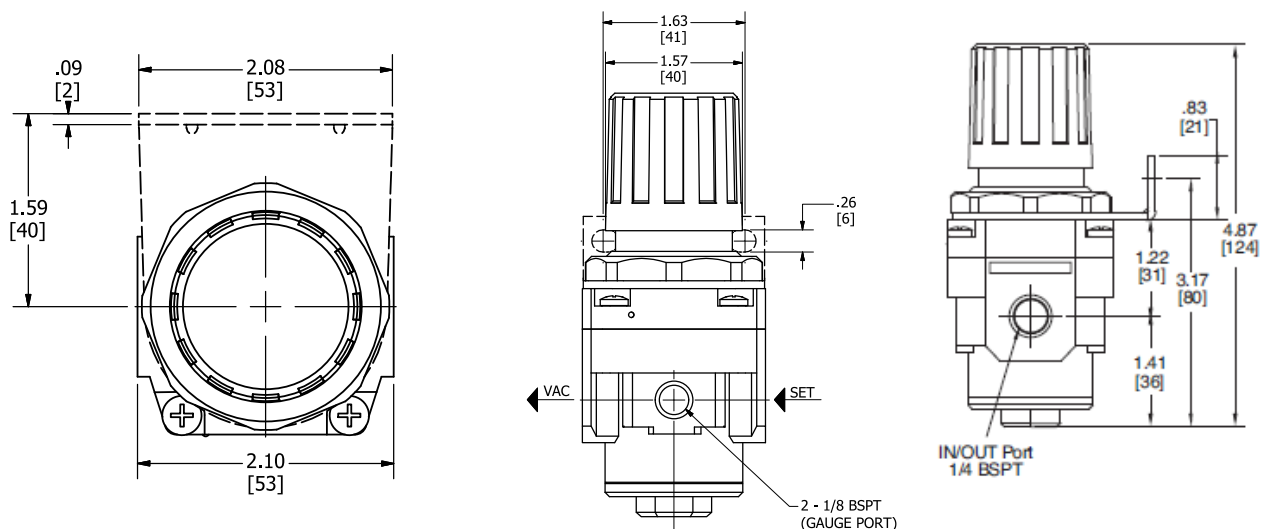
#### Functional Specifications

<b>Regulating Range</b>	0 to 30 inHg (-100 to -1.3 kPa)
<b>Atmospheric Intake</b>	0.04 scfm (1.1 NI/min)
<b>Sensitivity</b>	0.5 in w.c. (0.13 kPa)
<b>Ambient Temperature</b>	32 to 140 <sup>0</sup> F (0 to 60 <sup>0</sup> C)
<b>Port Size (In and Out)</b>	1/4" BSP
<b>Port Size (Gauge)</b>	1/8 BSPT (Rc 1/8)
<b>Flow Rate (Max.)</b>	100 scfh (47 NI/min)

#### Physical Specifications

<b>MATERIALS</b>	
<b>Housing:</b>	Aluminum, Acetal
<b>Bolting:</b>	Zinc Plated Steel
<b>Other Trim:</b>	Aluminum
<b>Internal Components:</b>	Aluminum
<b>Elastomers:</b>	Nitrile
<b>Weight</b>	0.93 lbs (0.42 kg)

### 2. DIMENSIONAL DRAWING



## 3. MOUNTING

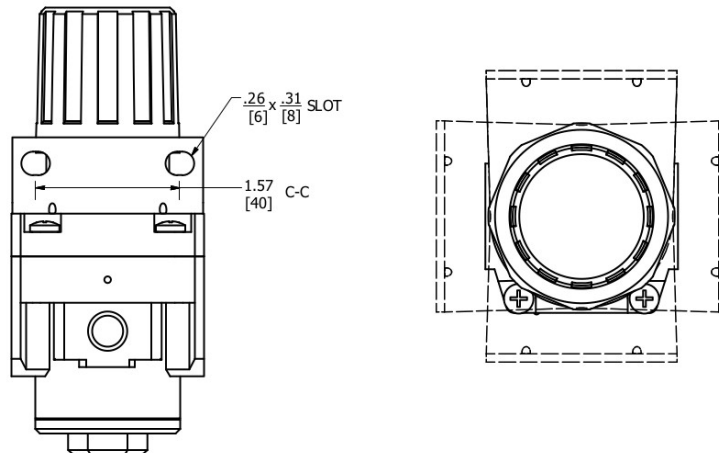
### 3.1 Panel Mounting

3.1.1 Suggested panel cutout: 1-5/8" (41mm) to 1-3/4" (45mm) diameter cutout.

3.1.2 Maximum panel thickness 5/32" (4mm).

### 3.2 Bracket Mounting

3.2.1 Bracket can be securely attached to regulator in (4) different orientations.



## 4. INSTALLATION & OPERATION

### 4.1 Pre-Installation Requirements

4.1.1 The Type 480 consumes atmospheric air, therefore, do not install in dusty or dirty environments.

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

4.1.3 Clean all pipelines of dirt and scale prior to installation.

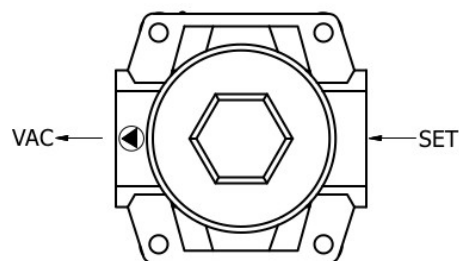
#### NOTE

*Failures attributable to air contamination and pipe/tubing contamination are not covered by the warranty.*

4.1.4 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 malfunction.

### 4.2 Installation

4.2.1 Connect the vacuum source to the 'vac' port which is identified with an arrow on the underside of the port. The 'set' port opposite the 'vac' port is the application side.



4.2.2 Before turning vacuum on, pull knob upward to unlock and then turn regulator knob counterclockwise until it stops. This will remove all compression from the range spring.

**CAUTION**

*Insure small 1/16 diameter hole on back side of body is not blocked. The regulator will draw in atmospheric air through this hole and will not function properly if blocked.*

**NOTE**

*This vacuum is for use with negative pressure only. Be sure that positive pressure is never applied. If positive pressure is ever applied, the regulator will not be damaged, however, the valve of the regulator will open and allow positive pressure to reach the vacuum pump. This will likely result in vacuum pump damage.*

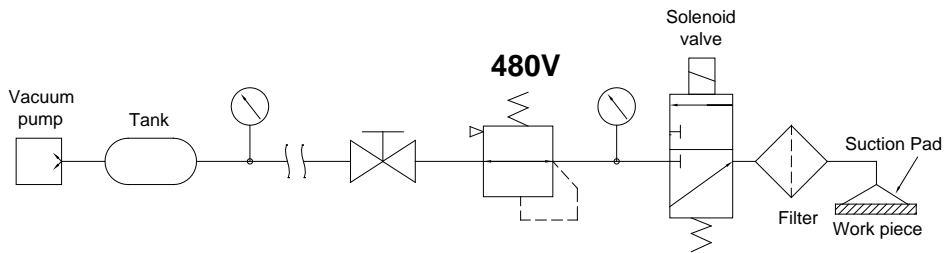
4.2.3 To adjust the level of vacuum, turn knob clockwise to increase vacuum and counterclockwise to decrease vacuum. Push downward on the knob until a click is heard to lock in the setting.

4.2.4 When the capacity of the vacuum pump is relatively small or when the inside diameter of the piping is small, a change in the set pressure (the pressure difference between the non-flow and flow conditions) may be large. In this case change to a higher capacity vacuum pump. Changing to larger diameter piping or adding a capacity take to the VAC side may also help. See figure 2.

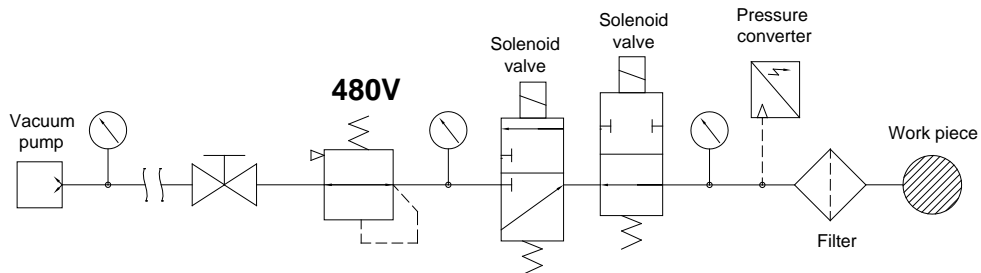
4.2.5 The response time after opening and closing valves (such as solenoid valves), is influenced in large part by the capacity on the set side (including piping capacity). Minimizing capacity on set side should have a positive effect on response time. See figure 2.

**Figure 2 – Typical Installations**

### Lifting of work pieces



### Leak tester



## 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 480 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 480 is available.  
Contact factory for repair kit information.

## 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 negative pressure systems only. Do not use these products where pressures and temperatures can exceed those listed under Specification.*

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