

## P-3610 High Static Pressure Limit Controller

### Features

- **High sensitivity**
- **Fast response time**
- **Complies with ASHRAE recommendations**
- **Minimizes the possibility of ductwork damage**

The P-3610 High Static Pressure Limit Controller is a low volume pneumatic controller designed to return a normally closed fan modulation device to its closed position when the inlet static pressure to the P-3610 rises above its set point. The P-3610 is designed to minimize the possibility of ductwork damage in the event of mechanical or control system failure by limiting the duct high static pressure buildup on the discharge side of the fan or the duct negative static pressure buildup on the suction side of the fan.

### Operation

The P-3610 functions as a one-pipe bleed control device; its normally closed control port opens when a duct high positive static pressure is sensed, bleeding down the flow controller output line to the controlled device. A damper actuator, for example, receives this signal and closes the damper, thus reducing the duct static pressure. By reversing the barbed fitting on the high port with the venting plug on the low port, the P-3610 can be used as a high negative static pressure limit.

### Installation

The P-3610 is factory calibrated in the vertical position. If the desired set point is the 3.5 in. WG (872 Pa) factory setting and the P-3610 is to be mounted in the horizontal position, the controller will require recalibration. Refer to the Calibration section for details.

The P-3610 has an integral mounting flange, and a mounting strap and bracket are included for mounting to ductwork.



**Fig. 1: P-3610 High Static Pressure Limit Controller**

### Specifications

<b>Product</b>		P-3610-1 High Static Pressure Limit Controller
<b>Action</b>		Proportional, Reverse Acting
<b>Differential Pressure Set Point Range</b>		1 to 6 in. WG (249 to 1494 Pa) Factory Set at 3.5 in. WG (872 Pa)
<b>Max. Differential Pressure</b>		15 in. WG (3735 Pa)
<b>Sensitivity</b>		.60 PSI/.01 in. WG Minimum
<b>Ambient Operating Temperature Limits</b>		40 to 120F (4 to 50°C)
<b>Ambient Storage Temperature Limits</b>		-20 to 150F (-29 to 66°C)
<b>Air Connections</b>		Barbed Fittings for 1/4 or 5/32 in. O.D. Poly tubing
<b>Maximum Sensing Line Length</b>		100 ft. (30.5m) of 1/4 in. O.D. Poly tubing
<b>Materials</b>	<b>Body</b>	Die Cast Aluminum, Iridite Finish
	<b>Diaphragm</b>	Silicone Rubber
<b>Mounting</b>		Integral Mounting Flange or Strap and Bracket for Duct Mounting
<b>Accessories (Order Separately)</b>		.007 in. (.18mm) Restrictor
<b>Shipping Weight</b>		0.7 lb

*The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*

If the P-3610 is to be mounted with the strap and bracket, proceed as follows:

**Note:** When choosing a location for installation, to assure a quick response time, the length of tubing between the restrictor, controlled device, and the P-3610 should be kept to a minimum.

1. Bolt or weld the bracket to the duct.
2. Attach the mounting strap to the controller. Secure it by tightening the screw provided through the larger of the two holes on the strap.
3. Slip the strap into the offset on the bracket.
4. Use the second screw provided to attach the bracket to the threaded hole on the strap.

## Repair information

If the P-3610 fails to operate within its specifications, unit replacement is required; field repairs cannot be made.

## Application and Drawing Identification

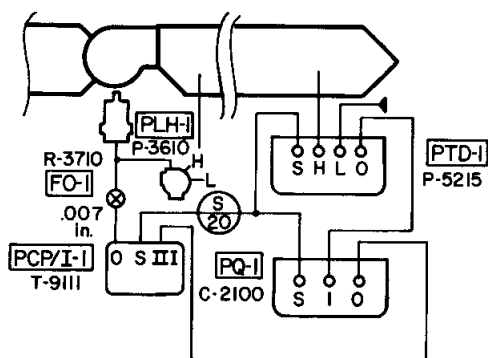
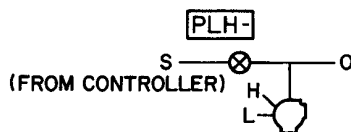


Fig. 2: High Static Pressure Limit on Constant Pressure Control Application

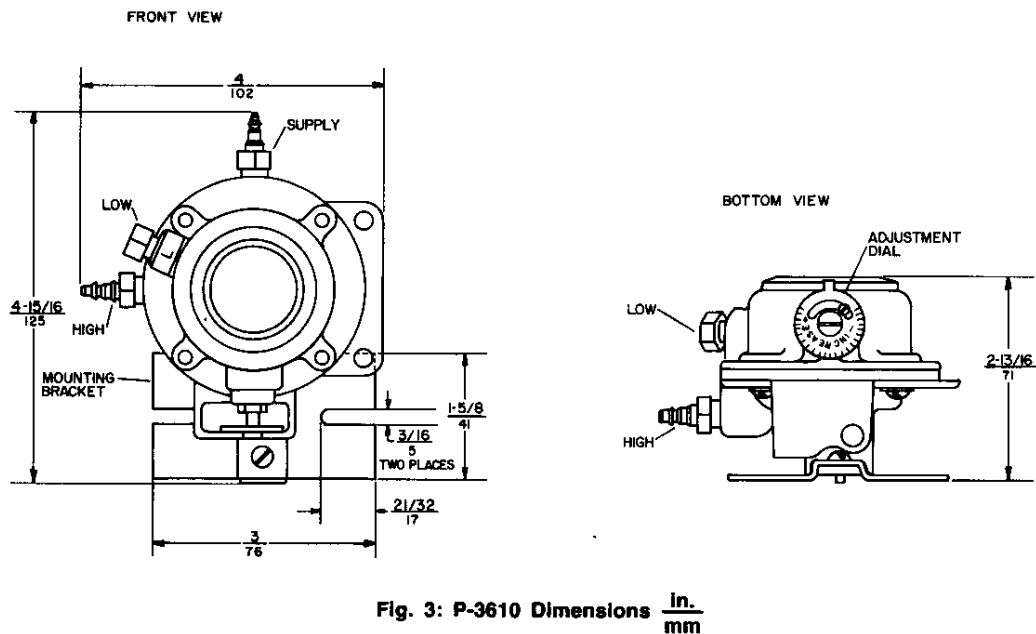


Fig. 3: P-3610 Dimensions  $\frac{\text{in.}}{\text{mm}}$

## Calibration

1. Apply 20 PSIG (140 kPa) to the supply "S" connection.
2. Hook up a test divider circuit as shown in Fig. 4.
3. Close adjustable restrictor #1 and open adjustable restrictor #2. Adjust the S-224 gradual switch to provide a 9 PSIG output as read on test gage #1.
4. Open adjustable restrictor #1 slowly until the P-3610 inlet pressure is approximately 90% of the desired set point (as read on the differential pressure gage #3).
5. Close adjustable restrictor #2 until the desired set point is indicated on the differential pressure gage #3.
6. Adjust the P-3610 adjustment dial to provide the output pressure (as read on test gage #2) which equals the upper range pressure of the fan modulation device spring range. Example: If the spring range of the fan modulation device is 3 to 15 PSIG, the desired pressure would be 15 PSIG.

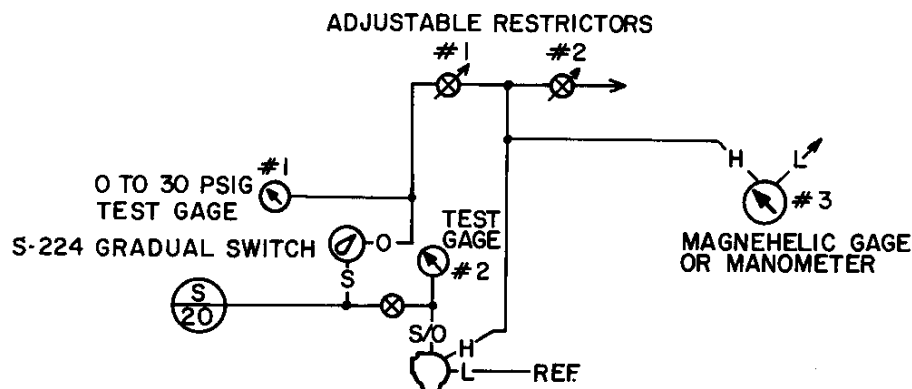


Fig. 4: Test Divider Circuit

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## Notes



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