

## P-8000 Proportional or Two-Position Pressure Controller

The P-8000 Pressure Controller is designed for a wide range of pressure control applications. The pressure sensing line can be located where extreme conditions do not permit controller mounting or where operational adjustments to the controller would be inconvenient. This instrument is ideally suited for installations that require the controller to be mounted on a local control panel.

Shock and vibration tests have proven the durability of the P-8000. The use of flexure levers reduces hysteresis and friction. The P-8000 is available with a low pressure "L" or a high pressure "H" element assembly.

### Action

This controller can be made to function as a Direct Acting or Reverse Acting instrument by

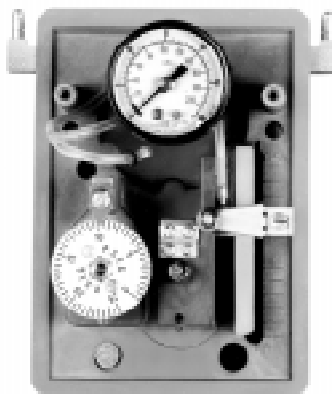


Fig. 2: P-8000 Cover Removed

changing the position of the patented sliding control port. A Direct Acting controller increases the output pressure signal on an increase in the measured pressure. A Reverse Acting controller decreases the output signal on an increase in the measured pressure. Repositioning the sliding control port will also change the sensitivity on proportional models and the differential on two-position models.

Sensitivity is the change in output pressure per PSI change in measured pressure. Differential is the amount of change in measured pressure needed to change the output pressure from maximum to minimum or vice versa.

### Adjustment

Moving the slider upward (Direct Acting) or downward (Reverse Acting) from the midpoint on the rail increases the sensitivity for proportional action applications and decreases differential for two-position applications. The rail is marked DA (Direct Acting) and RA (Reverse Acting).

The output pressure is indicated on an integral 0 to 30 PSIG gage that is visible through the cover. The set point dial, which is also visible through the cover, has ranges on both sides as listed in the Specifications table. An external adjustment knob assembly is available.



Fig. 1: P-8000  
Pressure Controller

### Operation

As the pressure in the sensing line increases or decreases,

it is measured by the element diaphragm of the P-8000. The pressure change at the diaphragm is transmitted to a system of flexure levers that open and close the control port. This causes the output pressure of the P-8000 to change according to the measured pressure change.

### Mounting

The P-8000 is designed for surface mounting. Use the air connections on the sides, and the controlled pressure connection at the bottom of the base.

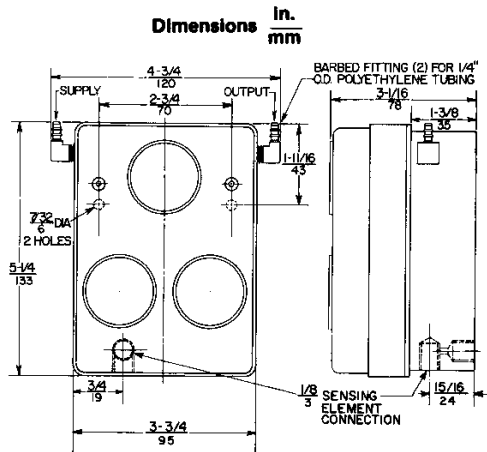


Fig. 3: P-8000

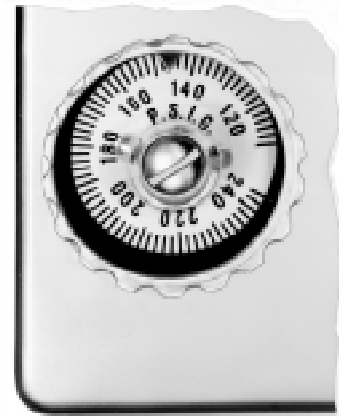


Fig. 4: T-8000-17  
External Adjustment Kit

## Specifications

Product		P-8000 Pressure Controller
Models	Proportional	P-8000-1; -30 in. Hg to 25 PSIG (-101 to 175 kPa)
		P-8000-2; 0 to 244 PSIG (0 to 1708 kPa)
	Two-Position	P-8000-5; 0 to 244 PSIG (0 to 1708 kPa)
		P-8000-6; -30 in. Hg to 25 PSIG (-101 to 175 kPa)
Action		Direct or Reverse Acting (Furnished Direct Acting; Field Reversible)
Element		Flexible Metal Diaphragm; High "H" or Low "L" Pressure
Instrument Ambient Temperature Limits		-20 to 150F (-29 to 65°C)
Max. Controllable Pressure	L	70 PSIG (490 kPa)
	H	500 PSIG (3500 kPa)
Sensitivity (Proportional)	L	Adjustable; .75 to 13 PSI/PSI (.75 to 13 kPa/kPa) Factory Set at 1 PSI/PSI (1 kPa/kPa)
	H	Adjustable; .2 to 3 PSI/PSI (.2 to 3 kPa/kPa) Factory Set at 1 PSI/PSI (1 kPa/kPa)
Differential (Two-Position)	L	Adjustable; 0.5 to 10 PSI (3 to 70 kPa) Factory Set at 1 PSI (7 kPa)
	H	Adjustable; 2.5 to 50 PSI (17 to 350 kPa) Factory Set at 10 PSI (70 kPa)
Dial Range	L	Side 1: -30 in. Hg to 10 PSI (-101 to 70 kPa) Side 2: 0 to 25 PSI (0 to 175 kPa) Factory Setting 12 PSI (84 kPa)
	H	Side 1: 0 to 124 PSI (0 to 868 kPa) Side 2: 110 to 244 PSI (770 to 1708 kPa) Factory Setting 60 PSI (420 kPa)
Dial Graduations	L	Side 1: 1 in. Hg and 1/2 PSI /Increment (3 kPa and 3 kPa/Increment) Side 2: 1/2 PSI/Increment (3 kPa/Increment)
	H	Side 1 and 2: 2 PSI/Increment (14 kPa/Increment)
Set Point Adjustment		Visible Graduated Dial; Concealed Adjustment
Material	Body	Die Cast Aluminum; Iridite Finish
	Cover	Die Cast Zinc; Sprayed Beige Finish
Mounting		Surface
Air Connections		Barbed Fittings for 1/4 in. O.D. Polyethylene Tubing
Output Pressure		0 to 30 PSIG (0 to 210 kPa); Integral Gage
Maximum Supply Pressure		25 PSIG (175 kPa)
Accessories (Order Separately)		T-8000-16 External Pilot Orifice Kit
		T-8000-17 External Adjustment Knob Kit

*"The performance specifications for this equipment are nominal and conform to generally acceptable industry standards. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products."*

**Controls Group**  
507 E. Michigan Street  
P.O. Box 423  
Milwaukee, WI 53202

Printed in U.S.A.