

## R-4000 Miniature Pressure Regulator

The R-4000 Miniature Pressure Regulator is a low volume device used primarily to readjust the set point of pneumatic controllers. The output pressure of the R-4000 varies in proportion to the rotation of the adjusting knob.

Used with a .005 in. or .007 in. R-3170 Series Restrictor, the R-4000 has a barbed fitting for 1/4 in. O.D. polytubing for panel mounting (see Fig. 3) and a 4 in. (102 mm) length of polytubing for conduit box mounting (see Fig. 5). Table 1 lists the various output spans available. These spans can be placed anywhere within the pressure ranges and are obtained by proper tab removal from the stop plate as indicated in Table 1. A two-sided dial plate, for direct or reverse applications, is supplied with the regulator.

The R-4000-3 has a barbed fitting at the center exhaust opening (marked "1") for 1/4 in. O.D. polytubing. The R-4000-3 can be used as a minimum pressure device as shown in Fig. 6.

### Installation

The R-4000 can be mounted in any one of the following ways:

**Panel Mounting** -- the panel thickness must not exceed 3/8 in. (10 mm).

**Surface Mounting** -- use mounting bracket C-5222-100 (ordered separately).

**Conduit Box Mounting** -- use a one gang box with a minimum depth of 2-3/4 in. (70 mm). Use a surface extension box when the proper conduit box is not

available or when the wall thickness will not allow a 2-3/4 in. (70 mm) deep box.

To mount the R-4000 Regulator, refer to Figs. 3 and 5 and proceed as follows:

1. Cut a 5/8 in. (16 mm) diameter hole in the panel or conduit box cover.
2. Place one nut and the internal tooth lock washer on the mounting shaft and insert the shaft through the 5/8 in. (16 mm) hole from the back.
3. From the front of the panel place the dial plate, the stop plate, and the nut.
4. Adjust both nuts so that the top of the mounting shaft and nut are flush.
5. Refer to the Calibration section for complete calibrating procedures, then attach the knob to the adjusting post and tighten the set screw, being careful not to overtighten.



**Fig. 1: R-4000 Miniature Pressure Regulator**

6. Make the air line connection to the barbed fitting for 1/4 in. O.D. polytubing.

### Calibration

Example: 3 PSI (21 kPa) span between 6 and 9 PSIG (42 and 63 kPa).

1. Determine the desired output span (example: 3 PSI).

### Specifications

<b>Product</b>	R-4000 Miniature Pressure Regulator		
<b>Models</b>	See Table 1		
<b>Air Connections</b>	"O"	R-4000-4 Used as a Pressure Regulator	Barbed Fitting(s) For 1/4 in. O.D. Polytubing
	"O" & "1"	R-4000-3 Used as a Minimum Pressure Device	
<b>Max Supply Pressure</b>	25 PSIG (175 kPa)		
<b>Output Pressure Limits</b>	Orifice Pressure up to Within 0.5 PSI (4 kPa) of Supply Pressure		
<b>Ambient Temperature Limits</b>	40 to 120°F (4 to 49°C)		
	<b>Body</b>	Polysulfone Plastic	
<b>Materials</b>	<b>Diaphragm</b>	Silicone Rubber	
	<b>Adjusting Screw</b>	Brass	
	<b>Spring</b>	Stainless Steel	
<b>Accessories (Order Separately)</b>	R-3710 Series .005 in. or .007 in. Restrictor C-5222-100 Mounting Bracket		
<b>Shipping Weight</b>	0.1 lb (.05 kg)		

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.

- Break off the proper tab sets from the stop plate in accordance with Table 1 (example: tab sets 1 and 2).
- Adjust the output to mid-span by manually turning the adjusting post to 7.5 PSIG (53 kPa).
- Being careful not to change the output pressure, attach the knob to the adjusting pot with the arrow pointing to the midpoint on the dial. Allow a minimum of 1/16 in. (2 mm) clearance between the knob and the dial plate.

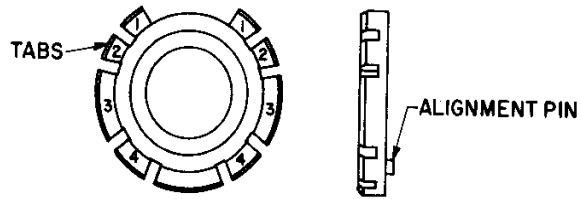
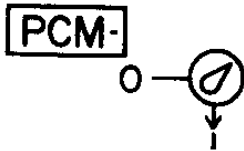


Fig. 2: R-4000 Span Selection Plate (Stop Plate)

### Application and Drawing Identification



Output Pressure Span	PSI kPa	Break Off Tab Sets Numbered	Code Number
$\frac{1}{7}$		None	
$\frac{2}{14}$		1	
$\frac{3}{21}$		1 & 2	R-4000-4
$\frac{5}{35}$		1, 2, & 3	
$\frac{6}{42}$		1, 2, 3, & 4	
$\frac{12}{84}$		1, 2, & 3	R-4000-3

### Repair Information

Field repairs must not be made. For a replacement R-4000, contact the nearest Johnson Controls branch office.

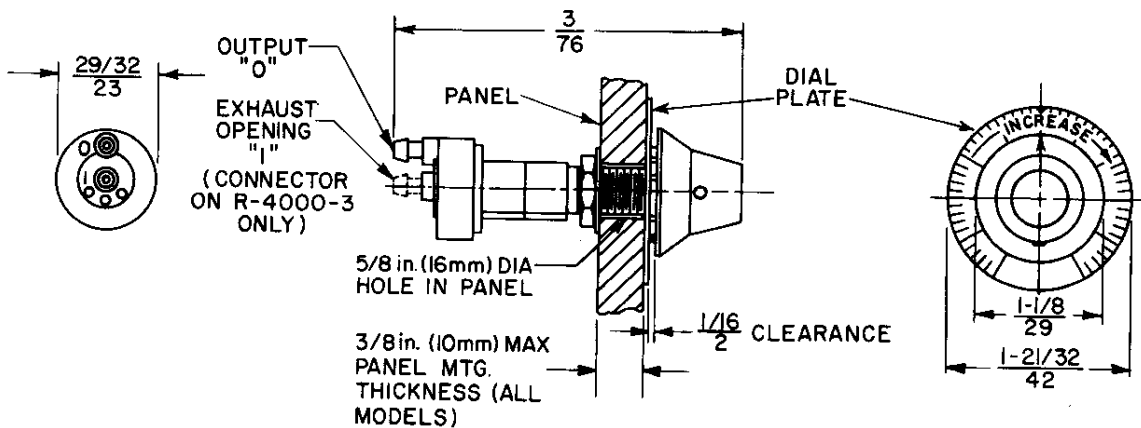
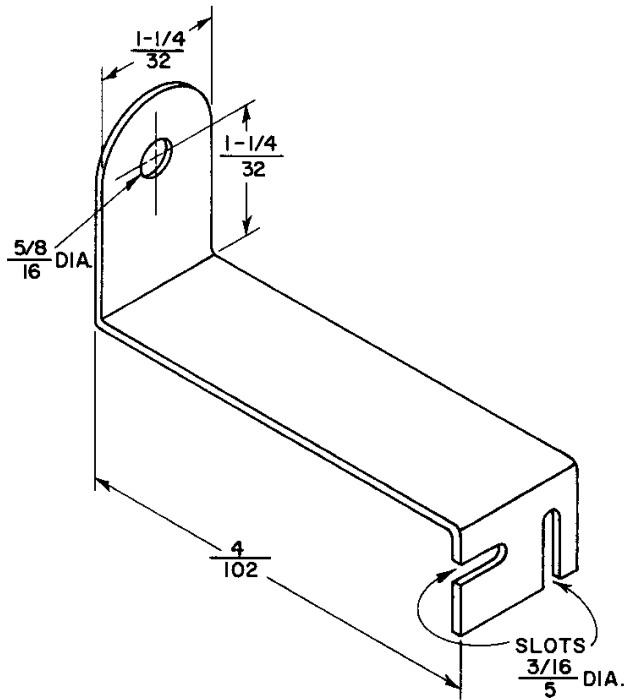
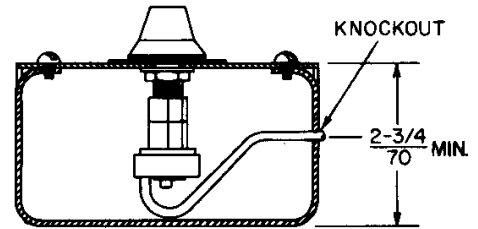


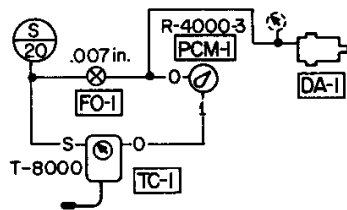
Fig. 3: Panel Mounted R-4000 Dimensions in./mm



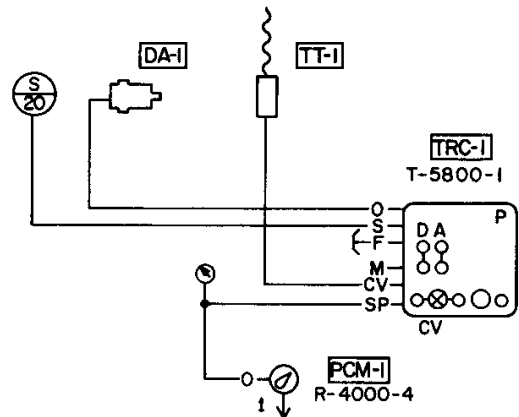
**Fig. 4: C-5222-100 Mounting Bracket**  
Dimensions  $\frac{\text{in.}}{\text{mm}}$



**Fig. 5: Conduit Box Mounted R-4000**  
Dimensions  $\frac{\text{in.}}{\text{mm}}$



**Fig. 6: R-4000-3 Used as a Minimum Pressure Device**



**Fig. 7: R-4000-4 Used for Remote Set Point Readjustment of a T-5800**

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# Notes



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

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