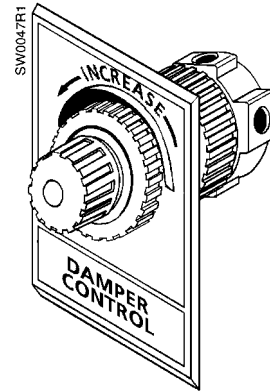


# Powers™ Controls

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## SW 141 Positioning Switch




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### Description

The SW 141 Positioning Switch is used to deliver any manually selected pressure over a range of 0 to 30 psi (0 to 207 kPa). The adjustment knob can be left free to rotate or held in position by snapping the locking ring into position. The switch may be mounted on a wall, duct or control panel up to 1/4-inch (6 mm) thick.

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### Features

- Compact design and lightweight construction
- Non-rising low torque pressure adjustment knob with snap-action locking ring for maintaining pressure setting
- Easy panel mounting through 1.22-inch (33 mm) diameter knock-out
- 1/8-inch NPT connection ports
- Dial label and nomenclature sheet for most applications

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### Product Numbers

Table 1.

Product Number	Description
141-0600	Positioning Switch
786-131	Accessory Mounting Bracket

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### Application

The SW 141 Positioning Switch is used in compressed air systems to maintain a uniform outlet pressure despite changes in the inlet pressure and changes in downstream flow requirements. It is especially suited for installations where space is limited and where panel mounting with a non-rising knob is desired.

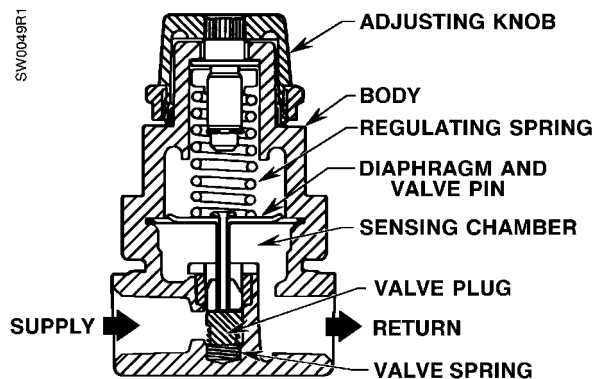
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<b>Specifications</b>	Medium	Air
	Port Threads	1/8-inch NPT female
	Materials	
	Bonnet	Acetal
	Body	Zinc
	Valve plug	Brass
	Valve seat	Acetal
	Diaphragm	Buna-N
	Inlet pressure	
	Nominal	30 psi (206 kPa)
	Maximum	400 psi (2745 kPa)
	Operating Temperature	0 to 150°F (-18 to 66°C)
	Capacity at 1 psi (7 kPa) differential	
	3/32 OD fitting	500 scim (140 ml/s)
1/4 OD fitting	650 scim (180 ml/s)	
Dimensions	See Figures 4, 5, and 6	
Shipping weight	0.5 lb (0.23 kg)	
<b>Accessory</b>	Mounting Bracket	786-131

**Operation**

The outlet pressure is controlled by the adjusting knob. Clockwise rotation increases and counterclockwise rotation decreases the outlet pressure. When the knob is rotated fully counterclockwise, no force is applied to the regulating spring and the valve is held closed by the valve spring. Counterclockwise rotation of the knob compresses the regulating spring that applies a downward force on top of the diaphragm and valve pin assembly. See Figure 1. The diaphragm and valve pin assembly move downward, forcing the valve off its seat.

This allows air to flow through the regulator to the downstream system. Increasing outlet pressure in the downstream system and in the sensing chamber applies an upward force to the bottom of the diaphragm. The diaphragm, valve pin assembly, and the valve move upward, compressing the regulating spring. Upward movement stops when the diaphragm forces are balanced.

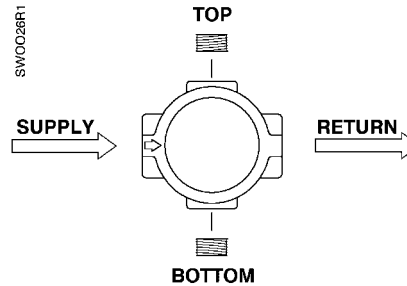


**Figure 1. Construction.**

## Mounting and Installation

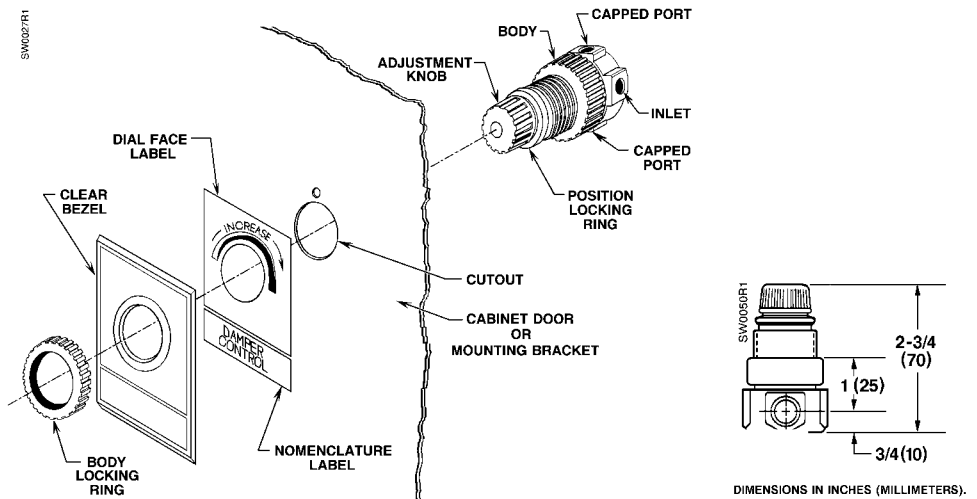
### Panel Mounting

- Using an adjustable wrench, attach two 1/8-inch NPT female brass fittings into the supply and return ports. (Figure 2). The supply port is marked with an arrow ➔ cast into the body.



**Figure 2. Positioning Switch Ports.**

- Using a 1/4-inch hex key, insert the two provided plugs into the gauge ports on the top and bottom of the switch body.
- Select the appropriate dial face label and nomenclature label from the sheet provided.
- Unscrew the body locking ring. Insert the switch body through the panel knockout from the back of the panel. See Figure 3.




**Figure 3. Mounting of the SW 141 Positioning Switch.**

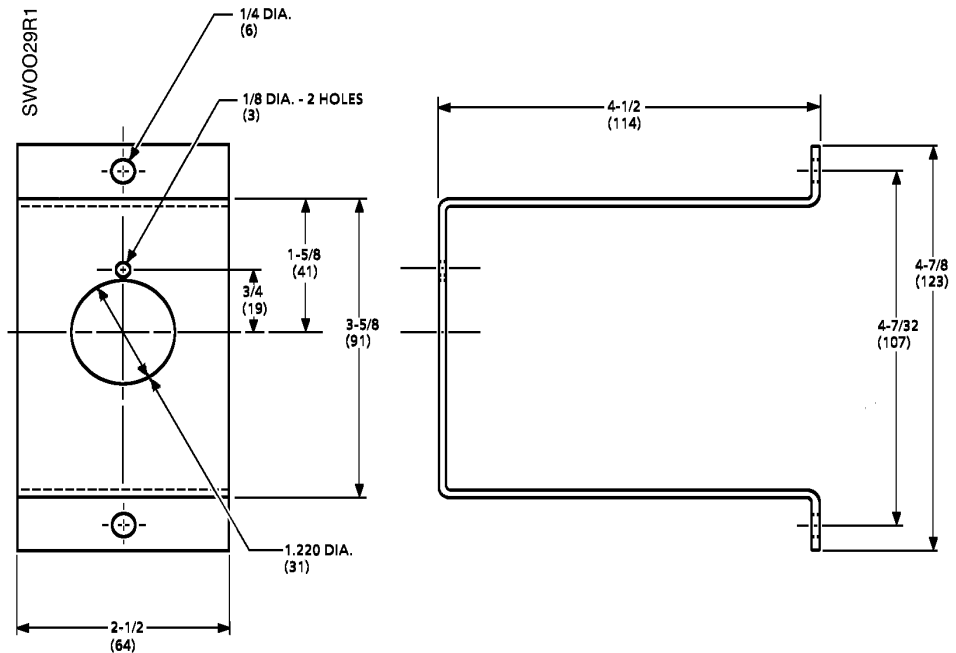
- Place the dial and nomenclature label face down on the clear plastic bezel.
  - Place the bezel and labels over the switch body on the front of panel.
  - Secure the bezel and switch with the body locking ring.
  - Pipe the positioning switch. The supply port is marked with the arrow.
- The installation is now complete.

**Mounting and Installation, continued**

**Surface Mounting**

1. Using the bracket as a template, drill holes for mounting the bracket. See Figure 4. Mount the bracket.
2. Using an adjustable wrench, attach two 1/8-inch NPT female brass fittings into the supply and return ports. (Figure 2). The supply port is marked with an arrow  cast into the body.
3. Using a 1/4-inch hex key, insert the two provided plugs into the gauge ports on the top and bottom of the switch body.
4. Pipe the positioning switch. The supply port is marked with the arrow.
5. Follow steps 3 through 7 of *Panel Mounting*.

The installation is now complete.



**Figure 4. Mounting Bracket.**

**Adjustment**

1. Pull the red locking ring to allow the knob to turn.
2. Turn the knob to the desired pressure. Clockwise increases the pressure.
3. Push the red locking ring to maintain desired pressure.

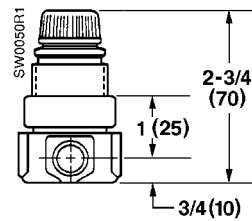
**References**

TB 196 Cabinet Cutouts	155-223
CP 567-7 Pneumatic Control Cabinets	155-272
TB 197 How to Layout a Pneumatic Cabinet Door Installation Instructions	155-224 129-126

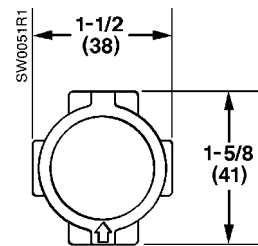
**Service**

No service is available for this product. If the positioning switch is inoperative, replace it.

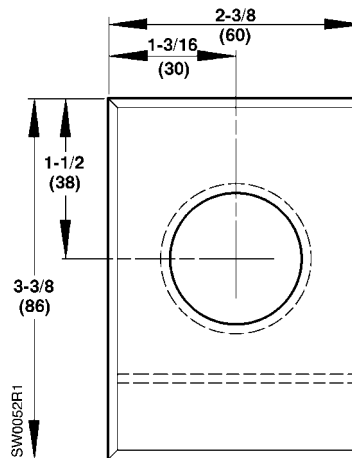
**Dimensions**



DIMENSIONS IN INCHES (MILLIMETERS).



**Figure 5. Dimensions of the SW 141 Positioning Switch.**



**Figure 6. Dimensions of the Bezel.**

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