

# Model 15 Positive Relay



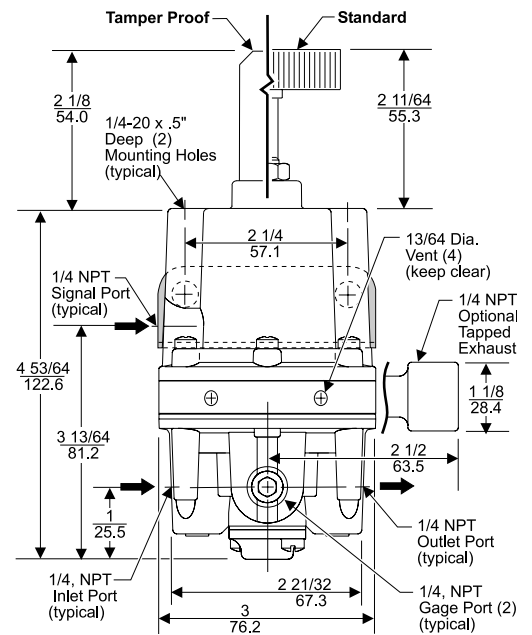
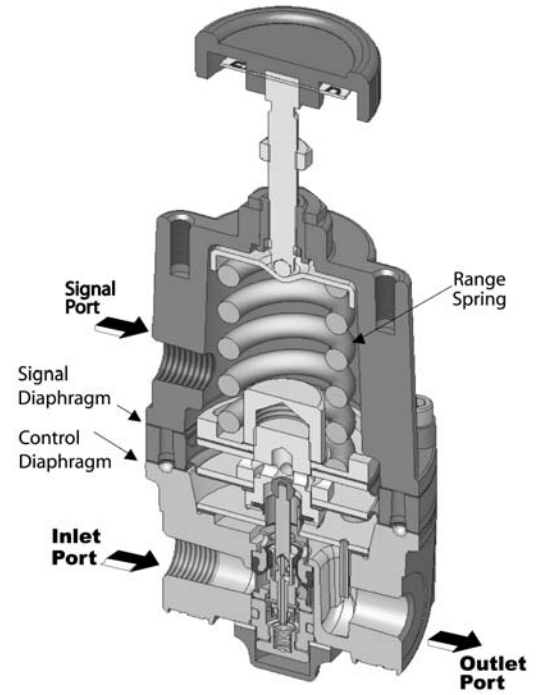
## Features

- The Model 15 is sensitive to 1/4" Water Column variation which permits use in precision applications.
- A Balanced Supply Valve minimizes the effects of supply pressure variation.
- Aspirator Tube minimizes downstream pressure droop under flow conditions.
- Flow of up to 40 SCFM with 100 psig Supply at 20 psig Setpoint allows use in applications requiring high flow capacity.
- A Separate Control Chamber isolates the diaphragm from the main flow, eliminating hunting and buzzing.
- Mounting Bracket available

## Operating Principles

The Model 15 Positive Bias Relay provides an output pressure that represents the input signal pressure plus a preset bias. Mathematically  $P_o = P_s + K$  where  $P_o$  is output pressure,  $P_s$  is signal pressure and  $K$  is the spring constant. This unit, available in several bias range configurations to meet a variety of output requirements, offers excellent sensitivity and high flow capacity in a small volume.

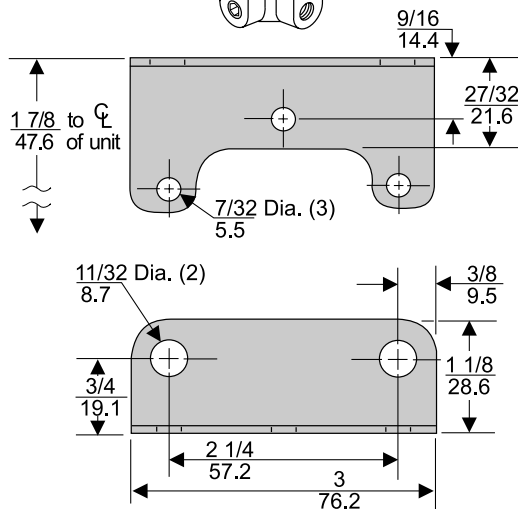
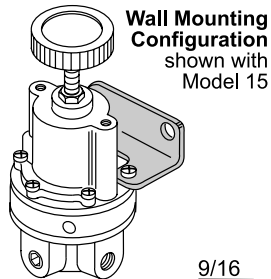
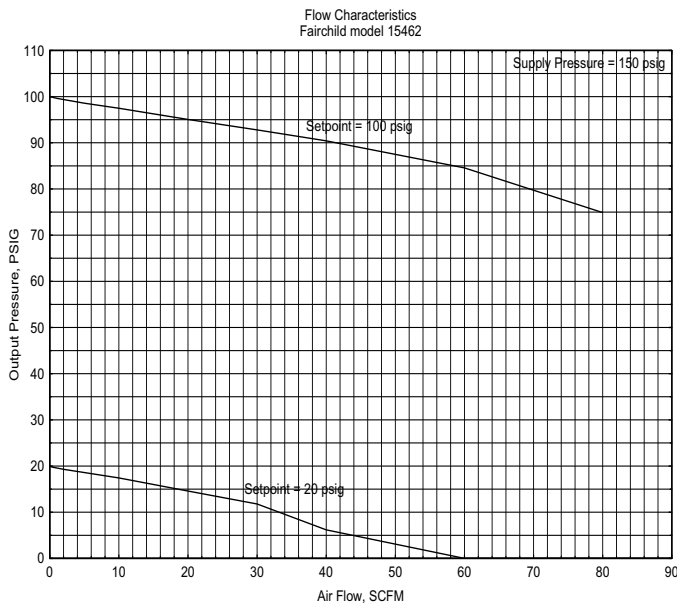
The unit is well suited to a variety of control applications, including range shifting, and tension control, and pressure control from a remote location.



**D** The Model 15 Positive Bias Relay is designed for applications that require an output pressure that is the sum of a controlled input signal plus a fixed bias.

**Model 15**

## Technical Information



Mounting Bracket: 09921

## Model 15 Relay Kits & Accessories

Mounting Bracket Kit.....09921 (sold separately)

## Service Kit

A Service Kit is available for the Model 15, refer to the corresponding *Fairchild Model 15 Positive Bias Relay, Instruction, Operation and Maintenance Instructions*, IS-300000015.

## Catalog Information

Catalog Number

1 5 4      

Pressure Range

psig	[BAR]	(kPa)
0-10	[0-0.7]	(0-70).....
0.5-30	[0.03-2]	(3-200).....
1-60	[0.1-4]	(10-400).....
2-150	[0.15-10]	(15-1000).....

2  
3  
4  
6

Pipe Size

1/4" NPT	.....
3/8" NPT	.....
1/2" NPT	.....

2  
3  
4

Options

Silicone Elastomers <sup>1</sup>	.....
Tapped Exhaust	.....
Viton (Fluorocarbon) Elastomers	.....
BSPP (Parallel) <sup>2</sup>	.....
Tamper Proof	.....
BSPT (Tapered)	.....

A  
E  
J  
H  
T  
U

<sup>1</sup> Maximum Supply Pressure -75 psig, [5.0 BAR], (500 kPa)

<sup>2</sup> BSPP Threads in Inlet & Outlet Ports Only. Others BSPT.

## Specifications

### Supply Pressure

250 psig, [17.0 BAR], (1700 kPa) Maximum

### Flow Capacity (SCFM)

40 SCFM (68 m<sup>3</sup>/HR) @ 100 psig, [7.0 BAR], (700 kPa) supply and 20 psig, [1.5 BAR], (150 kPa) setpoint

### Exhaust Capacity (SCFM)

5-1/2 SCFM (9.4 m<sup>3</sup>/HR) where downstream pressure is 5 psig, [.35 BAR], (35 kPa) above 20 psig, [1.5 BAR], (150 kPa) setpoint

### Signal or Output Pressure

150 psig, [10.0 BAR], (1000 kPa) Maximum

### Supply Pressure Effect

Less than 0.1 psig, [.007 BAR], (.7 kPa) for 100 psig, [7.0 BAR], (700 kPa) change in supply pressure

### Sensitivity

Less than 1/4" (.64 cm) Water Column

### Mounting

Pipe or Panel

### Ambient Temperature

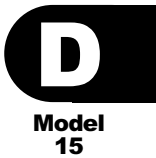
-40°F to +200°F, (-40°C to 93.3°C)

### Hazardous Locations

Acceptable for use in Zones 1 and 2 for gas atmosphere; Groups IIA and IIB and Zones 21 and 22 for dust atmospheres

### Materials of Construction

Body and Housing .....Aluminum Alloy  
Trim .....Stainless Steel, Brass, Zinc Plated Steel  
Diaphragms.....Buna A and Dacron



**Model  
15**