



Keeping the World Flowing
for Future Generations



Model 15

Positive Relay

The Fairchild 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.

Features and Benefits

- 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.

Specifications

Supply Pressure

- 250 psig, [17.0 BAR], (1700 kPa) maximum

Flow Capacity (SCFM)

- 40 SCFM (68 m³/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 m³/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 to +200 °F, (-40 to 93.3 °C)

Hazardous Locations

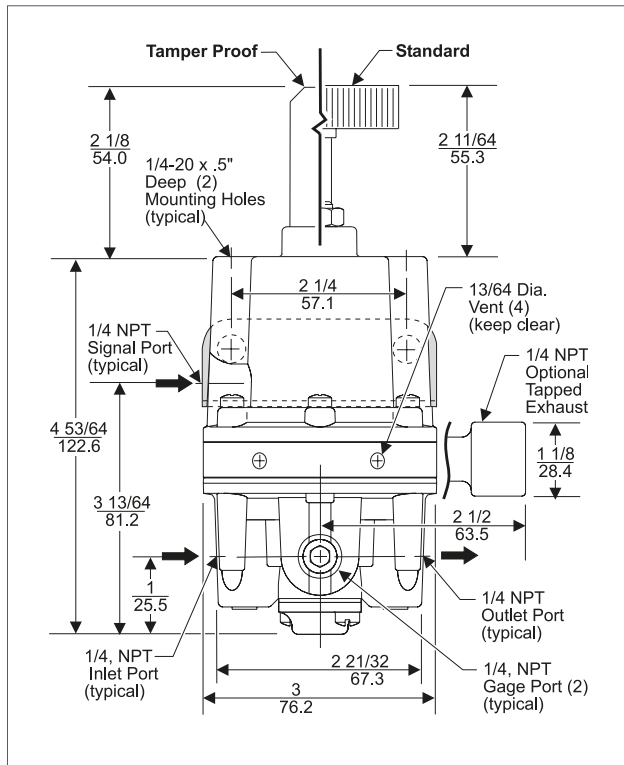
- Acceptable for use in Zones 1 and 2 for gas atmosphere; Groups IIA and IIB and Zones 21 and 22 for dust atmospheres

Materials of Construction

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

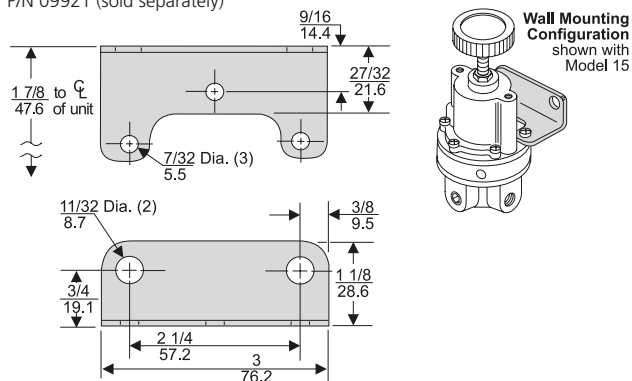


Dimensions



Mounting Bracket Kit

P/N 09921 (sold separately)



Product Code

154 2 2 A

Pressure Range

	psig	[BAR]	(kPa)
2	= 0-10	[0-0.7]	(0-70)
3	= 0.5-30	[0.03-2]	(3-200)
4	= 1-60	[0.1-4]	(10-400)
6	= 2-150	[0.15-10]	(15-1000)

Pipe Size

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

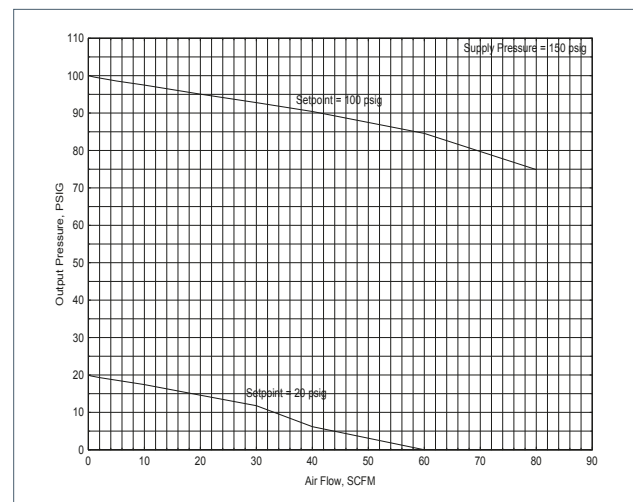
Options

- A = Silicone Elastomers¹
- B = Low Bleed
- E = Tapped Exhaust
- J = Viton (Fluorocarbon) Elastomers
- H = BSPP (Parallel)²
- T = Tamper Proof
- U = BSPT (Tapered)

¹ Maximum Supply Pressure -75 psig, [5.0 BAR], (500 kPa).

² BSPP Threads in Inlet & Outlet Ports only. Others BSPT.

Flow Characteristics (Model 15462)



Service Kit

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

A full listing of the Rotork sales and service network is available on our website.

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