



Keeping the World Flowing  
for Future Generations



## Model 24 Snap Acting Relay

### Features and Benefits

- Near zero throttling and pilot staging result in true snap-action
- 14 SCFM flow rate meets requirements for high forward and exhaust capacity applications
- Pneumatic and mechanical set point allows operation from a remote location
- Available with Normally Open or Normally Closed valve options to meet requirements

### Operating Principles

The Model 24 Snap Acting Relay is a highly accurate differential relay with snap-acting switching. The output of the unit will go to supply pressure when the signal is equal to or greater than the setpoint. The signal pressure must fall below the set point to return the output to zero.

### Specifications

#### Maximum Supply Pressure

- 120 psig, [8.0 BAR], (800 kPa)

#### Minimum Supply Pressure

- 10 psig, [0.7 BAR], (70 kPa) (use separate supply option if inlet pressure is less than 10 psig, [0.7 BAR], (70 kPa))

#### Flow Capacity (SCFM)

- 14 SCFM (23.8 m<sup>3</sup>/HR) @ 100 psig, [7.0 BAR], (700 kPa) supply

#### Exhaust Capacity (SCFM)

- 14 SCFM (23.8 m<sup>3</sup>/HR) @ 100 psig, [7.0 BAR], (700 kPa) drop

#### Signal Range

- 2" (5 cm) W.C. to 120 psig, [8.0 BAR], (800 kPa)

#### Change in Signal to Operate

- See Chart 1

### Repeatability

- 0.2" (.5 cm) water column

### CV Rating

- 0.23

### Mounting

- Pipe or Panel

### Air Consumption

- Less than 0.015 SCFM (.03 m<sup>3</sup>/HR) for 100 psig, [7.0 BAR], (700 kPa) inlet

### Ambient Temperature

- -40 to +200 °F, (-40 to 93.3 °C)

### Materials of Construction

- Body and Housing: Aluminum Casting  
Trim: Stainless Steel, Zinc Plated Steel  
Diaphragms: Buna N and Dacron

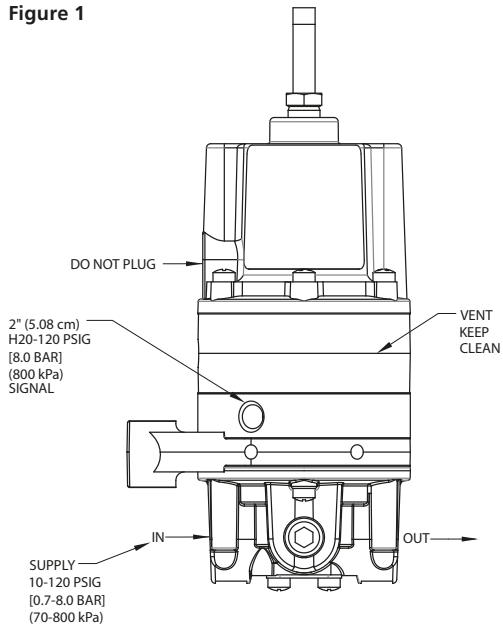
Chart 1

psig	Range [BAR]	(kPa)	Change in Signal to operate		
2" W.C. - 10	[2" W.C. - 0.7]	(2" W.C. - 70)	0.2" W. C.	[.007]	(.7)
0.5-30	[.03-2.0]	(3-200)	0.1	[.007]	(.7)
1.0-60	[0.1-4.0]	(10-400)	0.2	[.014]	(1.4)
2.0-120	[.15-8.0]	(15-800)	0.5	[.03]	(3)



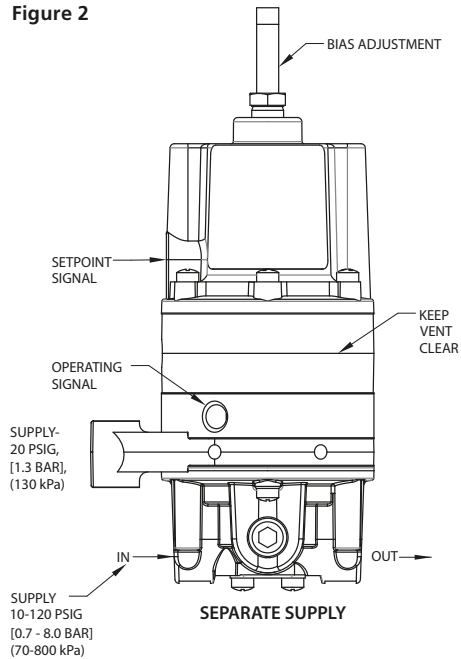
## Model 24

Figure 1



**Figure 1** illustrates a configuration which uses a pneumatic signal for set point which may or may not be biased by the adjusting screw. In this case, the adjustment adds to the pneumatic signal. Should the set point and the operating signal be switched, the bias adjustment would subtract from the set point signal. To determine whether a Normally Open or Normally Closed valve is required, note that when "B" plus spring bias is greater than signal at "A" port, a Normally Open unit has an output, while a Normally Closed unit does not.

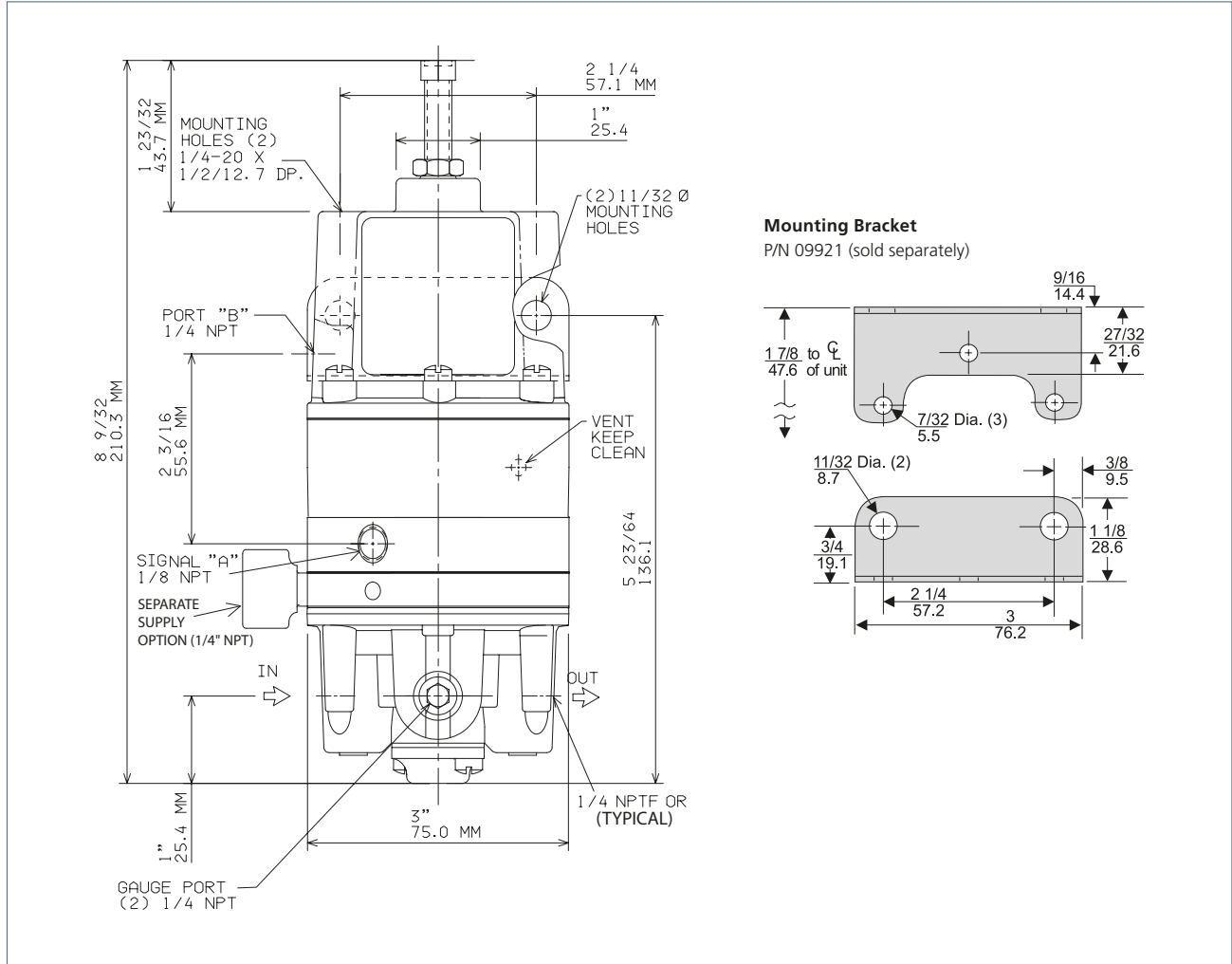
Figure 2



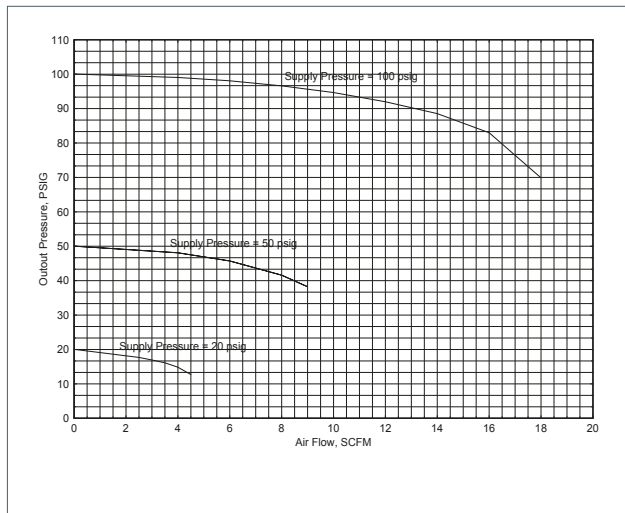
In **Figure 2** the unit is shown with a separate supply option (SS) to indicate use of the unit when the supply is a control signal such as 3-15 psig or any pressure less than 10 psig.

# Model 24

## Dimensions



## Flow Characteristics (Model 244132)



## Product Code

244 1 2 2 E

### Switch Position

- 1 = Normally Open
- 2 = Normally Closed

### Pressure Range

psig	[BAR]	(kPa)
2 = 2" W.C. -10	[0.006-0.7]	(0.63-70)
3 = 0.5-30	[0.03-2]	(3-200)
4 = 1-60	[0.1-4]	(10-400)
6 = 2-120	[0.15-8]	(15-800)

### Pipe Size

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

### Options

- E = Tapped Exhaust
- J = Fluorocarbon Elastomers
- K = Knob Adjustment
- T = Tamper Proof
- U = BSPT (Tapered)
- SS = Separate Supply to Pilot

\* The "E" option and "SS" options are not compatible, only one can be chosen.

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