



Model 18



## Features

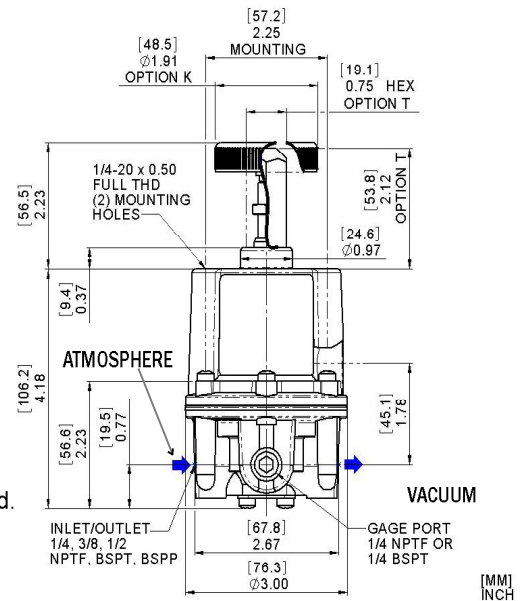
- The Model 18 is a high accuracy vacuum relief regulator, providing superior vacuum control over a narrow pressure range. The model 18 is an excellent choice for a wide range of precision applications.
- The Model 18 has the following features:
  - Control sensitivity of 1/8" water column allows use in precision applications.
  - A separate Control Chamber and Aspirator Tube isolate the diaphragm from the main flow to eliminate hunting and buzzing.
  - Unit construction lets you service the Model 18 without removing it from the line.
  - Mounting Bracket is available.
  - Canadian Registration Number (CRN) certification for all territories and provinces.

## Operating Principles

The Model 18 Vacuum Relief Valve uses a force balance principle to open the Relief Valve and allow atmospheric air to lower vacuum levels when the set point is exceeded.

Vacuum is transmitted to the top of the M18 Diaphragm Assembly, exerting an upward force on the diaphragm. When you adjust the range screw for a specific set point, the Positive Bias Spring compresses and exerts a downward force on the top of the Diaphragm Assembly. As long as the vacuum force acting on the Diaphragm Assembly produces a force less than the spring force acting on the top of the Diaphragm Assembly, the Relief Valve remains closed. When vacuum increases beyond the set point, the assembly moves upward, lifting the Relief Valve from its seat and allowing atmospheric air in, lowering vacuum level in the system.

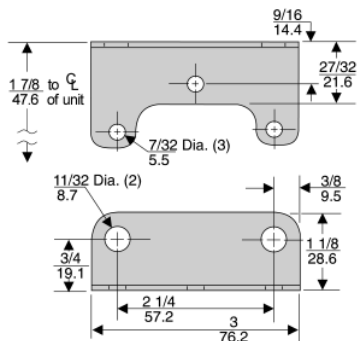
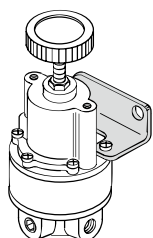
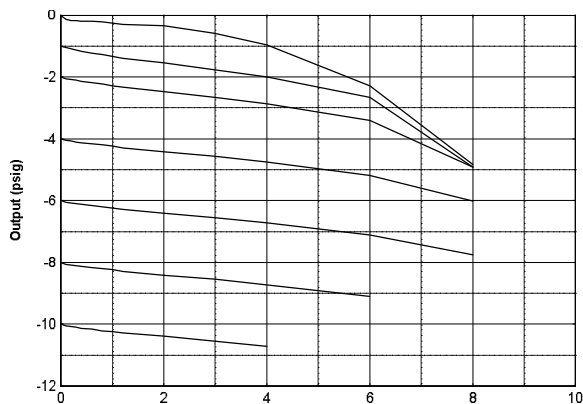
If vacuum pressure decreases below the set point, the assembly moves downward closing the Relief Valve.





## Technical Information

Flow Characteristics  
Fairchild Model 18134NNK



## Model 18 Regulator Kits & Accessories

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

## Specifications

**Max Vacuum Capacity**  
30 in Hg (762 Torr) (102 kPa), up to "Full" Vacuum

**Flow Capacity**  
8 SCFM (68 m3/HR) @ 29" Hg VAC

**Sensitivity**  
Less than 1/8" (.32 cm) Water Column

**Ambient Temperature**  
-40°F to +200°F, (-40°C to 93°C)

## Materials of Construction

Body and Housing . . . . . Aluminum  
Diaphragms . . . . . Nitrile on Dacron  
Trim . . . . . Zinc Plated Steel, Brass

## Ordering Information

**Catalog Number 181**

### Vacuum Range

in Hg	[Torr]	(kPa)
4	[140]	(14)
20	[700]	(70)
30	[1000]	(100)

### Pipe Size

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

### Port Threads

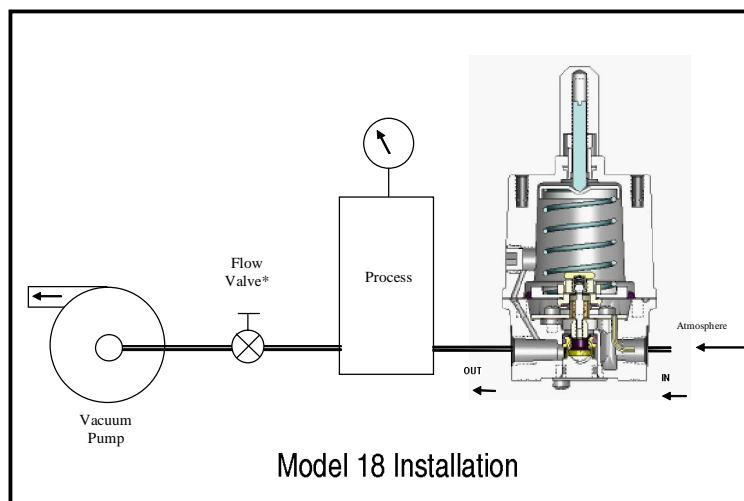
NPT	C
BSPP	I
BSPT	Z

### Elastomer

Nitrile	N
Silicone	A
Fluorocarbon	J

### Actuator Type

Knob Assembly	K
Tamperproof	T



Model 18 Installation