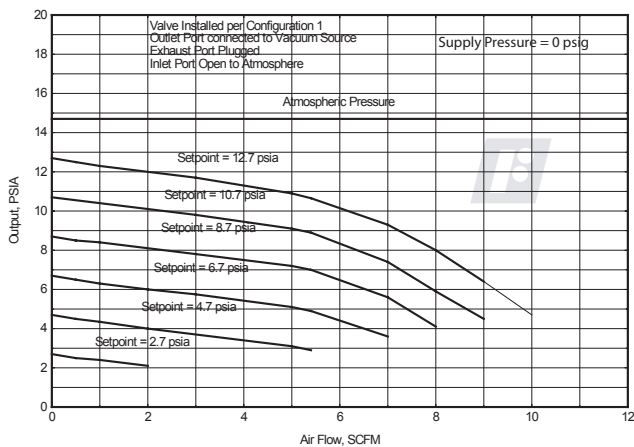


Model 16

Vacuum Regulator



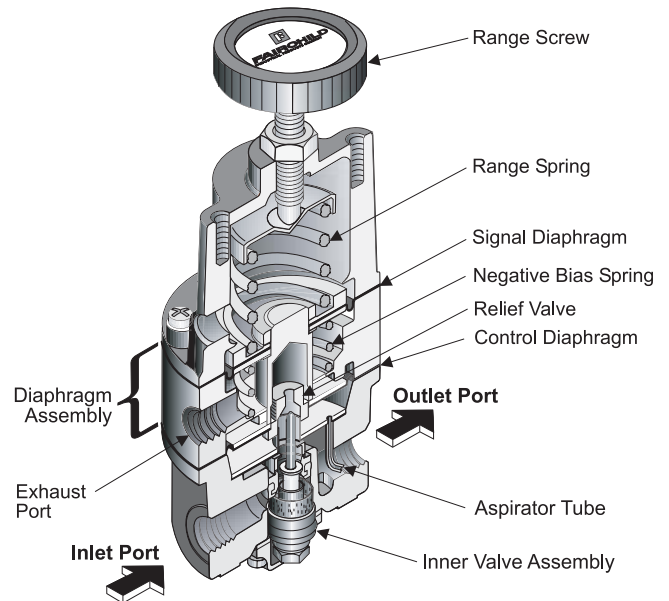
Flow Characteristics
Fairchild Model 16222



Operating Principles

When you adjust the Range Screw to a specific setpoint, the Range Spring exerts a downward force on the top of the Signal Diaphragm. The Negative Bias Spring creates an upward force on the bottom of the Signal Diaphragm. The upward net force opens the Relief Valve (vacuum supply) to let Vacuum flow from the Outlet Port to the Exhaust Port. As the setpoint is reached, the decrease in pressure lets the Diaphragm Assembly move downward to close the Relief Valve (vacuum supply).

When the Vacuum increases above the setpoint, the Diaphragm Assembly moves downward to open the Supply Valve that adds positive pressure to the system to maintain Output pressure. For more information, see cross sectional diagram.

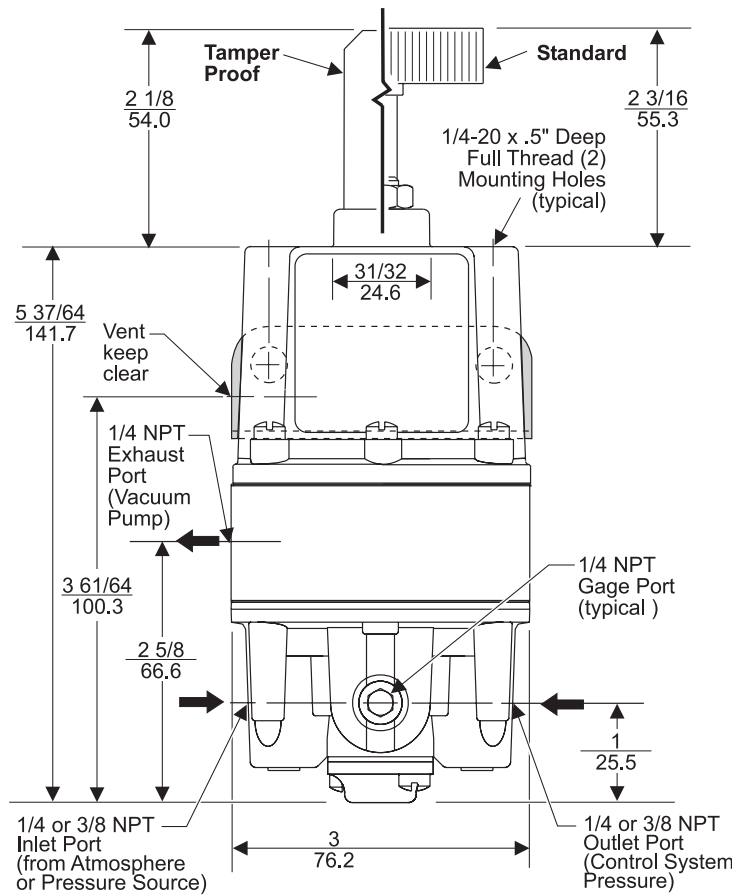


Cross Section Model 16 Detail Drawing

General Information

- The Model 16 Vacuum Regulator is designed for systems that require system pressure control above and below atmospheric pressure.
- Control sensitivity of 1/2" water column allows use in precision applications.
- A balanced Supply Valve minimizes the effects of supply pressure variation.
- An Aspirator Tube compensates downstream pressure droop under flow conditions.
- A separate Control Chamber isolates the diaphragm from the main flow to eliminate hunting and buzzing.
- Unit construction lets you service the Model 16 without removing it from the line.
- A Mounting Bracket is available.
- Canadian Registration Number (CRN) Certification for all territories and provinces

Outline Dimensions

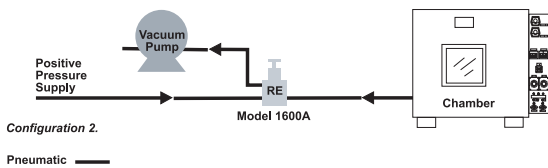
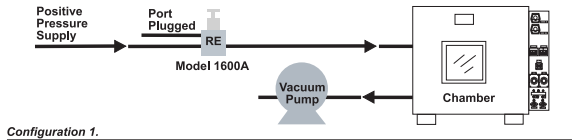


Functional Specifications

Supply Pressure	250 psig, [17.0 BAR], (1700kPa) Maximum
Ambient Temperature	-40° F to +200° F (-40° C to +93° C)
Positive Flow Capacity (SCFM)	40 (65.2 m ³ /HR) @ 100 psig, [7.0 BAR] supply, (700 kPa) supply & 20 psig, [1.5 BAR], (150kPa) setpoint
Vacuum Flow Capacity (SCFM)	2.5 (4 m ³ /HR) @ 29" Hg VAC with pump connected to exhaust port 40 (65.2 m ³ /HR) @ 100 psig supply connected to inlet port

Typical Application

The Model 16 Vacuum Regulator is ideally suited for applications that require the fast evacuation of a vessel that must be controlled below atmospheric pressure. This regulator is also suited for applications that purge Chambers using positive pressure. There are two installation configurations for the Model 16.



Installation

For installation instructions, see the *Fairchild Model 16 Vacuum Regulator Installation, Operation and Maintenance Instructions*, IS-10000016.



Catalog Information

Catalog Number

16 -

Pressure Range

psig	[BAR]	(kPa)	
Vacuum - 2	[Vacuum -0.15]	(Vacuum - 15)	21
Vacuum - 10	[Vacuum -0.7]	(Vacuum - 70)	22
Vacuum - 30	[Vacuum -2.0]	(Vacuum - 200)	23
Vacuum - 100	[Vacuum -7.0]	(Vacuum - 700)	25
Vacuum - 150	[Vacuum - 10]	(Vacuum - 1000)	26

Pipe Size

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

Options

Silicone Elastomers ¹	A
BSPP (Parallel) ²	H
Tamper Proof	I
Viton Elastomers	J
Increased Sensitivity	L
BSPT (Tapered)	U

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

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

