

FINE CONTROLS (UK) LTD



Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product range representing leading technologies & brands:

Flow: Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

Temperature: Temperature Probes & Thermowells, Temperature transmitters, Temperature Regulators & Temperature Displays

Level: Level Transmitters & Switches

Pressure: Pressure Gauges & Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

Precision Pneumatics: Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

Valves: Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

Services: Repair, Calibration, Panel Build, System Design & Commissioning

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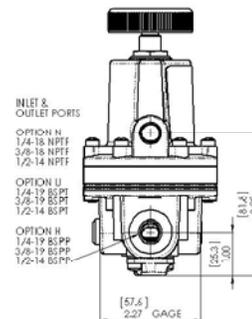
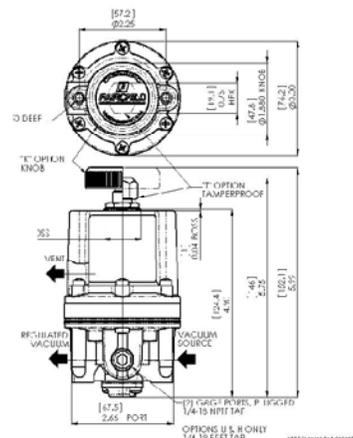
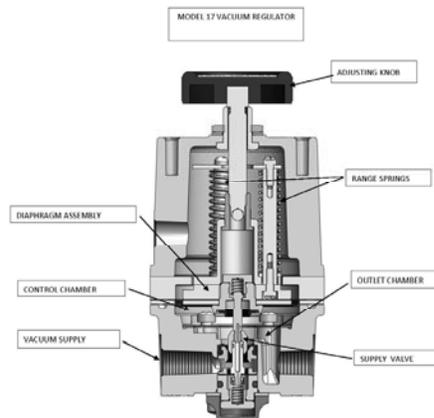
Features

- The Model 17 Vacuum Regulator is designed for systems that require system vacuum control up to full vacuum.
- Control sensitivity of 1/2" water column allows use in precision applications.
- High flow capacity
- A balanced vacuum Valve minimizes the effects of variation.
- An Aspirator Tube compensates downstream vacuum 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 17 without removing it from the line.
- Mounting Bracket is available.

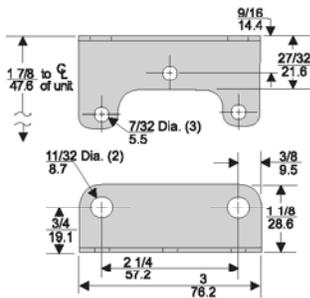
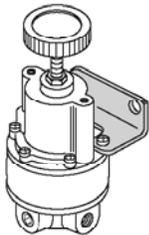
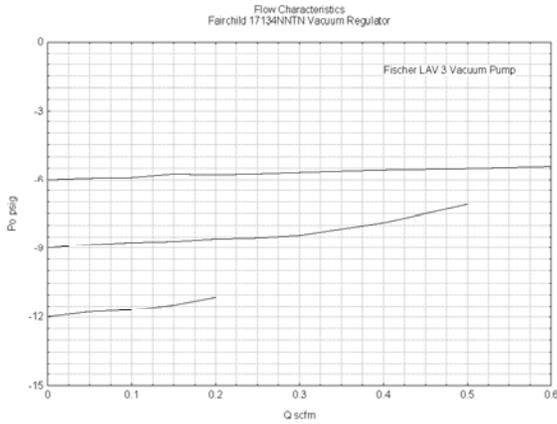
Operating Principles

The model 17 is a true vacuum regulator in that a vacuum supply is provided at one port and controlled vacuum is made available at the other. The model 17 uses force balance principals to control the movement of the main valve. Since the vacuum regulator operates below atmospheric pressure, atmospheric pressure is employed to provide the motive force to operate the vacuum regulator.

Referencing the diagram above, turning the control knob clockwise draws the lower spring seat upward compressing the range springs. The upper spring seat, connected to the diaphragm assembly, is spring biased in an upward direction as a result. The upward bias of the diaphragm assembly opens the supply valve and ports the vacuum supply to the outlet. As the vacuum level increases, the diaphragm assembly is drawn downward and closes the supply valve as the setpoint is reached. If the vacuum setpoint is exceeded, the diaphragm assembly continues in a downward direction and unseats the relief valve allowing atmospheric pressure to enter the system and reduces the vacuum level to the setpoint.



Technical Information



Model 17 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
12 SCFM (20.4 m³/HR)

Relief Capacity
2.0 SCFM (3.4 m³/HR)

Vacuum Supply Effect
Less than 0.1 % of change in supply vacuum

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
Diaphragms Buna N on Dacron (Std. unit only)
Trim Stainless, Zinc Plated Steel

Ordering Information

Catalog Number 171

Vacuum Range

| in Hg | [Torr] | (kPa) | 1 | 2 | 3 |
|-------|--------|-------|---|---|---|
| 0-5 | [127] | (17) | 1 | | |
| 0-15 | [381] | (51) | 2 | | |
| 0-30 | [762] | (102) | 3 | | |

Pipe Size

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

Port Threads

| | |
|------|---|
| NPT | N |
| BSPP | H |
| BSPT | U |

Elastomer

| | |
|--------------|---|
| Nitrile | N |
| Fluorocarbon | J |

Actuator Type

| | |
|---------------|---|
| Knob Assembly | K |
| Tamperproof | T |

Relief

| | |
|---------------|---|
| Relieving | R |
| Non-Relieving | N |

