

Three-Way, Industrial-Grade, Non-Spring-Return, V-909x Series High-Pressure Pneumatically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies

Description

VF Series Three-Way, Industrial-Grade, Non-Spring-Return, V-909x Series High-Pressure Pneumatically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valves are specifically designed for a wide range of HVAC applications, including two-position and modulating control of hot, chilled, or condenser water, and 50/50 glycol solutions. All valves are factory tested for bubble-tight shutoff at 100% of the fully rated pressure. These valves are bidirectional, allowing positive shutoff with the flow in either direction.

Refer to the *VF Series Standard-Pressure, Standard-Temperature Butterfly Valves Product Bulletin (LIT-977205P)* for important product application information.

Features

- low seating/unseating torques
- bubble-tight shutoff
- broad range of pre-assembled actuators

- compatible with all types of American National Standards Institute (ANSI) 125/150 slip-on and weld-neck flanges
- high-integrity components
- air supply pressure of 70 to 90 psig (80 psig nominal; 140 psig maximum)
- valve assemblies for On/Off applications come standard with a 24 or 120 VAC solenoid valve with speed controls
- valve assemblies for proportional applications come standard with a valve actuator positioner

Repair Information

If the VF Series Butterfly Valve Assembly fails to operate within its specifications, refer to the *VF Series Standard-Pressure, Standard-Temperature Butterfly Valves Product Bulletin (LIT-977205P)* for a list of repair parts available.



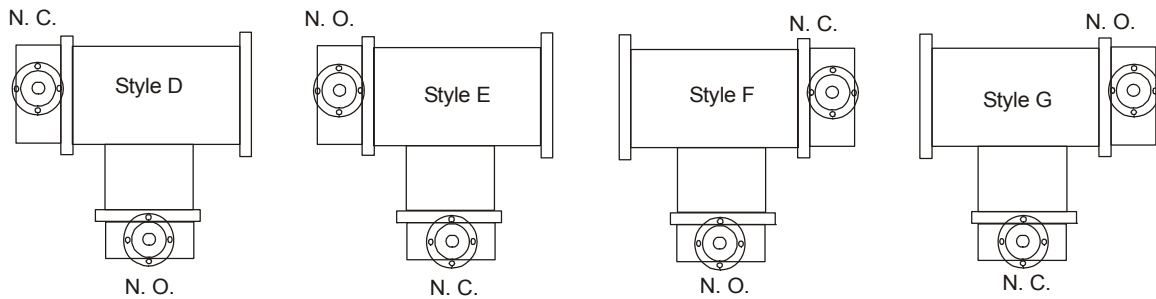
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Selection Chart

| Valve Code Number | Actuator | | | | On/Off ¹ | Proportional (with Positioner) |
|---|-----------|-----------|-----------|-------------------------|---------------------|--------------------------------|
| | Size, in. | Cv at 90° | Cv at 70° | Closeoff Pressure, psig | | |
| Three-Way, Non-Spring Return² — 175 psig Closeoff Pressure, 75 psig Dead-End Service | | | | | | |
| VFD-020HB | 2 | 144 | 84 | 175 | VFD-020HB-020C | VFD-020HB-020B |
| VFD-025HB | 2-1/2 | 282 | 163 | 175 | VFD-025HB-020C | VFD-025HB-020B |
| VFD-030HB | 3 | 461 | 267 | 175 | VFD-030HB-020C | VFD-030HB-020B |
| VFD-040HB | 4 | 841 | 496 | 175 | VFD-040HB-030C | VFD-040HB-030B |
| VFD-050HB | 5 | 1,376 | 775 | 175 | VFD-050HB-030C | VFD-050HB-030B |
| VFD-060HB | 6 | 1,850 | 1,025 | 175 | VFD-060HB-040C | VFD-060HB-040B |
| VFD-080HB | 8 | 3,316 | 1,862 | 175 | VFD-080HB-042C | VFD-080HB-042B |
| VFD-100HB | 10 | 5,430 | 2,948 | 175 | VFD-100HB-060C | VFD-100HB-060B |
| VFD-120HB | 12 | 8,077 | 4,393 | 175 | VFD-120HB-060C | VFD-120HB-060B |
| Three-Way, Non-Spring Return² — 50 psig Closeoff Pressure; Not Rated for Dead-End Service | | | | | | |
| VFD-040LB | 4 | 841 | 496 | 50 | VFD-040LB-030C | VFD-040LB-030B |
| VFD-050LB | 5 | 1,376 | 775 | 50 | VFD-050LB-030C | VFD-050LB-030B |
| VFD-060LB | 6 | 1,850 | 1,025 | 50 | VFD-060NB-030C | VFD-060NB-030B |
| VFD-080LB | 8 | 3,316 | 1,862 | 50 | VFD-080NB-042C | VFD-080NB-042B |
| VFD-100LB | 10 | 5,430 | 2,948 | 50 | VFD-100LB-042C | VFD-100LB-042B |
| VFD-120LB | 12 | 8,077 | 4,393 | 50 | VFD-120LB-060C | VFD-120LB-060B |

1. On/off assemblies come with a 120 VAC solenoid valve and speed controls. If a 24 VAC solenoid valve is desired, change the **C** at the end of the code number to an **E**.
2. Code numbers listed are three-way valves, style **D**. For styles **E**, **F**, or **G**, change the **D** in the third digit of the code number to the desired style. Example: VFE-xxxx-xxxx, VFF-xxxx-xxxx, or VFG-xxxx-xxxx. See the following figure.

Three-Way, Industrial-Grade, Non-Spring-Return, V-909x Series High-Pressure Pneumatically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies (Continued)



Three-Way Valve Body Styles

Technical Specifications

| Three-Way, Industrial-Grade, Non-Spring-Return, V-909x Series High-Pressure Pneumatically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies ¹ | | |
|---|---|---|
| Service | Hot, Chilled, or Condenser Water, and 50/50 Glycol Solutions (Not Designed for Use in Steam Applications) | |
| Body Styles and Sizes | Three-Way, 2 through 12 in., Fully Lugged | |
| Fluid Temperature Limits | -40°F to 250°F (-40°C to 121°C) | |
| Body Pressure Rating | 175 psig | |
| Maximum Fluid Velocity | 30 ft/second (9 m/second) | |
| Rangeability | Refer to the <i>VF Series Standard-Pressure, Standard-Temperature Butterfly Valves Product Bulletin (LIT-977205P)</i> . | |
| Leakage | Bubble Tight | |
| Flow Characteristics | Modified Equal Percentage | |
| Materials | Body | Cast Iron, ASTM A126 Class B |
| | Tee (Three-Way Valves Only) | Cast Iron |
| | Disc | Ductile Iron, Nylon 11 Coated, ASTM A536 Gr 65-45-12 |
| | Seat | Ethylene Propylene Diene Monomer (EPDM) |
| | Stem | 416 Stainless Steel |
| Ambient Temperature Limits | Storage | -20 to 150°F (-29 to 66°C), Preferably 40 to 85°F (4 to 29°C) |
| | Operating | -40 to 200°F (-40 to 95°C) |

1. Refer to the *VF Series Standard-Pressure, Standard-Temperature Butterfly Valves Product Bulletin (LIT-977205P)* for actuator specifications.