

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

Description

VF Series Two-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 also 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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Butterfly Valves and Actuators

Selection Chart

| Valve Code Number | Actuator | | | | On/Off ¹ | Proportional (with Positioner) |
|---|-----------|-----------|-----------|-------------------------|---------------------|--------------------------------|
| | Size, in. | Cv at 90° | Cv at 70° | Closeoff Pressure, psig | | |
| Two-Way, Non-Spring Return — 150 or 175 psig Closeoff Pressure; 75 psig Dead-End Service | | | | | | |
| VFC-020HB | 2 | 144 | 84 | 175 | VFC-020HB-020C | VFC-020HB-020B |
| VFC-025HB | 2-1/2 | 282 | 163 | 175 | VFC-025HB-020C | VFC-025HB-020B |
| VFC-030HB | 3 | 461 | 267 | 175 | VFC-030HB-020C | VFC-030HB-020B |
| VFC-040HB | 4 | 841 | 496 | 175 | VFC-040HB-030C | VFC-040HB-030B |
| VFC-050HB | 5 | 1,376 | 775 | 175 | VFC-050HB-030C | VFC-050HB-030B |
| VFC-060HB | 6 | 1,850 | 1,025 | 175 | VFC-060HB-030C | VFC-060HB-030B |
| VFC-080HB | 8 | 3,316 | 1,862 | 175 | VFC-080HB-042C | VFC-080HB-042B |
| VFC-100HB | 10 | 5,430 | 2,948 | 175 | VFC-100HB-060C | VFC-100HB-060B |
| VFC-120HB | 12 | 8,077 | 4,393 | 175 | VFC-120HB-060C | VFC-120HB-060B |
| VFC-140HC | 14 | 10,538 | 5,939 | 150 | VFC-140HC-060C | VFC-140HC-060B |
| VFC-160HC | 16 | 13,966 | 7,867 | 150 | VFC-160HC-070C | VFC-160HC-070B |
| VFC-180HC | 18 | 17,214 | 10,065 | 150 | VFC-180HC-070C | VFC-180HC-070B |
| VFC-200HC | 20 | 22,339 | 12,535 | 150 | VFC-200HC-080C | VFC-200HC-080B |
| Two-Way, Non-Spring Return — 50 psig Closeoff, Not Rated for Dead-End Service | | | | | | |
| VFC-040LB | 4 | 841 | 496 | 50 | VFC-040LB-030C | VFC-040LB-030B |
| VFC-050LB | 5 | 1,376 | 775 | 50 | VFC-050LB-030C | VFC-050LB-030B |
| VFC-060LB | 6 | 1,850 | 1,025 | 50 | VFC-060LB-030C | VFC-060LB-030B |
| VFC-080LB | 8 | 3,316 | 1,862 | 50 | VFC-080LB-042C | VFC-080LB-042B |
| VFC-100LB | 10 | 5,430 | 2,948 | 50 | VFC-100LB-042C | VFC-100LB-042B |
| VFC-120LB | 12 | 8,077 | 4,393 | 50 | VFC-120LB-042C | VFC-120LB-042B |
| VFC-140LC | 14 | 10,538 | 5,939 | 50 | VFC-140LC-060C | VFC-140LC-060B |
| VFC-160LC | 16 | 13,966 | 7,867 | 50 | VFC-160LC-060C | VFC-160LC-060B |
| VFC-180LC | 18 | 17,214 | 10,065 | 50 | VFC-180LC-070C | VFC-180LC-080B |
| VFC-200LC | 20 | 22,339 | 12,535 | 50 | VFC-200LC-070C | VFC-200LC-070B |

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**.

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

Technical Specifications

| Two-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 | Two-Way, 2 through 20 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 (2 through 12 in.) 304 Stainless Steel (14 through 20 in.) |
| 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.