

# Three-Way, Industrial-Grade, Spring Return, High Pressure Pneumatic Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies

## Description

VF Series Standard-Pressure, Standard-Temperature Butterfly Valves are designed for control of hot water, chilled water, 50% glycol solutions and condenser water in a wide range of HVAC applications.

## Features

- spring return
- ANSI Class 125/150 flanges
- valve body: cast iron
- disc: ductile iron coated with Nylon 11
- valve stem: 416 stainless steel
- seat: EPDM
- fluid temperature rating: -40 to 250°F

- actuator ambient temperature rating: -13 to 200°F
- air supply pressure: 70 to 90 psig (80 psig nominal; 140 psig maximum)
- actuator body material: anodized extruded aluminum
- actuator end caps: polyester coated cast aluminum
- 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



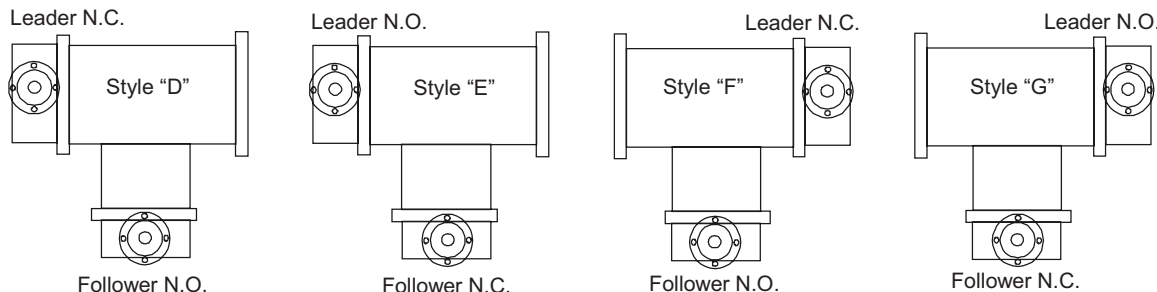
Three-Way Valve with Industrial Grade, Spring Return, V-919x Series High Pressure Pneumatic Actuator

## Selection Chart

VF Series Two-Way, Industrial Grade, Spring Return, Pneumatically Actuated, High-Pressure, High-Temperature Butterfly Valve Assemblies

Actuator				On/Off <sup>1</sup>	Proportional (With Positioner)
Size, in.	Cv at 90°	Cv at 60°	Closeoff		
<b>Three-Way Butterfly Valve Assemblies <sup>2</sup> – 175 psig Closeoff Pressure; 75 psig Dead-End Service</b>					
2	144	61	175	VFD-020HB-330C	VFD-020HB-330B
2-1/2	282	107	175	VFD-025HB-340C	VFD-025HB-340B
3	461	154	175	VFD-030HB-340C	VFD-030HB-340B
4	841	274	175	VFD-040HB-432C	VFD-040HB-432B
5	1,376	428	175	VFD-050HB-442C	VFD-050HB-442B
6	1,850	567	175	VFD-060HB-530C	VFD-060HB-530B
8	3,316	1,081	175	VFD-080HB-640C	VFD-080HB-640B
10	5,430	1,710	175	VFD-100HB-740C	VFD-100HB-740B
12	8,077	2,563	175	VFD-120HB-830C	VFD-120HB-830B
<b>Three-Way Butterfly Valve Assemblies <sup>2</sup> – 50 psig Closeoff Pressure; Not Rated for Dead-End Service</b>					
4	841	274	50	VFD-040LB-340C	VFD-040LB-340B
5	1,376	428	50	VFD-050LB-432C	VFD-050LB-432B
6	1,850	567	50	VFD-060LB-442C	VFD-060LB-442B
8	3,316	1,081	50	VFD-080LB-530C	VFD-080LB-530B
10	5,430	1,710	50	VFD-100LB-640C	VFD-100LB-640B
12	8,077	2,563	50	VFD-120LB-740C	VFD-120LB-740B

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 above 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-xxxxx-xxxx, VFF-xxxxx-xxxx, VFG-xxxxx-xxxx.



Three-Way Valve Body Styles

## ***VF Series Three-Way, Industrial-Grade, Spring Return, High Pressure Pneumatic Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies (Continued)***

### **Repair Information**

If the VF Series Two-Way, Industrial Grade, Spring Return, Pneumatically Actuated, High-Pressure, High-Temperature Butterfly Valve Assembly fails to operate within its specifications, replace the unit. For a replacement valve, contact the nearest Johnson Controls® representative.

### **Technical Specifications**

<b>VF Series Three-Way, Industrial Grade, Spring Return, High Pressure Pneumatically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies</b>		
<b>Service<sup>1</sup></b>		Hot Water, Chill Water, Condenser Water, and 50/50 Glycol Solutions
<b>Fluid Temperature Limits</b>	<b>Water</b>	-40 to 250°F (-40 to 121°C)
	<b>Steam</b>	Not Rated for Steam Service
<b>Maximum Closeoff</b>	<b>2 through 12 in. Type "H"</b>	175 psig (1,206 kPa) Bidirectional 75 psig (517 kPa) Dead-End Service
	<b>4 through 12 in. Type "L"</b>	50 psig (345 kPa) Bidirectional Not Rated for Dead-End Service
<b>Flow Characteristics</b>		Equal Percentage
<b>Maximum Fluid Velocity</b>		30 ft/second (9 m/second)
<b>End Connection</b>		Fully Lugged, designed to be installed between ANSI 125/150 lb flanges
<b>Actuator Ambient Operating Temperature Limits</b>		-40 to 200°F (-40 to 93°C)
<b>Air Supply Pressure</b>		70 to 90 psig, 80 psig (551 kPa nominal), 140 psig (965 kPa) maximum
<b>Materials</b>	<b>Body</b>	Cast Iron, Red Epoxy finish
	<b>Disc</b>	Ductile Iron Coated with Nylon 11
	<b>Seat</b>	Ethylene Propylene Diene Monomer (EPDM)
	<b>Stem</b>	416 Stainless Steel (2 through 12 in.) 304 Stainless Steel (14 through 20 in.)
	<b>Tee</b>	Cast Iron

1. Refer to VDI 2035 Standard for recommended proper water treatment.