

## Two-Way, Spring Return, High Pressure Pneumatic Actuated, High-Pressure, High-Temperature Butterfly Valve Assemblies

### Description

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

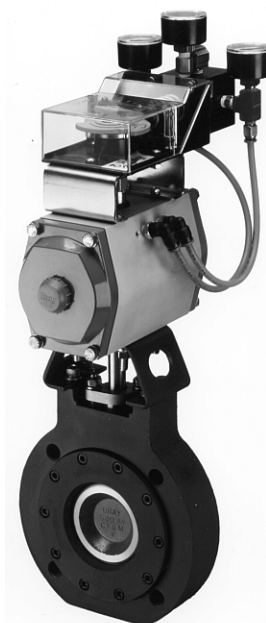
### Features

- spring return open or closed
- ANSI Class 150 and 300 flanges
- valve body: carbon steel
- disc: stainless steel
- valve stem: stainless steel
- seat: RPTFE
- fluid temperature rating: -20 to 450°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 120 VAC solenoid valve or optional 24 VAC solenoid valve with speed controls
- valve assemblies for proportional applications come standard with a valve actuator positioner

### Repair Information

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



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

### Selection Chart

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

Actuator				On/Off <sup>1</sup>		Proportional (With Positioner)	
Size, in.	Cv at 90°	Cv at 60°	Closeoff	Spring Closed	Spring Open	Spring Closed	Spring Open
<b>Two-Way Butterfly Valve Assemblies – ANSI Class 300 Flanges <sup>2</sup></b>							
2-1/2	160	78	550 psig	VFC-025ZE-432C	VFN-025ZE-422C	VFC-025ZE-432B	VFN-025ZE-422B
3	185	123		VFC-030ZE-442C	VFN-030ZE-422C	VFC-030ZE-442B	VFN-030ZE-422B
4	375	250		VFC-040ZE-452C	VFN-040ZE-432C	VFC-040ZE-452B	VFN-040ZE-432B
5	790	360		VFC-050ZE-650C	VFN-050ZE-630C	VFC-050ZE-650B	VFN-050ZE-630B
6	1,000	530		VFC-060ZE-660C	VFN-060ZE-630C	VFC-060ZE-660B	VFN-060ZE-630B
8	2,000	950		VFC-080ZE-750C	VFN-080ZE-730C	VFC-080ZE-750B	VFN-080ZE-730B
10	2,650	1,200		VFC-100ZE-840C	VFN-100ZE-830C	VFC-100ZE-840B	VFN-100ZE-830B
12	4,000	1,690		VFC-120ZE-850C	VFN-120ZE-840C	VFC-120ZE-850B	VFN-120ZE-840B
<b>Two-Way Butterfly Valve Assemblies – ANSI Class 150 Flanges <sup>3</sup></b>							
2-1/2	160	78	240 psig	VFC-025VE-360C	VFN-025VE-340C	VFC-025VE-360B	VFN-025VE-340B
3	185	123		VFC-030VE-360C	VFN-030VE-340C	VFC-030VE-360B	VFN-030VE-340B
4	375	250		VFC-040VE-430C	VFN-040VE-440C	VFC-040VE-430B	VFN-040VE-440B
5	790	360		VFC-050VE-462C	VFN-050VE-530C	VFC-050VE-462B	VFN-050VE-530B
6	1,350	510		VFC-060VE-550C	VFN-060VE-530C	VFC-060VE-550B	VFN-060VE-530B
8	2,800	1,060		VFC-080VE-650C	VFN-080VE-630C	VFC-080VE-650B	VFN-080VE-630B
10	4,300	1,630		VFC-100VE-750C	VFN-100VE-730C	VFC-100VE-750B	VFN-100VE-730B
12	6,650	2,530		VFC-120VE-830C	VFN-120VE-820C	VFC-120VE-830B	VFN-120VE-820B
14	7,650	2,900	VFC-140VE-850C	VFN-140VE-830C	VFC-140VE-850B	VFN-140VE-830B	

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. Maximum closeoff pressure for ANSI Class 300 valves is 740 psig for fluid temperatures below 100°F, and 550 psig for fluid temperatures at 250°F. Maximum steam pressure is 150 psig for On/Off service and 50 psig for modulating service.

3. Maximum closeoff pressure for ANSI Class 150 valves is 280 psig for fluid temperatures below 100°F, and 240 psig for fluid temperatures at 250°F. Maximum steam pressure is 150 psig for On/Off service and 50 psig for modulating service.

## VF Series Two-Way, Spring Return, High Pressure Pneumatic Actuated, High-Pressure, High-Temperature Butterfly Valve Assemblies (Continued)

### Technical Specifications

VF Series Two-Way, Industrial Grade, Spring Return, High Pressure Pneumatically Actuated, High-Pressure, High-Temperature Butterfly Valve Assemblies		
Service <sup>1</sup>		Hot Water, Chill Water, Condenser Water, and Steam
Fluid Temperature Limits	Water	-20 to 500°F (-29 to 260°C)
	Steam	On/Off Applications: 150 psig (1,034 kPa) saturated steam at 366°F (185°C) Modulating Applications: 50 psig saturated steam at 298°F (148°C)
Maximum Closeoff	ANSI Class 150	280 psig at 100°F 240 psig at 250°F 100 psig at 500°F
	ANSI Class 300	720 psig at 100°F 550 psig at 250°F 100 psig at 500°F
End Connection		Fully Lugged
Actuator Ambient Operating Temperature Limits		-13 to 200°F (-40 to 93°C)
Air Supply Pressure		70 to 90 psig, 80 psig (551 kPa) nominal, 140 psig (965 kPa) maximum
Materials	Body	Carbon Steel, ASTM A216 GR WCB/A516 GR 70
	Disc	Stainless Steel, ASTM A 351 GR CF8M
	Stem	17-4 PH Stainless Steel, ASTM A564-Type 630
	Taper Pin (Two Locations)	17-4 PH Stainless Steel, ASTM A564-Type 630 316 Stainless Steel, ASTM 276 Type 316
	Disc Spacer (Two Locations)	316 Stainless Steel, ASTM 276 Type 316
	Gland Ring	216 Stainless Steel, ASTM 276 Type 316
	Stem Seal	One Carbon Fiber Ring and Three TFE Rings
	Thrust Washer	316 Stainless Steel, ASTM 276 Type 316
	Gland Retainer	Carbon Steel, ASTM A216 GR WCB/A516 GR 70
	Stud (Two Locations)	316 Stainless Steel, ASTM A193-B8M
	Lock Washer (Two Locations)	18-8 Stainless Steel
	Hex Nut (Two Locations)	18-8 Stainless Steel
	Seat Assembly	RTFE with Silicone Rubber O-Ring
	Seat Retainer	Carbon Steel, ASTM A516 GR 70
	Cap Screw (Eight Locations)	Alloy Steel
	O-Ring Gasket	PTFE
Locating Plug®	Carbon Steel, Phosphate Coated	
Bellville Washer and Grounding Washer	18-8 Stainless Steel (For 14 and 16 in. ANSI Class 150 Valves and 14 in. ANSI Class 300 Valves)	

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