

Two-Way, Industrial-Grade, Non-Spring-Return, VA-90xx Series Electrically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies

Description

VF Series Two-Way, Industrial-Grade, Non-Spring-Return, VA-90xx Series Electrically 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
- actuator resolution of 100 positions
- standard manual opener
- standard internal heater
- modulating input of 4 to 20 mA, or 0 to 10 VDC
- 120 VAC input voltage
- thermal overload protection

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				AC 120 V Powered Actuator		AC 24 V Powered Actuator	
	Size, in.	Cv at 90°	Cv at 70°	Closeoff Pressure, psig	On/Off	0 to 10 VDC Proportional	On/Off	0 to 10 VDC Proportional
Two-Way, Non-Spring Return — 150 or 175 psig Closeoff Pressure; 75 psig Dead-End Service								
VFC-020HB	2	144	84	175	VFC-020HB-722D	VFC-020HB-702N	VFC-020HB-722D4	VFC-020HB-702N4
VFC-025HB	2-1/2	282	163	175	VFC-025HB-722D	VFC-025HB-702N	VFC-025HB-722D4	VFC-025HB-702N4
VFC-030HB	3	461	267	175	VFC-030HB-722D	VFC-030HB-702N	VFC-030HB-722D4	VFC-030HB-702N4
VFC-040HB	4	841	496	175	VFC-040HB-722D	VFC-040HB-702N	VFC-040HB-722D4	VFC-040HB-702N4
VFC-050HB	5	1,376	775	175	VFC-050HB-723D	VFC-050HB-703N	VFC-050HB-725D4	VFC-050HB-705N4
VFC-060HB	6	1,850	1,025	175	VFC-060HB-723D	VFC-060HB-703N	VFC-060HB-725D4	VFC-060HB-705N4
VFC-080HB	8	3,316	1,862	175	VFC-080HB-725D	VFC-080HB-705N	VFC-080HB-725D4	VFC-080HB-705N4
VFC-100HB	10	5,430	2,948	175	VFC-100HB-726D	VFC-100HB-706N	VFC-100HB-727D4	VFC-100HB-707N4
VFC-120HB	12	8,077	4,393	175	VFC-120HB-727D	VFC-120HB-707N	VFC-120HB-727D4	VFC-120HB-707N4
VFC-140HC	14	10,538	5,939	150	VFC-140HC-728D	VFC-140HC-708N		
VFC-160HC	16	13,966	7,867	150	VFC-160HC-927D	VFC-160HC-907N		
VFC-180HC	18	17,214	10,065	150	VFC-180HC-928D	VFC-180HC-908N		
VFC-200HC	20	22,339	12,535	150	VFC-200HC-928D	VFC-200HC-908N		
Two-Way, Non-Spring Return — 50 psig Closeoff Pressure; Not Rated for Dead-End Service								
VFC-040LB	4	841	496	50	VFC-040LB-722D	VFC-040LB-702N	VFC-040LB-722D4	VFC-040LB-702N4
VFC-050LB	5	1,376	775	50	VFC-050LB-722D	VFC-050LB-702N	VFC-050LB-722D4	VFC-050LB-702N4
VFC-060LB	6	1,850	1,025	50	VFC-060LB-722D	VFC-060LB-702N	VFC-060LB-722D4	VFC-060LB-702N4
VFC-080LB	8	3,316	1,862	50	VFC-080LB-723D	VFC-080LB-703N	VFC-080LB-725D4	VFC-080LB-705N4
VFC-100LB	10	5,430	2,948	50	VFC-100LB-725D	VFC-100LB-705N	VFC-100LB-725D4	VFC-100LB-705N4
VFC-120LB	12	8,077	4,393	50	VFC-120LB-726D	VFC-120LB-706N	VFC-120LB-727D4	VFC-120LB-707N4
VFC-140LC	14	10,538	5,939	50	VFC-140LC-727D	VFC-140LC-707N	VFC-140LC-727D4	VFC-140LC-707N4
VFC-160LC	16	13,966	7,867	50	VFC-160LC-727D	VFC-160LC-707N	VFC-160LC-727D4	VFC-160LC-707N4
VFC-180LC	18	17,214	10,065	50	VFC-180LC-728D	VFC-180LC-708N		
VFC-200LC	20	22,339	12,535	50	VFC-200LC-728D	VFC-200LC-708N		

The performance specifications are nominal and conform to acceptable industry standards. For applications at conditions beyond these specifications, consult the Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products. © 2014 Johnson Controls, Inc.

Two-Way, Industrial-Grade, Non-Spring-Return, VA-90xx Series Electrically Actuated, Standard-Pressure, Standard-Temperature Butterfly Valve Assemblies (Continued)

Technical Specifications

Two-Way, Industrial-Grade, Non-Spring-Return, VA-90xx Series Electrically 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 150°F (-40 to 65°C)
Enclosure Rating	National Electrical Manufacturers' Association (NEMA) 4, 4X, IP65	

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