

# M9000 Series Electrically Actuated, Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield) Catalog Page

## Description

VF Series M9000 Electrically Actuated, Standard-Pressure, Standard-Temperature, Three-Way 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. These valves are also bidirectional, allowing positive shutoff with the flow in either direction.

Three-way configurations are available in sizes 2 through 6 in. non-spring return, and 2 through 4 in. spring return. M9000 electrically actuated spring-return, weather-shield models feature an integral handle for manual positioning of the valve, independent of a power supply.

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
- M9000 electric actuators available with or without a rugged, factory-installed weather shield
- M9000 electric actuators available with or without end switches

## Repair Information

If the VF Series Butterfly Valve 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.



**M9000 Series Electrically Actuated, Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield)**

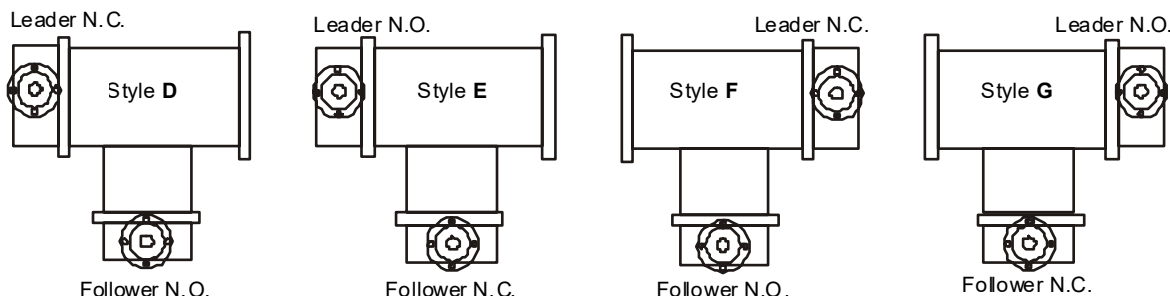
## Selection Chart

Valve Code Number	Size, in.	Cv at 90°	Cv at 70°	Closeoff Pressure, psig <sup>1</sup>	M9000 Series Electrically Actuated Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield)			
					Three-Way — Spring Return <sup>2</sup>			
					On/Off Control		Proportional Control	
					M9220-BGA-3 without End Switches	M9220-BGC-3 with Two End Switches	M9220-GGA-3 without End Switches	M9220-GGC-3 with Two End Switches
VWD020HB	2	144	84	175	VWD020HB+92NBGA	VWD020HB+92NBGC	VWD020HB+92NGGA	VWD020HB+92NGGC
VWD025HB	2-1/2	282	163	175	VWD025HB+92NBGA	VWD025HB+92NBGC	VWD025HB+92NGGA	VWD025HB+92NGGC
VWD030HB	3	461	267	175	VWD030HB292NBGA <sup>3</sup>	VWD030HB292NBGC <sup>3</sup>	VWD030HB292NGGA <sup>3</sup>	VWD030HB292NGGC <sup>3</sup>
VWD040LB	4	841	496	50	VWD040LB292NBGA <sup>3</sup>	VWD040LB292NBGC <sup>3</sup>	VWD040LB292NGGA <sup>3</sup>	VWD040LB292NGGC <sup>3</sup>
					Floating Control			
					M9220-AGA-3 without End Switches	M9220-AGC-3 with Two End Switches		
VWD020HB	2	144	84	175	VWD020HB+92NAGA	VWD020HB+92NAGC		
VWD025HB	2-1/2	282	163	175	VWD025HB+92NAGA	VWD025HB+92NAGC		
VWD030HB	3	461	267	175	VWD030HB292NAGA <sup>3</sup>	VWD030HB292NAGC <sup>3</sup>		
VWD040LB	4	841	496	50	VWD040LB292NAGA <sup>3</sup>	VWD040LB292NAGC <sup>3</sup>		

## M9000 Series Electrically Actuated, Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield) Catalog Page (Continued)

Valve Code Number	Size, in.	Cv at 90°	Cv at 70°	Closeoff Pressure, psig <sup>1</sup>	M9000 Series Electrically Actuated Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield)	
					Two-Way — Non-Spring Return	
					Automatic Signal Detection Floating, On/Off, Proportional	
					M93xx-HGC-2 Without End Switches	M93xx-HGC-2 With Two End Switches
VWD020HB	2	144	84	175	VWD020HB+920HGA	VWD020HB+920HGA
VWD020HB	2	144	84	175	VWD020HB+920HGC	VWD020HB+920HGC
VWD025HB	2-1/2	282	163	175	VWD025HB+920HGA	VWD025HB+920HGA
VWD025HB	2-1/2	282	163	175	VWD025HB+920HGC	VWD025HB+920HGC
VWD030HB	3	461	267	175	VWD030HB+935HGA	VWD030HB+935HGA
VWD030HB	3	461	267	175	VWD030HB+935HGC	VWD030HB+935HGC
VWD040HB	4	841	496	175	VWD040HB2935HGA <sup>3</sup>	VWD040HB2935HGA <sup>3</sup>
VWD040HB	4	841	496	175	VWD040HB2935HGC <sup>3</sup>	VWD040HB2935HGC <sup>3</sup>
VWD040LB	4	841	496	50	VWD040LB+920HGA	VWD040LB+920HGA
VWD040LB	4	841	496	50	VWD040LB+920HGC	VWD040LB+920HGC
VWD050HB	5	1376	775	175	VWD050HB2935HGA <sup>3</sup>	VWD050HB2935HGA <sup>3</sup>
VWD050HB	5	1376	775	175	VWD050HB2935HGC <sup>3</sup>	VWD050HB2935HGC <sup>3</sup>
VWD050LB	5	1376	775	50	VWD050LB2935HGA	VWD050LB2935HGA
VWD050LB	5	1376	775	50	VWD050LB2935HGC	VWD050LB2935HGC
VWD060HB	6	1850	1025	175	VWD060HB2935HGA <sup>3</sup>	VWD060HB2935HGA <sup>3</sup>
VWD060HB	6	1850	1025	175	VWD060HB2935HGC <sup>3</sup>	VWD060HB2935HGC <sup>3</sup>
VWD060NB	6	1850	1025	50	VWD060NB2935HGA <sup>3</sup>	VWD060NB2935HGA <sup>3</sup>
VWD060NB	6	1850	1025	50	VWD060NB2935HGC <sup>3</sup>	VWD060NB2935HGC <sup>3</sup>

- All valves are rated for dead-end service. Valves rated for 75 psig closeoff or higher have a 75 psig maximum dead-end service rating.
- Code numbers listed in this table 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: VWExxxxx+xxxxxx, VWFxxxxx+xxxxxx, or VWGxxxxx+xxxxxx. See the following figure.
- Valve assemblies have two actuators mounted in tandem.



Three-Way Valve Body Styles

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### Technical Specifications

M9000 Series Electrically Actuated, Standard-Pressure, Standard-Temperature, Three-Way Butterfly Valves (with Weather Shield) <sup>1</sup>		
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 6 in., Fully Lugged
Fluid Temperature Limits		-20°F to 250°F (-29°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°F to 150°F (-29°C to 66°C), Preferably 40°F to 85°F (4°C to 29°C)
	Operating	Spring-Return Actuator: -20°F to 131°F (-29°C to 55°C) Non-Spring-Return Actuator: -4°F to 122°F (-20°C to 50°C)
Weather Shield Rating		National Electrical Manufacturers' Association (NEMA) 4

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