VEF-53 Series

2-Way, Rubber-Lined, Butterfly Valves (2 to 6")

Description and Application

The electronic KMC VEF-53 series butterfly valves are two-way valves for control of straight-through flow in high-capacity hot or chilled water applications. Valves range in size from 2" to 6" with modified equal percentage flow characteristics. The lug-style valves feature a stainless-steel disk and shaft with an EPDM seat to assure long life and bubble-tight shut off.

These valves use KMC MEP-7000 series ControlSet tri-state or proportional actuators. An optional "fail-safe" feature allows failure to either open or closed positions upon loss of 24 VAC supply. A gear disengagement feature allows positioning of the valve stem/disk without energizing the actuator.

Features

- EPDM seat for bubble-tight shut-off
- Stainless-steel stems and disks
- Seat face negates need for flange gaskets
- Modified equal percentage flow characteristics
- Choice of tri-state (floating) or proportional (0–10 VDC or 4–20 mA) inputs on MEP-7xxx series ControlSet actuators
- Non-fail-safe or fail-safe (with switch-selectable direction and efficient, durable, capacitor-driven-operation) models
- Gear disengagement for manual valve operation
- Removable terminals and 1/2" NPS conduit fittings
- Actuator position feedback option (MEP-7xx2 models)
- Optional adjustable end stop (HMO-4536) and adjustable auxiliary switches (CME-7001/7002)

Models

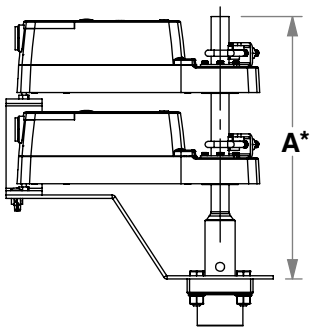
Model #		Size	Actuator	Weight (lbs.)
VEF-5308ARF	K	2"	MEP-7202, proportional	17.8
	F	2"	MEP-7201, tri-state	17.8
	L	2"	MEP-7252, proportional, fail-safe	18.2
	H	2"	MEP-7251, tri-state, fail-safe	18.2
VEF-5310ARF	K	2.5"	MEP-7202, proportional	17.8
	F	2.5"	MEP-7201, tri-state	17.8
	L	2.5"	MEP-7252, proportional, fail-safe	18.2
	H	2.5"	MEP-7251, tri-state, fail-safe	18.2
VEF-5312ARG	K	3"	MEP-7502, proportional	20.1
	F	3"	MEP-7501, tri-state	20.1
	L	3"	MEP-7552, proportional, fail-safe	20.5
	H	3"	MEP-7551, tri-state, fail-safe	20.5
VEF-5316ARH	K	4"	MEP-7802, proportional	26.7
	F	4"	MEP-7801, tri-state	26.7
	L	4"	MEP-7852, proportional, fail-safe	27.1
	H	4"	MEP-7851, tri-state, fail-safe	27.1
VEF-5320ARJ	K	5"	(2) MEP-7802, 0–10 VDC*	39.1
	F	5"	(2) MEP-7801, tri-state	39.1
	L	5"	(2) MEP-7852, 0–10 VDC, fail-safe*	39.9
	H	5"	(2) MEP-7851, tri-state, fail-safe	39.9
VEF-5324ARJ	K	6"	(2) MEP-7802, 0–10 VDC*	43.7
	F	6"	(2) MEP-7801, tri-state	43.7
	L	6"	(2) MEP-7852, 0–10 VDC, fail-safe*	44.5
	H	6"	(2) MEP-7851, tri-state, fail-safe	44.5

*4–20 mA inputs are not available in Master-Slave applications

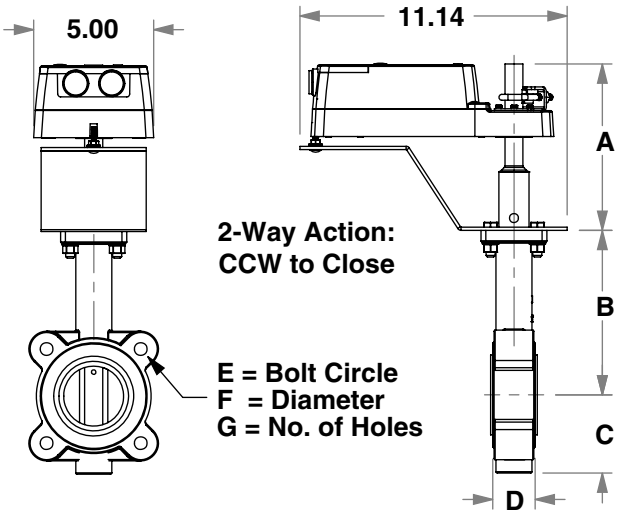
Cv Values by Size and Disk Position (US GPM @ 1 ΔP)									
Size	Position of Disk								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	0.06	3	7	14	26	42	67	101	111
2.5	0.10	6	12	24	43	72	114	171	188
3	0.19	9	17	38	67	112	176	263	290
4	0.29	16	35	75	134	195	350	525	577
5	0.48	28	59	128	228	377	596	894	983
6	0.77	43	91	197	352	582	921	1382	1518

NOTE: For sizes larger than 6 inches, contact Valve Solutions, Inc. (www. valvesolutions.com).

Dimensions



*** Dual Actuator Assembly for 5 and 6" Valve**



Dimensions in inches

Size	A	B	C	D	E	F	G
2"	7	6.34	3.35	1.69	4.75	5/8-11	4
2.5"	7	6.89	3.66	1.81	5.5	5/8-11	4
3"	7	7.13	3.9	1.81	6	5/8-11	4
4"	7	7.87	4.57	2.05	7.5	5/8-11	8
5"	11*	8.39	5.12	2.2	8.5	3/4-10	8
6"	11*	8.9	5.67	2.2	9.5	3/4-10	8

NOTE: "D" is the face to face dimension of the valve body. This does not account for the valve seat. Approximately 1/8" additional spacing is required for proper seating with the pipe flanges. The installation does not require gaskets since the valve seat creates the seal against the mounting flange. These valves are designed to be installed between ANSI B16.1 Class 125 (Iron) and Class 150 (Steel) pipe flanges.

Specifications

Max. Differential Pressure 100 psi

Action	Two-way, CCW to close
Body Type	ANSI 125/150 flanges, lug body style
Valve Sizes	2" through 6" flange
Flow Characteristics	Modified equal percentage
Sizes & Cv Ratings	See the chart in the Features section
Actuators	See the Models section and respective actuator data sheet
Material	
Body	Ductile iron
Disc	304 stainless steel
Seat	EPDM
Shaft	416 stainless steel
Bushing	PTFE
Temperature Limits	
Medium	–30 to 275° F (–34 to 135° C)
Ambient	–22 to 131° F (–30 to 55° C)
Shipping	–40 to 176° F (–40 to 80° C)

Accessories

CME-7001	Rotary aux. cam switch, single
CME-7002	Rotary aux. cam switch, double
HMO-4536	Adjustable stop kit
MEP-7xxx	Replacement actuator (see label on actuator or data sheet)

NOTE: For actuator information, see the MEP-7200/7500/7800 series data sheet.

⚠ CAUTION

Freeze protection required for fluid temperatures below 32° F (0° C).

⚠ CAUTION

Using mineral oil lubricants or other incompatible substances in system fluids may damage EPDM rubber seats in valves. Before using any lubricant or additive in a water or ethylene glycol base, consult the substance manufacturer for compatibility with EPDM (Ethylene Propylene Diene Monomer).

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