

Description

VEB-43 series, two-way, NPT, ball valves are designed for the control of hot or chilled water in HVAC applications. Valves range in size from 1/2 to 3 inches and feature an optimizing insert (except for indicated models), which reduces the Cv and characterizes the ball opening for equal percentage flow characteristics. They include a field-repairable blow-out-proof stem and leak-proof shut-off. The reduced torque seals and O-rings eliminate the need for high torque actuators. KMC's low-torque MEP-4xxxV actuators work on all valve sizes.

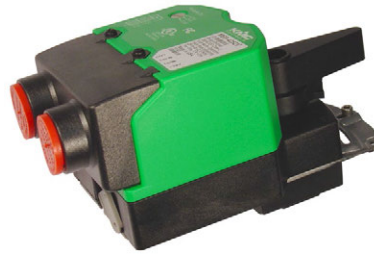
Valve assemblies have brackets with a patent-pending, **quick-mounting** mechanism that creates a universal connection to VSI, Griswold, and other valve bodies. Complete valve assemblies are available with MEP-4002V/4252V/4552V actuators. Order other actuators and valve bodies separately. See the **MEP-4000/4800 Series** and **MEP-4200/4500/4900 Series** data sheets for more actuator information.

Features

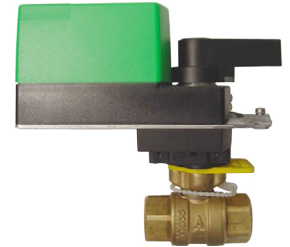
- ◆ Choice of fail-safe (with switch-selectable direction) or non-fail-safe operation
- ◆ Proportional input (or, if valve body and actuator are ordered separately, tri-state/two-position options)
- ◆ Equal percentage flow characteristics with optimizer insert (except indicated models) and Cv ratings similar to globe valves
- ◆ Leak-proof shutoff and field-repairable valve design

Accessories/Repair Parts

HPO-5074	Ball valve to actuator quick-mount kit
MEP-4xxxV	Quick-mount actuators (see the chart on the next page)



MEP-4x5xV Fail-Safe Actuator



MEP-4001V/4002V Actuator
Installed on Valve with
Quick Mount



VFB-43 Series Valve Body

Models

VFB-43 YYY BC (*valve body with quick mount only*)

VEB-43 YYY BC Z (*valve body and actuator assembly*)

Actuators (see chart on the next page)

K: Proportional, MEP-4002V

L: Fail-safe, proportional—
MEP-4252V on 1/2 and 3/4" valves
MEP-4552V on 1 to 3" valves

Size / Cv

02B: 1/2" / 0.38 Cv

02D: 1/2" / 0.68 Cv

02F: 1/2" / 1.3 Cv

02H: 1/2" / 2.6 Cv

02K: 1/2" / 4.7 Cv

02M: 1/2" / 11.7 Cv*

03G: 3/4" / 2.4 Cv

03K: 3/4" / 4.3 Cv

03L: 3/4" / 10.1 Cv

03N: 3/4" / 14.7 Cv*

04J: 1" / 9.0 Cv

04Q: 1" / 28.4 Cv*

04M: 1" / 15.3 Cv

05F: 1-1/4" / 14.9 Cv

05L: 1-1/4" / 41.1 Cv*

05K: 1-1/4" / 36.5 Cv

06D: 1-1/2" / 22.8 Cv

06J: 1-1/2" / 73.9 Cv*

06G: 1-1/2" / 41.3 Cv

08D: 2" / 41.7 Cv

08M: 2" / 108.0 Cv*

08G: 2" / 71.1 Cv

10C: 2-1/2" / 55.0 Cv

10D: 2-1/2" / 72.0 Cv

10G: 2-1/2" / 101.0 Cv

12C: 3" / 82.0 Cv

12D: 3" / 124.0 Cv

*Full-port, no optimizer insert

Actuator Model Number	Control Signal				Operating Voltage		Fail-Safe
	2 Position (Only)	Tri-State (Only)	Tri-State or 2-Position	Proportional 2–10 VDC*	24 VAC**	100–240 VAC	
MEP-4001V			✓		✓		
MEP-4002V				✓	✓		
MEP-4003V		✓			✓		
MEP-4x51V***			✓		✓		✓
MEP-4x52V***				✓	✓		✓
MEP-4x54V***	✓				✓		✓
MEP-4x55V***	✓					✓	✓

*Proportional MEP-4002V, MEP-4252V, and MEP-4552V actuators are available premounted on the valve bodies.
**MEP-4x51V/4x52V/4x54V actuators can also operate from 24 VDC in addition to 24 VAC.
***For 1/2" or 3/4" valves, x = 2. For 1" to 3" valves, x = 5.

NOTE: VEB-43 assemblies are available with **mounted proportional** MEP-4002V, MEP-4252V, and MEP-4552V actuators only.

NOTE: For **two-position or tri-state options**, select a VFB-43 series valve body and attach any quick-mount “V” actuator from the table above. Specify VFB-43YYYBC (e.g., VFB-4305LBC) with YYY the appropriate size and Cv from the models chart. The VFB valve body and the quick-mount “V” actuator must be ordered separately.

Specifications

Service	Hot or chilled water, up to 50% glycol
Connections	Female NPT
Body Rating	360 psi
Max. Close Off	1/2" and 3/4", 130 psi (896 kPa); 1" to 3", 100 psi (689 kPa)
Max. Differential Pressure	Same values as Max. Close-Off (see above)
Flow Characteristics	Equal percentage (with optimizer insert)
Rangeability	500 to 1
Leakage Rating	ANSI Class IV (0.01% of Cv)
Temperature Limits	
Medium	-22 to 250° F (-30 to 121° C)
Operating	0 to 120° F (-18 to 49° C)
Shipping	-40 to 140° F (-40 to 60° C)
Approvals	SASO PCP Registration KSA R-103260

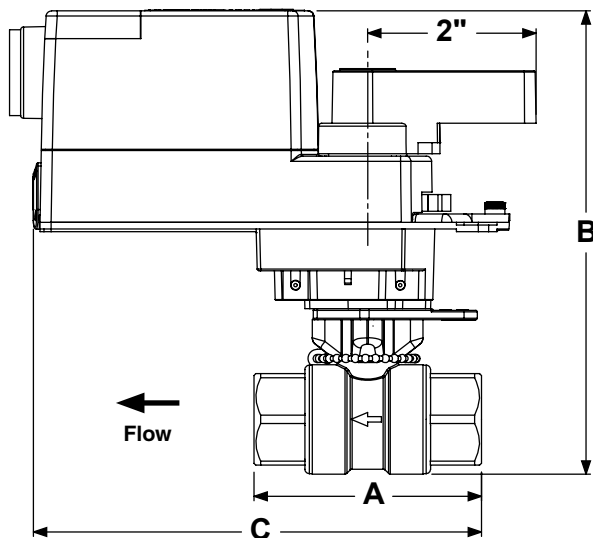
Material	
Body	Forged brass ASTM B283-06
Stem	Brass
Ball	Nickel-plated brass
Flow inserts	Glass filled polymer
Stem Seals	EPDM O-rings
Ball Seals	Teflon seals w/ EPDM O-rings
Actuators	See the MEP-4000/4800 Series and MEP-4200/4500/4900 Series data sheets for “V” model information that includes multiple input, operating voltage, and fail-safe options

▲ CAUTION

Using mineral oil lubricants or other incompatible substances in system fluids may damage EPDM rubber seals 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).

Details

Dimensions in inches
and weight in pounds



ACTION:
Full CW = Valve Closed
Full CCW = Valve Open

(Actuators and mounting vary)

Size NPT	Model	A	B (Overall Height)			C (Overall Length)		Width (Not Shown)		Weight	
			MEP- 4001V/ 4002V	MEP- 4003V	MEP- 4x5xV	MEP- 400xV	MEP- 4x5xV	MEP- 400xV	MEP- 4x5xV	MEP- 400xV	MEP- 4x5xV
1/2"	VEB-4302	2.37	5.10	4.41	5.41	4.97	5.28	2.60	3.40	2.02	2.22
3/4"	VEB-4303G/K/N	2.41	5.10	4.41	5.41	4.99	5.30			2.22	2.42
	VEB-4303L	2.76	5.28	4.59	5.59	5.16	5.47			2.22	2.42
1"	VEB-4304J/Q	2.76	5.28	4.59	5.59	5.16	5.47			2.22	2.42
	VEB-4304M	3.04	5.60	4.91	5.91	5.30	5.63			2.52	2.72
1-1/4"	VEB-4305F/L	3.01	5.55	4.86	5.86	5.29	5.60			2.52	2.72
	VEB-4305K	3.62	6.20	5.51	5.52	5.59	5.90	3.62	3.82		
1-1/2"	VEB-4306D/J	3.43	6.20	5.51	5.52	5.50	5.81	3.00	3.62	3.82	
	VEB-4306G	4.06	6.70	6.01	7.02	5.81	6.13		4.22	4.42	
2"	VEB-4308D/M	3.98	6.70	6.01	7.02	5.77	6.08	3.50	3.50	4.22	4.42
	VEB-4308G	4.90	7.50	6.81	7.81	6.23	6.54			6.02	6.22
2-1/2"	VEB-4310	5.35	7.50	6.81	7.81	6.46	6.77			6.52	6.72
3"	VEB-4312	5.73	7.65	6.96	7.96	6.65	6.96	4.00	4.00	7.42	7.62

KMC Controls, Inc.

19476 Industrial Drive, New Paris, IN 46553

574.831.5250

www.kmccontrols.com

info@kmccontrols.com