

Description

The VEV-43 series pressure-independent, two-way, NPT, control ball valves provide precise control of hot or chilled water in HVAC applications—in spite of fluid pressure fluctuations or reduced load conditions. They also eliminate separate balancing valves and the balancing process. Valves range in size from 1/2 to 2 inches.

The valve's dual Teflon ball and stem seals and an EPDM O-ring provide leak-proof shut off and meet both "packed" and "packless" construction specifications. The reduced torque seals and O-rings eliminate the need for high torque actuators. The VEV-43 is designed to work with KMC's low-torque MEP-4000/5000 series actuators on all valve sizes with various control and fail-safe options.

Features

- ◆ Automatic balancing eliminates separate balancing valves and the balancing process, reducing installation labor costs
- ◆ Pressure independent flow precisely maintains desired flow in spite of fluid pressure fluctuations and controls flow even during reduced loads
- ◆ Simplifies valve selection (**Cv = gpm**)
- ◆ 2-way, 1/2" to 2" sizes, flow rate 0.5 to 55 gpm
- ◆ Includes built-in test port (1/4" NPT) for testing fluid pressure and temperature
- ◆ Includes manual air vent for venting air from lines
- ◆ Increases life of actuators and efficiency of the fluid heat transfer as well as lowering pumping costs

Accessories/Repair Parts

With MEP-5000 Series Actuators (Only)

CME-1002	Single auxiliary switch
CME-1004	Dual auxiliary switch
HMO-4518	Snap-in connector for 1/2" flexible metal conduit
HMO-4520	Compression connector for plenum cable
HMO-4526	Female connector for 1/2" conduit

With All Actuators

HPO-5072	Ball valve to actuator repair kit
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Models

Use this chart to select the desired model of valve:

VEV-43 XXXX YY

Actuators

- CB: 0–10 VDC (MEP-4002)
- CF: Tri-state (MEP-4003)
- DL: Fail-safe, 2–10 VDC (MEP-5372)
- DH: Fail-safe, tri-state (MEP-5373)

Pipe Size / High Limit Flow Rate (±5%)*

02A3: 1/2" / 0.5 gpm	04M2: 1" / 20.0 gpm
02B3: 1/2" / 1.0 gpm	05M2: 1-1/4" / 20.0 gpm
02C3: 1/2" / 1.5 gpm	05N2: 1-1/4" / 25.0 gpm
02D3: 1/2" / 2.5 gpm	06N2: 1-1/2" / 25.0 gpm
02E3: 1/2" / 3.5 gpm	06P2: 1-1/2" / 30.0 gpm
02F3: 1/2" / 4.5 gpm	06Q2: 1-1/2" / 35.0 gpm
02G3: 1/2" / 5.5 gpm	08Q2: 2" / 35.0 gpm
03G3: 3/4" / 5.5 gpm	08R2: 2" / 40.0 gpm
03H3: 3/4" / 6.5 gpm	08S2: 2" / 45.0 gpm
03J3: 3/4" / 7.5 gpm	08T2: 2" / 50.0 gpm
04K2: 1" / 10.0 gpm	08U2: 2" / 55.0 gpm
04L2: 1" / 15.0 gpm	

*To size the valve, select a high limit flow rate that is equal to or greater than the required flow rate.

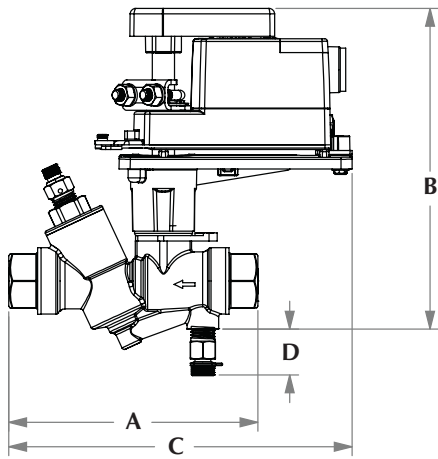
The psid control ranges for these valves are:

XXX2 = 2.9 to 60 psid (1" through 2" pipes)

XXX3 = 5.8 to 60 psid (1/2" and 3/4" pipes)

To select a **valve body and linkage only** (and attach your own MEP-4000 or MEP-5000 series actuator), specify **VFV-43 XXXX Z** with **Z** = C for MEP-4000s and **Z** = D for MEP-5000s (e.g., VFV-4302A3C).

Dimensions

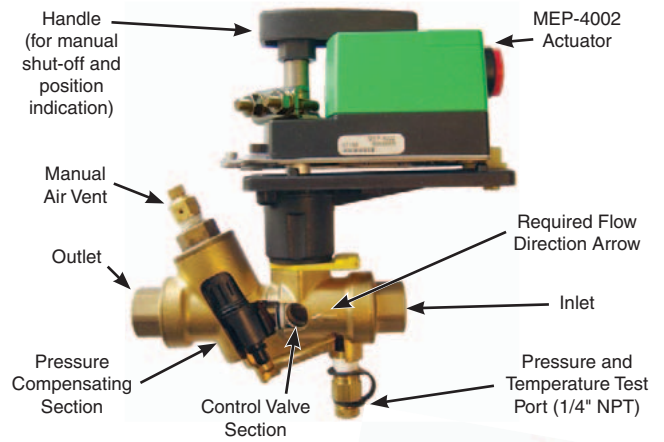


Line Size	Valve Body Dimensions (Inches)*				Valve Body Weight (lbs.)**
	A	B	C***	D	
1/2" & 3/4"	5.7	7.15	7.6	1.03	0.9
1"	9	8.15	9.9	1.6	1.5
1-1/4"	8.4		9.6		
1-1/2"	10	9.15	11.1	2.1	3.6
2"	9.9		11		

*For maximum width, use the width of the relevant actuator:
MEP-4002/4003 = 2.6" wide; MEP-5572/5373 = 4" wide

**For total weight, add the weight of the relevant actuator:
MEP-4002/4003 = 1.1 lbs; MEP-5572/5373 = 2.5 lbs.

***MEP-5372/5373 actuators add 0.7" to the total length (C)



MEP-4003 Actuator



MEP-5372/5373 Actuator

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).

Specifications

Actuators	(Refer to specific MEP actuator data sheets for more details)
MEP-4002	0–10 VDC, 40 in-lbs.
MEP-4003	Tri-state, 40 in-lbs.
MEP-5372	Fail-safe, 2–10 VDC, 50 in-lbs.
MEP-5373	Fail-safe, tri-state, 50 in-lbs.

Material	
Body	Forged brass ASTM B584
Stem	Brass
Ball	Nickel plated brass
Flow inserts	Glass filled polymer
Cartridge	Poly-oxy methaline and hydrogenated acrylonitrile-butadiene rubber
Stem Seals	EPDM O-rings
Ball Seals	Teflon seals w/ EPDM O-rings

Service Hot or chilled water, up to 50% glycol

Connections Female NPT

Body Rating	360 psi (2,482 kPa)
Flow Characteristics	Equal percentage (with optimizer insert)
PSID Control Range	2.9 to 60 psid in 1–2" valves 5.8 to 60 psid in 1/2–3/4" valves
Rangeability	500 to 1
Max. Close Off	100 psi (690 kPa)
Leakage	ANSI Class IV (0.01% of rated valve capacity)
Temperature Limits	
Medium	–22° to 250° F (–30° to 121° C)
Ambient	0° to 120° F (–18° to 49° C)
Shipping	–40° to 140° F (–40° to 60° C)

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