

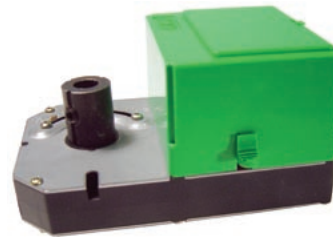
### Description

The VEP-43 Series, 3-way, **mixing or diverting**, NPT control ball valves are designed for the control of hot or chilled water in HVAC applications. Valves range in size from **1/2 to 2-1/2 inches** and most feature an optimizing insert, which reduces and characterizes the ball opening for lower Cv ratings similar to globe valves. The body design also provides a standard "T" pattern to simplify installation.

The VEP-43 includes a field-repairable blowout-proof stem and leak-proof shut-off. The reduced torque seals and O-rings eliminate the need for high torque actuators. The VEP-43 is designed to work with KMC's low-torque, MEP-4000/5000 series actuators on all valve sizes.



MEP-4003 Actuator



MEP-5372/5373 Actuator



With MEP-4002 Actuator Installed

### Features

- ◆ Mixing or diverting
- ◆ Choice of tri-state (floating) or proportional inputs
- ◆ Choice of fail-safe (with switch-selectable direction) or non-fail-safe
- ◆ Equal percentage flow characteristics with optimizer insert (except indicated models)
- ◆ Cv ratings similar to globe valves
- ◆ Standard "T" pattern connections
- ◆ Field-repairable valve stem design

### Accessories/Repair Parts

#### With All Actuators

HPO-5072 Ball valve to actuator repair kit

#### With MEP-5372/5373 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

### Models

Use this chart to select the desired model:

VEP-43 YY B YYY

#### Actuators

745: MEP-4002, 0–10 VDC  
 756: MEP-4003, tri-state  
 895: MEP-5372, 2–10 VDC, fail-safe  
 906: MEP-5373, tri-state, fail-safe

#### Size / Cv

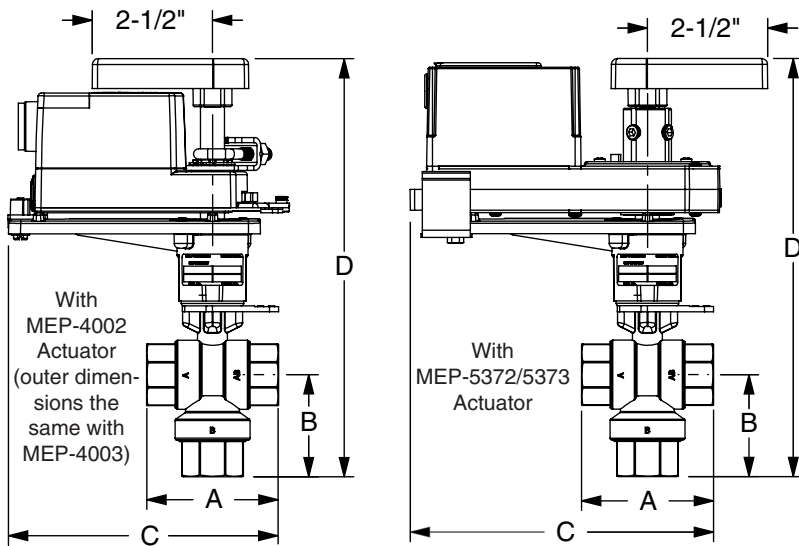
AB: 1/2" / 0.6 Cv	CH: 1" / 22.3 Cv
AC: 1/2" / 1.0 Cv	DC: 1-1/4" / 12.7 Cv
AD: 1/2" / 2.4 Cv	DF: 1-1/4" / 34.1 Cv*
AE: 1/2" / 4.3 Cv	EE: 1-1/2" / 23.5 Cv
AF: 1/2" / 8.0 Cv	EF: 1-1/2" / 61.1 Cv
BD: 3/4" / 2.4 Cv	FC: 2" / 38.2 Cv
BE: 3/4" / 3.8 Cv	FD: 2" / 108.5 Cv
BF: 3/4" / 11.0 Cv*	GC: 2-1/2" / 74.1 Cv
CG: 1" / 8.6 Cv	GB: 2-1/2" / 99.5 Cv*

\* Full-port, no optimizer insert

To select a **valve body and linkage only** (and attach your own MEP-4000/5000 series actuator), specify **VFP-43 YY BX Z** with **Z** = 4 for MEP-4000s or 5 for MEP-5000s and **YY** the appropriate size and Cv (e.g., VFP-43ABB4).

## Dimensions

Dimensions in inches and weight in pounds



**DIVERTING Flow Action:**  
Full CCW = Port AB to A  
Full CW = Port AB to B

**MIXING Flow Action:**  
Full CCW = Port A to AB  
Full CW = Port B to AB

Size NPT	Model	A	B	C (Overall Length)		D	Width (Not Shown)		Weight	
				MEP-4000	MEP-5000		MEP-4000	MEP-5000	MEP-4000	MEP-5000
1/2"	VEP-43A	2.64	2.02	5.63	6.62	8.20	2.60	4.00	2.7	4.1
3/4"	VEP-43B	2.62	2.00	5.61	6.6	8.18			2.7	4.1
1"	VEP-43C	3.06	2.43	5.84	6.83	8.75			3.4	4.8
1-1/4"	VEP-43D	3.62	2.83	6.12	7.11	9.38			4.6	6.0
1-1/2"	VEP-43E	4.06	3.18	6.34	7.33	10.25			6.3	7.7
2"	VEP-43F	4.90	3.87	6.76	7.75	11.25			6.3	7.7
2-1/2"	VEP-43G	5.30	4.10	6.96	7.95	11.48			10.2	11.6

## Specifications

<b>Service</b>	Hot or chilled water, up to 50% glycol
<b>Connections</b>	Female NPT
<b>Body Rating</b>	360 psi (2482 kPa)
<b>Max. Close-Off</b>	1/2 to 1" = 50 psi (345 kPa); 1-1/4 to 2-1/2" = 40 psi (276 kPa)
<b>Max. Differential Pressure</b>	Same values as Max. Close-Off (see above)
<b>Flow Characteristics</b>	Equal percentage (with optimizer insert)
<b>Rangeability</b>	500 to 1
<b>Leakage Rating</b>	ANSI Class IV (0.01% of Cv)
<b>Material</b>	
Body	Forged brass ASTM B283
Stem	Brass
Ball	Nickel plated brass
Flow inserts	Glass filled polymer
Stem Seals	EPDM O-rings
Ball Seals	Teflon seals w/ EPDM O-rings

### 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)

### Actuators

MEP-4002	40 in-lbs., 0-10 VDC
MEP-4003	40 in-lbs., tri-state
MEP-5372	50 in-lbs., 2-10 VDC, fail-safe
MEP-5373	50 in-lbs., tri-state, fail-safe

### 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).

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