

Description and Application

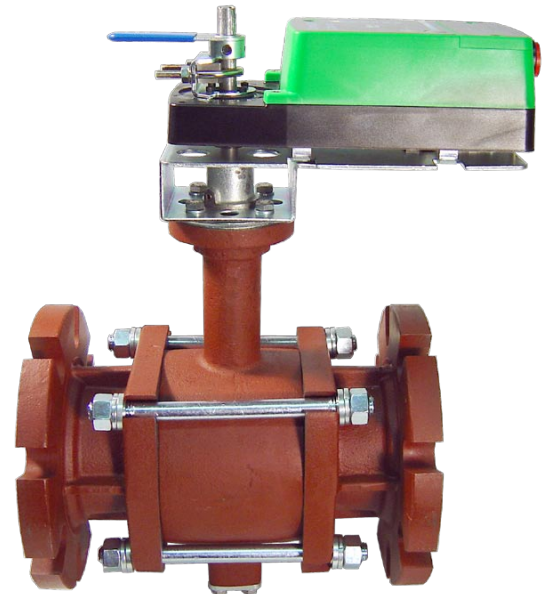
The KMC VEB-53 series control ball valves are two-way flanged valves, designed for control of hot water or chilled water. These valves range in size from 4 to 6 inches with equal-percentage flow characteristics. Leak-proof, blow-out-proof stems, and stainless steel ball and stem make these valves ideal for many applications.

These valves use KMC ControlSet® actuators with **proportional or tri-state inputs**. Proportional models accept a 0–10 VDC or 4–20 mA control signal input from a thermostat, controller, or building automation system. A user-initiated, auto-mapping feature provides better equipment control by re-assigning the 0–10 VDC input signal range over the desired reduced rotation range (from 45 to 95°). Plus, they feature a feedback voltage output that is proportional to the actuator position. Tri-state models are designed for use with floating thermostats, controllers, or building automation systems.

An optional, long-life, capacitor-driven “**fail-safe**” feature allows simple **switch-selectable fail direction** to either NO or NC positions upon power loss. Optional **auxiliary switches** are available for remote position indication or controller and equipment interface. A **gear disengagement** button allows positioning of the valve stem/plug without energizing the actuator.

Features

- ◆ Equal percentage flow characteristics
- ◆ Stainless-steel stem and ball standard
- ◆ Proportional or tri-state actuator input options
- ◆ Gear disengagement button
- ◆ High close-off; high rangeability
- ◆ Large selection of Cvs for each size
- ◆ Lower torque required to operate compared to globe valves
- ◆ Standard ANSI Class 125 flange connections
- ◆ Fail-safe (switch-selectable fail direction) option
- ◆ Auxiliary switch options



Models

Use the chart below to select your model.

VEB-53 XXX S YY

Actuator Model

(On 4 and 5 inch valves)

- FF: Tri-state (MEP-7201, 120 in-lbs.)
- FK: 0–10 VDC (MEP-7202, 120 in-lbs.)
- FH: Fail-safe, tri-state (MEP-7251, 120 in-lbs.)
- FL: Fail-safe, 0–10 VDC (MEP-7252, 120 in-lbs.)

(On 6 inch valves only)

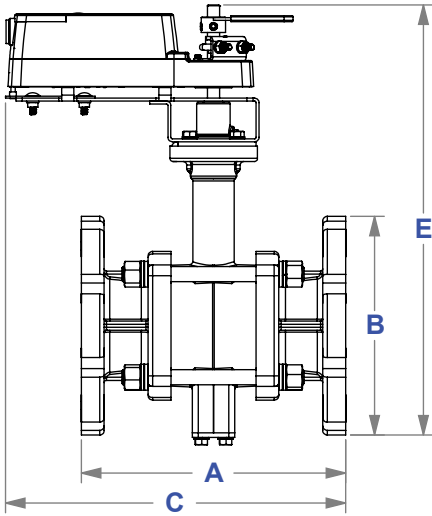
- GF: Tri-state (MEP-7501, 180 in-lbs.)
- GK: 0–10 VDC (MEP-7502, 180 in-lbs.)
- GH: Fail-safe, tri-state (MEP-7551, 180 in-lbs.)
- GL: Fail-safe, 0–10 VDC (MEP-7552, 180 in-lbs.)

Pipe Size/Cv

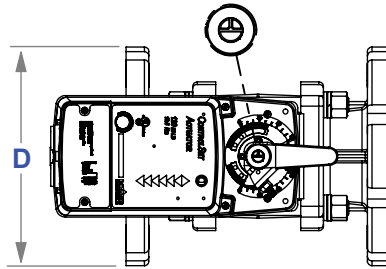
- | | |
|-------------|-------------|
| 16A: 4"/91 | 20D: 5"/309 |
| 16B: 4"/118 | 20E: 5"/400 |
| 16C: 4"/152 | 24A: 6"/208 |
| 16D: 4"/197 | 24B: 6"/268 |
| 16E: 4"/254 | 24C: 6"/346 |
| 20A: 5"/144 | 24D: 6"/441 |
| 20B: 5"/185 | 24E: 6"/577 |
| 20C: 5"/240 | 24F: 6"/650 |

Details

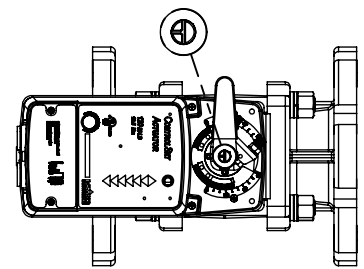
Dimensions in inches



Full CW = Valve Open



Full CCW = Valve Closed



Size	A	B	C	D	E	Weight (lbs.)
4"	11	9	13.75	9	17.75	70
5"	12.375	10	14.75	10	18	80
6"	13.875	11	15.625	11	18.875	95

Specifications

Service	Hot or chilled water, up to 50% glycol
Action	0 to 90°
Flow Characteristics	Equal percentage
Rangeability	500 to 1
Body Pressure Rating	240 psi at 250° F
Close-Off Rating	90 psi on 4 and 5"; 70 psi on 6"
Cv Rating	See Models chart
Leakage Rating	ANSI Class IV (0.01% of Cv)
Valve Sizes	4 to 6 inches
Body Type	Two-way, flanged connections, ANSI Class 125
Valve Material	
Body	Cast iron, ASTM A395, 60-40-18
Ball and stem	316 stainless-steel
Stem seals	EPDM O-rings
Ball seals	Teflon seals
Actuators	Refer to the "Models" section and the MEP-7200/7500/7800 series data sheet (035-035-01) for details
Supply Voltage	24 VAC (+20%/−15%) or 22–35 VDC
Input	Proportional 0–10 VDC or tri-state (floating, 24 VAC)
Fail-safe	Switch-selectable fail direction (on relevant models)
Torque	120 in-lbs. or 180 in-lbs.
Material	Flame-retardant polymer
Temperature Limits	
Medium	−22 to 250° F (−30 to 121° C)
Ambient	−22 to 131° F (−30 to 55° C)
Shipping	−40 to 140° F (−40 to 60° C)

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).

Accessories/Repair Parts

CME-7001	Rotary auxiliary cam switch, single
CME-7002	Rotary auxiliary cam switch, double
HMO-4536	Adjustable stop kit
MEP-7xxx	Actuator (see Models section)

NOTE: For more information, see the data sheets for the MEP-7200/7500/7800 series actuators (035-035-01) and the CME-7001/7002 rotary auxiliary cam switches (826-035-02).

KMC Controls, Inc.
 19476 Industrial Drive
 New Paris, IN 46553
 574.831.5250
www.kmcccontrols.com
info@kmcccontrols.com