



Clearly superior

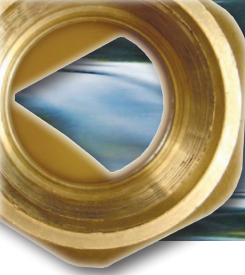


VEP-43 with
MEP-4001 Actuator

KMC Control Ball Valves

Precise, reliable, robust, durable,
user-friendly flow control





NPT Control Ball Valves

Flow control you can rely on

Parabolic Cv Optimizing Inserts

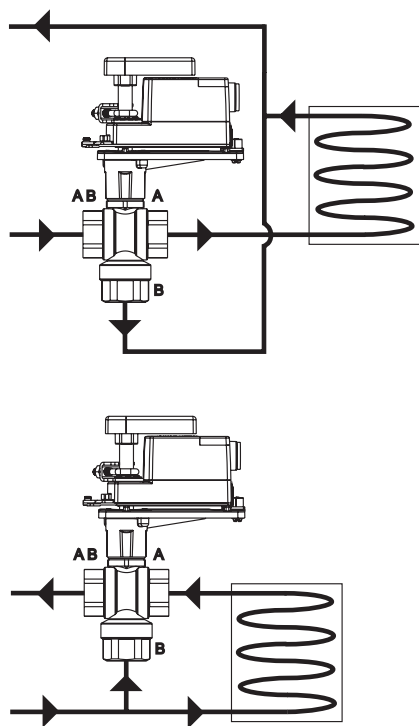
KMC control ball valves are designed to eliminate the inaccuracies inherent in other ball valve configurations. Through the use of a parabolic flow-optimizing ball insert, these valves ensure an equal percentage flow curve as well as 30 to 50% more rotational response than ball valves without a parabolically designed insert.

Unlike a disk that sits outside the ball, KMC's insert is an integral part of the ball resulting in far less wear and distortion as well as much higher differential pressure capacity. Made of Noryl®, a glass-filled polymer, the flow optimizing insert offers broad thermal capability, corrosion resistance, and low coefficient of friction as well as multiple Cv ratings for each valve size.

Based on the unique design, KMC's characterized ball valves achieve true equal percentage flow characteristics, multiple lower Cv ratings, and higher close-off pressures (ΔP ratings equal close-off pressure) without requiring the high price of high-torque actuation.

Mixing or Diverting with the Same Versatile Three-Way Valve

Our three-way ball valves are patterned after globe valves using the same vertical "T" configuration. This simplifies and reduces installation costs in retrofit applications when compared to most other three-way ball valves that use the horizontal "T" configuration. Unlike many other three-way valves, versatile KMC ball valves can easily be used in both mixing and diverting applications (dependent only on how they are connected), which may reduce the cost of required inventory.



Connection and Performance Options

These valves are supplied with female threaded (NPT) connections. (See also the Flanged Ball Valves section.) Multiple Cv rating options exist for each size of valve. Electronic ControlSet® direct-coupled actuator choices include the MEP-4000/5000 series with proportional or tri-state inputs and a fail-safe option. For pneumatic applications, MCP-3631 rotary pneumatic actuators precisely power the industry's only pneumatic ball valves.

Durable Construction Meets Multiple Specifications

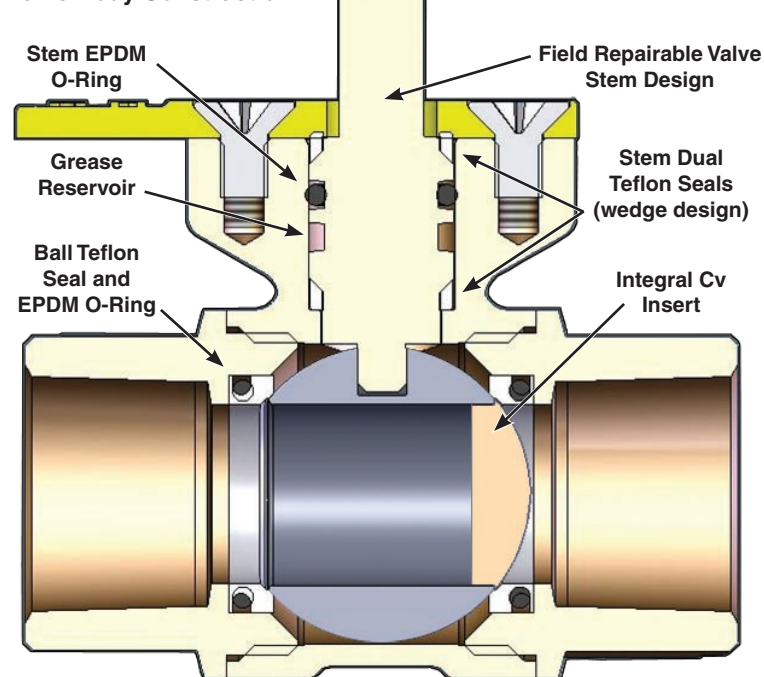
Like all KMC products, our ball valves are engineered for long-lasting, high-level performance in a wide variety of environments and operating conditions. Due to the unique low-torque floating ball design on all sizes from 1/2 to 3 inches, the standard stem material is brass and the ball material is nickel-plated brass. For VEP-45 and VCB-41/42 models, a stainless-steel option is available for corrosive mediums (and is standard for the VEB-53/56 flanged valves).

Each valve's dual Teflon ball and stem seals and EPDM O-rings provide leak-proof shut off and meet both "packed" and "packless" construction specifications. The Teflon seals increase chemical resistance. The grease reservoir maintains lubrication on the stem's EPDM O-ring to extend service life.

Easy Installation and Extended Service

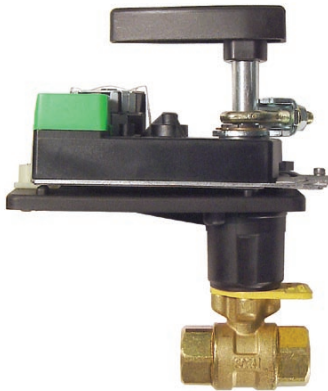
The design eliminates the requirement for periodic maintenance adjustments. Nevertheless, valve life can easily be extended after long service since the stems are easily repaired in the field without having to remove the valve.

Valve Body Construction



VEP-43/45 Series Ball Valves

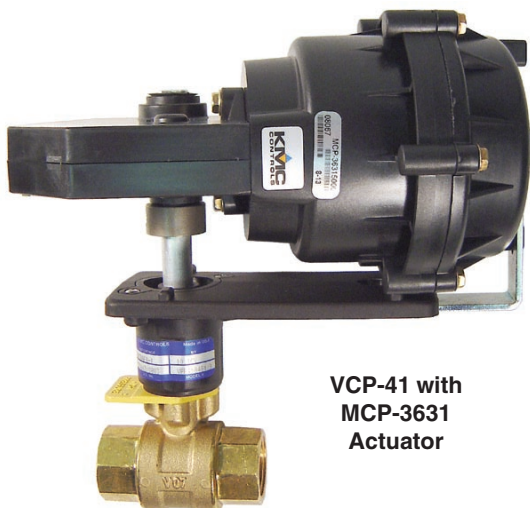
VEP-45 (two-way) and VEP-43 (three-way, mixing or diverting) series ball valves have provided the industry with years of trouble-free operation. They now come with the more compact and efficient MEP-4000 series actuators that include advanced feature options, such as built-in feedback and automapping of a reduced rotation range. For fail-safe applications, MEP-5372/5373 actuators provide switch-selectable fail direction and efficient capacitor-driven fail-safe operation.



VEP-45 with
MEP-4003
Actuator

VCB-41/42/46 Series Pneumatic Ball Valves

Need the same precision control in a pneumatic application? VCB-41/42 (two-way) and VCB-46 (three-way, mixing or diverting) series ball valves with MCP-3631 series rotary pneumatic actuators give a new level of flexible control in pneumatic applications. The valve's fail direction can be easily changed in the field if necessary by flipping over the actuator. KMC is the only manufacturer to offer the advantages of ball valves for pneumatic installations. These are the industry's **only** pneumatic control ball valves!

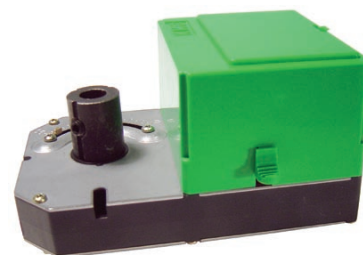
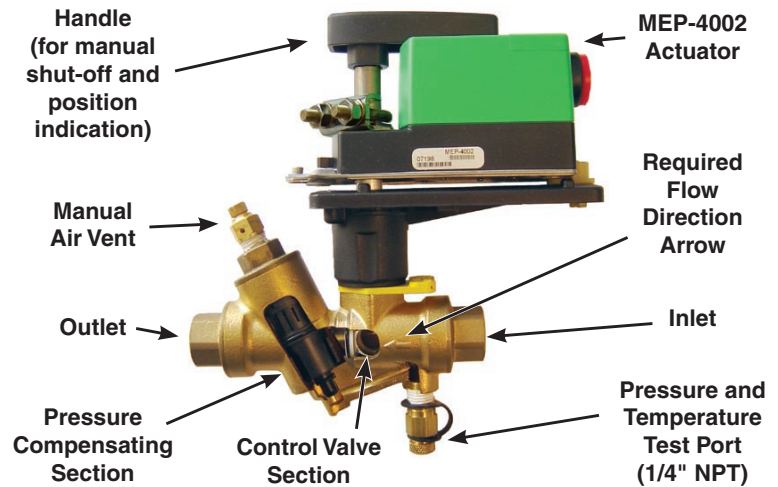


VCP-41 with
MCP-3631
Actuator

VEV-43 Series Pressure-Independent Ball Valves

The VEV-43 series pressure-independent (PIC-V), two-way, NPT, characterized ball valves provide precision 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. Features include:

- 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
- Increases life of actuators and efficiency of the fluid heat transfer as well as lowering pumping costs
- Simplifies valve selection (Cv = gpm)
- Two-way, 1/2" to 2" sizes, flow rate 0.5 to 55 gpm
- Includes a built-in test port (1/4" NPT) for testing fluid pressure and temperature
- Includes manual air vent for venting air from lines
- Controlled by the advanced MEP-4000 series actuators or the capacitor-driven fail-safe MEP-5372/5373 actuators with switch-selectable fail direction



MEP-5372/5373
Fail-Safe
Actuator

Flanged Ball Valves

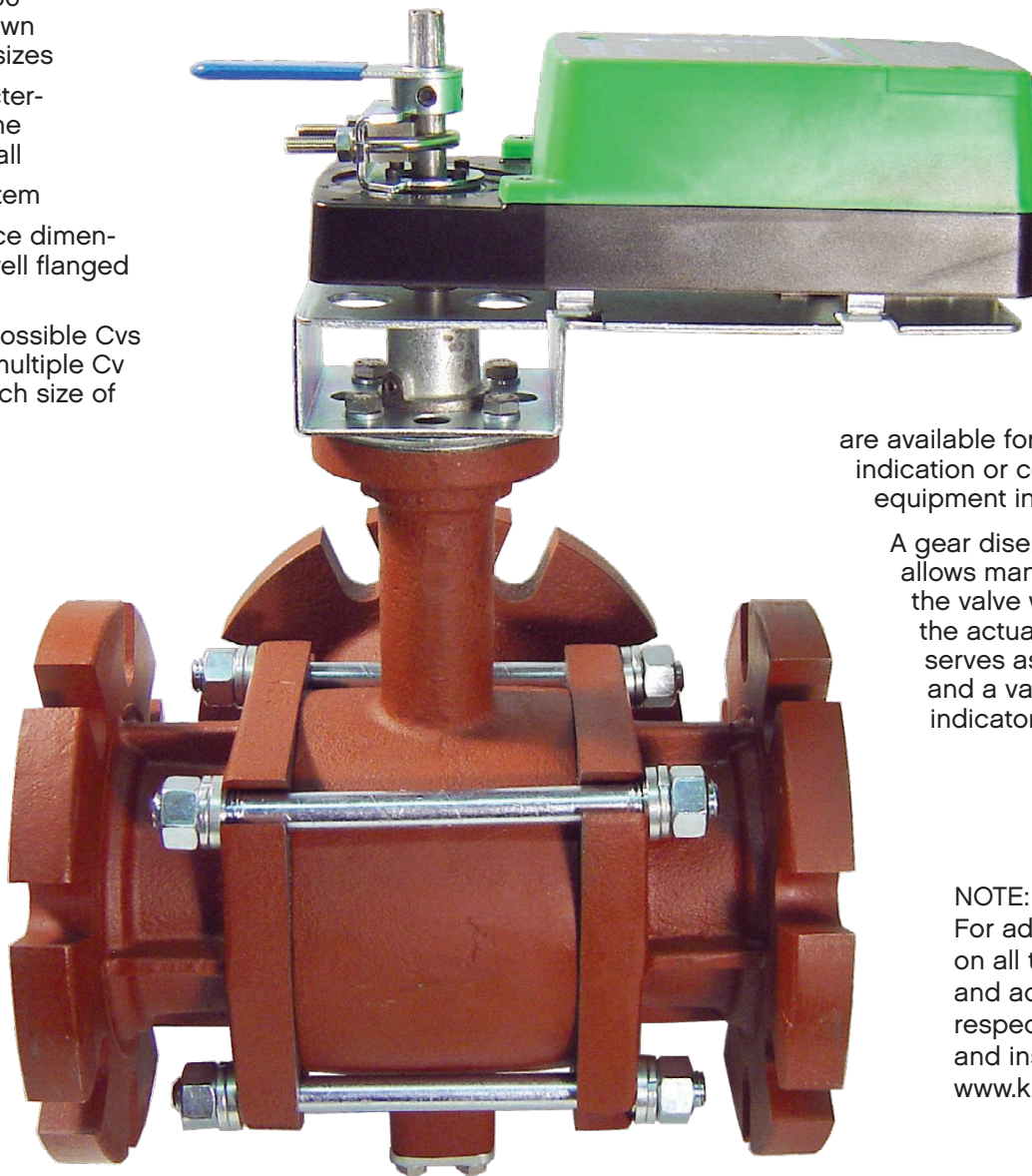
Open wide your flow control options

VEB-53/56 Series Flanged Ball Valves

The KMC VEB-53 series (two-way) and VEB-56 series (three-way, mixing or diverting) flanged, characterized, control ball valves are designed for control of large flows of hot 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 balls and stems make these valves ideal for many high-volume applications. Valve body features include:

- Control large flow volumes for much lower cost than an equivalent globe valve
- Two-way (VEB-53 series) and three-way (VEB-56 series), in 4" (shown here), 5", and 6" sizes
- Laser-cut characterization ports in the stainless-steel ball
- Stainless-steel stem
- Same face-to-face dimensions as Honeywell flanged ball valves
- Large range of possible Cvs (91 to 650), and multiple Cv selections for each size of valve
- Lower torque (less energy) required to operate compared to globe valves
- Standard ANSI Class 125 flange connections

**VEB-56
with
MEP-7252
Actuator**



These valves use KMC MEP-7200/7500 series 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 reassigning the 0–10 VDC input signal range over the desired reduced rotation range (from 45 to 90°). 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 manual positioning of the valve without energizing the actuator. The handle serves as a manual override and a valve position indicator.

NOTE:

For additional information on all these various valves and actuators, see their respective data sheets and installation guides on www.kmcccontrols.com.