

Description

The KMC VEP-5300 Series control valves are three-way mixing valves designed for control of hot water or chilled water. These valves range in size from 2-1/2 to 6 inches with linear flow characteristics. Self-adjusting, V-ring Teflon® packing and stainless-steel stems make these valves ideal for many applications.

These valves utilize KMC ControlSet Actuators with **proportional or tri-state inputs**. The proportional models accept a 2 to 10 volts DC control signal input from a thermostat, controller, or building automation system. The tri-state models are designed for use with floating thermostats, controllers, or building automation systems. Tri-state models feature a 10,000 ohm (+/- 10%), three-wire **potentiometer feedback** output.

A **gear disengagement** feature allows positioning of the valve stem/plug without energizing the actuator.

An optional **“fail-safe”** feature allows simple **switch-selectable fail direction** to either inlet upon loss of 24 volts AC supply. Optional **auxiliary switches** are available for remote position indication or controller and equipment interface.

Features

- ◆ Linear flow characteristics
- ◆ Self-adjusting V-ring Teflon packing
- ◆ Stainless-steel stems
- ◆ Proportional or tri-state actuator input options
- ◆ Gear disengagement feature allows manual valve operation
- ◆ Fail-safe (switch-selectable to either inlet) option
- ◆ Auxiliary switch options

Accessories/Repair Parts

Accessories and repair parts available are:

HPO-5088	V-ring packing kit
CME-7001	Single auxiliary switch
CME-7002	Dual auxiliary switch



Models

Use the chart below to select your model.

VEP-53 XX Y ZZZ

Actuator Model

- 645: MEP-7002 (150 in-lbs., 2-10 VDC)
- 656: MEP-7003 (150 in-lbs., tri-state with feedback)
- 675: MEP-7052 (150 in-lbs., 2-10 VDC, fail-safe)
- 686: MEP-7053 (150 in-lbs., tri-state, fail-safe, with feedback)
- 945: MEP-7702 (300 in-lbs., 2-10 VDC)
- 956: MEP-7703 (300 in-lbs., tri-state with feedback)
- 975: MEP-7752 (300 in-lbs., 2-10 VDC, fail-safe)
- 986: MEP-7753 (300 in-lbs., tri-state, fail-safe, with feedback)
- A45: MEP-7702, Qty = 2
- A56: MEP-7703, Qty = 2
- A75: MEP-7752, Qty = 2
- A86: MEP-7753, Qty = 2

Flange Rating

- 1: 125# flange w/ **bronze** trim*
- 2: 250# flange w/ stainless steel trim
- 3: 125# flange w/ stainless steel trim
- 4: 250# flange w/ **bronze** trim*

Size/Cv Range

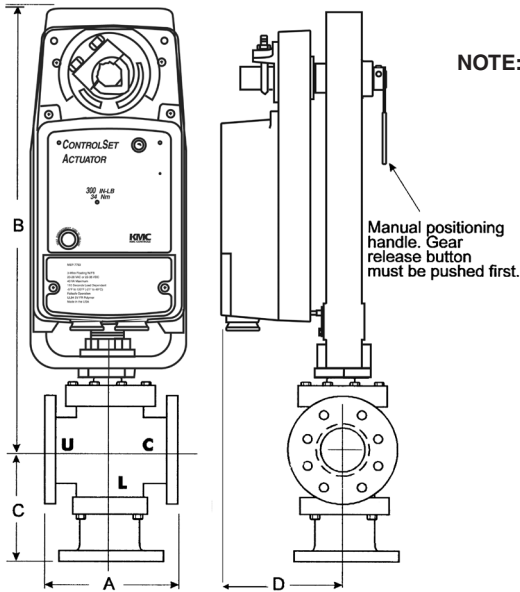
- 62: 2-1/2" = 68
- 63: 3" = 91
- 64: 4" = 190
- 65: 5" = 280
- 66: 6" = 340

▲ CAUTION

*Do not use bronze trim for water service if close-off pressure exceeds 100 PSID.

Details

Dimensions in inches (mm)

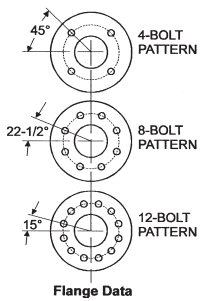


NOTE: All valves are linked **L** to **C** with actuator Full CCW (stem up).
Stem up: Lower port to **Common** port.
Stem down: **Upper** port **Common** port.

Temperature/Pressure Chart		
Medium Temperature °F (°C)	Body Rating; psi (kPa)	
	125# Flange	250# Flange
32° (0) to 150° (66)	175 (1207)	400 (2758)
175° (79)	170 (1172)	385 (2655)
200° (93)	165 (1138)	370 (2551)
225° (107)	157 (1083)	355 (2448)
250° (121)	150 (1034)	340 (2344)

Size	Cv	PSI (kPa) Close-off Rating			Pounds Weight (kg)	
		MEP-7000s (1)	MEP-7700s (1)	MEP-7700s (2)	125# Flange	250# Flange
2-1/2"	68	39.5 (272)	97 (669)	na	69 (31.3)	83 (37.7)
3"	91	25 (172)	65 (448)	na	88 (39.9)	104 (47.2)
4"	190	na	18 (124)	46 (317)	141** (64)	167** (75.8)
5"	280	na	na	28 (193)	165 (74.8)	226 (102.5)
6"	340	na	na	18 (124)	217 (98.4)	298 (135.2)

**Add 5 pounds (2.3 kg) for second actuator option on 4" valve.



A-D = See Diagram Above
E = Bolt Circle Diameter
F = Quantity of Holes
G = Diameter of Holes

Dimensions and Bolt Hole Information (See Diagrams)												
Size	All Valves		125# Flanges					250# Flanges				
	B	D	A	C	E	F	G	A	C	E	F	G
2-1/2"	17.94 (455.7)	4.19 (106.4)	9.0 (228.6)	7.06 (179.3)	5.5 (139.7)	4	0.75 (19.1)	9.63 (244.6)	7.38 (187.5)	5.88 (149.4)	8	0.88 (22.4)
3"	18.5 (469.9)	4.19 (106.4)	10.0 (254)	7.94 (201.4)	6 (152.4)	4	0.75 (19.1)	10.75 (273.1)	8.31 (211.1)	6.63 (168.4)	8	0.88 (22.4)
4"	19.56 (496.8)	4.19 (106.4)	13.0 (330.2)	9.88 (251)	7.5 (190.5)	8	0.75 (19.1)	13.63 (346.2)	10.19 (258.8)	7.88 (200.2)	8	0.88 (22.4)
5"	18.44 (468.4)	4.19 (106.4)	15.75 (400.1)	9.25 (235)	8.5 (215.9)	8	0.88 (22.4)	16.63 (422.4)	10.38 (263.7)	9.25 (235.0)	8	0.88 (22.4)
6"	19.19 (487.4)	4.19 (106.4)	17.75 (450.9)	9.88 (251)	9.5 (241.3)	8	0.88 (22.4)	18.63 (473.2)	11.0 (279.4)	10.63 (270)	12	0.88 (22.4)

Specifications

Action	Stem up: "L" port 100% to "C" port; Full CCW Stem down: "U" port 100% to "C" port; Full CW
Rangeability	50 to 1
Body Rating	See chart above
Valve Sizes	2-1/2 to 6 inches
Body Type	Three-way, flanged connections, ANSI Class 125 or 250
Flow Characteristics	Linear
Cv Rating	See chart above
Material	
Valve	Iron body; 316 stainless-steel stem; bronze or stainless-steel trim; self-adjusting, V-ring Teflon packing
Actuator	Black flame-retardant polymer; UL94-5V plenum rating
Linkage	MEP-7000s, glass-filled nylon MEP-7700s, all metal

Leakage Rate	< 0.1%
Actuators	Refer to "Models" section
Input	Proportional 2-10 VDC or tri-state (floating)
Fail-safe	Switch-selectable fail direction (on relevant models)
Torque	150 in-lbs. or 300 in-lbs.
Temperature Limits	See charts above
Medium	32° to 250° F (0° to 121° C)
Ambient	35° to 120° F (2° to 49° C)
Shipping	-40° to 140° F (-40° to 60° C)

KMC Controls, Inc.

19476 Industrial Drive

New Paris, IN 46553

574.831.5250

www.kmcccontrols.com; info@kmcccontrols.com