

Description and Application

The electronic KMC VEG-43 series control globe valves are two-way, straight-through valves for control of hot water, chilled water, or low pressure steam. Valves are single-seated and range in size from 1/2" to 2" with equal percentage flow characteristics. Self-adjusting packing and stainless-steel stems make these valves ideal for many applications.

These control valves use KMC ControlSet actuators. An optional "fail-safe" feature allows failure to an open or closed position upon loss of 24 VAC supply. A gear disengagement feature allows positioning of the valve stem/plug without energizing the actuator. These valves meet ANSI Class IV specifications.

Features

- ◆ Choice of tri-state (floating) or proportional inputs and fail-safe (with switch-selectable direction) or non-fail-safe ControlSet actuators
- ◆ Self-adjusting packing
- ◆ Stainless-steel stems
- ◆ Gear disengagement for manual valve operation
- ◆ Equal percentage flow characteristics

Accessories/Repair Parts

With All Actuators

HPO-5013 Replacement packing 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

With MEP-72xx Actuators (Only)

CME-7001 Rotary auxiliary cam switch, single
 CME-7002 Rotary auxiliary cam switch, double



With
MEP-4801/4802
Actuator

With
MEP-5372/5373
Actuator

With
MEP-7200 Series
Actuator

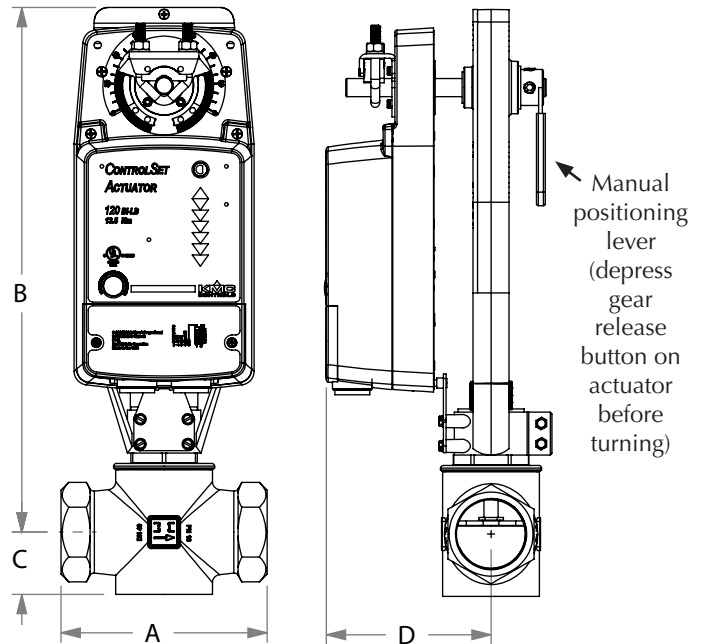
Specifications

Action	Stem up to open; full CCW
Rangeability	30 to 1
Body Rating	250 psi (1724 kPa)
Valve Sizes	1/2" through 2" NPT
Body Type	2-way, single-seated, NPT female connections
Flow Characteristics	Equal percentage
Sizes & Cv Ratings	1/2" = 4.6; 3/4" = 6.9; 1" = 11.6; 1-1/4" = 18.5; 1-1/2" = 29.0; 2" = 46.4
Leakage Rating	ANSI Class IV (0.01% of Cv)
Steam Rating	15.3 psig (105 kPa)
Actuators	See Models section and respective actuator data sheet
Material	
Valve	Bronze body and seat; 303 stainless-steel stem; brass plug w/ EPM discs; EPM V-ring type, self-adjusting packing
Linkage	Glass-filled nylon; black
Temperature Limits	
Medium	35° to 250° F (2° to 121° C)
Ambient	35° to 120° F (2° to 49° C)
Shipping	-40° to 140° F (-40° to 60° C)

Models and Details

Model #	Size/Cv	Close-Off (psi)	Actuator	Weight (lbs.)	
VEG-4302JR	EF	1/2"/4.6	190	MEP-4801, tri-state	5.9
	EK	1/2"/4.6	190	MEP-4802, 0-10 VDC	5.9
	DH	1/2"/4.6	148	MEP-5373, tri-state, fail-safe	7.3
	DL	1/2"/4.6	148	MEP-5372, 2-10 VDC, fail-safe	7.3
VEG-4303DR	EF	3/4"/6.9	190	MEP-4801, tri-state	6
	EK	3/4"/6.9	190	MEP-4802, 0-10 VDC	6
	DH	3/4"/6.9	148	MEP-5373, tri-state, fail-safe	7.4
	DL	3/4"/6.9	148	MEP-5372, 2-10 VDC, fail-safe	7.4
VEG-4304CR	FF	1"/11.6	222	MEP-7201, tri-state	10.3
	FK	1"/11.6	222	MEP-7202, 0-10 VDC	10.3
	FH	1"/11.6	222	MEP-7251, tri-state, fail-safe	10.8
	FL	1"/11.6	222	MEP-7252, 0-10 VDC, fail-safe	10.8
VEG-4305AR	FF	1-1/4"/18.5	148	MEP-7201, tri-state	11.2
	FK	1-1/4"/18.5	148	MEP-7202, 0-10 VDC	11.2
	FH	1-1/4"/18.5	148	MEP-7251, tri-state, fail-safe	11.7
	FL	1-1/4"/18.5	148	MEP-7252, 0-10 VDC, fail-safe	11.7
VEG-4306AR	FF	1-1/2"/29.0	95	MEP-7201, tri-state	13.3
	FK	1-1/2"/29.0	95	MEP-7202, 0-10 VDC	13.3
	FH	1-1/2"/29.0	95	MEP-7251, tri-state, fail-safe	13.8
	FL	1-1/2"/29.0	95	MEP-7252, 0-10 VDC, fail-safe	13.8
VEG-4308AR	FF	2"/46.4	63	MEP-7201, tri-state	15.7
	FK	2"/46.4	63	MEP-7202, 0-10 VDC	15.7
	FH	2"/46.4	63	MEP-7251, tri-state, fail-safe	16.2
	FL	2"/46.4	63	MEP-7252, 0-10 VDC, fail-safe	16.2

All actuators are linked CW to close



Size NPT	Dimensions in inches (mm)			
	A	B	C	D
1/2"	3.35 (85)	14.00 (356)	1.50 (38)	4.06 (103)
3/4"	3.35 (85)	14.00 (356)	1.50 (38)	4.06 (103)
1"	4.13 (105)	14.19 (360)	1.77 (45)	4.58 (116)
1-1/4"	4.72 (112)	14.31 (363)	1.89 (48)	4.58 (116)
1-1/2"	5.71 (145)	14.59 (371)	2.24 (57)	4.58 (116)
2"	6.50 (165)	14.94 (379)	2.64 (67)	4.58 (116)

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Description and Application

The electronic KMC VEG-45 series control globe valves are three-way, mixing valves for control of hot or chilled water. Valves range in size from 1/2" to 2" with linear flow characteristics. Self-adjusting packing and stainless-steel stems make these valves ideal for many applications.

These control valves utilize KMC ControlSet actuators. An optional "fail-safe" feature allows failure to either inlet upon loss of 24 VAC supply. A gear disengagement feature allows positioning of the valve stem/plug without energizing the actuator. These valves meet ANSI Class IV specifications.

Features

- ◆ Choice of tri-state (floating) or proportional inputs and fail-safe (with switch-selectable direction) or non-fail-safe ControlSet actuators
- ◆ Self-adjusting packing
- ◆ Stainless-steel stems
- ◆ Gear disengagement for manual valve operation
- ◆ Linear flow characteristics

Accessories/Repair Parts

With All Actuators

HPO-5013 Replacement packing 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

With MEP-72xx Actuators (Only)

CME-7001 Rotary auxiliary cam switch, single
 CME-7002 Rotary auxiliary cam switch, double



With MEP-7200 Series Actuator

With MEP-5372/5373 Actuator

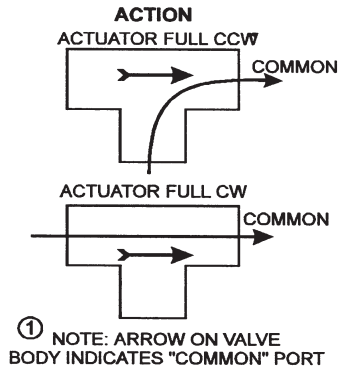
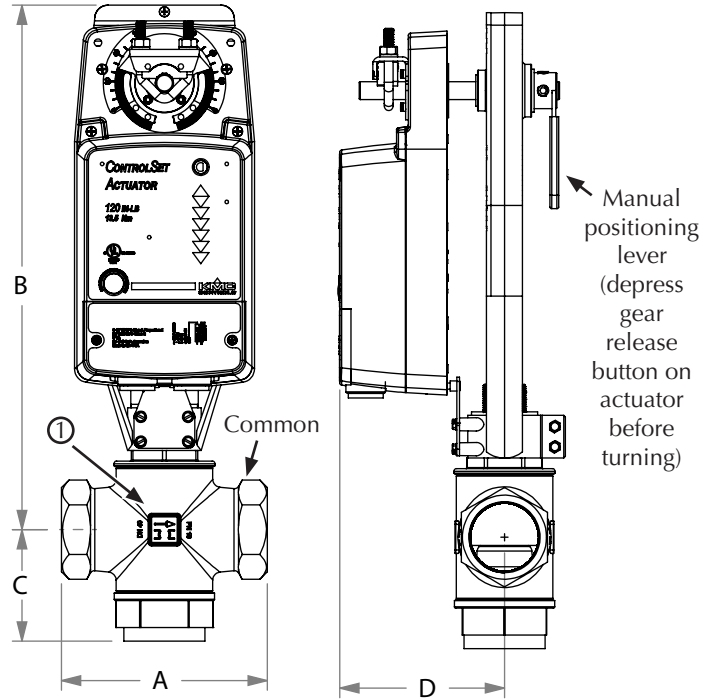
With MEP-4801/4802 Actuator

Specifications

Action	Three-way mixing
Rangeability	30 to 1
Body Rating	250 psi (1724 kPa)
Valve Sizes	1/2" through 2" NPT
Body Type	3-way mixing, female NPT inlets and outlet
Flow Characteristics	Linear
Sizes & Cv Ratings	1/2" = 4.6; 3/4" = 6.9; 1" = 11.6; 1-1/4" = 18.5; 1-1/2" = 29.0; 2" = 46.4
Leakage Rating	ANSI Class IV (0.01% of Cv)
Actuators	See Models section and respective actuator data sheet
Material	
Valve	Bronze body and seat; 303 stainless-steel stem; brass plug w/ EPM discs; EPM V-ring type, self-adjusting packing
Linkage	Glass-filled nylon; black
Temperature Limits	
Medium	35° to 250° F (2° to 121° C)
Ambient	35° to 120° F (2° to 49° C)
Shipping	-40° to 140° F (-40° to 60° C)

Models and Details

Model #	Size/Cv	Close-Off (psi)	Actuator	Weight (lbs.)
VEG-4502JR	EF	1/2"/4.6	MEP-4801, tri-state	5.9
	EK	1/2"/4.6	MEP-4802, 0-10 VDC	5.9
	DH	1/2"/4.6	MEP-5373, tri-state, fail-safe	7.3
	DL	1/2"/4.6	MEP-5372, 2-10 VDC, fail-safe	7.3
VEG-4503DR	EF	3/4"/6.9	MEP-4801, tri-state	6
	EK	3/4"/6.9	MEP-4802, 0-10 VDC	6
	DH	3/4"/6.9	MEP-5373, tri-state, fail-safe	7.4
	DL	3/4"/6.9	MEP-5372, 2-10 VDC, fail-safe	7.4
VEG-4504CR	FF	1"/11.6	MEP-7201, tri-state	10.3
	FK	1"/11.6	MEP-7202, 0-10 VDC	10.3
	FH	1"/11.6	MEP-7251, tri-state, fail-safe	10.8
	FL	1"/11.6	MEP-7252, 0-10 VDC, fail-safe	10.8
VEG-4505AR	FF	1-1/4"/18.5	MEP-7201, tri-state	11.2
	FK	1-1/4"/18.5	MEP-7202, 0-10 VDC	11.2
	FH	1-1/4"/18.5	MEP-7251, tri-state, fail-safe	11.7
	FL	1-1/4"/18.5	MEP-7252, 0-10 VDC, fail-safe	11.7
VEG-4506AR	FF	1-1/2"/29.0	MEP-7201, tri-state	13.3
	FK	1-1/2"/29.0	MEP-7202, 0-10 VDC	13.3
	FH	1-1/2"/29.0	MEP-7251, tri-state, fail-safe	13.8
	FL	1-1/2"/29.0	MEP-7252, 0-10 VDC, fail-safe	13.8
VEG-4508AR	FF	2"/46.4	MEP-7201, tri-state	15.7
	FK	2"/46.4	MEP-7202, 0-10 VDC	15.7
	FH	2"/46.4	MEP-7251, tri-state, fail-safe	16.2
	FL	2"/46.4	MEP-7252, 0-10 VDC, fail-safe	16.2



Size NPT	Dimensions in inches (mm)			
	A	B	C	D
1/2"	3.35 (85)	14.00 (356)	2.72 (69)	4.06 (103)
3/4"	3.35 (85)	14.00 (356)	2.72 (69)	4.06 (103)
1"	4.13 (105)	14.19 (360)	2.80 (71)	4.58 (116)
1-1/4"	4.72 (112)	14.31 (363)	2.95 (75)	4.58 (116)
1-1/2"	5.71 (145)	14.59 (371)	3.11 (79)	4.58 (116)
2"	6.50 (165)	14.94 (379)	3.54 (90)	4.58 (116)

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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

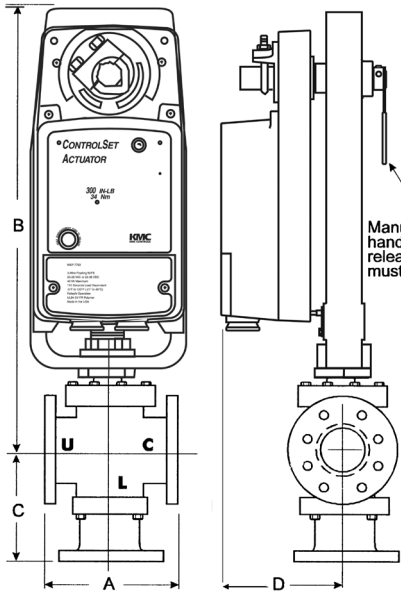
- 62: 2-1/2" = 68
- 63: 3" = 91
- 64: 4" = 190
- 65: 5" = 280
- 66: 6" = 340

▲ CAUTION

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

Details

Dimensions in inches (mm)



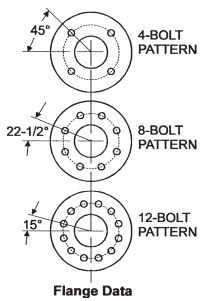
NOTE: All valves are linked **L** to **C** with actuator Full CCW (stem up).
Stem up: Lower port to **Common** port.
Stem down: **Upper** port **Common** port.

Manual positioning handle. Gear release button must be pushed first.

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)

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Description

The VEP-5400 Series control valves are three-way diverting 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. A **gear disengagement** feature allows positioning of the valve stem/plug without energizing the actuator.

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.

An optional **“fail-safe”** feature allows simple **switch-selectable fail direction** to either outlet 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 outlet) 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-54 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)

Flange Rating

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

Size/Cv Range

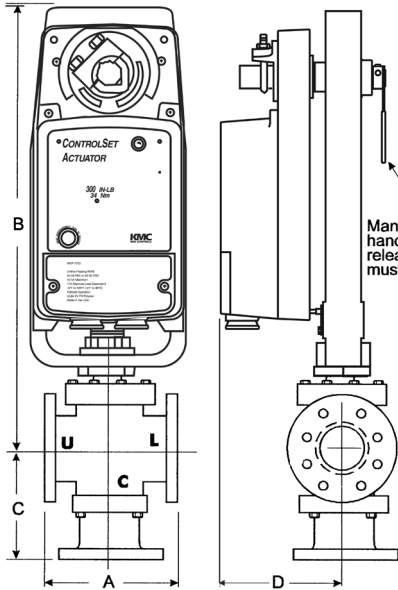
- 53: 2-1/2"= 68/75
- 54: 3"= 85/95
- 55: 4"= 154/165
- 58: 5"= 195/220
- 59: 6"= 248/275

▲ CAUTION

The difference between the upper and lower port pressure must not exceed 50 PSID.

Details

Dimensions in inches (mm)



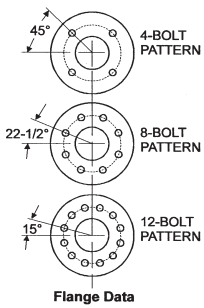
NOTE: All valves are linked **C** to **L** with actuator full CCW (stem up).
Stem up: Lower port to **Common** port.
Stem down: **Upper** port **Common** port.

Manual positioning handle. Gear release button must be pushed first.

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)	
		(1) MEP-7000s	(1) MEP-7700s	125# Flange	250# Flange
2-1/2"	68/75	293* (2020)	na	67 (30.4)	81 (36.7)
3"	85/95	267* (1841)	na	83 (37.7)	102 (46.3)
4"	154/165	221* (1524)	na	146 (66.3)	172 (78.0)
5"	195/220	na	197* (1358)	164 (74.4)	225 (102.0)
6"	248/275	na	111 (765)	213 (96.7)	294 (133.4)

*Not to exceed body ratings per above chart.



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"	17.63 (447.8)	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"	18.44 (468.4)	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"	19.25 (489)	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"	20.0 (508)	4.19 (106.4)	12.0 (304.8)	10.5 (266.7)	8.5 (215.9)	8	0.88 (22.4)	12.88 (327.2)	10.94 (277.9)	9.25 (235.0)	8	0.88 (22.4)
6"	20.69 (525.5)	4.19 (106.4)	14.13 (358.9)	11.06 (280.9)	9.5 (241.3)	8	0.88 (22.4)	14.50 (368.3)	11.5 (292.1)	10.63 (270)	12	0.88 (22.4)

Specifications

Action	Stem up: "C" port 100% to "L" port; Full CCW Stem down: "C" port 100% to "U" 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	< 0.5%
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)

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Description

The VEP-5500 Series control valves are two-way, straight-through valves designed for control of hot water, chilled water, or saturated steam. These double-seated valves range in size from 2-1/2 to 6 inches with equal percentage flow characteristics. Self-adjusting, V-ring Teflon® packing and stainless-steel stems make these valves ideal for many applications.

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

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.

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

Features

- ◆ Double-seated valves
- ◆ Equal percentage flow characteristics
- ◆ Self-adjusting V-ring Teflon packing
- ◆ Stainless-steel stems
- ◆ Gear disengagement feature allows manual valve operation
- ◆ “Fail-safe” switch-selectable open or close 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-55 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)

Flange Rating

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

Size/Cv Range

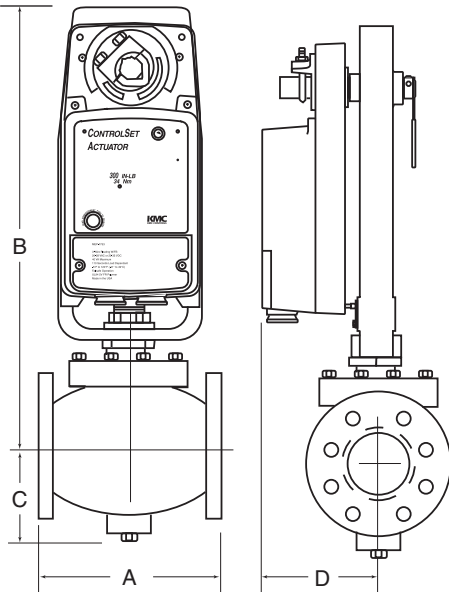
- 50: 2-1/2", 70
- 51: 3", 100
- 52: 4", 200
- 56: 5", 260
- 57: 6", 350

▲ CAUTION

***Do not use bronze trim for water service if close-off pressure exceeds 100 PSID or for steam service if inlet pressure exceeds 40 PSIG.**

Details

Dimensions in inches (mm)

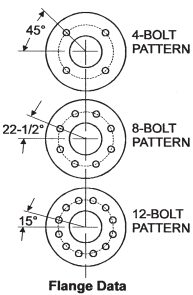


NOTE: All actuators are linked clockwise to close.

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)	
		(1) MEP-7000s	(1) MEP-7700s	125# Flange	250# Flange
2-1/2"	70	593* (4089)	na	40 (18.2)	50 (22.7)
3"	100	469* (3234)	na	50 (22.7)	62 (28.1)
4"	200	307* (2117)	na	85 (38.6)	104 (47.2)
5"	260	na	336* (2317)	136 (61.7)	174 (78.9)
6"	350	na	263* (1813)	181 (82.1)	232 (103.2)

*Not to exceed body ratings per above chart.



A-D = See Diagram Above

E = Bolt Circle Diameter

F = Quantity of Holes

G = Diameter of Holes

Dimensions and Bolt Hole Information (See Diagrams)												
	All Valves			125# Flanges				250# Flanges				
SIZE	B	D	A	C	E	F	G	A	C	E	F	G
2-1/2"	17.13 (435.1)	4.19 (106.4)	7.75 (196.9)	4 (101.6)	5.5 (139.7)	4	0.75 (19.1)	8.38 (212.9)	4 (101.6)	5.88 (149.4)	8	0.88 (22.4)
3"	17.38 (441.5)	4.19 (106.4)	9 (228.6)	4.25 (108)	6 (152.4)	4	0.75 (19.1)	9.75 (247.7)	4.25 (108)	6.63 (168.4)	8	0.88 (22.4)
4"	18.88 (479.6)	4.19 (106.4)	11.38 (289.1)	4.88 (124)	7.5 (190.5)	8	0.75 (19.1)	12 (304.8)	4.88 (124)	7.88 (200.20)	8	0.88 (22.4)
5"	20.06 (509.5)	4.19 (106.4)	12 (304.8)	6.63 (168.4)	8.5 (215.9)	8	0.88 (22.4)	12.88 (327.2)	6.63 (168.4)	9.25 (235.0)	8	0.88 (22.4)
6"	20.94 (531.9)	4.19 (106.4)	14.13 (358.8)	7.38 (187.5)	9.5 (241.3)	8	0.88 (22.4)	14.5 (368.3)	7.38 (187.5)	10.63 (270.0)	12	0.88 (22.4)

Specifications

Action	Stem up: open; full CCW Stem down: closed; full CW
Rangeability	50 to 1
Body Rating	See chart above
Valve Sizes	2-1/2 to 6 inches
Body Type	Double-seated, flanged connections, ANSI Class 125 or 250
Flow Characteristics	Equal percentage
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	< 0.5%

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)

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VEP-5800 Series 2-Way, Electric, Single-Seated, Flanged Valves

Description

The VEP-5800 Series control valves are two-way straight-through valves designed for control of hot water, chilled water, or saturated steam. These single-seated valves range in size from 2-1/2 to 6 inches with equal percentage flow characteristics. Self-adjusting, V-ring Teflon® packing and stainless-steel stems make these valves ideal for many applications. A **gear disengagement** feature allows positioning of the valve stem/plug without energizing the actuator.

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.

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

Features

- ◆ Single-seated valves
- ◆ Equal percentage flow characteristics
- ◆ Self-adjusting V-ring Teflon packing
- ◆ Stainless-steel stems
- ◆ Gear disengagement feature allows manual valve operation
- ◆ “Fail-safe” switch-selectable open or close 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-58 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

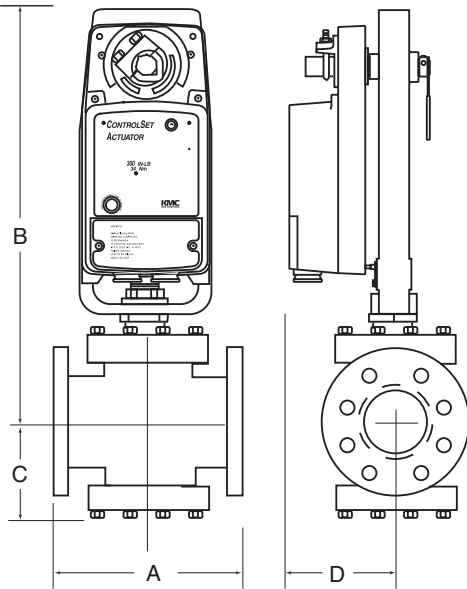
- 70: 2-1/2" = 65
- 71: 3" = 90
- 72: 4" = 170
- 73: 5" = 255
- 74: 6" = 335

⚠ CAUTION

***Do not use bronze trim for water service if close-off pressure exceeds 100 PSID or for steam service if inlet pressure exceeds 40 PSIG.**

Details

Dimensions in inches (mm)

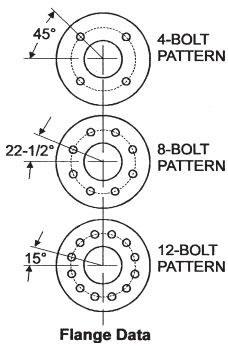


NOTE: All actuators are linked clockwise to close.

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)

Close-Off Ratings and Product Weights						
Size	Cv	PSI (kPa) Close-Off Rating			Weight in Pounds (kg)	
		(1) MEP-7000s	(1) MEP-7000s	(2) MEP-7000s	125# Flanges	250# Flanges
2-1/2"	65	39.5 (272)	97 (669)	na	63 (29)	74 (34)
3"	90	25 (172)	65 (448)	na	74 (34)	87 (40)
4"	170	na	18 (124)	46 (317)	122** (55)	141** (64.0)
5"	255	na	10 (81)	28 (193)	141** (64)	176** (79.8)
6"	335	na	na	18 (124)	188 (85)	248 (113.0)

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



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# Flange					250# Flange				
	B	D	A	C	E	F	G	A	C	E	F	G
2-1/2"	17.69 (449.3)	4.19 (106.4)	9 (228.6)	4.56 (115.8)	5.5 (139.7)	4	.75 (19.1)	9.63 (244.8)	4.56 (115.8)	5.88 (149.4)	8	.88 (22.4)
3"	18.5 (469.9)	4.19 (106.4)	10 (254)	5.25 (133.4)	6 (152.4)	4	.75 (19.1)	10.75 (273.1)	5.25 (133.4)	6.63 (168.4)	8	.88 (22.4)
4"	19.56 (496.8)	4.19 (106.4)	13 (330.2)	6.19 (157.2)	7.5 (190.5)	8	.75 (19.1)	13.63 (346.2)	6.19 (157.2)	7.88 (200.2)	8	.88 (22.4)
5"	20.19 (512.8)	4.19 (106.4)	15.75 (400.1)	5.63 (143.0)	8.5 (215.9)	8	.88 (22.4)	16.63 (422.4)	5.63 (143.0)	9.25 (235.0)	8	.88 (22.4)
6"	20.81 (528.6)	4.19 (106.4)	17.75 (450.9)	6.38 (162.1)	9.5 (241.3)	8	0.88 (22.4)	18.63 (473.20)	6.38 (162.1)	10.63 (270.0)	12	0.88 (22.4)

Specifications

Action	Stem up: open; full CCW Stem down: closed; full CW
Rangeability	50 to 1
Body Rating	See chart above
Valve Sizes	2-1/2 to 6 inches
Body Type	Single-seated, flanged connections, ANSI Class 125 or 250
Flow Characteristics	Equal percentage
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)

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