

Description

These zone control valves are designed to regulate the flow of hot or chilled water to VAV terminal unit reheat coils, fan coil units, and induction units. The VEP-11/12 models have a straight-through body design, while the VEP-21/22 have a right-angle body design.

The compact design of these units allows easy installation within small enclosures. The fully enclosed electric actuator has heat-resistant lead wires and is readily installed or removed via a screw-on ring nut. Each control valve actuator utilizes a PTC thermal element for dependable long-life and noise-free operation.

Valve bodies are all normally open. The actuator determines the normally open or normally closed function.

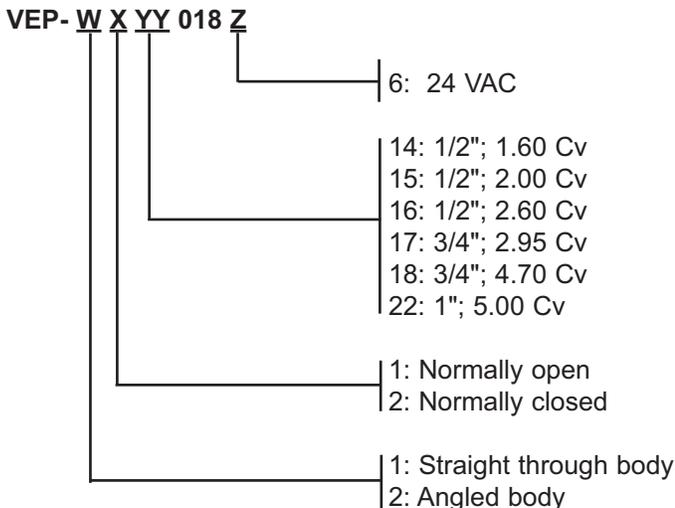


Features

- ◆ Straight-through or right-angle body designs
- ◆ Compact size
- ◆ Heat-resistant lead wires
- ◆ Fully enclosed electric actuator
- ◆ NO or NC, dependent on actuator

Models

Use this chart to select the desired model of valve:

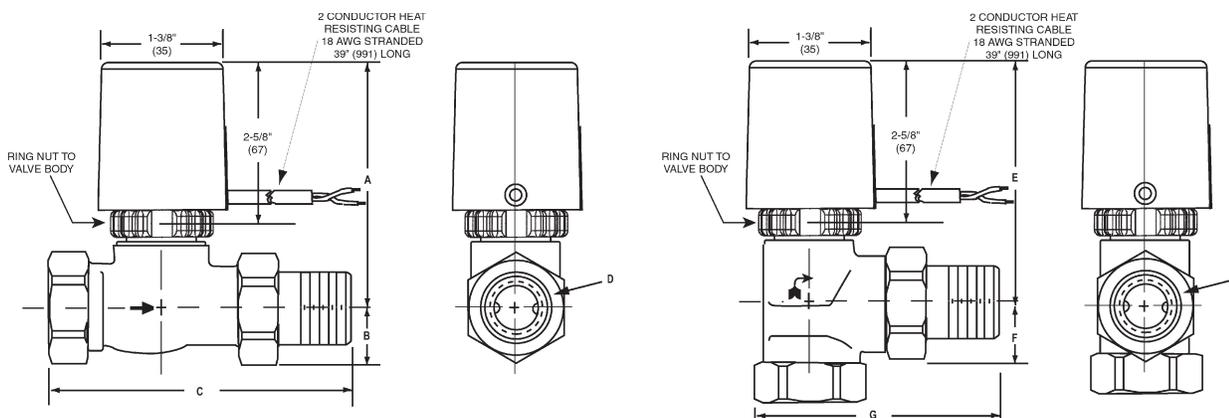


Accessories/Repair Parts

HMO-4530	Flexible conduit connector
HPO-5021	3/4" union nut
HPO-5022	1" union nut
HPO-5030	1/2" bonnet assembly; 2.00 Cv
HPO-5031	1/2" bonnet assembly; 2.60 Cv
HPO-5032	3/4" bonnet assembly; 2.95 Cv
HPO-5033	3/4" bonnet assembly; 4.70 Cv
HPO-5035	1/2" bonnet assembly; 1.60 Cv
HPO-5055	Amplifier for normally closed valves
HPO-5058	1/2" union nut
HPO-5059	1/2" MPT union
HPO-5065	1/2" replacement disc; 2.00 Cv
HPO-5066	1/2" replacement disc; 2.60 Cv
HPO-5067	3/4" replacement disc; 2.95 Cv
HPO-5068	3/4" replacement disc; 4.70 Cv
MEP-3001	24 VAC normally closed actuator
MEP-3006	24 VAC normally open actuator
REE-5017	Electronic relay for modulating control of a NC valve
REE-5024	Electronic relay for modulating control of a NO valve

Dimensions

All dimensions in inches (mm).



VEP-11/12 SERIES						VEP-21/22 SERIES				
DIMENSION	A	B	C	D	WEIGHT	E	F	G	WEIGHT	
1/2"	Cv: 1.60	3-5/32" (80)	21/32" (17)	3-9/16" (91)	1/2" MPT	1 lb. (.45 kg)	3-5/32" (81)	1" (25) (25)	2-3/4" (70)	1.00 lb. (.45 kg)
	Cv: 2.00					1.05 lb. (.48 kg)				1.05 lb. (.48 kg)
	Cv: 2.60									
3/4"	Cv: 2.95	3-7/32" (82)	13/16" (21)	4-7/16" (113)	3/4" MPT	1.2 lb. (.54 kg)	3-1/8" (79) (79)	1-1/8" (29)	3-13/32" (87)	1.20 lb. (.54 kg) (.54 kg)
	Cv: 4.70	3-7/16" (87) (89)				1.4 lb. (.64 kg)				
1"	Cv: 5.00	3-3/8" (86)	1-1/16" (27)	5-9/16" (141)	1" MPT	1.84 lb. (.83 kg)				

Specifications

Action

Normally Open VEP-11/21 Series
 Normally Closed VEP-12/22 Series

Sizes and Cv Ratings

1/2" 1.60, 2.00, and 2.60 Cv
 3/4" 2.95 and 4.70 Cv
 1" 5.00 Cv

Maximum Differential

N.O./ N.C.	N.C. w/ HPO-5055
1/2", 1.60 Cv/ 130 psi (896 kPa)	145 psi (1000 kPa)
1/2", 2.00 Cv/ 70 psi (482 kPa)	105 psi (724 kPa)
1/2", 2.60 Cv/ 38 psi (262 kPa)	57 psi (393 kPa)
3/4", 2.95 Cv/ 50 psi (344 kPa)	76 psi (524 kPa)
3/4", 4.70 Cv/ 13 psi (89 kPa)	20 psi (138 kPa)
1", 5.00 Cv/ 16 psi (110 kPa)	24 psi (165 kPa)

Actuator Voltages 24 VAC (MEP-3001/3006)

Power 3 watts operating; 14 watts average cold start-up surge

Stroke Timing 50 to 180 seconds full stroke

Body Ratings 168 psi (1163 kPa) @ 212° F
 232 psi (1599 kPa) @ 35.6° F

Connections

Inlet FPT
 Outlet MPT

Material

Body and Seat Bronze
 Packing Double O-ring
 Disc EPDM
 Stem Stainless Steel

Temperature Limits

Ambient 32° to 120° F (0° to 49° C)
 Shipping 0° to 140° F (-18° to 60° C)
 Medium 35.6° to 212° F (2° to 100° C)

KMC Controls, Inc.

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Description

These Zone Control valves are designed for the control of hot or chilled water in radiation, fan coil, and other terminal unit applications. The VEP-15 series uses a straight through valve body design while the VEP-25 series have right angle bodies. Both series are available in 1/2", 3/4", and 1" line sizes. The compact size allows for easy installation within small enclosures. The fully enclosed actuator has 39" lead wires, and is easily removed, or installed via the knurled nut.

These valves utilize two different types of actuators; tri-state or proportional. The tri-state actuator requires separate 24 VAC signals to drive the actuator open or closed. With both signals off, the actuator is motionless. The proportional actuators require a 24 VAC power source and a 2 to 10 VDC input signal to drive the actuator from closed to open. Two proportional models are available; 2 to 10 VDC or 10 to 2 VDC operation. The proportional actuator switches off at the full open or closed position. The proportional actuator also recalibrates the closed to open stroke to the control signal after 4,000 cycles or after a power failure.

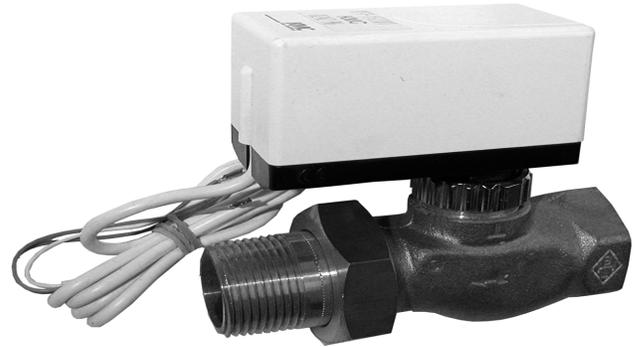
Features

- ◆ Tri-State or Proportional Actuators
- ◆ Compact size
- ◆ Fully enclosed electric actuator

Accessories/Repair Parts

The following accessories and repair parts are available for these models:

HPO-5021	3/4" union nut
HPO-5022	1" union nut
HPO-5030	1/2" bonnet assembly; 2.00 Cv
HPO-5031	1/2" bonnet assembly; 2.60 Cv
HPO-5032	3/4" bonnet assembly; 2.95 Cv
HPO-5033	3/4" bonnet assembly; 4.25 Cv
HPO-5035	1/2" bonnet assembly; 1.60 Cv
HPO-5058	1/2" union nut
HPO-5059	1/2" MPT union
HPO-5062	3/4" MPT union

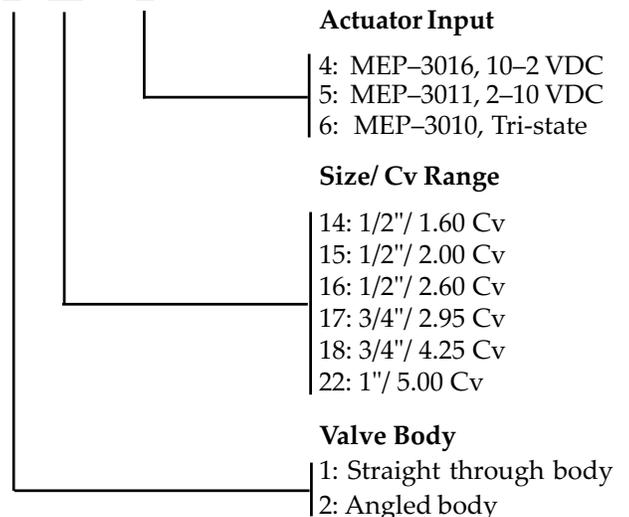


HPO-5063	1" MPT union
HPO-5065	1/2" replacement disc; 2.00 Cv
HPO-5066	1/2" replacement disc; 2.60 Cv
HPO-5067	3/4" replacement disc; 2.95 Cv
HPO-5068	3/4" replacement disc; 4.25 Cv
MEP-3010	24 VAC Tri-state
MEP-3011	24 VAC, 2-10 VDC
MEP-3016	24 VAC, 10-2 VDC

Models

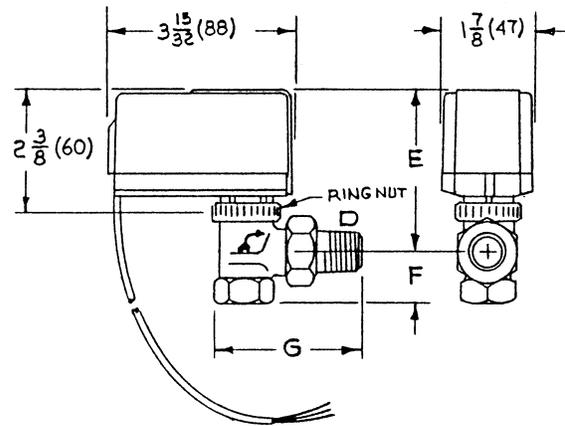
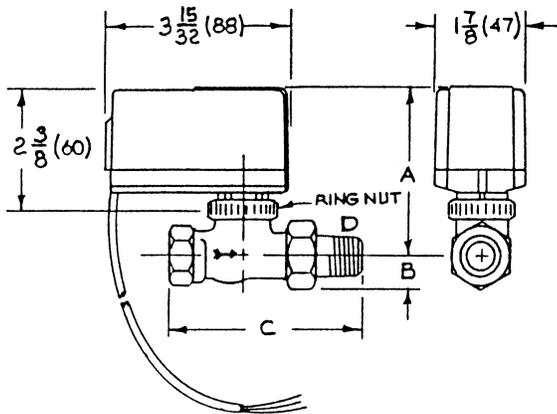
Use the following chart to make your model selection:

VEP-X 5 YY 019 Z



Details

All dimensions in inches (mm).



VEP15 SERIES						VEP-25 SERIES				
DIMENSION	A	B	C	D	WEIGHT	E	F	G	WEIGHT	
1/2"	Cv. 1.60	3-7/32" (82)	21/32" (17)	3-9/16" (91)	1/2" NPT	1.10 lb. (.49 kg)	3-7/32" (82)	1" (25)	2-3/4" (70)	1.10 lb. (.49 kg)
	Cv. 2.00					1.46 lb. (.66 kg)				1.46 lb. (.66 kg)
	Cv. 2.60									
3/4"	Cv. 2.95	3-9/32" (83)	13/16" (21)	4-7/16" (113)	3/4" NPT	1.27 lb. (.58 kg)	3-3/16" (81)	1-1/8" (29)	3-13/32" (87)	1.27 lb. (.58 kg)
	Cv. 4.25	3-9/16" (91)				1.47 lb. (.67 kg)	3-11/32" (85)	1-1/8" (24)	3-15/32" (88)	1.47 lb. (.67 kg)
1"	Cv. 5.00	3-7/16" (87)	1-1/16" (27)	5-9/16" (141)	1" NPT	1.90 lb. (.86 kg)	3-7/16" (87)	1-1/2" (38)	3-27/32" (98)	1.90 lb. (.86 kg)

Specifications

Body Style

Straight Through VEP-15 Series
Right Angle VEP-25 Series

Sizes & Cv Ratings

1/2" 1.60, 2.00 and 2.60 Cv
3/4" 2.95 and 4.25 Cv
1" 5.00 Cv

Maximum Differential

1/2", 1.60 Cv 145 psi (1000 kPa)
1/2", 2.00 Cv 105 psi (723 kPa)
1/2", 2.60 Cv 57 psi (393 kPa)
3/4", 2.95 Cv 76 psi (524 kPa)
3/4", 4.25 Cv 20 psi (137 kPa)
1", 5.00 Cv 24 psi (165 kPa)

Actuator Input Tri-state, 24 VAC (MEP-3010)
2 to 10 VDC (MEP-3011)
10 to 2 VDC (MEP-3016)

Power Requirements

MEP-3010 24 VAC +25/-10% @0.7 VA
MEP-3011/3016 24 VAC +25/-35% @ 1.5VA

Stroke Timing

MEP-3010 140 seconds
MEP-3011/3016 50 seconds

Body Ratings

168 psi (1163 kPa) @ 212° F
232 psi (1599 kPa) @ 35.6° F

Connections

Inlet FPT
Outlet MPT

Material

Body and Seat Bronze
Packing Double O-ring
Disc EPDM
Stem Stainless Steel

Temperature Limits

Medium 35.6° to 212° F (2° to 100° C)
Ambient 32° to 120° F (0° to 49° C)
Shipping 0° to 140° F (-18° to 60° C)

KMC Controls, Inc.

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Description

The VEP-3420 and VEP-3421 series are 3-way diverting, zone valves available in 3/4" and 1" line sizes designed to regulate hot or chilled water in VAV terminal unit reheat coils, fan coil units and induction units.

The compact size allows easy installation in small enclosures. The fully enclosed electric actuator has heat resistant lead-wires and is readily installed or removed, via a screw-on ring nut.

These valves utilize three different types of actuators:

The MEP-3001 (24VAC) is used for systems requiring 2-position fail-safe (full flow) operation. The unit utilizes a PTC thermal element for dependable long-life and noise-free operation.

The MEP-3010 is a tri-state actuator which requires separate 24 VAC signals to drive the actuator open or closed. With both signals off, the actuator is motionless.

The MEP-3011 proportional actuator requires a 24 VAC power source and a 2 to 10 VDC input signal to drive the actuator. The proportional actuator powers down at the full open or closed position. The proportional actuator also recalibrates the closed to open stroke to the control signal after 4000 cycles, or after a power failure.

Features

- ◆ Available in with three types of actuators
- ◆ Fully enclosed electric actuator
- ◆ Compact size

Models

The following models are available:

VEP-34200186	3/4"; 2-Position, Fail-safe
VEP-34210186	1"; 2-Position, Fail-safe
VEP-34200195	3/4"; 2 to 10 VDC
VEP-34200196	3/4"; Tri-State
VEP-34210195	1"; 2 to 10 VDC
VEP-34210196	1"; Tri-State



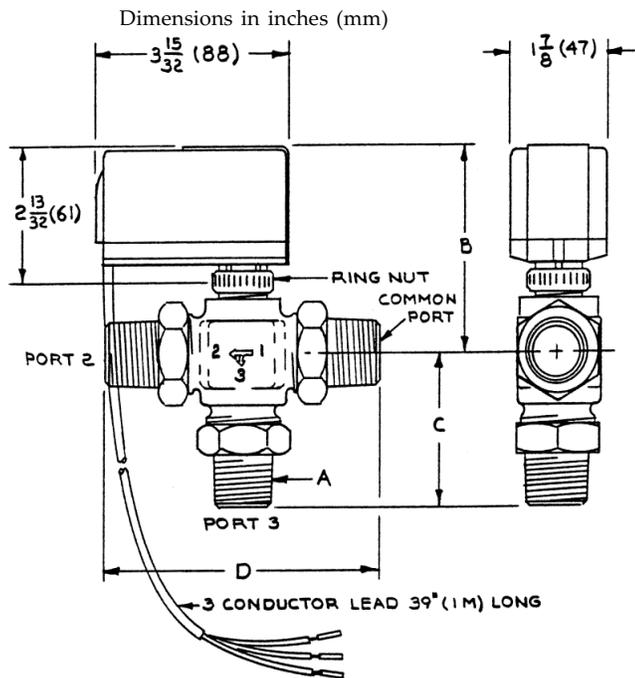
Model shown with 3 compression unions.

Accessories/Repair Parts

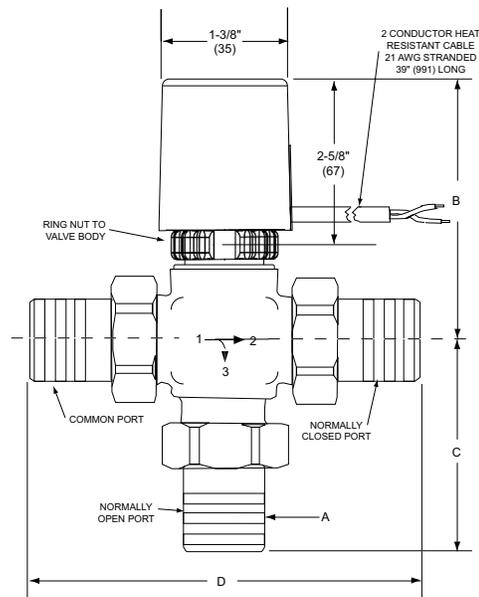
The following accessories and repair parts are available for these models:

HMO-4530	Flexible conduit connector for MEP-3001
HPO-5017	3/4" union gasket
HPO-5018	1" union gasket
HPO-5021	3/4" union nut
HPO-5022	1" union nut
HPO-5026	3/4" MPT compression union
HPO-5027	1" MPT compression union
HPO-5070	3/4" replacement disc
HPO-5071	1" replacement disc
MEP-3001	24 VAC actuator Normally Closed for the VEP-34200186 and VEP-34210186
MEP-3010	24 VAC, Tri-state for VEP-34200196 and VEP-34210196
MEP-3011	24 VAC, 2-10 VDC VEP-34200195 and VEP-34210195

Details



VEP- 3420/3421 Dimensions			
A	B	C	D
3/4" MPT	3 19/32" (91)	2 3/4" (70)	5 1/8" (130)
1" MPT	3 27/32" (98)	3 1/8" (79)	5 7/8" (149)



VEP 3420/21 Fail-Safe Dimension			
A	B	C	D
3/4" MPT	3 13/16" (97)	2 3/4" (70)	5 1/8" (130)
1" MPT	4 1/16" (103)	3 1/8" (79)	5 7/8" (149)

Specifications

Sizes & Cv Rating

3/4"	4.9 Cv
1"	8.5 Cv

Maximum Differential

VEP-3420/21	3/4"	24 psi (165 kPa)
	1"	20 psi (137 kPa)
VEP-3420/21 FS	3/4"	16 psi (110 kPa)
	1"	13 psi (282 kPa)

Actuator Inputs

MEP-3001	On/Off, 24 VAC
MEP-3010	Tri-State, 24 VAC
MEP-3011	2-10 VDC

Power Requirements

MEP-3001	24 VAC @ 3 VA (10VA in-rush)
MEP-3010	24 VAC +25/-10% @ 0.7 VA
MEP-3011	24 VAC +25/-35% @ 1.5 VA

Stroke Timing

MEP-3001	180 seconds
MEP-3010	140 seconds
MEP-3011	50 seconds

Body Ratings

168 psi (1163 kPa) @ 212° F
232 psi (1599 kPa) @ 35.6° C

Connections

Compression unions; 3 req'd per valve. Order separately:

3/4"	HPO-5026
1"	HPO-5027

Material

Body and Seat	Bronze
Packing	Double O-ring
Disc	EPDM
Stem	Stainless Steel

Weight

3/4"	2 lb.s (.91 kg)
1"	3.13 lbs. (1.42 kg)

Temperature Limits

Medium	35.6° to 212°F (2° to 100°C)
Ambient	32° to 120° F (0° to 49° C)
Shipping	0° to 140° F (-18° to 60° C)

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