

# ELECTRICALLY ACTUATED

## 3-WAY MIXING BRONZE AND STAINLESS STEEL- 1/2" - 2"



VA3014CC-E026



VA3009AC-E029

### NOTES:

- 1) Inlet Pressure cannot exceed Body Pressure-Temperature Rating.
- 2) Shut-off pressures listed are with respect to stated ANSI Leakage Classes.
- 3) Flowing PSID for water service should be no greater than 2/3 of Inlet Pressure unless verified for absence of cavitation with Warren Valve Sizing Program.

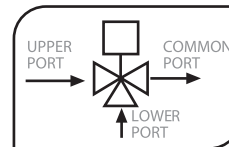


### ► APPLICATION:

Control of Water; Water & Glycol Solutions to 60%.  
Valves mix two flows together (Converging) Seat Leakage Class ANSI III & IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.15 Bronze 250lb. Threaded (NPT) or Stainless Steel (CF8M) 300 lb. threaded (NPT)  
Trim: Linear, 316 Series Stainless Steel  
Stem: 316 Stainless Steel  
Bonnet: Brass / Bronze or 316 Stainless Steel  
Packing: EPDM Lip Packing (+20 to 350°F) Standard (EPDM is **not** suitable for use with oils, hydrocarbons, or acids.) PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
Agency Approval: CRN # CSA - OC18997 (Bronze Body Only)



### ► TRIM LIMITS (Flowing Differential Pressure):

S/S Trim: Liquid to 100 PSID

### ► ACTUATOR SPECIFICATIONS:

Control Signal: 2-10 Vdc  
(4-20 mAdc with 500 ohm resistor Kit KR500-supplied with motor)  
Control Action, Loss of Signal: Increasing Signal Opens Lower Port/ Closes Upper Port, Loss of Signal Closes Lower Port/ Opens Upper Port (Default Setting) Reversible with Switch. Can be specified when ordering.  
Feedback Signal: 2-10 Vdc

Power Supply: 24 VAC/DC  
Loss of Power: **E024 & E029** (FAIL LAST POSITION)  
**E031** (E029 w/ VMS-50 BCM, FAIL SAFE TO LOSS OF SIGNAL POSITION)  
**E025 & E026** (ELECTRONIC FAIL SAFE)  
Fail Lower Port Closed/ Upper Port Open (Default Setting)  
Reversible with Switch. Can be specified when ordering.

Power Consumption  
Running: **E024** 2W; **E025** 3W; **E026** 5W; **E029** 6W;  
**E031** Battery Charging 12.84W; Battery charged 7.2W  
Holding: **E024** 1.5W; **E025** 2W; **E026** 2W; **E029** 1.5W;  
**E031** Battery Charging 8.34W; Battery charged 2.7W  
Transformer sizing: **E024** 4VA; **E025** 7VA; **E026** 9.5VA; **E029** 11VA;  
**E031** N/A  
Switching Power Supply **E031** 24Vdc 2.0A  
Timing: See Configuration Tables  
Manual Override: Hex crank (supplied with actuator)  
Construction: Aluminum Die Cast and Plastic Housing  
Locations: NEMA Type 2 / IP54, UL enclosure type 2  
Temperature Limits: +32°F to 122°F Ambient  
Mounting: Vertical above centerline of valve  
Safety Agency Listing: CE, cULus

### ► VMS-50 BCM (BACK-UP CONTROL MODULE) SPECIFICATIONS:

Required for Fail Safe Operation with fail last position (Actuators E024 & E029)  
(One VMS-50BCM can operate one, two or three actuators at a time)  
The E031 includes a VMS-50 BCM. The VMS-50 BCM does not include a VMS-50 PS.  
Fail Direction: Fail Safe to Loss of Signal Position  
Power Requirement: 24 Vdc 2.0 A from Separate External Switching Power Supply  
Power Output: 24 Vdc 48W Total  
Construction: Battery w/Circuit Board & Transformer in the Nema 4x Enclosure  
Mounting: Wall Mount  
Dimensions: 8.75" (W) x 6.97" (H) x 5.19" (D) (See page 34)  
Safety Agency Listing: Not Listed

### ► VMS-50 PS (SWITCHING POWER SUPPLY) SPECIFICATIONS:

Required to supply 24Vdc power to the VMS-50 BCM Back-up Control Module  
The VMS-50 BCM does not include a VMS-50 PS.  
Input: 115 VAC 50/60 Hz 1.5A  
Power Output: 24 Vdc 2.0 A  
Input Connector: Three Pin Input Plug  
Construction: Molded Plastic  
Dimensions: 4.31" (L) x 2.16" (W) x 1.62" (H)  
Safety Agency Listing: UL Listed

**Note:** If the building already has a 24 Vdc circuit rated at or above 2.0 Amps that is available for use with the VMS-50 BCM, then the VMS-50 PS is not required.

**3-WAY MIXING BRONZE AND STAINLESS STEEL - 1/2" - 2"**

► **ACTUATOR & VALVE CONFIGURATIONS:** Select Valve & Actuator Code in Tables:

**Fail Last Position**

ACTUATOR CODE **E024**

Cv	Size (IN)	Thd NPT		Trim	Bronze Valve Code	Stainless Steel Valve Code	SHUT-OFF (PSID)		Max Timing (SEC)	
		Bronze	ST STL				CL III	CL IV	Motor	Fail Safe
6.3	0.5	250	300	S/S	VA3004AC	VA3004EC	238	203	90	
8.2	0.75	250	300	S/S	VA3005AC	VA3005EC	238	203	90	
10	1	250	300	S/S	VA3006AC	VA3006EC	238	203	90	
18.5	1.25	250	300	S/S	VA3007AC	VA3007EC	100	76	90	
20	1.5	250	300	S/S	VA3008AC	VA3008EC	100	76	90	
40	2	250	300	S/S	VA3009AC	VA3009EC	58	39	90	

**Fail Safe**

ACTUATOR CODE **E025**

Cv	Size (IN)	Thd NPT		Trim	Bronze Valve Code	Stainless Steel Valve Code	SHUT-OFF (PSID)		Max Timing (SEC)	
		Bronze	ST STL				CL III	CL IV	Motor	Fail Safe
6.3	0.5	250	300	S/S	VA3004AC	VA3004EC	238	203	90	35
8.2	0.75	250	300	S/S	VA3005AC	VA3005EC	238	203	90	35
10	1	250	300	S/S	VA3006AC	VA3006EC	238	203	90	35
18.5	1.25	250	300	S/S	VA3007AC	VA3007EC	100	76	90	35
20	1.5	250	300	S/S	VA3008AC	VA3008EC	100	76	90	35
40	2	250	300	S/S	VA3009AC	VA3009EC	58	39	90	35

**Fail Safe**

ACTUATOR CODE **E026**

Cv	Size (IN)	Thd NPT		Trim	Bronze Valve Code	Stainless Steel Valve Code	SHUT-OFF (PSID)		Max Timing (SEC)	
		Bronze	ST STL				CL III	CL IV	Motor	Fail Safe
10	1	250	300	S/S	VA3006AC	VA3006EC	351	315	90	35
18.5	1.25	250	300	S/S	VA3007AC	VA3007EC	151	127	90	35
20	1.5	250	300	S/S	VA3008AC	VA3008EC	151	127	90	35
40	2	250	300	S/S	VA3009AC	VA3009EC	90	71	90	35

**Fail Last Position/ Fail Safe**

ACTUATOR CODE **E029/E031**

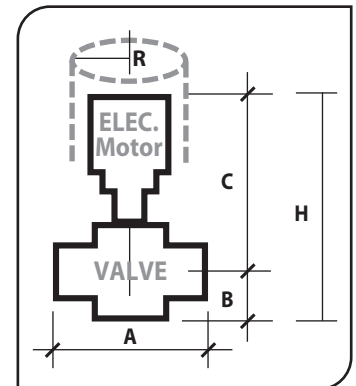
Cv	Size (IN)	Thd NPT		Trim	Bronze Valve Code	Stainless Steel Valve Code	Fail Last Position (Actuator Code)	Fail Safe w/VMS50 (Actuator Code)	SHUT-OFF (PSID)		Max Timing (SEC)	
		Bronze	ST STL						CL III	CL IV	Motor	Fail Safe
18.5	1.25	250	300	S/S	VA3007AC	VA3007EC	E029	E031	400	381	90	
20	1.5	250	300	S/S	VA3008AC	VA3008EC	E029	E031	400	381	90	
40	2	250	300	S/S	VA3009AC	VA3009EC	E029	E031	248	229	90	

► **Dimensions (IN):**

Component	Variable	Dimension by Valve Size (IN)					
		1/2 & 3/4	1	1-1/4	1-1/2	2	
A	250THD	4-7/8	4-7/8	5-3/4	5-3/4	6-1/2	
A	300THD	5	5	6-1/8	6-1/8	6-1/2	
B	250THD	2-23/32	2-23/32	3-13/16	3-13/16	4	
B	300THD	2-23/32	2-23/32	3-3/8	3-3/8	3-3/4	
C	E024	11-1/2	11-1/2	12-1/8	12-1/8	12-3/8	
C	E025	12-1/8	12-1/8	12-3/4	12-3/4	13	
C	E026/E029/E031	-	15-3/8	16	16	16-1/4	
H	E024 250THD	14-7/32	14-7/32	15-15/16	15-15/16	16-3/8	
H	E025 250THD	14-27/32	14-27/32	15-9/16	15-9/16	17	
H	E026/E029/E031 250THD	-	18-3/32	18-13/16	18-13/16	20-1/4	
H	E024 300THD	13-27/32	13-27/32	15-1/8	15-1/8	15-3/4	
H	E025 300THD	14-19/32	14-19/32	15-7/8	15-7/8	16-1/2	
H	E026/E029/E031 300THD	18-3/32	18-3/32	19-3/8	19-3/8	20	
R*	E024/E029/E031	7-1/2	7-1/2	7-1/2	7-1/2	7-1/2	
R*	E025/E026	8-3/4	8-3/4	8-3/4	8-3/4	8-3/4	

Allow 6 inch clearance above actuator for removal / service.

\*Center line of Valve to Outside Actuator



**ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS**

TEMP.	BRONZE	ST STL
	250 THD	300 THD
+20 to 100° F	400	720
150° F	400	670
350° F	300	537

Ratings are PSIG  
250 THD pressure boundary meets ANSI B16.15  
300 THD pressure boundary meets ANSI B16.34

**WEIGHTS**

ITEM	WEIGHT (LBS)	
VALVE SIZE (IN)	BRONZE	ST STL
1/2, 3/4, 1	9	8
1-1/4 & 1-1/2	15-1/2	15
2	20	18-1/2
<b>ACTUATOR</b>	<b>LBS</b>	
E024	4	
E025	4-1/2	
E026	8-1/2	
E029/E031	8-1/2	
<b>BCM</b>	<b>LBS</b>	
VMS-50	4-1/2	

Actual shipping weights may vary.