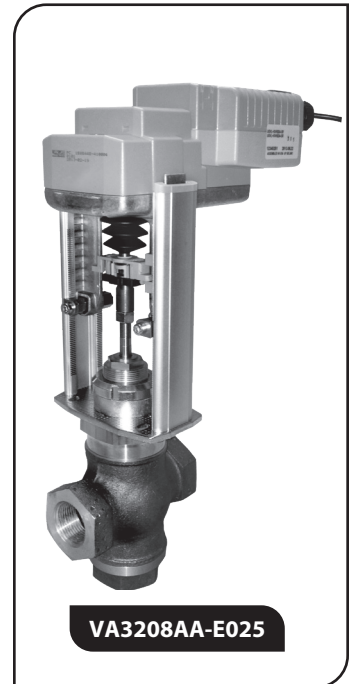
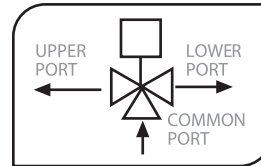


## ▶ APPLICATION:

Control of Water; Water & Glycol Solutions. Valves divert one flow into two directions (Diverting).  
Seat Leakage ANSI Class II.

## ▶ VALVE CONSTRUCTION:

|                  |   |
|------------------|---|
| Body:            | Size 1, 1-1/2 & 2 inch<br>ANSI B16.15 Bronze 250lb. Threaded (NPT)  |
| Trim:            | Linear, Bronze  |
| Stem:            | 316 Stainless Steel   |
| Bonnet:          | Brass   |
| Packing:         | EPDM Lip Packing (+20 to 350°F) Standard<br>(EPDM is <b>not</b> suitable for use with oils,<br>hydrocarbons, or acids.) PTFE V-Ring,<br>(+60 to 350°F) Optional, must be specified on order |
| O-Ring:          | EPR +20 to 300°F  |
| Agency Approval: | CRN # CSA - OC18997 (Bronze Body Only)  |



VA3208AA-E025

## ▶ TRIM LIMITS (Flowing Differential Pressure):

Brz Trim: Liquids to 40 PSID

## ▶ ACTUATOR SPECIFICATIONS:

|                                 |  |
|---------------------------------|--|
| Control Signal:                 | 2-10 Vdc<br>(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,<br>Loss of Signal Closes Lower Port/ Opens Upper Port (Default Setting)<br>Reversible with Switch. Can be specified when ordering.      |
| Feedback Signal:                | 2-10 Vdc   |
| Power Supply:                   | 24 VAC/DC  |
| Loss of Power:                  | <b>E024</b> (FAIL LAST POSITION)<br><b>E025</b> (ELECTRONIC FAIL SAFE)<br>Fail Lower Port Closed/ Upper Port Open (Default Setting)<br>Reversible with Switch. Can be specified when ordering. |
| Power Consumption               |  |
| Running:                        | <b>E024</b> 2W; <b>E025</b> 3W;  |
| Holding:                        | <b>E024</b> 1.5W; <b>E025</b> 2W;  |
| Transformer Sizing:             | <b>E024</b> 4VA; <b>E025</b> 7VA;<br>(24VAC Class 2)   |
| 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  |

## 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.
- 4) The difference between the upper port and the lower port pressure must not exceed 50 PSID.



## ▶ 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.

# ELECTRICALLY ACTUATED

## 3-WAY DIVERTING BRONZE 1" - 2"

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

| Fail Last Position |           |         |      |            | ACTUATOR CODE   | <b>E024</b>      |  |
|--------------------|-----------|---------|------|------------|-----------------|------------------|--|
| Cv                 | Size (IN) | Thd NPT | Trim | Valve Code | SHUT-OFF (PSID) | Max Timing (SEC) |  |
|                    |           |         |      |            | CL II           | Motor            |  |
| 12                 | 1         | 250     | BRZ  | VA3206AA   | 125             | 90               |  |
| 22                 | 1.5       | 250     | BRZ  | VA3208AA   | 125             | 90               |  |
| 40                 | 2         | 250     | BRZ  | VA3209AA   | 125             | 90               |  |

| Fail Safe |           |         |      |            | ACTUATOR CODE   | <b>E025</b>      |           |  |
|-----------|-----------|---------|------|------------|-----------------|------------------|-----------|--|
| Cv        | Size (IN) | Thd NPT | Trim | Valve Code | SHUT-OFF (PSID) | Max Timing (SEC) |           |  |
|           |           |         |      |            | CL II           | Motor            | Fail Safe |  |
| 12        | 1         | 250     | BRZ  | VA3206AA   | 125             | 90               | 35        |  |
| 22        | 1.5       | 250     | BRZ  | VA3208AA   | 125             | 90               | 35        |  |
| 40        | 2         | 250     | BRZ  | VA3209AA   | 125             | 90               | 35        |  |

► Dimensions (IN):

| Component | Variable | Dimension by Valve Size (IN) |         |        |
|-----------|----------|------------------------------|---------|--------|
|           |          | 1                            | 1-1/2   | 2      |
| A         | 250THD   | 4-7/8                        | 5-3/4   | 6-1/2  |
| B         | 250THD   | 3-1/2                        | 3-13/16 | 4      |
| C         | E024     | 11-1/8                       | 11-3/4  | 12     |
| C         | E025     | 11-7/8                       | 12-1/2  | 12-3/4 |
| H         | E024     | 14-5/8                       | 15-9/16 | 16     |
| H         | E025     | 15-3/8                       | 16-5/16 | 16-3/4 |
| R*        | E024     | 7-1/2                        | 7-1/2   | 7-1/2  |
| R*        | E025     | 8-3/4                        | 8-3/4   | 8-3/4  |

**ACTUATED ASSEMBLY  
BODY PRESSURE  
TEMPERATURE RATINGS  
VALVES: 1"-2"**

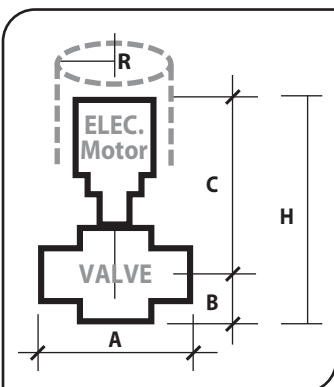
| TEMP.         | 250 THD (RATINGS ARE PSIG) |
|---------------|----------------------------|
| +20 to 150° F | 400                        |
| 300° F        | 335                        |

Ratings are PSIG  
Pressure boundary meets ANSI B16.15

### WEIGHTS

| ITEM                   | WEIGHT (LBS) |
|------------------------|--------------|
| <b>VALVE SIZE (IN)</b> | <b>LBS</b>   |
| 1                      | 9            |
| 1-1/2                  | 16-1/2       |
| 2                      | 21           |
| <b>ACTUATOR</b>        | <b>LBS</b>   |
| E024                   | 4            |
| E025                   | 4-1/2        |
| <b>BCM</b>             | <b>LBS</b>   |
| VMS-50                 | 4-1/2        |

Actual shipping weights may vary.



Allow 6 inch clearance above actuator for removal / service.

\*Center line of Valve to Outside Actuator