

PNEUMATIC

HVAC/BAC

Control Valve Products for

# HVAC / BAC

*(Heating, Ventilation, and Air Conditioning / Building Automation Control)*



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DEPENDABLE, RUGGED, PRECISION CONTROL VALVES AND ACCESSORIES

# HOW TO ORDER YOUR CONTROL VALVE

## ► IDENTIFYING A CONTROL VALVE CONFIGURATION

A **CONFIGURATION** is a control valve formed by the combination of a valve and actuator. Configurations are tabulated by valve capacity (Cv), pipe size, end connection, trim material, actuator size, control characteristic, and shut-off capability (differential pressure).

To order a control valve configuration, locate the line that best meets your application, and specify the appropriate valve code and actuator code. See the example on this page.

| Valve |              |            |      |                 | 50 Actuator<br>20 PSIG Air Supply 50 |                                 |                                          |                                 |
|-------|--------------|------------|------|-----------------|--------------------------------------|---------------------------------|------------------------------------------|---------------------------------|
| Cv    | Size<br>(IN) | Thd<br>NPT | Trim | Valve Code      | 3-8 PSIG RANGE                       |                                 | ALL OTHER RANGES                         |                                 |
|       |              |            |      |                 | Actuator<br>Code                     | SHUT OFF<br>PSID<br>Class<br>IV | w/42 Posi-<br>tioner<br>Actuator<br>Code | SHUT OFF<br>PSID<br>Class<br>IV |
| 4.9   | 0.5          | 250        | S/S  | <b>VA2004AC</b> | D000                                 | 100                             | <b>D002</b>                              | 100                             |
| 7.2   | 0.75         | 250        | S/S  | VA2005AC        | D000                                 | 100                             | D002                                     | 100                             |
| 10    | 1            | 250        | S/S  | VA2006AC        | D000                                 | 100                             | D002                                     | 100                             |
| 22.2  | 1.25         | 250        | S/S  | VA2007AC        | D000                                 | 100                             | D002                                     | 100                             |
| 24    | 1.5          | 250        | S/S  | VA2008AC        | D000                                 | 100                             | D002                                     | 100                             |
| 40    | 2            | 250        | S/S  | VA2009AC        | D000                                 | 100                             | D002                                     | 100                             |

### VA2004AC-D002

Identifies a single seated bronze valve body assembly, 50 Actuator and a Model 42 Positioner.

Note: You may also specify on an order available control signals and/or control actions other than the factory settings.

## ► DETERMINING BODY MATERIAL CONFIGURATION

Matching the valve's body material and end connection to existing piping or specifications is the best choice. Otherwise, to determine what body material and end connection you need, you must first know the pressure and temperature of the medium entering your valve. For most flowing media you will need an approximate idea of the temperature. For saturated steam you can use the steam table below to determine the temperature. Once you know the pressure and temperature, you can use the body pressure-temperature rating table, (below, to determine what body material and end connection you need.

**EXAMPLE 1:** You need a 2-1/2 inch single-seated valve. You have saturated steam entering your valve at 50 PSIG. From the steam table you see the steam has a temperature of 297.7°F. From the valve configuration sheets you know that a 2-1/2 inch single-seated valve is available with an iron body with a 125 flange or an iron body with a 250 flange. Scanning the pressure-temperature rating table, you see that the pressure rating for an iron body with a 125 flange at 297.7°F is not listed but a pressure rating is listed at 300°F. At 300°F the pressure rating is 140 PSIG. Since 300°F exceeds the actual temperature of 297.7°F and the 125 PSIG rating at 300°F exceeds the actual pressure of 50 PSIG, an iron body with a 125 flange is ok.

**EXAMPLE 2:** You need a 6 inch double-seated valve. You have 200 PSIG water entering your valve at 175°F. From the valve configuration sheets you know that a 6 inch double seated valve is available with an iron body with a 125 flange or an iron body with a 250 flange. Scanning the pressure-temperature rating table, you see that the pressure rating for an iron body with a 125 flange at 175°F is 170 PSIG. Since this pressure rating is less than the actual pressure of 200 PSIG, an iron body with a 125 flange is not ok. Scanning the pressure-temperature rating table again, you see that the pressure rating for an iron body with a 250 flange at 175°F is 385 PSIG. Since this 385 PSIG rating is greater than the actual pressure of 200 PSIG, an iron body with a 250 flange is ok.

### Saturated Steam Temperature

| Pressure<br>(PSIG) | Temp (°F) |
|--------------------|-----------|
| 0                  | 212.0     |
| 2                  | 218.5     |
| 4                  | 224.4     |
| 6                  | 229.8     |
| 8                  | 234.6     |
| 10                 | 239.0     |
| 15                 | 249.7     |
| 20                 | 258.8     |
| 25                 | 266.8     |
| 30                 | 274.0     |
| 35                 | 280.6     |
| 40                 | 286.7     |
| 45                 | 292.4     |
| 50                 | 297.7     |
| 55                 | 302.6     |
| 60                 | 307.3     |
| 65                 | 311.8     |
| 70                 | 316.0     |
| 75                 | 320.0     |
| 80                 | 323.9     |
| 85                 | 327.6     |
| 90                 | 331.1     |
| 95                 | 334.6     |
| 100                | 337.9     |
| 105                | 341.1     |
| 110                | 344.1     |
| 115                | 347.1     |
| 120                | 350.0     |

### Body Pressure-Temperature Ratings (PSIG)

| Temp (°F)    | Brz Body<br>Thrd | Iron Body<br>125 Flg | Iron Body<br>Thrd/250 Flg |
|--------------|------------------|----------------------|---------------------------|
| +20 to 100°F | 400              | 175                  | 400                       |
| 150°F        | 400              | 175                  | 400                       |
| 175°F        | 392              | 170                  | 385                       |
| 200°F        | 385              | 165                  | 370                       |
| 225°F        | 375              | 155                  | 355                       |
| 250°F        | 365              | 150                  | 340                       |
| 275°F        | 350              | 145                  | 325                       |
| 300°F        | 335              | 140                  | 310                       |
| 350°F        | 300              | 125                  | 280                       |

## TABLE OF CONTENTS

|                                                                              |              |
|------------------------------------------------------------------------------|--------------|
| <b>How to order your Control Valve .....</b>                                 | <b>2</b>     |
| <b>Pneumatically Actuated Valve Configuration Sheets .....</b>               | <b>4-27</b>  |
| Single-Seated Bronze Normally Open 1/2 Thru 2 inch .....                     | 4-5          |
| Single-Seated Iron Normally Open 2-1/2 Thru 6 inch .....                     | 6-7          |
| Single-Seated Bronze Normally Closed 1/2 Thru 2 inch .....                   | 8-9          |
| Single-Seated Iron Normally Closed 2-1/2 Thru 6 inch .....                   | 10-11        |
| Single-Seated Cylinder Balanced Iron Normally Open 2-1/2 Thru 6 inch .....   | 12-13        |
| Single-Seated Cylinder Balanced Iron Normally Closed 2-1/2 Thru 6 inch ..... | 14-15        |
| Double-Seated Iron Normally Open 2-1/2 Thru 10 inch .....                    | 16-17        |
| Double-Seated Iron Normally Closed 2-1/2 Thru 10 inch .....                  | 18-19        |
| 3-Way Mixing Bronze 1/2 Thru 2 inch .....                                    | 20-21        |
| 3-Way Mixing Iron 2-1/2 Thru 8 inch .....                                    | 22-23        |
| 3-Way Diverting Bronze 1 Thru 2 inch .....                                   | 24-25        |
| 3-Way Diverting Iron 2-1/2 Thru 8 inch .....                                 | 26-27        |
| <b>Terms &amp; Conditions .....</b>                                          | <b>28-29</b> |

### Control Valve Products for HVAC/BAC

Specifying and buying a control valve begins with an understanding of the control and piping systems to which it will be connected. The Warren Controls staff has attempted to make the ordering process "user friendly" by placing products into well-defined categories and tabulating information like pipe size, body and trim materials, and flow capacity factors (Cv), followed by an assortment of actuators ... a lot of information, in a logical format, intended to make your work as easy as possible.



**Customer Service  
Technical Support**

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**[info@warrencontrols.com](mailto:info@warrencontrols.com)**

# PNEUMATICALLY ACTUATED

## SINGLE SEATED BRONZE (NORMALLY OPEN) 1/2"-2"



VA2004AC-D002



VA2009AC-D010

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class IV

### ► VALVE CONSTRUCTION:

Body: ANSI B16.15 Bronze 250lb. Threaded (NPT)  
 Trim: EQ%, 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass / Bronze  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 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: Liquids or Steam to 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

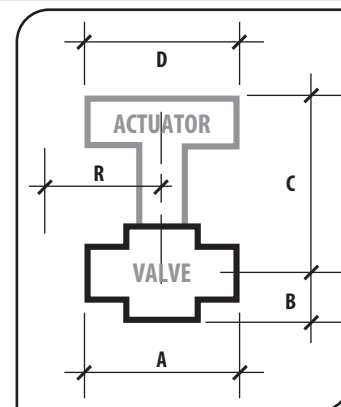
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |               |        |
|-----------|-------------|------------------------------|---------------|--------|
| Variable  |             | 1/2 & 3/4, 1                 | 1-1/4 & 1-1/2 | 2      |
| A         | 250THD      | 4-7/8                        | 5-3/4         | 6-1/2  |
| B         | 250THD      | 2-3/4                        | 3-1/4         | 3-5/8  |
| C         | 50 Actuator | 15-1/2                       | 16-1/8        | 16-3/8 |
| C         | 84 Actuator | 18-7/8                       | 19-1/2        | 19-3/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2        | 10-1/2 |
| D         | 84 Actuator | 13-7/8                       | 13-7/8        | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2         | 7-1/2  |
| R*        | 84 w/42     | 9                            | 9             | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8         | 8-1/8  |



Allow 4-1/8 inch clearance above actuator for removal / service.

\*Center line of Actuator to Outside Point of Positioner

# SINGLE SEATED BRONZE (NORMALLY OPEN) 1/2"-2"

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

| Valve |           |         |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |               |                               |               |
|-------|-----------|---------|------|------------|---------------------------------------------|---------------|-------------------------------|---------------|
| Cv    | Size (IN) | Thd NPT | Trim | Valve Code | 3-8 PSIG RANGE                              |               | ALL OTHER RANGES              |               |
|       |           |         |      |            | Actuator Code                               | SHUT OFF PSID | w/42 Positioner Actuator Code | SHUT OFF PSID |
|       |           |         |      |            |                                             | Class IV      |                               | Class IV      |
| 4.9   | 0.5       | 250     | S/S  | VA2004AC   | D000                                        | 100           | D002                          | 100           |
| 7.2   | 0.75      | 250     | S/S  | VA2005AC   | D000                                        | 100           | D002                          | 100           |
| 10    | 1         | 250     | S/S  | VA2006AC   | D000                                        | 100           | D002                          | 100           |
| 22.2  | 1.25      | 250     | S/S  | VA2007AC   | D000                                        | 100           | D002                          | 100           |
| 24    | 1.5       | 250     | S/S  | VA2008AC   | D000                                        | 100           | D002                          | 100           |
| 40    | 2         | 250     | S/S  | VA2009AC   | D000                                        | 100           | D002                          | 100           |

### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
Mounting: Vertical Above Valve

| Valve |           |         |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |               |                              |                               |                                |               |
|-------|-----------|---------|------|------------|------------------------------------------|---------------|------------------------------|-------------------------------|--------------------------------|---------------|
| Cv    | Size (IN) | Thd NPT | Trim | Valve Code | 3-15 PSIG RANGE                          |               | ALL OTHER RANGES             |                               |                                |               |
|       |           |         |      |            | Actuator Code                            | SHUT OFF PSID | 3-9 PSIG Range Actuator Code | w/42 Positioner Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID |
|       |           |         |      |            |                                          | Class IV      |                              |                               |                                | Class IV      |
| 4.9   | 0.5       | 250     | S/S  | VA2004AC   | D004                                     | 400           | D006                         | D010                          | D014                           | 400           |
| 7.2   | 0.75      | 250     | S/S  | VA2005AC   | D004                                     | 400           | D006                         | D010                          | D014                           | 400           |
| 10    | 1         | 250     | S/S  | VA2006AC   | D004                                     | 301           | D006                         | D010                          | D014                           | 400           |
| 22.2  | 1.25      | 250     | S/S  | VA2007AC   | D004                                     | 120           | D006                         | D010                          | D014                           | 348           |
| 24    | 1.5       | 250     | S/S  | VA2008AC   | D004                                     | 120           | D006                         | D010                          | D014                           | 348           |
| 40    | 2         | 250     | S/S  | VA2009AC   | D004                                     | 67            | D006                         | D010                          | D014                           | 209           |

### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.  
Mounting: Vertical Above Valve

### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.         | 250 THD (RATINGS ARE PSIG) |
|---------------|----------------------------|
| +20 to 150° F | 400                        |
| 350° F        | 300                        |

### WEIGHTS

| ITEM          | WEIGHT |
|---------------|--------|
| VALVE         | LBS    |
| 1/2, 3/4, 1   | 8-1/2  |
| 1-1/4 & 1-1/2 | 14-1/2 |
| 2             | 18-1/2 |
| ACTUATOR      | LBS    |
| 50            | 13     |
| 84            | 48-1/2 |
| POSITIONER    | LBS    |
| 42            | 1      |
| 760P          | 8      |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## SINGLE SEATED IRON (NORMALLY OPEN) 2-1/2" - 6"



VA2010CA-D002



VA2014CC-D015

### ► APPLICATION:

Control of Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III & IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

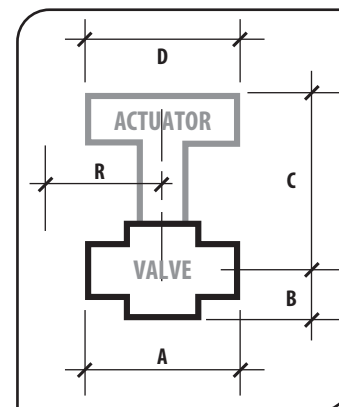
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |              | Dimension by Valve Size (IN) |        |        |        |        |
|-----------|--------------|------------------------------|--------|--------|--------|--------|
| Variable  |              | 2-1/2                        | 3      | 4      | 5      | 6      |
| A         | 125 FLG      | 9                            | 10     | 13     | 15-3/4 | 17-3/4 |
| A         | 250 FLG      | 9-5/8                        | 10-3/4 | 13-5/8 | 16-5/8 | 18-5/8 |
| B         |              | 4-3/4                        | 5-3/8  | 6-3/8  | 5-3/4  | 6-1/2  |
| C         | 50 Actuator  | 17-7/8                       | 18-3/4 | N/A    | N/A    | N/A    |
| C         | 84 Actuator  | 21-1/4                       | 22-1/8 | 23-1/8 | 23-3/4 | 24-3/8 |
| C         | 115 Actuator | 33-1/4                       | 34-1/8 | 35-1/8 | 35-3/4 | 36-3/8 |
| D         | 50 Actuator  | 10-1/2                       | 10-1/2 | N/A    | N/A    | N/A    |
| D         | 84 Actuator  | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| D         | 115 Actuator | 16-3/4                       | 16-3/4 | 16-3/4 | 16-3/4 | 16-3/4 |
| R*        | 50 w/42      | 7-1/2                        | 7-1/2  | N/A    | N/A    | N/A    |
| R*        | 84 w/42      | 9                            | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P    | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |
| R*        | 115 w/760P   | 11-1/4                       | 11-1/4 | 11-1/4 | 11-1/4 | 11-1/4 |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84).  
 Allow 6-1/8 inch clearance above actuator for removal / service (115).  
 \*Center line of Actuator to Outside Point of Positioner

#### 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.

SINGLE SEATED IRON (NORMALLY OPEN) 2-1/2" - 6"

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

| Valve |           |       |      |            | 50 Actuator 20 PSIG Air Supply <b>50</b> |                               |               |          |
|-------|-----------|-------|------|------------|------------------------------------------|-------------------------------|---------------|----------|
|       |           |       |      |            | ALL RANGES                               |                               |               |          |
| Cv    | Size (IN) | Fling | Trim | Valve Code | 3-8 PSIG Range Actuator Code             | w/42 Positioner Actuator Code | SHUT OFF PSID |          |
|       |           |       |      |            |                                          |                               | Class III     | Class IV |
| 65    | 2.5       | 125   | BRZ  | VA2010CA   | D000                                     | D002                          | 96            | 86       |
| 65    | 2.5       | 125   | S/S  | VA2010CC   | D000                                     | D002                          | 96            | 86       |
| 65    | 2.5       | 250   | BRZ  | VA2010DA   | D000                                     | D002                          | 96            | 86       |
| 65    | 2.5       | 250   | S/S  | VA2010DC   | D000                                     | D002                          | 96            | 86       |
| 90    | 3         | 125   | BRZ  | VA2011CA   | D000                                     | D002                          | 64            | 55       |
| 90    | 3         | 125   | S/S  | VA2011CC   | D000                                     | D002                          | 64            | 55       |
| 90    | 3         | 250   | BRZ  | VA2011DA   | D000                                     | D002                          | 64            | 55       |
| 90    | 3         | 250   | S/S  | VA2011DC   | D000                                     | D002                          | 64            | 55       |

**50 ACTUATOR SPECIFICATIONS:**  
 Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

**ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS**

| TEMP.         | 125 FLG (PSIG) | 250 FLG (PSIG) |
|---------------|----------------|----------------|
| +20 to 150° F | 175            | 400            |
| 350° F        | 125            | 280            |

| Valve |           |       |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |               |          |                              |                               |                                |               |          |
|-------|-----------|-------|------|------------|------------------------------------------|---------------|----------|------------------------------|-------------------------------|--------------------------------|---------------|----------|
|       |           |       |      |            | 3-15 PSIG RANGE                          |               |          | ALL OTHER RANGES             |                               |                                |               |          |
| Cv    | Size (IN) | Fling | Trim | Valve Code | Actuator Code                            | SHUT OFF PSID |          | 3-9 PSIG Range Actuator Code | w/42 Positioner Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID |          |
|       |           |       |      |            |                                          | Class III     | Class IV |                              |                               |                                | Class III     | Class IV |
| 65    | 2.5       | 125   | BRZ  | VA2010CA   | D004                                     | 59            | 49       | D006                         | D010                          | D014                           | 162           | 150      |
| 65    | 2.5       | 125   | S/S  | VA2010CC   | D004                                     | 59            | 49       | D006                         | D010                          | D014                           | 162           | 150      |
| 65    | 2.5       | 250   | BRZ  | VA2010DA   | D004                                     | 59            | 49       | D006                         | D010                          | D014                           | 162           | 150      |
| 65    | 2.5       | 250   | S/S  | VA2010DC   | D004                                     | 59            | 49       | D006                         | D010                          | D014                           | 162           | 150      |
| 90    | 3         | 125   | BRZ  | VA2011CA   | D004                                     | 39            | 30       | D006                         | D010                          | D014                           | 110           | 100      |
| 90    | 3         | 125   | S/S  | VA2011CC   | D004                                     | 39            | 30       | D006                         | D010                          | D014                           | 110           | 100      |
| 90    | 3         | 250   | BRZ  | VA2011DA   | D004                                     | 39            | 30       | D006                         | D010                          | D014                           | 110           | 100      |
| 90    | 3         | 250   | S/S  | VA2011DC   | D004                                     | 39            | 30       | D006                         | D010                          | D014                           | 110           | 100      |
| 170   | 4         | 125   | BRZ  | VA2013CA   | D005                                     | 19            | 12       | D007                         | D011                          | D015                           | 59            | 50       |
| 170   | 4         | 125   | S/S  | VA2013CC   | D005                                     | 19            | 12       | D007                         | D011                          | D015                           | 59            | 50       |
| 170   | 4         | 250   | BRZ  | VA2013DA   | D005                                     | 19            | 12       | D007                         | D011                          | D015                           | 59            | 50       |
| 170   | 4         | 250   | S/S  | VA2013DC   | D005                                     | 19            | 12       | D007                         | D011                          | D015                           | 59            | 50       |
| 280   | 5         | 125   | BRZ  | VA2014CA   | D005                                     | 11            | 4        | D007                         | D011                          | D015                           | 36            | 30       |
| 280   | 5         | 125   | S/S  | VA2014CC   | D005                                     | 11            | 4        | D007                         | D011                          | D015                           | 36            | 30       |
| 280   | 5         | 250   | BRZ  | VA2014DA   | D005                                     | 11            | 4        | D007                         | D011                          | D015                           | 36            | 30       |
| 280   | 5         | 250   | S/S  | VA2014DC   | D005                                     | 11            | 4        | D007                         | D011                          | D015                           | 36            | 30       |
| 360   | 6         | 125   | BRZ  | VA2015CA   | D005                                     | 6             | 0        | D007                         | D011                          | D015                           | 24            | 19       |
| 360   | 6         | 125   | S/S  | VA2015CC   | D005                                     | 6             | 0        | D007                         | D011                          | D015                           | 24            | 19       |
| 360   | 6         | 250   | BRZ  | VA2015DA   | D005                                     | 6             | 0        | D007                         | D011                          | D015                           | 24            | 19       |
| 360   | 6         | 250   | S/S  | VA2015DC   | D005                                     | 6             | 0        | D007                         | D011                          | D015                           | 24            | 19       |

| Valve |           |       |      |            | 115 Actuator 20 PSIG Air Supply <b>115</b> |               |          |                              |                                |               |          |  |
|-------|-----------|-------|------|------------|--------------------------------------------|---------------|----------|------------------------------|--------------------------------|---------------|----------|--|
|       |           |       |      |            | 3-15 PSIG RANGE                            |               |          | ALL OTHER RANGES             |                                |               |          |  |
| Cv    | Size (IN) | Fling | Trim | Valve Code | Actuator Code                              | SHUT OFF PSID |          | 3-9 PSIG Range Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID |          |  |
|       |           |       |      |            |                                            | Class III     | Class IV |                              |                                | Class III     | Class IV |  |
| 65    | 2.5       | 125   | S/S  | VA2010CD   | D018                                       | 91            | 75       | D021                         | D027                           | 175           | 175      |  |
| 65    | 2.5       | 250   | S/S  | VA2010DD   | D018                                       | 91            | 75       | D021                         | D027                           | 231           | 215      |  |
| 90    | 3         | 125   | S/S  | VA2011CD   | D018                                       | 61            | 48       | D021                         | D027                           | 158           | 145      |  |
| 90    | 3         | 250   | S/S  | VA2011DD   | D018                                       | 61            | 48       | D021                         | D027                           | 158           | 145      |  |
| 170   | 4         | 125   | S/S  | VA2013CD   | D019                                       | 32            | 22       | D022                         | D028                           | 87            | 77       |  |
| 170   | 4         | 250   | S/S  | VA2013DD   | D019                                       | 32            | 22       | D022                         | D028                           | 87            | 77       |  |
| 280   | 5         | 125   | S/S  | VA2014CD   | D019                                       | 19            | 11       | D022                         | D028                           | 54            | 46       |  |
| 280   | 5         | 250   | S/S  | VA2014DD   | D019                                       | 19            | 11       | D022                         | D028                           | 54            | 46       |  |
| 360   | 6         | 125   | S/S  | VA2015CD   | D019                                       | 12            | 5        | D022                         | D028                           | 36            | 30       |  |
| 360   | 6         | 250   | S/S  | VA2015DD   | D019                                       | 12            | 5        | D022                         | D028                           | 36            | 30       |  |

**WEIGHTS**

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 55           | 64      |
| 3          | 72           | 77      |
| 4          | 119          | 131     |
| 5          | 134          | 166     |
| 6          | 175          | 233     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| 115        | 84           |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.

**84 ACTUATOR SPECIFICATIONS:**

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve

**115 ACTUATOR SPECIFICATIONS:**

Effective Area: 115 Square Inches  
 Construction: Acrylic Enamel Coated Aluminum Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve

# PNEUMATICALLY ACTUATED

## SINGLE SEATED BRONZE (NORMALLY CLOSED) 1/2"-2"



VA7004AC-D003



VA7009AC-D012

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class IV

### ► VALVE CONSTRUCTION:

Body: ANSI B16.15 Bronze 250lb. Threaded (NPT)  
 Trim: EQ%, 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass / Bronze  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approvals: CRN # CSA - OC18997 (Bronze Body Only)

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

S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Opens Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

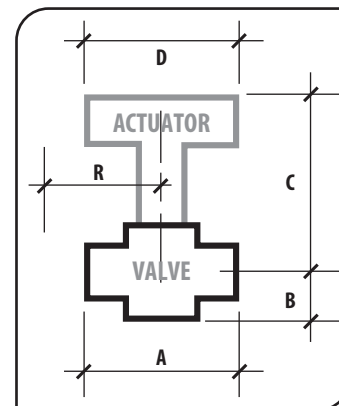
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |               |        |
|-----------|-------------|------------------------------|---------------|--------|
| Variable  |             | 1/2 & 3/4, 1                 | 1-1/4 & 1-1/2 | 2      |
| A         | 250THD      | 4-7/8                        | 5-3/4         | 6-1/2  |
| B         | 250THD      | 2-3/4                        | 3-1/4         | 3-5/8  |
| C         | 50 Actuator | 15-1/2                       | 16-1/8        | 16-3/8 |
| C         | 84 Actuator | 18-7/8                       | 19-1/2        | 19-3/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2        | 10-1/2 |
| D         | 84 Actuator | 13-7/8                       | 13-7/8        | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2         | 7-1/2  |
| R*        | 84 w/42     | 9                            | 9             | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8         | 8-1/8  |



Allow 4-1/8 inch clearance above actuator for removal / service.

\*Center line of Actuator to outside point of Positioner.

**SINGLE SEATED BRONZE (NORMALLY CLOSED) 1/2"-2"**

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

| Valve |           |          |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                               |               |
|-------|-----------|----------|------|------------|---------------------------------------------|-------------------------------|---------------|
| Cv    | Size (IN) | Thrd NPT | Trim | Valve Code | ALL RANGES                                  |                               | SHUT OFF PSID |
|       |           |          |      |            | 8-13 PSIG Range Actuator Code               | w/42 Positioner Actuator Code | Class IV      |
| 4.9   | 0.5       | 250      | S/S  | VA7004AC   | D001                                        | D003                          | 100           |
| 7.2   | 0.75      | 250      | S/S  | VA7005AC   | D001                                        | D003                          | 100           |
| 10    | 1         | 250      | S/S  | VA7006AC   | D001                                        | D003                          | 100           |
| 22.2  | 1.25      | 250      | S/S  | VA7007AC   | D001                                        | D003                          | 100           |
| 24    | 1.5       | 250      | S/S  | VA7008AC   | D001                                        | D003                          | 100           |
| 40    | 2         | 250      | S/S  | VA7009AC   | D001                                        | D003                          | 61            |

**50 ACTUATOR SPECIFICATIONS:**

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

| Valve |           |          |      |            | 84 Actuator<br>20 PSIG Air Supply <b>84</b> |                           |                 |                           |                               |                                |
|-------|-----------|----------|------|------------|---------------------------------------------|---------------------------|-----------------|---------------------------|-------------------------------|--------------------------------|
| Cv    | Size (IN) | Thrd NPT | Trim | Valve Code | 9-15 PSIG RANGE                             |                           | 3-15 PSIG RANGE |                           | ALL OTHER RANGES              |                                |
|       |           |          |      |            | Actuator Code                               | SHUT OFF PSID<br>Class IV | Actuator Code   | SHUT OFF PSID<br>Class IV | w/42 Positioner Actuator Code | w/760 Positioner Actuator Code |
| 4.9   | 0.5       | 250      | S/S  | VA7004AC   | D008                                        | 400                       | D004            | 244                       | D012                          | D016                           |
| 7.2   | 0.75      | 250      | S/S  | VA7005AC   | D008                                        | 400                       | D004            | 244                       | D012                          | D016                           |
| 10    | 1         | 250      | S/S  | VA7006AC   | D008                                        | 400                       | D004            | 132                       | D012                          | D016                           |
| 22.2  | 1.25      | 250      | S/S  | VA7007AC   | D008                                        | 272                       | D004            | 44                        | D035                          | D036                           |
| 24    | 1.5       | 250      | S/S  | VA7008AC   | D008                                        | 272                       | D004            | 44                        | D035                          | D036                           |
| 40    | 2         | 250      | S/S  | VA7009AC   | D008                                        | 161                       | D004            | 19                        | D035                          | D036                           |

**84 ACTUATOR SPECIFICATIONS:**

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.  
 Mounting: Vertical Above Valve

**ACTUATED ASSEMBLY  
BODY PRESSURE  
TEMPERATURE RATINGS**

| TEMP.         | 250 THD (RATINGS ARE PSIG) |
|---------------|----------------------------|
| +20 to 150° F | 400                        |
| 350° F        | 300                        |

**WEIGHTS**

| ITEM          | WEIGHT |
|---------------|--------|
| VALVE         | LBS    |
| 1/2, 3/4, 1   | 8-1/2  |
| 1-1/4 & 1-1/2 | 14-1/2 |
| 2             | 18-1/2 |
| ACTUATOR      | LBS    |
| 50            | 13     |
| 84            | 48-1/2 |
| POSITIONER    | LBS    |
| 42            | 1      |
| 760P          | 8      |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## SINGLE SEATED IRON (NORMALLY CLOSED) 2-1/2" - 6"



VA7010CA-D003



VA7014CC-D017

### ► APPLICATION:

Control of Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III & IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Opens Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

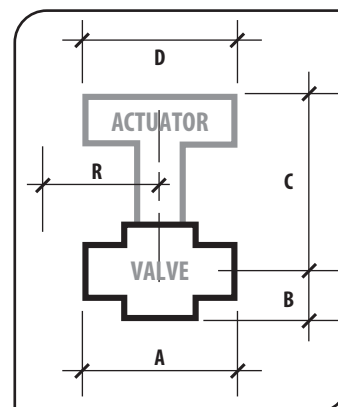
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |              | Dimension by Valve Size (IN) |        |        |        |        |
|-----------|--------------|------------------------------|--------|--------|--------|--------|
| Variable  |              | 2-1/2                        | 3      | 4      | 5      | 6      |
| A         | 125 FLG      | 9                            | 10     | 13     | 15-3/4 | 17-3/4 |
| A         | 250 FLG      | 9-5/8                        | 10-3/4 | 13-5/8 | 16-5/8 | 18-5/8 |
| B         |              | 4-3/4                        | 5-3/8  | 6-3/8  | 7-1/2  | 8-1/8  |
| C         | 50 Actuator  | 17-7/8                       | 18-3/4 | N/A    | N/A    | N/A    |
| C         | 84 Actuator  | 21-1/4                       | 22-1/8 | 23-1/8 | 22     | 22-3/4 |
| C         | 115 Actuator | 33-1/4                       | 34-1/8 | 35-1/8 | 34     | 34-3/4 |
| D         | 50 Actuator  | 10-1/2                       | 10-1/2 | N/A    | N/A    | N/A    |
| D         | 84 Actuator  | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| D         | 115 Actuator | 16-3/4                       | 16-3/4 | 16-3/4 | 16-3/4 | 16-3/4 |
| R*        | 50 w/42      | 7-1/2                        | 7-1/2  | N/A    | N/A    | N/A    |
| R*        | 84 w/42      | 9                            | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P    | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |
| R*        | 115 w/760P   | 11-1/4                       | 11-1/4 | 11-1/4 | 11-1/4 | 11-1/4 |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84).  
 Allow 6-1/8 inch clearance above actuator for removal / service (115).  
 \*Center line of Actuator to Outside Point of Positioner

#### 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.

# SINGLE SEATED IRON (NORMALLY CLOSED) 2-1/2" - 6"

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

| Valve |              |       |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                                        |               |             |
|-------|--------------|-------|------|------------|---------------------------------------------|----------------------------------------|---------------|-------------|
| Cv    | Size<br>(IN) | Fling | Trim | Valve Code | ALL RANGES                                  |                                        |               |             |
|       |              |       |      |            | 8-13 PSIG<br>Range<br>Actuator<br>Code      | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF PSID |             |
|       |              |       |      |            |                                             |                                        | Class<br>III  | Class<br>IV |
| 65    | 2.5          | 125   | BRZ  | VA7010CA   | D001                                        | D003                                   | 55            | 46          |
| 65    | 2.5          | 125   | S/S  | VA7010CC   | D001                                        | D003                                   | 55            | 46          |
| 65    | 2.5          | 250   | BRZ  | VA7010DA   | D001                                        | D003                                   | 55            | 46          |
| 65    | 2.5          | 250   | S/S  | VA7010DC   | D001                                        | D003                                   | 55            | 46          |
| 90    | 3            | 125   | BRZ  | VA7011CA   | D001                                        | D003                                   | 36            | 27          |
| 90    | 3            | 125   | S/S  | VA7011CC   | D001                                        | D003                                   | 36            | 27          |
| 90    | 3            | 250   | BRZ  | VA7011DA   | D001                                        | D003                                   | 36            | 27          |
| 90    | 3            | 250   | S/S  | VA7011DC   | D001                                        | D003                                   | 36            | 27          |

### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
Mounting: Vertical Above Valve

### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.            | 125 FLG<br>(PSIG) | 250 FLG<br>(PSIG) |
|------------------|-------------------|-------------------|
| +20 to<br>150° F | 175               | 400               |
| 350° F           | 125               | 280               |

| Valve |              |      |      |            | 84 Actuator<br>20 PSIG Air Supply 84 |                  |             |                       |                  |             |                                                  |                                                   |                  |             |
|-------|--------------|------|------|------------|--------------------------------------|------------------|-------------|-----------------------|------------------|-------------|--------------------------------------------------|---------------------------------------------------|------------------|-------------|
| Cv    | Size<br>(IN) | FIng | Trim | Valve Code | 9-15 PSIG RANGE                      |                  |             | 3-15 PSIG RANGE       |                  |             | ALL OTHER RANGES                                 |                                                   |                  |             |
|       |              |      |      |            | Actua-<br>tor<br>Code                | SHUT OFF<br>PSID |             | Actua-<br>tor<br>Code | SHUT OFF<br>PSID |             | w/42<br>Posi-<br>tioner<br>Actua-<br>tor<br>Code | w/760<br>Posi-<br>tioner<br>Actua-<br>tor<br>Code | SHUT OFF<br>PSID |             |
|       |              |      |      |            |                                      | Class<br>III     | Class<br>IV |                       | Class<br>III     | Class<br>IV |                                                  |                                                   | Class<br>III     | Class<br>IV |
| 65    | 2.5          | 125  | BRZ  | VA7010CA   | D008                                 | 128              | 121         | D004                  | 25               | 16          | D035                                             | D036                                              | 175              | 165         |
| 65    | 2.5          | 125  | S/S  | VA7010CC   | D008                                 | 128              | 121         | D004                  | 25               | 16          | D035                                             | D036                                              | 175              | 165         |
| 65    | 2.5          | 250  | BRZ  | VA7010DA   | D008                                 | 128              | 121         | D004                  | 25               | 16          | D035                                             | D036                                              | 179              | 165         |
| 65    | 2.5          | 250  | S/S  | VA7010DC   | D008                                 | 128              | 121         | D004                  | 25               | 16          | D035                                             | D036                                              | 179              | 165         |
| 90    | 3            | 125  | BRZ  | VA7011CA   | D008                                 | 86               | 79          | D004                  | 15               | 6           | D035                                             | D036                                              | 122              | 115         |
| 90    | 3            | 125  | S/S  | VA7011CC   | D008                                 | 86               | 79          | D004                  | 15               | 6           | D035                                             | D036                                              | 122              | 115         |
| 90    | 3            | 250  | BRZ  | VA7011DA   | D008                                 | 86               | 79          | D004                  | 15               | 6           | D035                                             | D036                                              | 122              | 115         |
| 90    | 3            | 250  | S/S  | VA7011DC   | D008                                 | 86               | 79          | D004                  | 15               | 6           | D035                                             | D036                                              | 122              | 115         |
| 170   | 4            | 125  | BRZ  | VA7013CA   | D009                                 | 46               | 39          | D005                  | 6                | 0           | D013                                             | D017                                              | 46               | 39          |
| 170   | 4            | 125  | S/S  | VA7013CC   | D009                                 | 46               | 39          | D005                  | 6                | 0           | D013                                             | D017                                              | 46               | 39          |
| 170   | 4            | 250  | BRZ  | VA7013DA   | D009                                 | 46               | 39          | D005                  | 6                | 0           | D013                                             | D017                                              | 46               | 39          |
| 170   | 4            | 250  | S/S  | VA7013DC   | D009                                 | 46               | 39          | D005                  | 6                | 0           | D013                                             | D017                                              | 46               | 39          |
| 280   | 5            | 125  | BRZ  | VA7014CA   | D009                                 | 28               | 22          | -                     | 0                | 0           | D013                                             | D017                                              | 28               | 22          |
| 280   | 5            | 125  | S/S  | VA7014CC   | D009                                 | 28               | 22          | -                     | 0                | 0           | D013                                             | D017                                              | 28               | 22          |
| 280   | 5            | 250  | BRZ  | VA7014DA   | D009                                 | 28               | 22          | -                     | 0                | 0           | D013                                             | D017                                              | 28               | 22          |
| 280   | 5            | 250  | S/S  | VA7014DC   | D009                                 | 28               | 22          | -                     | 0                | 0           | D013                                             | D017                                              | 28               | 22          |
| 360   | 6            | 125  | BRZ  | VA7015CA   | D009                                 | 18               | 13          | -                     | 0                | 0           | D013                                             | D017                                              | 18               | 13          |
| 360   | 6            | 125  | S/S  | VA7015CC   | D009                                 | 18               | 13          | -                     | 0                | 0           | D013                                             | D017                                              | 18               | 13          |
| 360   | 6            | 250  | BRZ  | VA7015DA   | D009                                 | 18               | 13          | -                     | 0                | 0           | D013                                             | D017                                              | 18               | 13          |
| 360   | 6            | 250  | S/S  | VA7015DC   | D009                                 | 18               | 13          | -                     | 0                | 0           | D013                                             | D017                                              | 18               | 13          |

| Valve |           |      |      |            | 115 Actuator 20 PSIG Air Supply 115 |               |          |                               |                                |               |          |  |
|-------|-----------|------|------|------------|-------------------------------------|---------------|----------|-------------------------------|--------------------------------|---------------|----------|--|
|       |           |      |      |            | 3-15 PSIG RANGE                     |               |          | ALL OTHER RANGES              |                                |               |          |  |
|       |           |      |      |            | Actuator Code                       | SHUT OFF PSID |          | 9-15 PSIG Range Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID |          |  |
| Cv    | Size (IN) | Flng | Trim | Valve Code |                                     | Class III     | Class IV |                               |                                | Class III     | Class IV |  |
| 65    | 2.5       | 125  | S/S  | VA7010CD   | D018                                | 44            | 29       | D024                          | D030                           | 175           | 175      |  |
| 65    | 2.5       | 250  | S/S  | VA7010DD   | D018                                | 44            | 29       | D024                          | D030                           | 185           | 176      |  |
| 90    | 3         | 125  | S/S  | VA7011CD   | D018                                | 28            | 15       | D024                          | D030                           | 126           | 116      |  |
| 90    | 3         | 250  | S/S  | VA7011DD   | D018                                | 28            | 15       | D024                          | D030                           | 126           | 116      |  |
| 170   | 4         | 125  | S/S  | VA7013CD   | D019                                | 13            | 4        | D025                          | D031                           | 68            | 59       |  |
| 170   | 4         | 250  | S/S  | VA7013DD   | D019                                | 13            | 4        | D025                          | D031                           | 68            | 59       |  |
| 280   | 5         | 125  | S/S  | VA7014CD   | D019                                | 7             | 0        | D025                          | D031                           | 42            | 34       |  |
| 280   | 5         | 250  | S/S  | VA7014DD   | D019                                | 7             | 0        | D025                          | D031                           | 42            | 34       |  |
| 360   | 6         | 125  | S/S  | VA7015CD   | -                                   | 0             | 0        | D025                          | D031                           | 28            | 22       |  |
| 360   | 6         | 250  | S/S  | VA7015DD   | -                                   | 0             | 0        | D025                          | D031                           | 28            | 22       |  |

### WEIGHTS

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 55           | 64      |
| 3          | 72           | 77      |
| 4          | 119          | 131     |
| 5          | 134          | 166     |
| 6          | 175          | 233     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| 115        | 84           |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.

### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
Mounting: Vertical Above Valve

### 115 ACTUATOR SPECIFICATIONS:

Effective Area: 115 Square Inches  
Construction: Acrylic Enamel Coated Aluminum Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
Mounting: Vertical Above Valve

# PNEUMATICALLY ACTUATED

## SINGLE SEATED CYLINDER BALANCED IRON (NORMALLY OPENED) 2-1/2"- 6"



VA2310CA-D002



VA2314CC-D042

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III & IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Cylinder Seal: EPDM (BRZ Trim) O-Ring  
 Aflas VP101-80 (300 SS Trim) O-Ring  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Valve; Operating Range may differ from Signal Range, Use a Positioner to Match Ranges

### ► ACTUATOR / POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

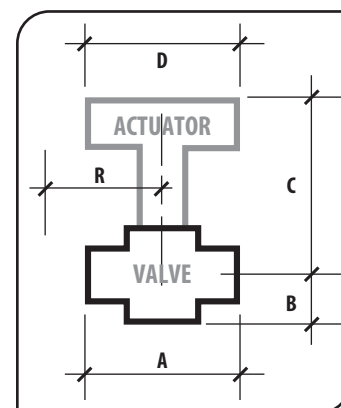
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |        |        |        |        |
|-----------|-------------|------------------------------|--------|--------|--------|--------|
| Variable  |             | 2-1/2                        | 3      | 4      | 5      | 6      |
| A         | 125 FLG     | 9                            | 10     | 13     | 15-3/4 | 17-3/4 |
| A         | 250 FLG     | 9-5/8                        | 10-3/4 | 13-5/8 | 16-5/8 | 18-5/8 |
| B         |             | 4-3/4                        | 5-3/8  | 6-3/8  | 7-1/2  | 8-1/8  |
| C         | 50 Actuator | 18-3/8                       | 19-1/4 | N/A    | N/A    | N/A    |
| C         | 84 Actuator | 21-3/4                       | 22-5/8 | 23-3/4 | 24-1/4 | 24-7/8 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2 | N/A    | N/A    | N/A    |
| D         | 84 Actuator | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2  | N/A    | N/A    | N/A    |
| R*        | 84 w/42     | 9                            | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84). Allow 6-1/8 inch clearance above actuator for removal / service (115). \*Center line of Actuator to Outside point of Positioner

**SINGLE SEATED CYLINDER BALANCED IRON (NORMALLY OPENED) 2-1/2" - 6"**

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

| Valve |              |      |      |            |                                       | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |               |             |
|-------|--------------|------|------|------------|---------------------------------------|---------------------------------------------|---------------|-------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | 3-8 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code      | SHUT OFF PSID |             |
|       |              |      |      |            |                                       |                                             | Class<br>III  | Class<br>IV |
| 65    | 2.5          | 125  | BRZ  | VA2310CA   | D000                                  | D002                                        | 175           | 175         |
| 65    | 2.5          | 125  | S/S  | VA2310CC   | D000                                  | D002                                        | 175           | 175         |
| 65    | 2.5          | 250  | BRZ  | VA2310DA   | D000                                  | D002                                        | 400           | 400         |
| 65    | 2.5          | 250  | S/S  | VA2310DC   | D000                                  | D002                                        | 400           | 400         |
| 90    | 3            | 125  | BRZ  | VA2311CA   | D000                                  | D002                                        | 175           | 175         |
| 90    | 3            | 125  | S/S  | VA2311CC   | D000                                  | D002                                        | 175           | 175         |
| 90    | 3            | 250  | BRZ  | VA2311DA   | D000                                  | D002                                        | 400           | 400         |
| 90    | 3            | 250  | S/S  | VA2311DC   | D000                                  | D002                                        | 400           | 400         |

**50 ACTUATOR SPECIFICATIONS:**

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

| Valve |              |      |      |            |                  | 84 Actuator 20 PSIG Air Supply <b>84</b> |              |                  |                                       |                                        |                                         |                  |
|-------|--------------|------|------|------------|------------------|------------------------------------------|--------------|------------------|---------------------------------------|----------------------------------------|-----------------------------------------|------------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | Actuator<br>Code | 3-15 PSIG RANGE                          |              | ALL OTHER RANGES |                                       |                                        |                                         |                  |
|       |              |      |      |            |                  | SHUT OFF<br>PSID                         | Class<br>III | Class<br>IV      | 3-9 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | w/760<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID |
|       |              |      |      |            |                  |                                          |              |                  |                                       |                                        |                                         |                  |
| 65    | 2.5          | 125  | BRZ  | VA2310CA   | D004             | 175                                      | 175          |                  | D006                                  | D010                                   | D014                                    | 175              |
| 65    | 2.5          | 125  | S/S  | VA2310CC   | D004             | 175                                      | 175          |                  | D006                                  | D010                                   | D014                                    | 175              |
| 65    | 2.5          | 250  | BRZ  | VA2310DA   | D004             | 400                                      | 365          |                  | D006                                  | D010                                   | D014                                    | 400              |
| 65    | 2.5          | 250  | S/S  | VA2310DC   | D004             | 400                                      | 365          |                  | D006                                  | D010                                   | D014                                    | 400              |
| 90    | 3            | 125  | BRZ  | VA2311CA   | D004             | 175                                      | 175          |                  | D006                                  | D010                                   | D014                                    | 175              |
| 90    | 3            | 125  | S/S  | VA2311CC   | D004             | 175                                      | 175          |                  | D006                                  | D010                                   | D014                                    | 175              |
| 90    | 3            | 250  | BRZ  | VA2311DA   | D004             | 393                                      | 259          |                  | D006                                  | D010                                   | D014                                    | 400              |
| 90    | 3            | 250  | S/S  | VA2311DC   | D004             | 393                                      | 259          |                  | D006                                  | D010                                   | D014                                    | 400              |
| 170   | 4            | 125  | BRZ  | VA2313CA   | D037             | 175                                      | 109          |                  | D038                                  | D040                                   | D042                                    | 175              |
| 170   | 4            | 125  | S/S  | VA2313CC   | D037             | 175                                      | 109          |                  | D038                                  | D040                                   | D042                                    | 175              |
| 170   | 4            | 250  | BRZ  | VA2313DA   | D037             | 249                                      | 109          |                  | D038                                  | D040                                   | D042                                    | 400              |
| 170   | 4            | 250  | S/S  | VA2313DC   | D037             | 249                                      | 109          |                  | D038                                  | D040                                   | D042                                    | 400              |
| 280   | 5            | 125  | BRZ  | VA2314CA   | D037             | 161                                      | 20           |                  | D038                                  | D040                                   | D042                                    | 175              |
| 280   | 5            | 125  | S/S  | VA2314CC   | D037             | 161                                      | 20           |                  | D038                                  | D040                                   | D042                                    | 175              |
| 280   | 5            | 250  | BRZ  | VA2314DA   | D037             | 161                                      | 20           |                  | D038                                  | D040                                   | D042                                    | 400              |
| 280   | 5            | 250  | S/S  | VA2314DC   | D037             | 161                                      | 20           |                  | D038                                  | D040                                   | D042                                    | 400              |
| 360   | 6            | 125  | BRZ  | VA2315CA   | D037             | 92                                       | 0            |                  | D038                                  | D040                                   | D042                                    | 175              |
| 360   | 6            | 125  | S/S  | VA2315CC   | D037             | 92                                       | 0            |                  | D038                                  | D040                                   | D042                                    | 175              |
| 360   | 6            | 250  | BRZ  | VA2315DA   | D037             | 92                                       | 0            |                  | D038                                  | D040                                   | D042                                    | 400              |
| 360   | 6            | 250  | S/S  | VA2315DC   | D037             | 92                                       | 0            |                  | D038                                  | D040                                   | D042                                    | 335              |

**84 ACTUATOR SPECIFICATIONS:**

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.  
 Mounting: Vertical Above Valve

**ACTUATED ASSEMBLY  
BODY PRESSURE  
TEMPERATURE RATINGS**

| TEMP.            | 125 FLG<br>(PSIG) | 250 FLG<br>(PSIG) |
|------------------|-------------------|-------------------|
| +20 to<br>150° F | 175               | 400               |
| 350° F           | 125               | 280               |

**CYLINDER SEAL  
TEMPERATURE LIMITS**

+20 to 300° F (BRZ trim)  
 +20 to 350° F (300 SS trim)

**WEIGHTS**

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 57           | 66      |
| 3          | 75           | 80      |
| 4          | 127          | 139     |
| 5          | 149          | 181     |
| 6          | 197          | 256     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## SINGLE SEATED CYLINDER BALANCED IRON (NORMALLY CLOSED) 2-1/2" - 6"



VA7310CA-D003



VA7314CC-D043

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III & IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Cylinder Seal: EPDM (BRZ Trim) O-Ring  
 Aflas VP101-80 (300 SS Trim) O-Ring  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Opens Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► ACTUATOR / POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

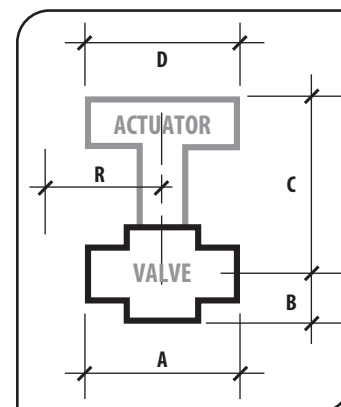
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |        |        |        |        |
|-----------|-------------|------------------------------|--------|--------|--------|--------|
| Variable  |             | 2-1/2                        | 3      | 4      | 5      | 6      |
| A         | 125 FLG     | 9                            | 10     | 13     | 15-3/4 | 17-3/4 |
| A         | 250 FLG     | 9-5/8                        | 10-3/4 | 13-5/8 | 16-5/8 | 18-5/8 |
| B         |             | 4-3/4                        | 5-3/8  | 6-3/8  | 7-1/2  | 8-1/8  |
| C         | 50 Actuator | 17-7/8                       | 18-3/4 | N/A    | N/A    | N/A    |
| C         | 84 Actuator | 21-1/4                       | 22-1/8 | 23-1/8 | 22     | 22-3/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2 | N/A    | N/A    | N/A    |
| D         | 84 Actuator | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2  | N/A    | N/A    | N/A    |
| R*        | 84 w/42     | 9                            | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84).

Allow 6-1/8 inch clearance above actuator for removal / service (115).

\*Center line of Actuator to Outside point of Positioner

# SINGLE SEATED CYLINDER BALANCED IRON (NORMALLY CLOSED) 2-1/2" - 6"

## ▶ ACTUATOR & VALVE CONFIGURATIONS: Select Valve & Actuator Code in Tables:

| Valve |              |      |      |            | 50 Actuator<br>20 PSIG Air Supply      |                                        | 50            |     |
|-------|--------------|------|------|------------|----------------------------------------|----------------------------------------|---------------|-----|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | ALL RANGES                             |                                        |               |     |
|       |              |      |      |            | 8-13 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF PSID |     |
|       |              |      |      |            |                                        | Class<br>III                           | Class<br>IV   |     |
| 65    | 2.5          | 125  | BRZ  | VA7310CA   | D001                                   | D003                                   | 175           | 175 |
| 65    | 2.5          | 125  | S/S  | VA7310CC   | D001                                   | D003                                   | 175           | 175 |
| 65    | 2.5          | 250  | BRZ  | VA7310DA   | D001                                   | D003                                   | 400           | 400 |
| 65    | 2.5          | 250  | S/S  | VA7310DC   | D001                                   | D003                                   | 400           | 400 |
| 90    | 3            | 125  | BRZ  | VA7311CA   | D001                                   | D003                                   | 175           | 175 |
| 90    | 3            | 125  | S/S  | VA7311CC   | D001                                   | D003                                   | 175           | 175 |
| 90    | 3            | 250  | BRZ  | VA7311DA   | D001                                   | D003                                   | 400           | 336 |
| 90    | 3            | 250  | S/S  | VA7311DC   | D001                                   | D003                                   | 400           | 336 |

## 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches

Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.

Mounting: Vertical Above Valve

| Valve        |              |              |             |            | 84 Actuator 20 PSIG Air Supply |               |     | 84                                    |                                        |                                         |               |     |
|--------------|--------------|--------------|-------------|------------|--------------------------------|---------------|-----|---------------------------------------|----------------------------------------|-----------------------------------------|---------------|-----|
|              | Size<br>(IN) | Flng         | Trim        | Valve Code | 3-15 PSIG RANGE                |               |     | ALL OTHER RANGES                      |                                        |                                         |               |     |
|              |              |              |             |            | Actuator<br>Code               | SHUT OFF PSID |     | 9-15PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | w/760<br>Positioner<br>Actuator<br>Code | SHUT OFF PSID |     |
| Class<br>III | Class<br>IV  | Class<br>III | Class<br>IV |            |                                |               |     |                                       |                                        |                                         |               |     |
| 65           | 2.5          | 125          | BRZ         | VA7310CA   | D004                           | 175           | 133 | D008                                  | D012                                   | D016                                    | 175           | 175 |
| 65           | 2.5          | 125          | S/S         | VA7310CC   | D004                           | 175           | 133 | D008                                  | D012                                   | D016                                    | 175           | 175 |
| 65           | 2.5          | 250          | BRZ         | VA7310DA   | D004                           | 342           | 133 | D008                                  | D012                                   | D016                                    | 400           | 400 |
| 65           | 2.5          | 250          | S/S         | VA7310DC   | D004                           | 342           | 133 | D008                                  | D012                                   | D016                                    | 400           | 400 |
| 90           | 3            | 125          | BRZ         | VA7311CA   | D004                           | 175           | 28  | D008                                  | D012                                   | D016                                    | 175           | 175 |
| 90           | 3            | 125          | S/S         | VA7311CC   | D004                           | 175           | 28  | D008                                  | D012                                   | D016                                    | 175           | 175 |
| 90           | 3            | 250          | BRZ         | VA7311DA   | D004                           | 224           | 28  | D008                                  | D012                                   | D016                                    | 400           | 400 |
| 90           | 3            | 250          | S/S         | VA7311DC   | D004                           | 224           | 28  | D008                                  | D012                                   | D016                                    | 400           | 400 |
| 170          | 4            | 125          | BRZ         | VA7313CA   | D037                           | 83            | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 170          | 4            | 125          | S/S         | VA7313CC   | D037                           | 83            | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 170          | 4            | 250          | BRZ         | VA7313DA   | D037                           | 83            | 0   | D039                                  | D041                                   | D043                                    | 400           | 400 |
| 170          | 4            | 250          | S/S         | VA7313DC   | D037                           | 83            | 0   | D039                                  | D041                                   | D043                                    | 400           | 400 |
| 280          | 5            | 125          | BRZ         | VA7314CA   | D037                           | 12            | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 280          | 5            | 125          | S/S         | VA7314CC   | D037                           | 12            | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 280          | 5            | 250          | BRZ         | VA7314DA   | D037                           | 12            | 0   | D039                                  | D041                                   | D043                                    | 400           | 400 |
| 280          | 5            | 250          | S/S         | VA7314DC   | D037                           | 12            | 0   | D039                                  | D041                                   | D043                                    | 400           | 400 |
| 360          | 6            | 125          | BRZ         | VA7315CA   | -                              | 0             | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 360          | 6            | 125          | S/S         | VA7315CC   | -                              | 0             | 0   | D039                                  | D041                                   | D043                                    | 175           | 175 |
| 360          | 6            | 250          | BRZ         | VA7315DA   | -                              | 0             | 0   | D039                                  | D041                                   | D043                                    | 400           | 248 |
| 360          | 6            | 250          | S/S         | VA7315DC   | -                              | 0             | 0   | D039                                  | D041                                   | D043                                    | 400           | 248 |

## 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches

Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.

Mounting: Vertical Above Valve

## ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.            | 125 FLG<br>(PSIG) | 250 FLG<br>(PSIG) |
|------------------|-------------------|-------------------|
| +20 to<br>150° F | 175               | 400               |
| 350° F           | 125               | 280               |

## CYLINDER SEAL TEMPERATURE LIMITS

+20 to 300° F (BRZ trim)  
+20 to 350° F (300 SS trim)

## WEIGHTS

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 57           | 66      |
| 3          | 75           | 80      |
| 4          | 127          | 139     |
| 5          | 149          | 181     |
| 6          | 197          | 256     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## DOUBLE SEATED BALANCED IRON (NORMALLY OPEN) 2-1/2" - 10"



VA2210CA-D002



VA2214CC-D011

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Valve; Operating Range may differ from Signal Range, Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

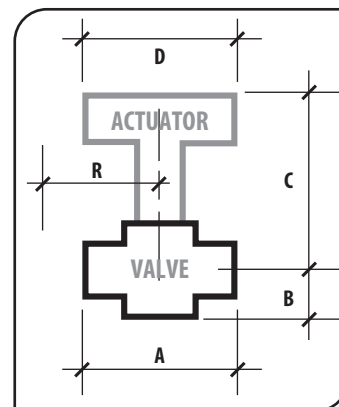
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions [IN]:

| Component |             | Dimension by Valve Size (IN) |        |        |        |        |        |        |
|-----------|-------------|------------------------------|--------|--------|--------|--------|--------|--------|
| Variable  |             | 2-1/2                        | 3      | 4      | 5      | 6      | 8      | 10     |
| A         | 125 FLG     | 7-3/4                        | 9      | 11-3/8 | 12     | 14-1/8 | 16-1/4 | 20     |
| A         | 250 FLG     | 8-3/8                        | 9-3/4  | 12     | 12-7/8 | 14-1/2 | 16-1/4 | 21-3/8 |
| B         |             | 4-1/8                        | 4-3/8  | 5      | 6-7/8  | 7-5/8  | 8-7/8  | 10-3/4 |
| C         | 50 Actuator | 17-1/2                       | 17-3/4 | 19-1/4 | N/A    | N/A    | N/A    | N/A    |
| C         | 84 Actuator | 20-7/8                       | 21-1/8 | 22-5/8 | 23-5/8 | 24-1/2 | 25-5/8 | 27-1/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2 | 10-1/2 | N/A    | N/A    | N/A    | N/A    |
| D         | 84 Actuator | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2  | 7-1/2  | N/A    | N/A    | N/A    | N/A    |
| R*        | 84 w/42     | 9                            | 9      | 9      | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84).  
 \*Center line of Actuator to Outside Point of Positioner

DOUBLE SEATED BALANCED IRON (NORMALLY OPEN) 2-1/2" - 10"

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

| Valve |              |      |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                                        |                  |
|-------|--------------|------|------|------------|---------------------------------------------|----------------------------------------|------------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | ALL RANGES                                  |                                        |                  |
|       |              |      |      |            | 3-8 PSIG<br>Range<br>Actuator<br>Code       | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID |
|       |              |      |      |            |                                             |                                        | Class<br>III     |
| 70    | 2.5          | 125  | BRZ  | VA2210CA   | D000                                        | D002                                   | 100              |
| 70    | 2.5          | 125  | S/S  | VA2210CC   | D000                                        | D002                                   | 100              |
| 70    | 2.5          | 250  | BRZ  | VA2210DA   | D000                                        | D002                                   | 100              |
| 70    | 2.5          | 250  | S/S  | VA2210DC   | D000                                        | D002                                   | 100              |
| 100   | 3            | 125  | BRZ  | VA2211CA   | D000                                        | D002                                   | 100              |
| 100   | 3            | 125  | S/S  | VA2211CC   | D000                                        | D002                                   | 100              |
| 100   | 3            | 250  | BRZ  | VA2211DA   | D000                                        | D002                                   | 100              |
| 100   | 3            | 250  | S/S  | VA2211DC   | D000                                        | D002                                   | 100              |
| 200   | 4            | 125  | BRZ  | VA2213CA   | D000                                        | D002                                   | 100              |
| 200   | 4            | 125  | S/S  | VA2213CC   | D000                                        | D002                                   | 100              |
| 200   | 4            | 250  | BRZ  | VA2213DA   | D000                                        | D002                                   | 100              |
| 200   | 4            | 250  | S/S  | VA2213DC   | D000                                        | D002                                   | 100              |

**50 ACTUATOR  
SPECIFICATIONS:**

Effective Area: 50 Square Inches  
Construction: Aluminum Yoke  
and Diaphragm  
Chamber with  
Neoprene  
Diaphragm.  
Mounting: Vertical Above  
Valve

**ACTUATED ASSEMBLY  
BODY PRESSURE  
TEMPERATURE RATINGS**

| TEMP.            | 125 FLG<br>(PSIG) | 250 FLG<br>(PSIG) |
|------------------|-------------------|-------------------|
| +20 to<br>150° F | 175               | 400               |
| 350° F           | 125               | 280               |

**WEIGHTS**

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 32           | 42      |
| 3          | 42           | 54      |
| 4          | 77           | 96      |
| 5          | 124          | 162     |
| 6          | 169          | 220     |
| 8          | 290          | 380     |
| 10         | CF           | CF      |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.  
CF = Consut Factory

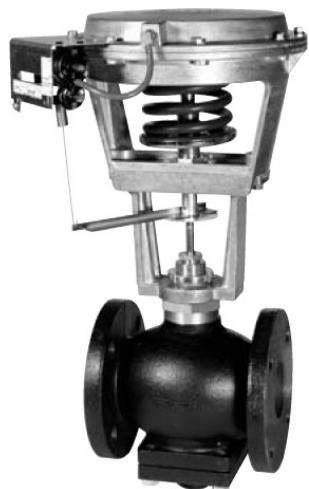
| Valve |              |      |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |                  |                                       |                                        |                                         |                  |
|-------|--------------|------|------|------------|------------------------------------------|------------------|---------------------------------------|----------------------------------------|-----------------------------------------|------------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | 3-15 PSIG RANGE                          |                  | ALL OTHER RANGES                      |                                        |                                         |                  |
|       |              |      |      |            | Actuator<br>Code                         | SHUT OFF<br>PSID | 3-9 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | w/760<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID |
|       |              |      |      |            |                                          | Class<br>III     |                                       |                                        |                                         | Class<br>III     |
| 70    | 2.5          | 125  | BRZ  | VA2210CA   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 70    | 2.5          | 125  | S/S  | VA2210CC   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 70    | 2.5          | 250  | BRZ  | VA2210DA   | D004                                     | 400              | D006                                  | D010                                   | D014                                    | 400              |
| 70    | 2.5          | 250  | S/S  | VA2210DC   | D004                                     | 400              | D006                                  | D010                                   | D014                                    | 400              |
| 100   | 3            | 125  | BRZ  | VA2211CA   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 100   | 3            | 125  | S/S  | VA2211CC   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 100   | 3            | 250  | BRZ  | VA2211DA   | D004                                     | 400              | D006                                  | D010                                   | D014                                    | 400              |
| 100   | 3            | 250  | S/S  | VA2211DC   | D004                                     | 400              | D006                                  | D010                                   | D014                                    | 400              |
| 200   | 4            | 125  | BRZ  | VA2213CA   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 200   | 4            | 125  | S/S  | VA2213CC   | D004                                     | 175              | D006                                  | D010                                   | D014                                    | 175              |
| 200   | 4            | 250  | BRZ  | VA2213DA   | D004                                     | 312              | D006                                  | D010                                   | D014                                    | 400              |
| 200   | 4            | 250  | S/S  | VA2213DC   | D004                                     | 312              | D006                                  | D010                                   | D014                                    | 400              |
| 260   | 5            | 125  | BRZ  | VA2214CA   | D005                                     | 175              | D007                                  | D011                                   | D015                                    | 175              |
| 260   | 5            | 125  | S/S  | VA2214CC   | D005                                     | 175              | D007                                  | D011                                   | D015                                    | 175              |
| 260   | 5            | 250  | BRZ  | VA2214DA   | D005                                     | 202              | D007                                  | D011                                   | D015                                    | 400              |
| 260   | 5            | 250  | S/S  | VA2214DC   | D005                                     | 202              | D007                                  | D011                                   | D015                                    | 400              |
| 350   | 6            | 125  | BRZ  | VA2215CA   | D005                                     | 125              | D007                                  | D011                                   | D015                                    | 175              |
| 350   | 6            | 125  | S/S  | VA2215CC   | D005                                     | 125              | D007                                  | D011                                   | D015                                    | 175              |
| 350   | 6            | 250  | BRZ  | VA2215DA   | D005                                     | 125              | D007                                  | D011                                   | D015                                    | 400              |
| 350   | 6            | 250  | S/S  | VA2215DC   | D005                                     | 125              | D007                                  | D011                                   | D015                                    | 400              |
| 680   | 8            | 125  | BRZ  | VA2217CA   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 175              |
| 680   | 8            | 125  | S/S  | VA2217CC   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 175              |
| 680   | 8            | 250  | BRZ  | VA2217DA   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 400              |
| 680   | 8            | 250  | S/S  | VA2217DC   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 400              |
| 960   | 10           | 125  | BRZ  | VA2219CE   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 175              |
| 960   | 10           | 125  | S/S  | VA2219CG   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 175              |
| 960   | 10           | 250  | BRZ  | VA2219DE   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 306              |
| 960   | 10           | 250  | S/S  | VA2219DG   | -                                        | 0                | D007                                  | D011                                   | D015                                    | 306              |

**84 ACTUATOR SPECIFICATIONS:**

Effective Area: 84 Square Inches  
Construction: Acrylic Enamel Coated  
Iron Yoke and Steel  
Diaphragm with  
Buna-N Diaphragm  
Mounting: Vertical Above Valve

# PNEUMATICALLY ACTUATED

## DOUBLE SEATED BALANCED IRON (NORMALLY CLOSED) 2-1/2" - 10"



VA7210CA-D003



VA7214CC-D013

### 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 Saturated Steam; Water; Water and Glycol Solutions to 60%. Seat Leakage ANSI Class III.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: EQ%, Bronze or 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids or Steam to 40 PSID  
 S/S Trim: Liquids or Steam 100 PSID

### ► CONTROL ACTION:

Increasing Signal Opens Valve; Operating Range may differ from Signal Range,  
 Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

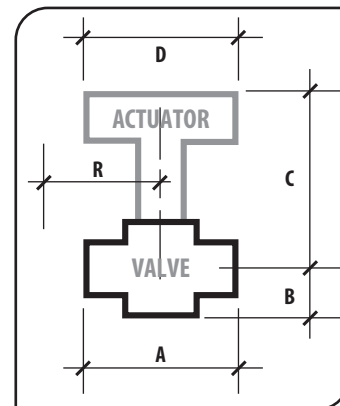
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions [IN]:

| Component |             | Dimension by Valve Size (IN) |        |        |        |        |        |        |
|-----------|-------------|------------------------------|--------|--------|--------|--------|--------|--------|
| Variable  |             | 2-1/2                        | 3      | 4      | 5      | 6      | 8      | 10     |
| A         | 125 FLG     | 7-3/4                        | 9      | 11-3/8 | 12     | 14-1/8 | 16-1/4 | 20     |
| A         | 250 FLG     | 8-3/8                        | 9-3/4  | 12     | 12-7/8 | 14-1/2 | 16-1/4 | 21-3/8 |
| B         |             | 4-7/8                        | 5-1/8  | 6-3/8  | 6-7/8  | 7-5/8  | 8-7/8  | 10-3/4 |
| C         | 50 Actuator | 16-3/4                       | 17     | 17-7/8 | N/A    | N/A    | N/A    | N/A    |
| C         | 84 Actuator | 20-1/8                       | 20-3/8 | 21-1/4 | 23-5/8 | 24-1/2 | 25-5/8 | 27-1/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2 | 10-1/2 | N/A    | N/A    | N/A    | N/A    |
| D         | 84 Actuator | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2  | 7-1/2  | N/A    | N/A    | N/A    | N/A    |
| R*        | 84 w/42     | 9                            | 9      | 9      | 9      | 9      | 9      | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  |



Allow 4-7/8 inch clearance above actuator for removal / service (50 & 84).

\*Center line of Actuator to Outside Point of Positioner

DOUBLE SEATED BALANCED IRON (NORMALLY CLOSED) 2-1/2" - 10"

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

| Valve |              |      |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                                        |                                  |
|-------|--------------|------|------|------------|---------------------------------------------|----------------------------------------|----------------------------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | ALL RANGES                                  |                                        |                                  |
|       |              |      |      |            | 8-13 PSIG<br>Range<br>Actuator<br>Code      | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID<br>Class<br>III |
| 70    | 2.5          | 125  | BRZ  | VA7210CA   | D001                                        | D003                                   | 100                              |
| 70    | 2.5          | 125  | S/S  | VA7210CC   | D001                                        | D003                                   | 100                              |
| 70    | 2.5          | 250  | BRZ  | VA7210DA   | D001                                        | D003                                   | 100                              |
| 70    | 2.5          | 250  | S/S  | VA7210DC   | D001                                        | D003                                   | 100                              |
| 100   | 3            | 125  | BRZ  | VA7211CA   | D001                                        | D003                                   | 100                              |
| 100   | 3            | 125  | S/S  | VA7211CC   | D001                                        | D003                                   | 100                              |
| 100   | 3            | 250  | BRZ  | VA7211DA   | D001                                        | D003                                   | 100                              |
| 100   | 3            | 250  | S/S  | VA7211DC   | D001                                        | D003                                   | 100                              |
| 200   | 4            | 125  | BRZ  | VA7213CA   | D001                                        | D003                                   | 100                              |
| 200   | 4            | 125  | S/S  | VA7213CC   | D001                                        | D003                                   | 100                              |
| 200   | 4            | 250  | BRZ  | VA7213DA   | D001                                        | D003                                   | 100                              |
| 200   | 4            | 250  | S/S  | VA7213DC   | D001                                        | D003                                   | 100                              |

**50 ACTUATOR  
SPECIFICATIONS:**

Effective Area: 50 Square Inches  
Construction: Aluminum Yoke  
and Diaphragm  
Chamber with  
Neoprene  
Diaphragm.  
Mounting: Vertical Above  
Valve

**ACTUATED ASSEMBLY  
BODY PRESSURE  
TEMPERATURE RATINGS**

| TEMP.            | 125 FLG<br>(PSIG) | 250 FLG<br>(PSIG) |
|------------------|-------------------|-------------------|
| +20 to<br>150° F | 175               | 400               |
| 350° F           | 125               | 280               |

**WEIGHTS**

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 32           | 42      |
| 3          | 42           | 54      |
| 4          | 77           | 96      |
| 5          | 124          | 162     |
| 6          | 169          | 220     |
| 8          | 290          | 380     |
| 10         | 435          | 540     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

Actual shipping weights may vary.  
CF = Consut Factory

| Valve |              |      |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |                                  |                                        |                                        |                                         |                                  |
|-------|--------------|------|------|------------|------------------------------------------|----------------------------------|----------------------------------------|----------------------------------------|-----------------------------------------|----------------------------------|
| Cv    | Size<br>(IN) | Flng | Trim | Valve Code | 3-15 PSIG RANGE                          |                                  | ALL OTHER RANGES                       |                                        |                                         |                                  |
|       |              |      |      |            | Actuator<br>Code                         | SHUT OFF<br>PSID<br>Class<br>III | 9-15 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | w/760<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID<br>Class<br>III |
| 70    | 2.5          | 125  | BRZ  | VA7210CA   | D004                                     | 175                              | D008                                   | D012                                   | D016                                    | 175                              |
| 70    | 2.5          | 125  | S/S  | VA7210CC   | D004                                     | 175                              | D008                                   | D012                                   | D016                                    | 175                              |
| 70    | 2.5          | 250  | BRZ  | VA7210DA   | D004                                     | 233                              | D008                                   | D012                                   | D016                                    | 400                              |
| 70    | 2.5          | 250  | S/S  | VA7210DC   | D004                                     | 233                              | D008                                   | D012                                   | D016                                    | 400                              |
| 100   | 3            | 125  | BRZ  | VA7211CA   | D004                                     | 141                              | D008                                   | D012                                   | D016                                    | 175                              |
| 100   | 3            | 125  | S/S  | VA7211CC   | D004                                     | 141                              | D008                                   | D012                                   | D016                                    | 175                              |
| 100   | 3            | 250  | BRZ  | VA7211DA   | D004                                     | 141                              | D008                                   | D012                                   | D016                                    | 400                              |
| 100   | 3            | 250  | S/S  | VA7211DC   | D004                                     | 141                              | D008                                   | D012                                   | D016                                    | 400                              |
| 200   | 4            | 125  | BRZ  | VA7213CA   | D004                                     | 22                               | D008                                   | D012                                   | D016                                    | 175                              |
| 200   | 4            | 125  | S/S  | VA7213CC   | D004                                     | 22                               | D008                                   | D012                                   | D016                                    | 175                              |
| 200   | 4            | 250  | BRZ  | VA7213DA   | D004                                     | 22                               | D008                                   | D012                                   | D016                                    | 400                              |
| 200   | 4            | 250  | S/S  | VA7213DC   | D004                                     | 22                               | D008                                   | D012                                   | D016                                    | 400                              |
| 260   | 5            | 125  | BRZ  | VA7214CA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 260   | 5            | 125  | S/S  | VA7214CC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 260   | 5            | 250  | BRZ  | VA7214DA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 400                              |
| 260   | 5            | 250  | S/S  | VA7214DC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 400                              |
| 350   | 6            | 125  | BRZ  | VA7215CA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 350   | 6            | 125  | S/S  | VA7215CC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 350   | 6            | 250  | BRZ  | VA7215DA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 400                              |
| 350   | 6            | 250  | S/S  | VA7215DC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 400                              |
| 680   | 8            | 125  | BRZ  | VA7217CA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 680   | 8            | 125  | S/S  | VA7217CC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 680   | 8            | 250  | BRZ  | VA7217DA   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 295                              |
| 680   | 8            | 250  | S/S  | VA7217DC   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 295                              |
| 960   | 10           | 125  | BRZ  | VA7219CE   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 960   | 10           | 125  | S/S  | VA7219CG   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 175                              |
| 960   | 10           | 250  | BRZ  | VA7219DE   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 185                              |
| 960   | 10           | 250  | S/S  | VA7219DG   | -                                        | 0                                | D009                                   | D013                                   | D017                                    | 185                              |

**84 ACTUATOR SPECIFICATIONS:**

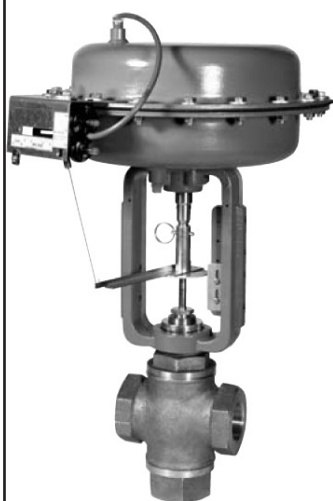
Effective Area: 84 Square Inches  
Construction: Acrylic Enamel Coated Iron  
Yoke and Steel Diaphragm  
Chamber with Buna-N  
Diaphragm  
Mounting: Vertical Above Valve

# PNEUMATICALLY ACTUATED

## 3-WAY MIXING BRONZE 1/2" - 2"



VA30084AC-D003



VA3008AC-D012

### 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 and Glycol Solutions to 60%. Valves mix 2 flows together (Converging). Seat Leakage ANSI Class IV.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.15 Bronze 250lb. Threaded (NPT)  
 Trim: Linear, 316 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass / Bronze  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 Agency Approvals: CRN # CSA - OC18997 (Bronze Body Only)

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

S/S Trim: Liquids to 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Lower Port/Opens Upper Port; Operating Range may differ from Signal Range, Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible

Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

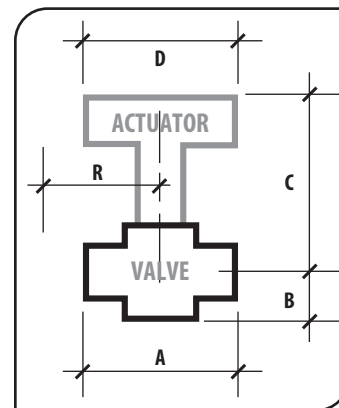
#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible

Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |               |        |
|-----------|-------------|------------------------------|---------------|--------|
| Variable  |             | 1/2 & 3/4, 1                 | 1-1/4 & 1-1/2 | 2      |
| A         | 250THD      | 4-7/8                        | 5-3/4         | 6-1/2  |
| B         | 250THD      | 2-3/4                        | 3-7/8         | 4      |
| C         | 50 Actuator | 15-1/2                       | 16-1/8        | 16-3/8 |
| C         | 84 Actuator | 18-7/8                       | 19-1/2        | 19-3/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2        | 10-1/2 |
| D         | 84 Actuator | 13-7/8                       | 13-7/8        | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2         | 7-1/2  |
| R*        | 84 w/42     | 9                            | 9             | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8         | 8-1/8  |



Allow 4-1/8 inch clearance above actuator for removal / service.

\*Center line of Actuator to Outside point of Positioner

# PNEUMATICALLY ACTUATED

## 3-WAY MIXING BRONZE 1/2"- 2"

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

| Valve |           |          |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                               |                        |
|-------|-----------|----------|------|------------|---------------------------------------------|-------------------------------|------------------------|
| Cv    | Size (IN) | Thrd NPT | Trim | Valve Code | ALL RANGES                                  |                               |                        |
|       |           |          |      |            | 8-13 PSIG Range Actuator Code               | w/42 Positioner Actuator Code | SHUT OFF PSID Class IV |
| 6.3   | 0.5       | 250      | S/S  | VA3004AC   | D001                                        | D003                          | 100                    |
| 8.2   | 0.75      | 250      | S/S  | VA3005AC   | D001                                        | D003                          | 100                    |
| 10    | 1         | 250      | S/S  | VA3006AC   | D001                                        | D003                          | 100                    |
| 18.5  | 1.25      | 250      | S/S  | VA3007AC   | D001                                        | D003                          | 88                     |
| 20    | 1.5       | 250      | S/S  | VA3008AC   | D001                                        | D003                          | 88                     |
| 40    | 2         | 250      | S/S  | VA3009AC   | D001                                        | D003                          | 47                     |

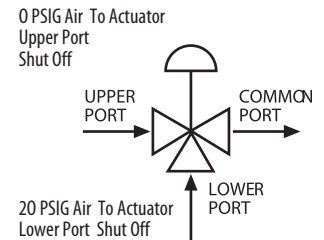
### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

| Valve |           |          |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |                        |                               |                               |                                |                        |
|-------|-----------|----------|------|------------|------------------------------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------|
| Cv    | Size (IN) | Thrd NPT | Trim | Valve Code | 3-15 PSIG RANGE                          |                        | ALL RANGES                    |                               |                                |                        |
|       |           |          |      |            | Actuator Code                            | SHUT OFF PSID Class IV | 9-15 PSIG Range Actuator Code | w/42 Positioner Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID Class IV |
| 6.3   | 0.5       | 250      | S/S  | VA3004AC   | D004                                     | 132                    | D008                          | D012                          | D016                           | 301                    |
| 8.2   | 0.75      | 250      | S/S  | VA3005AC   | D004                                     | 132                    | D008                          | D012                          | D016                           | 301                    |
| 10    | 1         | 250      | S/S  | VA3006AC   | D004                                     | 132                    | D008                          | D012                          | D016                           | 301                    |
| 18.5  | 1.25      | 250      | S/S  | VA3007AC   | D004                                     | 44                     | D008                          | D012                          | D016                           | 120                    |
| 20    | 1.5       | 250      | S/S  | VA3008AC   | D004                                     | 44                     | D008                          | D012                          | D016                           | 120                    |
| 40    | 2         | 250      | S/S  | VA3009AC   | D004                                     | 19                     | D008                          | D012                          | D016                           | 67                     |

### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.  
 Mounting: Vertical Above Valve



### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.         | 250 THD (RATINGS ARE PSIG) |
|---------------|----------------------------|
| +20 to 150° F | 400                        |
| 350° F        | 300                        |

### WEIGHTS

| ITEM          | WEIGHT |
|---------------|--------|
| VALVE         | LBS    |
| 1/2, 3/4, 1   | 8-1/2  |
| 1-1/4 & 1-1/2 | 15-1/2 |
| 2             | 20     |
| ACTUATOR      | LBS    |
| 50            | 13     |
| 84            | 48-1/2 |
| POSITIONER    | LBS    |
| 42            | 1      |
| 760P          | 8      |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## 3-WAY MIXING IRON 2-1/2" - 8"



VA3010CA-D003



VA3017CD-D032



VA3013CC-D017

### 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 and Glycol Solutions to 60%. Valves mix 2 flows together (Converging).  
Seat Leakage ANSI Class III

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
Trim: Linear, Bronze or 300 Series Stainless Steel  
Stem: 316 Stainless Steel  
Bonnet: Brass  
Packing: EPDM Lip Packing (+20 to 350°F) Standard  
PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids to 40 PSID  
S/S Trim: Liquids to 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Lower Port/Opens Upper Port ; Operating Range may differ from Signal Range,  
Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
Adjustable/Non-Reversible

Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

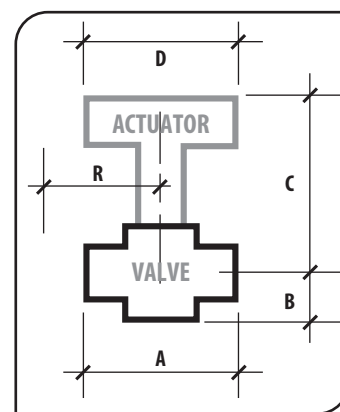
#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
Adjustable/Reversible

Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |              | Dimension by Valve Size (IN) |        |        |        |        |        |
|-----------|--------------|------------------------------|--------|--------|--------|--------|--------|
| Variable  |              | 2-1/2                        | 3      | 4      | 5      | 6      | 8      |
| A         | 125 FLG      | 9                            | 10     | 13     | 15-3/4 | 17-3/4 | 21-3/8 |
| A         | 250 FLG      | 9-5/8                        | 10-3/4 | 13-5/8 | 16-5/8 | 18-5/8 | 22-3/8 |
| B         | 125 FLG      | 7-1/8                        | 8      | 9-7/8  | 9-1/4  | 9-7/8  | 12-1/2 |
| B         | 250 FLG      | 7-3/8                        | 8-3/8  | 10-1/4 | 10-3/8 | 11     | 14-1/2 |
| C         | 50 Actuator  | 17-7/8                       | 18-3/4 | N/A    | N/A    | N/A    | N/A    |
| C         | 84 Actuator  | 21-1/4                       | 22-1/8 | 23-1/8 | 22     | 22-3/4 | N/A    |
| C         | 115 Actuator | 33-1/4                       | 34-1/8 | 35-1/8 | 34     | 34-3/4 | 37-5/8 |
| D         | 50 Actuator  | 10-1/2                       | 10-1/2 | N/A    | N/A    | N/A    | N/A    |
| D         | 84 Actuator  | 13-7/8                       | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | N/A    |
| D         | 115 Actuator | 16-3/4                       | 16-3/4 | 16-3/4 | 16-3/4 | 16-3/4 | 16-3/4 |
| R*        | 50 w/42      | 7-1/2                        | 7-1/2  | N/A    | N/A    | N/A    | N/A    |
| R*        | 84 w/42      | 9                            | 9      | 9      | 9      | 9      | N/A    |
| R*        | 84 w/760P    | 8-1/8                        | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | N/A    |
| R*        | 115 w/760P   | 11-1/4                       | 11-1/4 | 11-1/4 | 11-1/4 | 11-1/4 | 11-1/4 |



Allow 4-3/4 inch clearance above actuator for removal / service (50 & 84).  
Allow 6-1/8 inch clearance above actuator for removal / service (115).  
\*Center line of Actuator to Outside Point of Positioner

# 3-WAY MIXING IRON 2-1/2" - 8"

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

| Valve |           |       |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                               |                         |
|-------|-----------|-------|------|------------|---------------------------------------------|-------------------------------|-------------------------|
|       |           |       |      |            | ALL RANGES                                  |                               |                         |
| Cv    | Size (IN) | Fling | Trim | Valve Code | 8-13 PSIG Range Actuator Code               | w/42 Positioner Actuator Code | SHUT OFF PSID Class III |
| 69    | 2.5       | 125   | BRZ  | VA3010CA   | D001                                        | D003                          | 45                      |
| 69    | 2.5       | 125   | S/S  | VA3010CC   | D001                                        | D003                          | 45                      |
| 69    | 2.5       | 250   | BRZ  | VA3010DA   | D001                                        | D003                          | 45                      |
| 69    | 2.5       | 250   | S/S  | VA3010DC   | D001                                        | D003                          | 45                      |
| 86    | 3         | 125   | BRZ  | VA3011CA   | D001                                        | D003                          | 29                      |
| 86    | 3         | 125   | S/S  | VA3011CC   | D001                                        | D003                          | 29                      |
| 86    | 3         | 250   | BRZ  | VA3011DA   | D001                                        | D003                          | 29                      |
| 86    | 3         | 250   | S/S  | VA3011DC   | D001                                        | D003                          | 29                      |

### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.         | 125 FLG (PSIG) | 250 FLG (PSIG) |
|---------------|----------------|----------------|
| +20 to 150° F | 175            | 400            |
| 350° F        | 125            | 280            |

| Valve |           |       |      |            | 84 Actuator 20 PSIG Air Supply <b>84</b> |                         |                               |                               |                                |                         |
|-------|-----------|-------|------|------------|------------------------------------------|-------------------------|-------------------------------|-------------------------------|--------------------------------|-------------------------|
|       |           |       |      |            | 3-15 PSIG RANGE                          |                         | ALL OTHER RANGES              |                               |                                |                         |
| Cv    | Size (IN) | Fling | Trim | Valve Code | Actuator Code                            | SHUT OFF PSID Class III | 9-15 PSIG Range Actuator Code | w/42 Positioner Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID Class III |
| 69    | 2.5       | 125   | BRZ  | VA3010CA   | D004                                     | 25                      | D008                          | D012                          | D016                           | 59                      |
| 69    | 2.5       | 125   | S/S  | VA3010CC   | D004                                     | 25                      | D008                          | D012                          | D016                           | 59                      |
| 69    | 2.5       | 250   | BRZ  | VA3010DA   | D004                                     | 25                      | D008                          | D012                          | D016                           | 59                      |
| 69    | 2.5       | 250   | S/S  | VA3010DC   | D004                                     | 25                      | D008                          | D012                          | D016                           | 59                      |
| 86    | 3         | 125   | BRZ  | VA3011CA   | D004                                     | 15                      | D008                          | D012                          | D016                           | 39                      |
| 86    | 3         | 125   | S/S  | VA3011CC   | D004                                     | 15                      | D008                          | D012                          | D016                           | 39                      |
| 86    | 3         | 250   | BRZ  | VA3011DA   | D004                                     | 15                      | D008                          | D012                          | D016                           | 39                      |
| 86    | 3         | 250   | S/S  | VA3011DC   | D004                                     | 15                      | D008                          | D012                          | D016                           | 39                      |
| 156   | 4         | 125   | BRZ  | VA3013CA   | D005                                     | 6                       | D009                          | D013                          | D017                           | 19                      |
| 156   | 4         | 125   | S/S  | VA3013CC   | D005                                     | 6                       | D009                          | D013                          | D017                           | 19                      |
| 156   | 4         | 250   | BRZ  | VA3013DA   | D005                                     | 6                       | D009                          | D013                          | D017                           | 19                      |
| 156   | 4         | 250   | S/S  | VA3013DC   | D005                                     | 6                       | D009                          | D013                          | D017                           | 19                      |
| 270   | 5         | 125   | BRZ  | VA3014CA   | -                                        | 0                       | D009                          | D013                          | D017                           | 11                      |
| 270   | 5         | 125   | S/S  | VA3014CC   | -                                        | 0                       | D009                          | D013                          | D017                           | 11                      |
| 270   | 5         | 250   | BRZ  | VA3014DA   | -                                        | 0                       | D009                          | D013                          | D017                           | 11                      |
| 270   | 5         | 250   | S/S  | VA3014DC   | -                                        | 0                       | D009                          | D013                          | D017                           | 11                      |
| 347   | 6         | 125   | BRZ  | VA3015CA   | -                                        | 0                       | D009                          | D013                          | D017                           | 6                       |
| 347   | 6         | 125   | S/S  | VA3015CC   | -                                        | 0                       | D009                          | D013                          | D017                           | 6                       |
| 347   | 6         | 250   | BRZ  | VA3015DA   | -                                        | 0                       | D009                          | D013                          | D017                           | 6                       |
| 347   | 6         | 250   | S/S  | VA3015DC   | -                                        | 0                       | D009                          | D013                          | D017                           | 6                       |

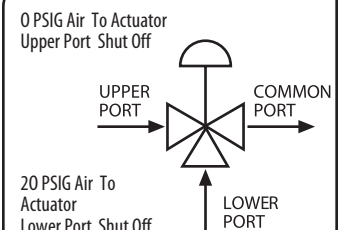
| Valve |           |       |      |            | 115 Actuator 20 PSIG Air Supply <b>115</b> |                         |                               |                                |                         |
|-------|-----------|-------|------|------------|--------------------------------------------|-------------------------|-------------------------------|--------------------------------|-------------------------|
|       |           |       |      |            | 3-15 PSIG RANGE                            |                         | ALL OTHER RANGES              |                                |                         |
| Cv    | Size (IN) | Fling | Trim | Valve Code | Actuator Code                              | SHUT OFF PSID Class III | 9-15 PSIG Range Actuator Code | w/760 Positioner Actuator Code | SHUT OFF PSID Class III |
| 69    | 2.5       | 125   | S/S  | VA3010CD   | D018                                       | 44                      | D024                          | D030                           | 91                      |
| 69    | 2.5       | 250   | S/S  | VA3010DD   | D018                                       | 44                      | D024                          | D030                           | 91                      |
| 86    | 3         | 125   | S/S  | VA3011CD   | D018                                       | 28                      | D024                          | D030                           | 61                      |
| 86    | 3         | 250   | S/S  | VA3011DD   | D018                                       | 28                      | D024                          | D030                           | 61                      |
| 156   | 4         | 125   | S/S  | VA3013CD   | D019                                       | 13                      | D025                          | D031                           | 32                      |
| 156   | 4         | 250   | S/S  | VA3013DD   | D019                                       | 13                      | D025                          | D031                           | 32                      |
| 270   | 5         | 125   | S/S  | VA3014CD   | D019                                       | 7                       | D025                          | D031                           | 19                      |
| 270   | 5         | 250   | S/S  | VA3014DD   | D019                                       | 7                       | D025                          | D031                           | 19                      |
| 347   | 6         | 125   | S/S  | VA3015CD   | -                                          | 0                       | D025                          | D031                           | 12                      |
| 347   | 6         | 250   | S/S  | VA3015DD   | -                                          | 0                       | D025                          | D031                           | 12                      |
| 590   | 8         | 125   | S/S  | VA3017FD   | -                                          | 0                       | D026                          | D032                           | 4                       |
| 590   | 8         | 250   | S/S  | VA3017GD   | -                                          | 0                       | D026                          | D032                           | 4                       |

### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve

### 115 ACTUATOR SPECIFICATIONS:

Effective Area: 115 Square Inches  
 Construction: Acrylic Enamel Coated Aluminum Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve

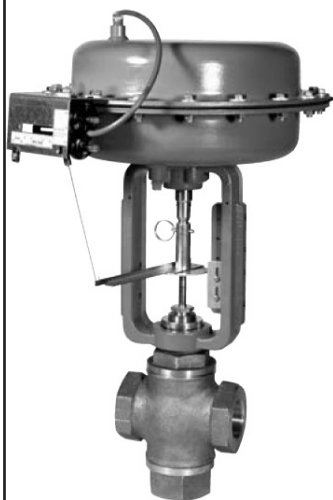


# PNEUMATICALLY ACTUATED

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



VA3208AA-D003



VA3208AA-D012

### 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.

### ► APPLICATION:

Control of Water; Water and Glycol Solutions to 60%. Valves divert one flow into two directions (Diverting). Seat Leakage ANSI Class II.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.15 Bronze 250lb. Threaded (NPT)  
 Trim: Linear, Bronze  
 Stem: 316 Stainless Steel  
 Bonnet: Brass / Bronze  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 O-Ring: EPR +20 to 300°F  
 Agency Approvals: CRN # CSA - OC18997 (Bronze Body Only)

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

S/S Trim: Liquids to 40 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Lower Port/Opens Upper Port; Operating Range may differ from Signal Range, Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

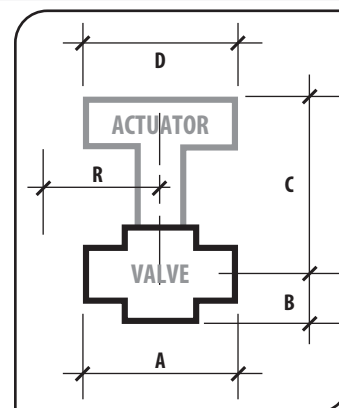
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component |             | Dimension by Valve Size (IN) |               |        |
|-----------|-------------|------------------------------|---------------|--------|
| Variable  |             | 1/2 & 3/4, 1                 | 1-1/4 & 1-1/2 | 2      |
| A         | 250THD      | 4-7/8                        | 5-3/4         | 6-1/2  |
| B         | 250THD      | 3-1/2                        | 3-7/8         | 4      |
| C         | 50 Actuator | 15-1/2                       | 16-1/8        | 16-3/8 |
| C         | 84 Actuator | 18-7/8                       | 19-1/2        | 19-3/4 |
| D         | 50 Actuator | 10-1/2                       | 10-1/2        | 10-1/2 |
| D         | 84 Actuator | 13-7/8                       | 13-7/8        | 13-7/8 |
| R*        | 50 w/42     | 7-1/2                        | 7-1/2         | 7-1/2  |
| R*        | 84 w/42     | 9                            | 9             | 9      |
| R*        | 84 w/760P   | 8-1/8                        | 8-1/8         | 8-1/8  |



Allow 4-1/8 inch clearance above actuator for removal / service.

\*Center line of Actuator to Outside point of Positioner

# PNEUMATICALLY ACTUATED

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

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

| Valve |              |             |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                                        |                                 |
|-------|--------------|-------------|------|------------|---------------------------------------------|----------------------------------------|---------------------------------|
| Cv    | Size<br>(IN) | Thrd<br>NPT | Trim | Valve Code | ALL RANGES                                  |                                        |                                 |
|       |              |             |      |            | 8-13 PSIG<br>Range<br>Actuator<br>Code      | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID<br>Class<br>II |
| 12    | 1            | 250         | BRZ  | VA3206AA   | D001                                        | D003                                   | 100                             |
| 22    | 1.5          | 250         | BRZ  | VA3208AA   | D001                                        | D003                                   | 100                             |
| 40    | 2            | 250         | BRZ  | VA3209AA   | D001                                        | D003                                   | 100                             |

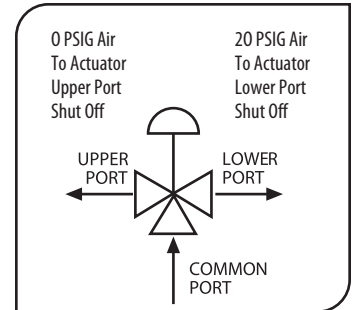
#### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

| Valve |              |             |      |            | 84 Actuator<br>20 PSIG Air Supply <b>84</b> |                                        |                                        |                                 |
|-------|--------------|-------------|------|------------|---------------------------------------------|----------------------------------------|----------------------------------------|---------------------------------|
| Cv    | Size<br>(IN) | Thrd<br>NPT | Trim | Valve Code | ALL RANGES                                  |                                        |                                        |                                 |
|       |              |             |      |            | 9-15 PSIG<br>Range<br>Actuator<br>Code      | 3-15 PSIG<br>Range<br>Actuator<br>Code | w/42<br>Positioner<br>Actuator<br>Code | SHUT OFF<br>PSID<br>Class<br>II |
| 12    | 1            | 250         | BRZ  | VA3206AA   | D008                                        | D004                                   | D012                                   | 125                             |
| 22    | 1.5          | 250         | BRZ  | VA3208AA   | D008                                        | D004                                   | D012                                   | 125                             |
| 40    | 2            | 250         | BRZ  | VA3209AA   | D008                                        | D004                                   | D012                                   | 125                             |

#### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm.  
 Mounting: Vertical Above Valve



#### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

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

#### WEIGHTS

| ITEM       | WEIGHT |
|------------|--------|
| VALVE      | LBS    |
| 1          | 9      |
| 1-1/2      | 16-1/2 |
| 2          | 21     |
| ACTUATOR   | LBS    |
| 50         | 13     |
| 84         | 48-1/2 |
| POSITIONER | LBS    |
| 42         | 1      |
| 760P       | 8      |

Actual shipping weights may vary.

# PNEUMATICALLY ACTUATED

## 3-WAY DIVERTING IRON 2-1/2" - 8"



VA3210CA-D003



VA3213CA-D016



VA3217CB-D031

### 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.

### ► APPLICATION:

Control of Water; Water and Glycol Solutions to 60%. Valves divert one flow into two directions (Diverting). Seat Leakage ANSI Class II.

### ► VALVE CONSTRUCTION:

Body: ANSI B16.1 Iron 125lb Flange or 250lb Flange  
 Trim: Linear, Bronze or 300 Series Stainless Steel  
 Stem: 316 Stainless Steel  
 Bonnet: Brass  
 Packing: EPDM Lip Packing (+20 to 350°F) Standard  
 PTFE V-Ring, (+60 to 350°F) Optional, must be specified on order  
 O-Ring: EPR +20 to 300°F (2-1/2 thru 5 in); +20 to 150°F (6 & 8 in)  
 Agency Approval: CRN # CSA - OC20496 (Excludes 250# Type 22/32)

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

Brz Trim: Liquids to 40 PSID  
 S/S Trim: Liquids to 100 PSID

### ► CONTROL ACTION:

Increasing Signal Closes Lower Port/Opens Upper Port; Operating Range may differ from Signal Range, Use a Positioner to Match Ranges

### ► POSITIONER SPECIFICATIONS:

#### 42 POSITIONER SPECIFICATIONS:

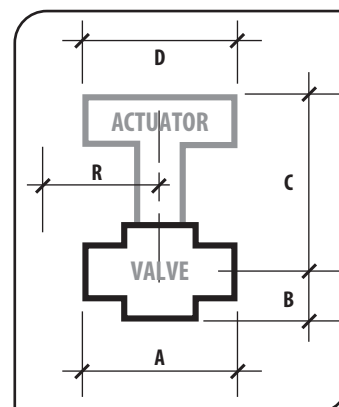
Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Non-Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.012 SCFM

#### 760P POSITIONER SPECIFICATIONS:

Control Signal: 3-15 PSIG (Factory Setting)  
 Adjustable/Reversible  
 Air Supply/Consumption: 20 PSIG/Approx 0.020 SCFM

### ► Dimensions (IN):

| Component | Dimension by Valve Size (IN) |        |        |        |        |        |        |
|-----------|------------------------------|--------|--------|--------|--------|--------|--------|
| Variable  |                              | 2-1/2  | 3      | 4      | 5      | 6      | 8      |
| A         | 125 FLG                      | 9      | 10     | 13     | 12     | 14-1/8 | 16-1/4 |
| A         | 250 FLG                      | 9-5/8  | 10-3/4 | 13-5/8 | 12-7/8 | 14-1/2 | 16-1/4 |
| B         | 125 FLG                      | 7-1/8  | 8      | 9-7/8  | 10-1/2 | 11-1/8 | 11-7/8 |
| B         | 250 FLG                      | 7-3/8  | 8-3/8  | 10-1/4 | 11     | 11-1/2 | 12-3/8 |
| C         | 50 Actuator                  | 17-7/8 | 18-3/4 | 19-1/2 | N/A    | N/A    | N/A    |
| C         | 84 Actuator                  | 21-1/4 | 22-1/8 | 22-7/8 | 23-1/2 | 24-1/8 | N/A    |
| C         | 115 Actuator                 | N/A    | N/A    | N/A    | N/A    | 37-1/4 | 37-5/8 |
| D         | 50 Actuator                  | 10-1/2 | 10-1/2 | 10-1/2 | N/A    | N/A    | N/A    |
| D         | 84 Actuator                  | 13-7/8 | 13-7/8 | 13-7/8 | 13-7/8 | N/A    | N/A    |
| D         | 115 Actuator                 | N/A    | N/A    | N/A    | N/A    | 16-3/4 | 16-3/4 |
| R*        | 50 w/42                      | 7-1/2  | 7-1/2  | 7-1/2  | N/A    | N/A    | N/A    |
| R*        | 84 w/42                      | 9      | 9      | 9      | 9      | N/A    | N/A    |
| R*        | 84 w/760P                    | 8-1/8  | 8-1/8  | 8-1/8  | 8-1/8  | N/A    | N/A    |
| R*        | 115 w/760P                   | N/A    | N/A    | N/A    | N/A    | 11-1/4 | 11-1/4 |



Allow 4-5/8 inch clearance above actuator for removal / service (50 & 84).  
 Allow 5-1/8 inch clearance above actuator for removal / service (115).  
 \*Center line of Actuator to Outside Point of Positioner

## 3-WAY DIVERTING IRON 2-1/2" - 8"

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

| Valve |           |      |      |            | 50 Actuator<br>20 PSIG Air Supply <b>50</b> |                               |                           |
|-------|-----------|------|------|------------|---------------------------------------------|-------------------------------|---------------------------|
|       |           |      |      |            | ALL RANGES                                  |                               |                           |
| Cv    | Size (IN) | Flng | Trim | Valve Code | 8-13 PSIG Range Actuator Code               | w/42 Positioner Actuator Code | SHUT OFF PSID<br>Class II |
| 68    | 2.5       | 125  | BRZ  | VA3210CA   | D001                                        | D003                          | 100                       |
| 68    | 2.5       | 125  | S/S  | VA3210CC   | D001                                        | D003                          | 100                       |
| 68    | 2.5       | 250  | BRZ  | VA3210DA   | D001                                        | D003                          | 100                       |
| 68    | 2.5       | 250  | S/S  | VA3210DC   | D001                                        | D003                          | 100                       |
| 85    | 3         | 125  | BRZ  | VA3211CA   | D001                                        | D003                          | 100                       |
| 85    | 3         | 125  | S/S  | VA3211CC   | D001                                        | D003                          | 100                       |
| 85    | 3         | 250  | BRZ  | VA3211DA   | D001                                        | D003                          | 100                       |
| 85    | 3         | 250  | S/S  | VA3211DC   | D001                                        | D003                          | 100                       |
| 160   | 4         | 125  | BRZ  | VA3213CA   | D001                                        | D003                          | 100                       |
| 160   | 4         | 125  | S/S  | VA3213CC   | D001                                        | D003                          | 100                       |
| 160   | 4         | 250  | BRZ  | VA3213DA   | D001                                        | D003                          | 100                       |
| 160   | 4         | 250  | S/S  | VA3213DC   | D001                                        | D003                          | 100                       |

| Valve |           |      |      |            | 84 Actuator<br>20 PSIG Air Supply <b>84</b> |                               |                           |
|-------|-----------|------|------|------------|---------------------------------------------|-------------------------------|---------------------------|
|       |           |      |      |            | ALL RANGES                                  |                               |                           |
| Cv    | Size (IN) | Flng | Trim | Valve Code | 9-15 PSIG Range Actuator Code               | w/42 Positioner Actuator Code | SHUT OFF PSID<br>Class II |
| 68    | 2.5       | 125  | BRZ  | VA3210CA   | D008                                        | D012                          | 125                       |
| 68    | 2.5       | 125  | S/S  | VA3210CC   | D008                                        | D012                          | 125                       |
| 68    | 2.5       | 250  | BRZ  | VA3210DA   | D008                                        | D012                          | 125                       |
| 68    | 2.5       | 250  | S/S  | VA3210DC   | D008                                        | D012                          | 125                       |
| 85    | 3         | 125  | BRZ  | VA3211CA   | D008                                        | D012                          | 125                       |
| 85    | 3         | 125  | S/S  | VA3211CC   | D008                                        | D012                          | 125                       |
| 85    | 3         | 250  | BRZ  | VA3211DA   | D008                                        | D012                          | 125                       |
| 85    | 3         | 250  | S/S  | VA3211DC   | D008                                        | D012                          | 125                       |
| 160   | 4         | 125  | BRZ  | VA3213CA   | D008                                        | D012                          | 125                       |
| 160   | 4         | 125  | S/S  | VA3213CC   | D008                                        | D012                          | 125                       |
| 160   | 4         | 250  | BRZ  | VA3213DA   | D008                                        | D012                          | 125                       |
| 160   | 4         | 250  | S/S  | VA3213DC   | D008                                        | D012                          | 125                       |
| 195   | 5         | 125  | BRZ  | VA3214CA   | D009                                        | D013                          | 125                       |
| 195   | 5         | 125  | S/S  | VA3214CC   | D009                                        | D013                          | 125                       |
| 195   | 5         | 250  | BRZ  | VA3214DA   | D009                                        | D013                          | 125                       |
| 195   | 5         | 250  | S/S  | VA3214DC   | D009                                        | D013                          | 125                       |

| Valve |           |      |      |            | 115 Actuator<br>20 PSIG Air Supply <b>115</b> |                                |                           |
|-------|-----------|------|------|------------|-----------------------------------------------|--------------------------------|---------------------------|
|       |           |      |      |            | ALL RANGES                                    |                                |                           |
| Cv    | Size (IN) | Flng | Trim | Valve Code | 9-15 PSIG Range Actuator Code                 | w/760 Positioner Actuator Code | SHUT OFF PSID<br>Class II |
| 270   | 6         | 125  | BRZ  | VA3215CB   | D025                                          | D031                           | 125                       |
| 270   | 6         | 125  | S/S  | VA3215CD   | D025                                          | D031                           | 125                       |
| 270   | 6         | 250  | BRZ  | VA3215DB   | D025                                          | D031                           | 125                       |
| 270   | 6         | 250  | S/S  | VA3215DD   | D025                                          | D031                           | 125                       |
| 425   | 8         | 125  | BRZ  | VA3217CB   | D025                                          | D031                           | 125                       |

#### 50 ACTUATOR SPECIFICATIONS:

Effective Area: 50 Square Inches  
 Construction: Aluminum Yoke and Diaphragm Chamber with Neoprene Diaphragm.  
 Mounting: Vertical Above Valve

#### ACTUATED ASSEMBLY BODY PRESSURE TEMPERATURE RATINGS

| TEMP.         | 125 FLG (PSIG) | 250 FLG (PSIG) |
|---------------|----------------|----------------|
| +20 to 150° F | 175            | 400            |
| 300° F        | 140            | 310            |

#### WEIGHTS

| ITEM       | WEIGHT (LBS) |         |
|------------|--------------|---------|
| VALVE      | 125 FLG      | 250 FLG |
| 2-1/2      | 59           | 73      |
| 3          | 78           | 94      |
| 4          | 138          | 164     |
| 5          | 152          | 213     |
| 6          | 203          | 284     |
| 8          | 316          | 407     |
| ACTUATOR   | LBS          |         |
| 50         | 13           |         |
| 84         | 48-1/2       |         |
| 115        | 84           |         |
| POSITIONER | LBS          |         |
| 42         | 1            |         |
| 760P       | 8            |         |

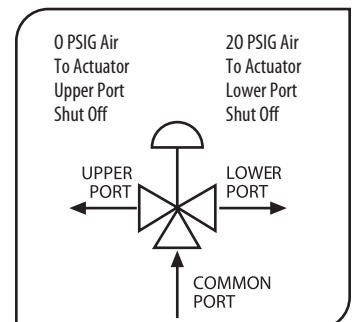
Actual shipping weights may vary.

#### 84 ACTUATOR SPECIFICATIONS:

Effective Area: 84 Square Inches  
 Construction: Acrylic Enamel Coated Iron Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve

#### 115 ACTUATOR SPECIFICATIONS:

Effective Area: 115 Square Inches  
 Construction: Acrylic Enamel Coated Aluminum Yoke and Steel Diaphragm Chamber with Buna-N Diaphragm  
 Mounting: Vertical Above Valve



## Customer Service Technical Support



(800) 922-0085  
or (610) 317-0800

Monday - Friday:  
8:30 AM - 5:00 PM EST

WARREN CONTROLS INC. (Hereinafter called "Seller") agrees to supply the equipment covered herein on the following terms and conditions. Additional terms and conditions not covered herein will be accepted only upon mutual agreement in writing.

**ORDERS:** Contracts and orders are subject to acceptance by the home office of the Seller.

**FREIGHT TERMS:** All Prices are FOB factory (Bethlehem, PA).

**MINIMUM ORDER REQUIREMENT:** All orders must have a minimum net value of \$400.

**PRICES AND DISCOUNTS:** All prices and discounts are in accordance with the established price and discount schedules of the Seller, and are subject to change without notice.

**PRICE LIST:** The price list is not an offer to sell to any person who possesses it, nor to anyone else, the goods listed herein at the prices shown. All prices herein set forth supersede all prior price lists and are subject to change without notice. Warren Controls Incorporated may also, from time to time, discontinue, without notice, the sale of any of the products herein.

**TAXES:** The amount of any present or future sales, use, occupancy, excise, or other tax, federal, state or local, which the Seller now, or hereafter shall be legally obligated to pay, either on its own behalf or on the behalf of the purchaser or otherwise, with respect to the material covered by this order or contract, shall (unless the prices contained herein are stated expressly to include such tax) be added to such prices and paid by the purchaser. Purchaser agrees to report and pay any such tax directly on any non-exempt transaction, when Seller's invoices do not indicate such a charge.

**REMITTANCES:** All invoices shall be due and payable in United States currency, free of exchange, collection, or any other charges, net 30 days, or as otherwise agreed upon and set forth in writing by Seller. Past due invoices are subject to a carrying charge of 1% per month. The purchaser, if so requested, agrees to furnish Seller with all information, including financial statements, necessary to make proper credit appraisal. Refusal to supply such information may cause a quotation to be withdrawn. Quotations for extended periods are subject to change with reasonable notice.

**LIABILITY:** The buyer shall remain primarily liable for the purchase price and the Seller shall not be obliged to accept any term or condition of payment which will shift liability to a third person not a party to the contract of sale, whether or not such third person is the United States Government, its agents or instrumentalities.

**RUSH ORDERS:** Expediting is something that we at Warren Controls Incorporated endeavor to accommodate whenever possible but must be requested and promised on a case-by-case basis. Premium freight is not assumed and must be specified on the purchase order.

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**PARTIAL SHIPMENTS:** Seller reserves the right to make partial shipments from time to time and render invoices therefore, which shall be due and payable as provided in paragraph entitled "Remittances".

**DELAYS:** The Seller shall not be liable for any loss, damage, or delay occasioned by any causes beyond the Seller's control, including, but not limited to governmental actions or orders, embargoes, strikes, differences with workers, fires, floods, accidents, or transportation delays. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY CONSEQUENTIAL OR SPECIAL DAMAGES.

**WEIGHTS AND DIMENSIONS:** Shipping weights and dimensions given in catalogs and drawings are as close to actual as practicable but are not guaranteed. No claims will be allowed because of any discrepancy between actual weights or dimensions of material shipped and listed data in catalog.

**SHIPPING AND PACKING:** All material is carefully packed for shipment and Seller will not be responsible for loss, delay or breakage after having received "in good order" receipts from the transportation company. All claims for breakage, loss, delay and damage should be made to carriers, but Seller will render all possible assistance in securing satisfactory adjustment of such claims. Goods will be shipped by the method and via carrier Seller believes dependable, unless the buyer designates the carrier. Goods held at factory beyond delivery date for convenience of buyer will be invoiced on date of completion and terms of payment will apply as from invoice date. Such goods will be subject to charges for warehousing and other expenses incident to such delay.

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**CANCELLATION:** All orders are firm and are not subject to cancellation or change in specifications, shipping schedules or other conditions without Seller's written consent, which will be given only upon agreement to compensate for loss caused by such cancellation or changes.

**SHORTAGE CLAIMS:** Claims for shortage or incorrect filling of orders must be made within 60 days from date of delivery.

**WARRANTY:** The Seller warrants that the equipment manufactured by it and covered by this order is free from defects in material and workmanship and, without charge, product found to be defective in material or workmanship will be repaired, or at Seller's option replaced F.O.B. original point of shipment, if written notice of failure is received by Seller within one (1) year after date of shipment (unless specifically noted elsewhere), provided said product has been properly installed, operated in accordance with the Seller's instructions, and provided such defects are not due to abuse or decomposition by chemical or galvanic action. THIS EXPRESS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, GUARANTEES, OR REPRESENTATIONS, EXPRESS OR IMPLIED. THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Seller assumes no responsibility for repairs made on the Seller's equipment unless done by the Seller's authorized personnel, or by written authority from the Seller. The Seller makes no guarantee with respect to material not manufactured by it. Seller shall not be liable for consequential damage in case of any failure to meet the conditions of any guarantee or shipping schedule, nor will claims for labor, loss of profits, repairs or other expenses incidental to replacement be allowed. The Seller in connection with the manufacture and sale of its equipment makes no other representation, guarantee or warranty, expressed or implied.

**PURCHASER'S REMEDIES:** The purchaser's remedies with respect to equipment manufactured by Seller covered by this order or contract and found to be defective shall be limited exclusively to the right of repair or replacement of such defective equipment. IN NO EVENT SHALL SELLER BE LIABLE FOR CLAIMS (BASED UPON BREACH OF CONTRACT, BREACH OF EXPRESS OR IMPLIED WARRANTY, OR NEGLIGENCE) FOR ANY OTHER DAMAGES, WHETHER DIRECT, IMMEDIATE, FORESEEABLE, CONSEQUENTIAL, OR SPECIAL OR FOR ANY EXPENSES INCURRED BY REASON OF THE USE OR MISUSE, SALE OR FABRICATION OF PRODUCTS WHICH DO OR DO NOT CONFORM TO THE TERMS AND CONDITIONS OF THIS ORDER OR CONTRACT.

**CONSEQUENTIAL DAMAGES:** IN NO EVENT SHALL BUYER BE ENTITLED TO RECOVER ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING BUT NOT LIMITED TO ANY COMMERCIAL LOSS OR INJURY TO ANY PERSON, WHETHER OR NOT SAID DAMAGES ARE CAUSED, IN WHOLE OR IN PART, BY ANY DELAY, FAILURE, NONPERFORMANCE OR NEGLIGENCE OF SELLER, OR THE BREACH BY SELLER OF ANY OF THE TERMS OF SALE CONTAINED HEREIN OR ANY OTHER TERM OR CONDITION MADE A PART OF THE CONTRACT BETWEEN SELLER AND BUYER.

**RETURNS:** Return material shipments shall be prepaid and clearly marked with a Sales Shipping Authorization (SSA) number issued by the Seller. Items returned for repair shall include detailed information about the application/installation, and the nature of the trouble experienced. Credit may be issued by the Seller for unused, current product, returned in saleable condition, after deduction of a restocking fee, typically 25% of the purchase price. Warranty coverage, or credit consideration, will be determined only after receipt and inspection of the material by the Seller.

**BOND PREMIUMS:** In the event the Seller shall be required as a condition of the manufacture and sale of equipment to furnish a performance bond, the buyer shall pay as a part of the purchase price of said equipment all bond premiums and expense in connection therewith.

**DESIGNS:** All designs and specifications shown in Seller's catalog are subject to change without notice.

**PATENT INFRINGEMENT:** The Seller will hold the purchaser and user harmless from infringement of any United States patent covering equipment of its manufacture. This, of necessity, is limited to the equipment per se and cannot be extended to applications of such equipment by others. The purchaser and user shall advise the Seller immediately in the event any claims of infringement are brought to their attention.

**COMPLIANCE WITH LAWS:** Seller has complied with all applicable Federal, State and local laws and regulations in connection with the manufacture and sale of all equipment. No responsibility or liability will be taken for import duties, laws, regulations or taxes imposed by any foreign country.

**GOVERNING LAW:** This contract shall be governed by, construed, and enforced in accordance with the laws of the State of Pennsylvania.

**ERRORS:** All clerical errors are subject to correction.







Warren Controls was founded in the early 1950's and was known as Warren Automatic Controls. Warren is the name of the county in New Jersey where the business was founded. The first products were regulators designed for the HVAC and marine industries. The company was purchased and renamed Warren Controls Corporation in 1971, largely specializing and growing in a variety of flow control products for commercial, industrial, and military applications.

In 2003, Warren Controls Inc., as we are known today now resides in a modern 60,000 Sq. Ft. manufacturing facility in Bethlehem, PA. Our product lines continue to grow through extensive product development and target marketing. Today, Warren offers four broad product lines for Building Automation Control Valves, Industrial Process Valves up to ANSI Class 300, Mechanical Level Controls for deaerators and boilers, and Military / Marine Valves to MIL specifications.

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