

# VG7000 Series Stainless Steel Trim Globe Valves with VA-715x Series Electric Actuators

## Description

VG7000 Series Stainless Steel Trim Globe Valves with VA-715x Series Pneumatic Actuators control hot or chilled water, or steam.

Refer to the *VG7000 Series Bronze Control Valves Product Bulletin (LIT-977140)* for important product application information.

## Features

- 90 lb force provides tight closeoff
- direct coupled; no linkage required
- packing: spring-loaded PTFE and elastomer V-rings
- magnetic clutch protects gearing, ensures tight closeoff
- controls hot water, chilled water, or steam

- fits VG7000 Series valves 1/2 through 2 in.
- valve body static pressure rating: ANSI Class 250
- factory or field assembly
- voltage: 24 VAC, 50/60 Hz, 4.7 VA

## Repair Information

If the VG7000 Series Globe Valve fails to operate within its specifications, replace the valve body, actuator, or entire assembly. For replacement parts, contact the nearest Johnson Controls® representative.



VA-715x Series Electric Actuator Mounted on VG7844 Brass Globe Valve

## Selection Chart

| Actuator Code Number                                    |           |      |               | VA-7150-1001  | VA-7153-1001                    | VA-7152-1001             |
|---|-----------|------|---------------|---|---------------------------------|--------------------------|
| Actuator Input  |           |      |               | On/Off (Floating)                                       | On/Off (Floating) with Feedback | 0 to 10 VDC Proportional |
| Temperature Range                                       |           |      |               | 35 to 338°F Fluid Temperature, 100 psig Saturated Steam |                                 |                          |
| Valve Code Number                                       | Size, in. | Cv   | Closeoff psig | Non-Spring Return                                       |                                 |                          |
| <b>Two-Way Push-Down-to-Close — NPT End Connections</b> |           |      |               |   |                                 |                          |
| VG7243CT  | 1/2       | 0.73 | 239           | VG7243CT+7150G  | VG7243CT+7153G                  | VG7243CT+7152G           |
| VG7243ET  | 1/2       | 1.8  | 239           | VG7243ET+7150G  | VG7243ET+7153G                  | VG7243ET+7152G           |
| VG7243GT  | 1/2       | 4.6  | 135           | VG7243GT+7150G  | VG7243GT+7153G                  | VG7243GT+7152G           |
| VG7243LT  | 3/4       | 7.3  | 86            | VG7243LT+7150G  | VG7243LT+7153G                  | VG7243LT+7152G           |
| VG7243NT  | 1         | 11.6 | 54            | VG7243NT+7150G  | VG7243NT+7153G                  | VG7243NT+7152G           |
| VG7243PT  | 1-1/4     | 18.5 | 33            | VG7243PT+7150G  | VG7243PT+7153G                  | VG7243PT+7152G           |
| VG7243RT  | 1-1/2     | 28.9 | 21            | VG7243RT+7150G  | VG7243RT+7153G                  | VG7243RT+7152G           |
| VG7243ST  | 2         | 46.2 | 13            | VG7243ST+7150G  | VG7243ST+7153G                  | VG7243ST+7152G           |
| <b>Three-Way Mixing — NPT End Connections</b>           |           |      |               |   |                                 |                          |
| VG7844CT  | 1/2       | 0.73 | 239/308       | VG7844CT+7150G  | VG7844CT+7153G                  | VG7844CT+7152G           |
| VG7844ET  | 1/2       | 1.8  | 239/308       | VG7844ET+7150G  | VG7844ET+7153G                  | VG7844ET+7152G           |
| VG7844GT  | 1/2       | 4.6  | 135/161       | VG7844GT+7150G  | VG7844GT+7153G                  | VG7844GT+7152G           |
| VG7844LT  | 3/4       | 7.3  | 86/96         | VG7844LT+7150G  | VG7844LT+7153G                  | VG7844LT+7152G           |
| VG7844NT  | 1         | 11.6 | 54/63         | VG7844NT+7150G  | VG7844NT+7153G                  | VG7844NT+7152G           |
| VG7844PT  | 1-1/4     | 18.5 | 33/36         | VG7844PT+7150G  | VG7844PT+7153G                  | VG7844PT+7152G           |
| VG7844RT  | 1-1/2     | 28.9 | 21/22         | VG7844RT+7150G  | VG7844RT+7153G                  | VG7844RT+7152G           |
| VG7844ST  | 2         | 46.2 | 13/14         | VG7844ST+7150G  | VG7844ST+7153G                  | VG7844ST+7152G           |

## VG7000 Series Stainless Steel Trim Globe Valves with VA-715x Series Electric Actuators (Continued)

### Technical Specifications

| VG7000 Series Stainless Steel Trim Globe Valves with VA-715x Series Electric Actuators |                         |  |
|--|-------------------------|--|
| <b>Service<sup>1</sup></b>   |                         | Hot Water, Chilled Water, 50/50 Glycol Solutions, and Steam for HVAC Systems   |
| <b>Fluid Temperature Limits</b>  | <b>Water</b>            | 35 to 338°F (2 to 170°C)   |
|  | <b>Steam</b>            | 100 psig (690 kPa) Saturated Steam   |
| <b>Maximum Allowable Pressure/Temperature</b>  | <b>Water</b>            | 400 psig (2,756 kPa) up to 150°F (66°C) Decreasing to 308 psig (2,122 kPa) at 338°F (170°C)  |
|  | <b>Steam</b>            | 100 psig (690 kPa) Saturated Steam   |
| <b>Valve Body Pressure/Temperature Rating</b>  |                         | Meets Requirements of ANSI B16.15, Class 250   |
| <b>Maximum Recommended Operating Pressure Drop</b>                                     | <b>Water</b>            | 35 psig (241 kPa) for 1/2 through 1-1/4 in. Valves<br>30 psig (207 kPa) for 1-1/2 and 2 in. Valves                                   |
|  | <b>Steam</b>            | 100 psig (690 kPa)   |
| <b>Flow Characteristics</b>  | <b>Two-Way Valves</b>   | Equal Percentage   |
|  | <b>Three-Way Valves</b> | Linear Flow Characteristics  |
| <b>Rangeability<sup>2</sup></b>  |                         | > 25:1 According to EN60534-2-4 for the 1/2 in. Size, Cv 0.73, Valve Bodies<br>> 100:1 According to EN60534-2-4 for All Other Valves |
| <b>Leakage</b>   |                         | 0.05% of Maximum Flow per ANSI/FCI 70-2, Class 4   |
| <b>Actuator Ambient Operating Temperature Limits</b>                                   |                         | 0 to 140°F (-18 to 60°C)   |
| <b>Actuator Input Signal</b>   | <b>VA-7150-1001</b>     | 24 VAC Three-Wire Floating Control   |
|  | <b>VA-7152-1001</b>     | 0 to 10 VDC Proportional Control   |
|  | <b>VA-7153-1001</b>     | 24 VAC Three-Wire Floating Control with 0 to 2,000 Ohm Feedback Potentiometer for 25/32 in. Valve Stroke                             |
| <b>Actuator Power Requirements</b>   | <b>VA-7150-1001</b>     | 24 VAC (20 to 30 VAC), 50/60 Hz, 2.7 VA Nominal  |
|  | <b>VA-7152-1001</b>     | 24 VAC (20 to 30 VAC), 50/60 Hz, 4.7 VA Nominal  |
|  | <b>VA-7153-1001</b>     | 24 VAC (20 to 30 VAC), 50/60 Hz, 2.7 VA Nominal  |
| <b>Materials</b>   | <b>Body</b>             | Cast Bronze  |
|  | <b>Bonnet</b>           | Brass  |
|  | <b>Stem</b>             | Stainless Steel  |
|  | <b>Plug</b>             | Stainless Steel  |
|  | <b>Seat</b>             | Stainless Steel  |
|  | <b>Packing</b>          | Spring-Loaded PTFE and Elastomer V-Rings   |
| <b>Compliance</b>  | <b>Canada</b>           | CRN: 0C1099.9087YTN  |

1. Refer to the VDI 2035 Guideline for recommended proper water treatment.
2. Rangeability is defined as the ratio of maximum controllable flow to minimum controllable flow.