VG7000 Series

LIT-1900124

# Stainless Steel Trim Globe Valves with VA-4233 Series Electric Actuators

## Description

VG7000 Series Stainless Steel Trim Globe Valves with VA-4233 Series Electric Actuator control hot or chilled water, or steam.

## Features

- spring return – stem up
- 61 lb force – provides tight shutoff
- packing – spring-loaded PTFE and elastomer V-rings
- manual opener
- fits VG7000 valves 1/2 through 1-1/4 in.
- valve body static pressure rating: ANSI Class 250
- optional auxiliary switches available
- factory or field assembly
- voltage: 20 to 30 VAC, 50/60 Hz, 12 VA

## Repair Information

If the VG7000 Series Stainless Steel Trim Globe Valve with VA-4233 Series Electric Actuator fails to operate within its specifications, replace the unit. For a replacement valve or actuator, contact the nearest Johnson Controls® representative.

**VA-4233 Electric Actuator mounted on VG7441 Brass Globe Valve**

## Selection Charts

**VG7000 Series Valve Assemblies with VA-4233 Series Electric Actuators, Less Auxiliary Switches**

| Actuator Code | | | | VA-4233-AGA-2 | VA-4233-BGA-2 | VA-4233-GGA-2 |
|---|---|---|---|---|---|---|
| Actuator Input | | | | Floating | On/Off | 0 to 10 VDC - Proportional |
| Temperature Range | | | | 35 to 250°F (2 to 121°C), 15 psig Saturated Steam | | |
| Valve | Size | Cv | Closeoff | Spring Return – Stem Up | | |
| **Two-Way Push-Down-to-Close – NPT End Connections** | | | | | | |
| VG7243CT | 1/2” | 0.73 | 230 | VG7243CT+423AGA | VG7243CT+423BGA | VG7243CT+423GGA |
| VG7243ET | 1/2” | 1.8 | 230 | VG7243ET+423AGA | VG7243ET+423BGA | VG7243ET+423GGA |
| VG7243GT | 1/2” | 4.6 | 130 | VG7243GT+423AGA | VG7243GT+423BGA | VG7243GT+423GGA |
| VG7243LT | 3/4” | 7.3 | 82 | VG7243LT+423AGA | VG7243LT+423BGA | VG7243LT+423GGA |
| VG7243NT | 1” | 11.6 | 39 | VG7243NT+423AGA | VG7243NT+423BGA | VG7243NT+423GGA |
| VG7243PT | 1-1/4” | 18.5 | 24 | VG7243PT+423AGA | VG7243PT+423BGA | VG7243PT+423GGA |
| **Two-Way Push-Down-to-Open – NPT End Connections** | | | | | | |
| VG7443CT | 1/2” | 0.73 | 224 | VG7443CT+423AGA | VG7443CT+423BGA | VG7443CT+423GGA |
| VG7443ET | 1/2” | 1.8 | 224 | VG7443ET+423AGA | VG7443ET+423BGA | VG7443ET+423GGA |
| VG7443GT | 1/2” | 4.6 | 108 | VG7443GT+423AGA | VG7443GT+423BGA | VG7443GT+423GGA |
| VG7443LT | 3/4” | 7.3 | 64 | VG7443LT+423AGA | VG7443LT+423BGA | VG7443LT+423GGA |
| VG7443NT | 1” | 11.6 | 41 | VG7443NT+423AGA | VG7443NT+423BGA | VG7443NT+423GGA |
| VG7443PT | 1-1/4” | 18.5 | 24 | VG7443PT+423AGA | VG7443PT+423BGA | VG7443PT+423GGA |
| **Three-Way Mixing – NPT End Connections** | | | | | | |
| VG7844CT | 1/2” | 0.73 | 230 / 224 | VG7844CT+423AGA | VG7844CT+423BGA | VG7844CT+423GGA |
| VG7844ET | 1/2” | 1.8 | 230 / 224 | VG7844ET+423AGA | VG7844ET+423BGA | VG7844ET+423GGA |
| VG7844GT | 1/2” | 4.6 | 130 / 108 | VG7844GT+423AGA | VG7844GT+423BGA | VG7844GT+423GGA |
| VG7844LT | 3/4” | 7.3 | 82 / 64 | VG7844LT+423AGA | VG7844LT+423BGA | VG7844LT+423GGA |
| VG7844NT | 1” | 11.6 | 39 / 41 | VG7844NT+423AGA | VG7844NT+423BGA | VG7844NT+423GGA |
| VG7844PT | 1-1/4” | 18.5 | 24 / 24 | VG7844PT+423AGA | VG7844PT+423BGA | VG7844PT+423GGA |

# *VG7000 Series Stainless Steel Trim Globe Valves with VA-4233 Series Electric Actuators (Continued)*

**VG7000 Series Valve Assemblies with VA-4233 Series Electric Actuators and Two Auxiliary Switches**

| Actuator Code | | | | VA-4233-AGC-2 | VA-4233-BGC-2 | VA-4233-GGC-2 |
|---|---|---|---|---|---|---|
| Actuator Input | | | | Floating | On/Off | 0 to 10 VDC - Proportional |
| Temperature Range | | | | 35 to 250°F (2 to 121°C), 15 psig Saturated Steam | | |
| Actuator Code | | | | VA-4233-AGC-2 | VA-4233-BGC-2 | VA-4233-GGC-2 |
| Valve | Size | Cv | Closeoff | Spring Return – Stem Up | | |
| Two-Way Push-Down-to-Close – NPT End Connections | | | | | | |
| VG7243CT | 1/2” | 0.73 | 230 | VG7243CT+423AGC | VG7243CT+423BGC | VG7243CT+423GGC |
| VG7243ET | 1/2” | 1.8 | 230 | VG7243ET+423AGC | VG7243ET+423BGC | VG7243ET+423GGC |
| VG7243GT | 1/2” | 4.6 | 130 | VG7243GT+423AGC | VG7243GT+423BGC | VG7243GT+423GGC |
| VG7243LT | 3/4” | 7.3 | 82 | VG7243LT+423AGC | VG7243LT+423BGC | VG7243LT+423GGC |
| VG7243NT | 1” | 11.6 | 39 | VG7243NT+423AGC | VG7243NT+423BGC | VG7243NT+423GGC |
| VG7243PT | 1-1/4” | 18.5 | 24 | VG7243PT+423AGC | VG7243PT+423BGC | VG7243PT+423GGC |
| Two-Way Push-Down-to-Open – NPT End Connections | | | | | | |
| VG7443CT | 1/2” | 0.73 | 224 | VG7443CT+423AGC | VG7443CT+423BGC | VG7443CT+423GGC |
| VG7443ET | 1/2” | 1.8 | 224 | VG7443ET+423AGC | VG7443ET+423BGC | VG7443ET+423GGC |
| VG7443GT | 1/2” | 4.6 | 108 | VG7443GT+423AGC | VG7443GT+423BGC | VG7443GT+423GGC |
| VG7443LT | 3/4” | 7.3 | 64 | VG7443LT+423AGC | VG7443LT+423BGC | VG7443LT+423GGC |
| VG7443NT | 1” | 11.6 | 41 | VG7443NT+423AGC | VG7443NT+423BGC | VG7443NT+423GGC |
| VG7443PT | 1-1/4” | 18.5 | 24 | VG7443PT+423AGC | VG7443PT+423BGC | VG7443PT+423GGC |
| Three-Way Mixing – NPT End Connections | | | | | | |
| VG7844CT | 1/2” | 0.73 | 230 / 224 | VG7844CT+423AGC | VG7844CT+423BGC | VG7844CT+423GGC |
| VG7844ET | 1/2” | 1.8 | 230 / 224 | VG7844ET+423AGC | VG7844ET+423BGC | VG7844ET+423GGC |
| VG7844GT | 1/2” | 4.6 | 130 / 108 | VG7844GT+423AGC | VG7844GT+423BGC | VG7844GT+423GGC |
| VG7844LT | 3/4” | 7.3 | 82 / 64 | VG7844LT+423AGC | VG7844LT+423BGC | VG7844LT+423GGC |
| VG7844NT | 1” | 11.6 | 39 / 41 | VG7844NT+423AGC | VG7844NT+423BGC | VG7844NT+423GGC |
| VG7844PT | 1-1/4” | 18.5 | 24 / 24 | VG7844PT+423AGC | VG7844PT+423BGC | VG7844PT+423GGC |

## Technical Specifications

| VG7000 Stainless Steel Trim Globe Valves with VA4233 Series Spring Return Electric Actuators | | |
|---|---|---|
| **Service**[1] | | Hot Water, Chill Water, 50/50 Glycol Solutions and Steam for HVAC Systems |
| **Fluid Temperature Limits** | **Water** | 35 to 250°F (2 to 121°C) |
| | **Steam** | 15 psig (103 kPa) Saturated Steam |
| **Maximum Allowable Pressure Temperature** | **Water** | 400 psig (2,756 kPa) Up to 150°F (66°C) decreasing to 365 psig (2,515 kPa) at 248°F (120°C) |
| | **Steam** | 15 psig (103 kPa) Saturated Steam at 250°F (121°C) |
| **Valve Body Pressure/ Temperature Rating** | | Meets Requirements of ANSI B16.15, Class 250 |
| **Maximum Recommended Operating Pressure Drop** | **Water** | 35 psig (241 kPa) for ½ through 1-1/4 in. valves |
| | **Steam** | 15 psig (103 kPa) |
| **Flow Characteristics** | **Two-Way Valves** | Equal Percentage |
| | **Three-Way Valves** | Linear Flow Characteristics |
| **Rangeability**[2] | | 25:1 |
| **Leakage** | | 0.01% of Maximum Flow per ANSI/FCI 70-2, Class 4 |
| **Actuator Ambient Operating Temperature Limits** | | -4 to 122°F (-20 to 50°C) |
| **Actuator Input Signal** | **VA-4233-AGx-2** | 24 VAC or 24 VDC Three-Wire Floating Control |
| | **VA-4233-BGx-2** | 24 VAC or 24 VDC Two-Wire On/Off Control |
| | **VA-4233-GGx-2** | 0(2) to 10 VDC Proportional Control, 0 to 10 VDC Feedback |
| **Actuator Power Requirements** | | 24 VAC (20 to 30 VAC), 50/60 Hz, 12 VA Nominal |
| **Materials** | **Body** | Cast Bronze |
| | **Bonnet** | Brass |
| | **Stem** | Stainless Steel |
| | **Plug** | Brass |
| | **Seat** | Brass Against Molded Elastomeric Disk |
| | **Packing** | Self Adjusting Ethylene Propylene Rubber (EPR) Ring Pack U-Cups |

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