

VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric Actuators

Description

VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric 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

- spring return stem up
- 61 lb force provides tight shutoff
- manual opener
- fits VG7000 Series 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 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-4233 Electric Actuator Mounted on a VG7441 Brass Globe Valve

Selection Charts

VG7000 Series Brass Trim Globe Valve Assemblies with VA-4233 Series Spring-Return Electric Actuators, Less Auxiliary Switches (Part 1 of 2)

Actuator Code Number				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 Code Number	Size, in.	Cv	Closeoff psig	Spring Return Stem Up		
Two-Way Push-Down-to-Close — NPT End Connections						
VG7241CT	1/2	0.73	345	VG7241CT+423AGA	VG7241CT+423BGA	VG7241CT+423GGA
VG7241ET	1/2	1.8	345	VG7241ET+423AGA	VG7241ET+423BGA	VG7241ET+423GGA
VG7241GT	1/2	4.6	208	VG7241GT+423AGA	VG7241GT+423BGA	VG7241GT+423GGA
VG7241LT	3/4	7.3	132	VG7241LT+423AGA	VG7241LT+423BGA	VG7241LT+423GGA
VG7241NT	1	11.6	63	VG7241NT+423AGA	VG7241NT+423BGA	VG7241NT+423GGA
VG7241PT	1-1/4	18.5	38	VG7241PT+423AGA	VG7241PT+423BGA	VG7241PT+423GGA
Two-Way Push-Down-to-Open — NPT End Connections						
VG7441CT	1/2	0.73	345	VG7441CT+423AGA	VG7441CT+423BGA	VG7441CT+423GGA
VG7441ET	1/2	1.8	345	VG7441ET+423AGA	VG7441ET+423BGA	VG7441ET+423GGA
VG7441GT	1/2	4.6	173	VG7441GT+423AGA	VG7441GT+423BGA	VG7441GT+423GGA
VG7441LT	3/4	7.3	103	VG7441LT+423AGA	VG7441LT+423BGA	VG7441LT+423GGA
VG7441NT	1	11.6	66	VG7441NT+423AGA	VG7441NT+423BGA	VG7441NT+423GGA
VG7441PT	1-1/4	18.5	38	VG7441PT+423AGA	VG7441PT+423BGA	VG7441PT+423GGA
Three-Way Mixing — NPT End Connections						
VG7842CT	1/2	0.73	345/345	VG7842CT+423AGA	VG7842CT+423BGA	VG7842CT+423GGA
VG7842ET	1/2	1.8	345/345	VG7842ET+423AGA	VG7842ET+423BGA	VG7842ET+423GGA
VG7842GT	1/2	4.6	208/173	VG7842GT+423AGA	VG7842GT+423BGA	VG7842GT+423GGA
VG7842LT	3/4	7.3	132/103	VG7842LT+423AGA	VG7842LT+423BGA	VG7842LT+423GGA
VG7842NT	1	11.6	63/66	VG7842NT+423AGA	VG7842NT+423BGA	VG7842NT+423GGA
VG7842PT	1-1/4	18.5	38/38	VG7842PT+423AGA	VG7842PT+423BGA	VG7842PT+423GGA
Two-Way Push-Down-to-Close — Union Sweat End Connections						
VG7281CT	1/2	0.73	345	VG7281CT+423AGA	VG7281CT+423BGA	VG7281CT+423GGA
VG7281ET	1/2	1.8	345	VG7281ET+423AGA	VG7281ET+423BGA	VG7281ET+423GGA
VG7281GT	1/2	4.6	208	VG7281GT+423AGA	VG7281GT+423BGA	VG7281GT+423GGA
VG7281LT	3/4	7.3	132	VG7281LT+423AGA	VG7281LT+423BGA	VG7281LT+423GGA
VG7281NT	1	11.6	63	VG7281NT+423AGA	VG7281NT+423BGA	VG7281NT+423GGA
VG7281PT	1-1/4	18.5	38	VG7281PT+423AGA	VG7281PT+423BGA	VG7281PT+423GGA

VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric Actuators (Continued)

VG7000 Series Brass Trim Globe Valve Assemblies with VA-4233 Series Spring-Return Electric Actuators, Less Auxiliary Switches (Part 2 of 2)

Actuator Code Number				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 Code Number	Size, in.	Cv	Closeoff psig	Spring Return Stem Up		
Two-Way Push-Down-to-Open — Union Sweat End Connections						
VG7481CT	1/2	0.73	345	VG7481CT+423AGA	VG7481CT+423BGA	VG7481CT+423GGA
VG7481ET	1/2	1.8	345	VG7481ET+423AGA	VG7481ET+423BGA	VG7481ET+423GGA
VG7481GT	1/2	4.6	173	VG7481GT+423AGA	VG7481GT+423BGA	VG7481GT+423GGA
VG7481LT	3/4	7.3	103	VG7481LT+423AGA	VG7481LT+423BGA	VG7481LT+423GGA
VG7481NT	1	11.6	66	VG7481NT+423AGA	VG7481NT+423BGA	VG7481NT+423GGA
VG7481PT	1-1/4	18.5	38	VG7481PT+423AGA	VG7481PT+423BGA	VG7481PT+423GGA
Three-Way Mixing — Union Sweat End Connections						
VG7882CT	1/2	0.73	345/345	VG7882CT+423AGA	VG7882CT+423BGA	VG7882CT+423GGA
VG7882ET	1/2	1.8	345/345	VG7882ET+423AGA	VG7882ET+423BGA	VG7882ET+423GGA
VG7882GT	1/2	4.6	208/173	VG7882GT+423AGA	VG7882GT+423BGA	VG7882GT+423GGA
VG7882LT	3/4	7.3	132/103	VG7882LT+423AGA	VG7882LT+423BGA	VG7882LT+423GGA
VG7882NT	1	11.6	63/66	VG7882NT+423AGA	VG7882NT+423BGA	VG7882NT+423GGA
VG7882PT	1-1/4	18.5	38/38	VG7882PT+423AGA	VG7882PT+423BGA	VG7882PT+423GGA
Two-Way Push-Down-to-Close — 3/8 in. Union Sweat End Connections						
VG7271CT	1/2	0.73	345	VG7271CT+423AGA	VG7271CT+423BGA	VG7271CT+423GGA
VG7271ET	1/2	1.8	345	VG7271ET+423AGA	VG7271ET+423BGA	VG7271ET+423GGA
VG7271GT	1/2	4.6	208	VG7271GT+423AGA	VG7271GT+423BGA	VG7271GT+423GGA
Two-Way Push-Down-to-Open — 3/8 in. Union Sweat End Connections						
VG7471CT	1/2	0.73	345	VG7471CT+423AGA	VG7471CT+423BGA	VG7471CT+423GGA
VG7471ET	1/2	1.8	345	VG7471ET+423AGA	VG7471ET+423BGA	VG7471ET+423GGA
VG7471GT	1/2	4.6	173	VG7471GT+423AGA	VG7471GT+423BGA	VG7471GT+423GGA
Three-Way Mixing — 3/8 in. Union Sweat End Connections						
VG7872CT	1/2	0.73	345/345	VG7872CT+423AGA	VG7872CT+423BGA	VG7872CT+423GGA
VG7872ET	1/2	1.8	345/345	VG7872ET+423AGA	VG7872ET+423BGA	VG7872ET+423GGA
VG7872GT	1/2	4.6	208/173	VG7872GT+423AGA	VG7872GT+423BGA	VG7872GT+423GGA
Two-Way Push-Down-to-Close — 3/4 in. Union Sweat End Connections						
VG7291CT	1/2	0.73	345	VG7291CT+423AGA	VG7291CT+423BGA	VG7291CT+423GGA
VG7291ET	1/2	1.8	345	VG7291ET+423AGA	VG7291ET+423BGA	VG7291ET+423GGA
VG7291GT	1/2	4.6	208	VG7291GT+423AGA	VG7291GT+423BGA	VG7291GT+423GGA
Two-Way Push-Down-to-Open — 3/4 in. Union Sweat End Connections						
VG7491CT	1/2	0.73	345	VG7491CT+423AGA	VG7491CT+423BGA	VG7491CT+423GGA
VG7491ET	1/2	1.8	345	VG7491ET+423AGA	VG7491ET+423BGA	VG7491ET+423GGA
VG7491GT	1/2	4.6	173	VG7491GT+423AGA	VG7491GT+423BGA	VG7491GT+423GGA
Three-Way Mixing — 3/4 in. Union Sweat End Connections						
VG7892CT	1/2	0.73	345/345	VG7892CT+423AGA	VG7892CT+423BGA	VG7892CT+423GGA
VG7892ET	1/2	1.8	345/345	VG7892ET+423AGA	VG7892ET+423BGA	VG7892ET+423GGA
VG7892GT	1/2	4.6	208/173	VG7892GT+423AGA	VG7892GT+423BGA	VG7892GT+423GGA

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VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric Actuators (Continued)

VG7000 Series Brass Trim Valve Assemblies with VA-4233 Series Spring-Return Electric Actuators and Two Auxiliary Switches (Part 1 of 2)

Actuator Code Number				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		
Valve Code Number	Size, in.	Cv	Closeoff psig	Spring Return Stem Up		
Two-Way Push-Down-to-Close — NPT End Connections						
VG7241CT	1/2	0.73	345	VG7241CT+423AGC	VG7241CT+423BGC	VG7241CT+423GGC
VG7241ET	1/2	1.8	345	VG7241ET+423AGC	VG7241ET+423BGC	VG7241ET+423GGC
VG7241GT	1/2	4.6	208	VG7241GT+423AGC	VG7241GT+423BGC	VG7241GT+423GGC
VG7241LT	3/4	7.3	132	VG7241LT+423AGC	VG7241LT+423BGC	VG7241LT+423GGC
VG7241NT	1	11.6	63	VG7241NT+423AGC	VG7241NT+423BGC	VG7241NT+423GGC
VG7241PT	1-1/4	18.5	38	VG7241PT+423AGC	VG7241PT+423BGC	VG7241PT+423GGC
Two-Way Push-Down-to-Open — NPT End Connections						
VG7441CT	1/2	0.73	345	VG7441CT+423AGC	VG7441CT+423BGC	VG7441CT+423GGC
VG7441ET	1/2	1.8	345	VG7441ET+423AGC	VG7441ET+423BGC	VG7441ET+423GGC
VG7441GT	1/2	4.6	173	VG7441GT+423AGC	VG7441GT+423BGC	VG7441GT+423GGC
VG7441LT	3/4	7.3	103	VG7441LT+423AGC	VG7441LT+423BGC	VG7441LT+423GGC
VG7441NT	1	11.6	66	VG7441NT+423AGC	VG7441NT+423BGC	VG7441NT+423GGC
VG7441PT	1-1/4	18.5	38	VG7441PT+423AGC	VG7441PT+423BGC	VG7441PT+423GGC
Three-Way Mixing — NPT End Connections						
VG7842CT	1/2	0.73	345/345	VG7842CT+423AGC	VG7842CT+423BGC	VG7842CT+423GGC
VG7842ET	1/2	1.8	345/345	VG7842ET+423AGC	VG7842ET+423BGC	VG7842ET+423GGC
VG7842GT	1/2	4.6	208/173	VG7842GT+423AGC	VG7842GT+423BGC	VG7842GT+423GGC
VG7842LT	3/4	7.3	132/103	VG7842LT+423AGC	VG7842LT+423BGC	VG7842LT+423GGC
VG7842NT	1	11.6	63/66	VG7842NT+423AGC	VG7842NT+423BGC	VG7842NT+423GGC
VG7842PT	1-1/4	18.5	38/38	VG7842PT+423AGC	VG7842PT+423BGC	VG7842PT+423GGC
Two-Way Push-Down-to-Close — Union Sweat End Connections						
VG7281CT	1/2	0.73	345	VG7281CT+423AGC	VG7281CT+423BGC	VG7281CT+423GGC
VG7281ET	1/2	1.8	345	VG7281ET+423AGC	VG7281ET+423BGC	VG7281ET+423GGC
VG7281GT	1/2	4.6	208	VG7281GT+423AGC	VG7281GT+423BGC	VG7281GT+423GGC
VG7281LT	3/4	7.3	132	VG7281LT+423AGC	VG7281LT+423BGC	VG7281LT+423GGC
VG7281NT	1	11.6	63	VG7281NT+423AGC	VG7281NT+423BGC	VG7281NT+423GGC
VG7281PT	1-1/4	18.5	38	VG7281PT+423AGC	VG7281PT+423BGC	VG7281PT+423GGC
Two-Way Push-Down-to-Open — Union Sweat End Connections						
VG7481CT	1/2	0.73	345	VG7481CT+423AGC	VG7481CT+423BGC	VG7481CT+423GGC
VG7481ET	1/2	1.8	345	VG7481ET+423AGC	VG7481ET+423BGC	VG7481ET+423GGC
VG7481GT	1/2	4.6	173	VG7481GT+423AGC	VG7481GT+423BGC	VG7481GT+423GGC
VG7481LT	3/4	7.3	103	VG7481LT+423AGC	VG7481LT+423BGC	VG7481LT+423GGC
VG7481NT	1	11.6	66	VG7481NT+423AGC	VG7481NT+423BGC	VG7481NT+423GGC
VG7481PT	1-1/4	18.5	38	VG7481PT+423AGC	VG7481PT+423BGC	VG7481PT+423GGC
Three-Way Mixing — Union Sweat End Connections						
VG7882CT	1/2	0.73	345/345	VG7882CT+423AGC	VG7882CT+423BGC	VG7882CT+423GGC
VG7882ET	1/2	1.8	345/345	VG7882ET+423AGC	VG7882ET+423BGC	VG7882ET+423GGC
VG7882GT	1/2	4.6	208/173	VG7882GT+423AGC	VG7882GT+423BGC	VG7882GT+423GGC
VG7882LT	3/4	7.3	132/103	VG7882LT+423AGC	VG7882LT+423BGC	VG7882LT+423GGC
VG7882NT	1	11.6	63/66	VG7882NT+423AGC	VG7882NT+423BGC	VG7882NT+423GGC
VG7882PT	1-1/4	18.5	38/38	VG7882PT+423AGC	VG7882PT+423BGC	VG7882PT+423GGC
Two-Way Push-Down-to-Close — 3/8 in. Union Sweat End Connections						
VG7271CT	1/2	0.73	345	VG7271CT+423AGC	VG7271CT+423BGC	VG7271CT+423GGC
VG7271ET	1/2	1.8	345	VG7271ET+423AGC	VG7271ET+423BGC	VG7271ET+423GGC
VG7271GT	1/2	4.6	208	VG7271GT+423AGC	VG7271GT+423BGC	VG7271GT+423GGC
Two-Way Push-Down-to-Open — 3/8 in. Union Sweat End Connections						
VG7471CT	1/2	0.73	345	VG7471CT+423AGC	VG7471CT+423BGC	VG7471CT+423GGC
VG7471ET	1/2	1.8	345	VG7471ET+423AGC	VG7471ET+423BGC	VG7471ET+423GGC
VG7471GT	1/2	4.6	173	VG7471GT+423AGC	VG7471GT+423BGC	VG7471GT+423GGC

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VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric Actuators (Continued)

VG7000 Series Brass Trim Valve Assemblies with VA-4233 Series Spring-Return Electric Actuators and Two Auxiliary Switches (Part 2 of 2)

Actuator Code Number				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		
Valve Code Number	Size, in.	Cv	Closeoff psig	Spring Return Stem Up		
Three-Way Mixing — 3/8 in. Union Sweat End Connections						
VG7872CT	1/2	0.73	345/345	VG7872CT+423AGC	VG7872CT+423BGC	VG7872CT+423GGC
VG7872ET	1/2	1.8	345/345	VG7872ET+423AGC	VG7872ET+423BGC	VG7872ET+423GGC
VG7872GT	1/2	4.6	208/173	VG7872GT+423AGC	VG7872GT+423BGC	VG7872GT+423GGC
Two-Way Push-Down-to-Close — 3/4 in. Union Sweat End Connections						
VG7291CT	1/2	0.73	345	VG7291CT+423AGC	VG7291CT+423BGC	VG7291CT+423GGC
VG7291ET	1/2	1.8	345	VG7291ET+423AGC	VG7291ET+423BGC	VG7291ET+423GGC
VG7291GT	1/2	4.6	208	VG7291GT+423AGC	VG7291GT+423BGC	VG7291GT+423GGC
Two-Way Push-Down-to-Open — 3/4 in. Union Sweat End Connections						
VG7491CT	1/2	0.73	345	VG7491CT+423AGC	VG7491CT+423BGC	VG7491CT+423GGC
VG7491ET	1/2	1.8	345	VG7491ET+423AGC	VG7491ET+423BGC	VG7491ET+423GGC
VG7491GT	1/2	4.6	173	VG7491GT+423AGC	VG7491GT+423BGC	VG7491GT+423GGC
Three-Way Mixing — 3/4 in. Union Sweat End Connections						
VG7892CT	1/2	0.73	345/345	VG7892CT+423AGC	VG7892CT+423BGC	VG7892CT+423GGC
VG7892ET	1/2	1.8	345/345	VG7892ET+423AGC	VG7892ET+423BGC	VG7892ET+423GGC
VG7892GT	1/2	4.6	208/173	VG7892GT+423AGC	VG7892GT+423BGC	VG7892GT+423GGC

Technical Specifications

VG7000 Series Brass Trim Globe Valves with VA-4233 Series Spring-Return Electric Actuators		
Service ¹	Hot Water, Chilled 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 1/2 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 According to EN60534-2-4 for the 1/2 in. Size, Cv 0.73, Valve Bodies > 100:1 According to EN60534-2-4 for All Other Valves	
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
Compliance	Canada	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.