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

2020-07-21

LIT-1900123

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 VAC 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.

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Selection charts

Table 1: VG7000 Series brass trim globe valve assemblies with VA-4233 Series spring-return electric actuators, less auxiliary switches

Actuator code number				VA-4233-AGA-2	VA-4233-BGA-2	VA-4233-GGA-2
Actuator input				Floating	On/off	0 VDC to 10 VDC proportional
Temperature range				35°F to 250°F (2°C 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
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						

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Table 1: VG7000 Series brass trim globe valve assemblies with VA-4233 Series spring-return electric actuators, less auxiliary switches

Actuator code number				VA-4233-AGA-2	VA-4233-BGA-2	VA-4233-GGA-2
Actuator input				Floating	On/off	0 VDC to 10 VDC proportional
Temperature range				35°F to 250°F (2°C to 121°C), 15 psig saturated steam		
Valve code number	Size, in.	Cv	Closeoff psig	Spring return stem up		
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

Table 2: 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 VDC to 10 VDC proportional
Temperature range				35°F to 250°F (2°C 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

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Table 2: 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 VDC to 10 VDC proportional
Temperature range				35°F to 250°F (2°C to 121°C), 15 psig saturated steam		
Valve code number	Size, in.	Cv	Closeoff psig	Spring return stem up		
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
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

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Table 2: 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 VDC to 10 VDC proportional
Temperature range				35°F to 250°F (2°C to 121°C), 15 psig saturated steam		
Valve code number	Size, in.	Cv	Closeoff psig	Spring return stem up		
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

Table 3: 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°F to 250°F (2°C 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°F to 122°F (-20°C 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) VDC to 10 VDC proportional control, 0 VDC to 10 VDC feedback
Actuator power requirements		24 VAC (20 VAC 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: 0C22556.5

1 Refer to the VDI 2035 Guideline for recommended proper water treatment.

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2 Rangeability is defined as the ratio of maximum controllable flow to minimum controllable flow.

WARNING

This product is made of copper alloy, which contains lead. The product is therefore not to be used on drinking water.

WARNING

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

WARNING

WARNING: BRASS MAY CONTAIN LEAD

To fulfill our obligations towards Article 33, in accordance to the European REACH Regulation No 1907/2006 EC, we hereby inform you that this article contains the following Substances of Very High Concern mentioned on the Candidate list: Lead

Product warranty

This product is covered by a limited warranty, details of which can be found at www.johnsoncontrols.com/buildingswarranty.

Single point of contact

APAC	Europe	NA/SA
JOHNSON CONTROLS	JOHNSON CONTROLS	JOHNSON CONTROLS
C/O CONTROLS PRODUCT MANAGEMENT	WESTENDHOF 3	507 E MICHIGAN ST
NO. 32 CHANGJIJANG RD NEW DISTRICT	45143 ESSEN	MILWAUKEE WI 53202
WUXI JIANGSU PROVINCE 214028	GERMANY	USA
CHINA		

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