

Brass Trim Globe Valves with M9216 Series Electric Actuators

Description

VG7000 Brass Trim Globe Valves with M9216 Series Electric Actuator control hot or chilled water, or steam.

Features

- spring return – stem up or stem down
- 180 lb force – provides tight closeoff
- manual opener
- fits VG7000 valves 1/2 through 2 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 Brass Trim Globe Valve with M9216 Series Spring Return Electric Actuator fails to operate within its specifications, replace the unit. For a replacement valve or actuator, contact the nearest Johnson Controls® representative.



M9216 Electric Actuator with M9000-500 linkage mounted on VG7842 Brass Globe Valve

Selection Charts

VG7000 Brass Trim Globe Valve with M9216 Series Spring Return Electric Actuator, Less Auxiliary Switches (Part 1 of 2)

Actuator Code				M9216-AGA-2	M9216-HGA-2	M9216-AGA-2	M9216-HGA-2
Actuator Input				On/Off (Floating)	0 to 10 VDC Proportional	On/Off (Floating)	0 to 10 VDC Proportional
Temperature Range				35 to 284°F Fluid Temperature, 38 psig Saturated Steam			
Valve	Size	Cv	Closeoff	Spring Return – Stem Up		Spring Return – Stem Down	
Two-Way Push-Down-to-Close – NPT End Connections							
VG7241CT	1/2"	0.73	345	VG7241CT+926AGA	VG7241CT+926HGA	VG7241CT+946AGA	VG7241CT+946HGA
VG7241ET	1/2"	1.8	345	VG7241ET+926AGA	VG7241ET+926HGA	VG7241ET+946AGA	VG7241ET+946HGA
VG7241GT	1/2"	4.6	345	VG7241GT+926AGA	VG7241GT+926HGA	VG7241GT+946AGA	VG7241GT+946HGA
VG7241LT	3/4"	7.3	289	VG7241LT+926AGA	VG7241LT+926HGA	VG7241LT+946AGA	VG7241LT+946HGA
VG7241NT	1"	11.6	182	VG7241NT+926AGA	VG7241NT+926HGA	VG7241NT+946AGA	VG7241NT+946HGA
VG7241PT	1-1/4"	18.5	111	VG7241PT+926AGA	VG7241PT+926HGA	VG7241PT+946AGA	VG7241PT+946HGA
VG7241RT	1-1/2"	28.9	71	VG7241RT+926AGA	VG7241RT+926HGA	VG7241RT+946AGA	VG7241RT+946HGA
VG7241ST	2"	46.2	46	VG7241ST+926AGA	VG7241ST+926HGA	VG7241ST+946AGA	VG7241ST+946HGA
Three-Way Mixing – NPT End Connections							
VG7842CT	1/2"	0.73	345 / 345	VG7842CT+926AGA	VG7842CT+926HGA	VG7842CT+946AGA	VG7842CT+946HGA
VG7842ET	1/2"	1.8	345 / 345	VG7842ET+926AGA	VG7842ET+926HGA	VG7842ET+946AGA	VG7842ET+946HGA
VG7842GT	1/2"	4.6	345 / 345	VG7842GT+926AGA	VG7842GT+926HGA	VG7842GT+946AGA	VG7842GT+946HGA
VG7842LT	3/4"	7.3	289 / 321	VG7842LT+926AGA	VG7842LT+926HGA	VG7842LT+946AGA	VG7842LT+946HGA
VG7842NT	1"	11.6	182 / 213	VG7842NT+926AGA	VG7842NT+926HGA	VG7842NT+946AGA	VG7842NT+946HGA
VG7842PT	1-1/4"	18.5	111 / 122	VG7842PT+926AGA	VG7842PT+926HGA	VG7842PT+946AGA	VG7842PT+946HGA
VG7842RT	1-1/2"	28.9	71 / 76	VG7842RT+926AGA	VG7842RT+926HGA	VG7842RT+946AGA	VG7842RT+946HGA
VG7842ST	2"	46.2	46 / 47	VG7842ST+926AGA	VG7842ST+926HGA	VG7842ST+946AGA	VG7842ST+946HGA
Two-Way Push-Down-to-Close – Union Sweat End Connections							
VG7281CT	1/2"	0.73	345	VG7281CT+926AGA	VG7281CT+926HGA	VG7281CT+946AGA	VG7281CT+946HGA
VG7281ET	1/2"	1.8	345	VG7281ET+926AGA	VG7281ET+926HGA	VG7281ET+946AGA	VG7281ET+946HGA
VG7281GT	1/2"	4.6	345	VG7281GT+926AGA	VG7281GT+926HGA	VG7281GT+946AGA	VG7281GT+946HGA
VG7281LT	3/4"	7.3	289	VG7281LT+926AGA	VG7281LT+926HGA	VG7281LT+946AGA	VG7281LT+946HGA
VG7281NT	1"	11.6	182	VG7281NT+926AGA	VG7281NT+926HGA	VG7281NT+946AGA	VG7281NT+946HGA
VG7281PT	1-1/4"	18.5	111	VG7281PT+926AGA	VG7281PT+926HGA	VG7281PT+946AGA	VG7281PT+946HGA
VG7281RT	1-1/2"	28.9	71	VG7281RT+926AGA	VG7281RT+926HGA	VG7281RT+946AGA	VG7281RT+946HGA
VG7281ST	2"	46.2	46	VG7281ST+926AGA	VG7281ST+926HGA	VG7281ST+946AGA	VG7281ST+946HGA

VG7000 Series Brass Trim Globe Valves with M9216 Series Electric Actuators (Continued)

VG7000 Brass Trim Globe Valve with M9216 Series Spring Return Electric Actuator, Less Auxiliary Switches (Part 2 of 2)

Actuator Code				M9216-AGA-2	M9216-HGA-2	M9216-AGA-2	M9216-HGA-2
Actuator Input				On/Off (Floating)	0 to 10 VDC Proportional	On/Off (Floating)	0 to 10 VDC Proportional
Temperature Range				35 to 284°F Fluid Temperature, 38 psig Saturated Steam			
Valve	Size	Cv	Closeoff	Spring Return – Stem Up		Spring Return – Stem Down	
Three-Way Mixing – Union Sweat End Connections							
VG7882CT	1/2"	0.73	345 / 345	VG7882CT+926AGA	VG7882CT+926HGA	VG7882CT+946AGA	VG7882CT+946HGA
VG7882ET	1/2"	1.8	345 / 345	VG7882ET+926AGA	VG7882ET+926HGA	VG7882ET+946AGA	VG7882ET+946HGA
VG7882GT	1/2"	4.6	345 / 345	VG7882GT+926AGA	VG7882GT+926HGA	VG7882GT+946AGA	VG7882GT+946HGA
VG7882LT	3/4"	7.3	289 / 321	VG7882LT+926AGA	VG7882LT+926HGA	VG7882LT+946AGA	VG7882LT+946HGA
VG7882NT	1"	11.6	182 / 213	VG7882NT+926AGA	VG7882NT+926HGA	VG7882NT+946AGA	VG7882NT+946HGA
VG7882PT	1-1/4"	18.5	111 / 122	VG7882PT+926AGA	VG7882PT+926HGA	VG7882PT+946AGA	VG7882PT+946HGA
VG7882RT	1-1/2"	28.9	71 / 76	VG7882RT+926AGA	VG7882RT+926HGA	VG7882RT+946AGA	VG7882RT+946HGA
VG7882ST	2"	46.2	46 / 47	VG7882ST+926AGA	VG7882ST+926HGA	VG7882ST+946AGA	VG7882ST+946HGA
Two-Way Push-Down-to-Close – 3/8 in. Union Sweat End Connections							
VG7271CT	1/2"	0.73	345	VG7271CT+926AGA	VG7271CT+926HGA	VG7271CT+946AGA	VG7271CT+946HGA
VG7271ET	1/2"	1.8	345	VG7271ET+926AGA	VG7271ET+926HGA	VG7271ET+946AGA	VG7271ET+946HGA
VG7271GT	1/2"	4.6	345	VG7271GT+926AGA	VG7271GT+926HGA	VG7271GT+946AGA	VG7271GT+946HGA
Three-Way Mixing – 3/8 in. Union Sweat End Connections							
VG7872CT	1/2"	0.73	345 / 345	VG7872CT+926AGA	VG7872CT+926HGA	VG7872CT+946AGA	VG7872CT+946HGA
VG7872ET	1/2"	1.8	345 / 345	VG7872ET+926AGA	VG7872ET+926HGA	VG7872ET+946AGA	VG7872ET+946HGA
VG7872GT	1/2"	4.6	345 / 345	VG7872GT+926AGA	VG7872GT+926HGA	VG7872GT+946AGA	VG7872GT+946HGA
Two-Way Push-Down-to-Close – 3/4 in. Union Sweat End Connections							
VG7291CT	1/2"	0.73	345	VG7291CT+926AGA	VG7291CT+926HGA	VG7291CT+946AGA	VG7291CT+946HGA
VG7291ET	1/2"	1.8	345	VG7291ET+926AGA	VG7291ET+926HGA	VG7291ET+946AGA	VG7291ET+946HGA
VG7291GT	1/2"	4.6	345	VG7291GT+926AGA	VG7291GT+926HGA	VG7291GT+946AGA	VG7291GT+946HGA
Three-Way Mixing – 3/4 in. Union Sweat End Connections							
VG7892CT	1/2"	0.73	345 / 345	VG7892CT+926AGA	VG7892CT+926HGA	VG7892CT+946AGA	VG7892CT+946HGA
VG7892ET	1/2"	1.8	345 / 345	VG7892ET+926AGA	VG7892ET+926HGA	VG7892ET+946AGA	VG7892ET+946HGA
VG7892GT	1/2"	4.6	345 / 345	VG7892GT+926AGA	VG7892GT+926HGA	VG7892GT+946AGA	VG7892GT+946HGA

VG7000 Brass Trim Globe Valve with M9216 Series Spring Return Electric Actuator, and Two Auxiliary Switches (Part 1 of 2)

Actuator Code				M9216-AGC-2	M9216-HGC-2	M9216-AGC-2	M9216-HGC-2
Actuator Input				On/Off (Floating)	0 to 10 VDC Proportional	On/Off (Floating)	0 to 10 VDC Proportional
Temperature Range				35 to 284°F Fluid Temperature, 38 psig Saturated Steam			
Valve	Size	Cv	Closeoff	Spring Return – Stem Up		Spring Return – Stem Down	
Two-Way Push-Down-to-Close – NPT End Connections							
VG7241CT	1/2"	0.73	345	VG7241CT+926AGC	VG7241CT+926HGC	VG7241CT+946AGC	VG7241CT+946HGC
VG7241ET	1/2"	1.8	345	VG7241ET+926AGC	VG7241ET+926HGC	VG7241ET+946AGC	VG7241ET+946HGC
VG7241GT	1/2"	4.6	345	VG7241GT+926AGC	VG7241GT+926HGC	VG7241GT+946AGC	VG7241GT+946HGC
VG7241LT	3/4"	7.3	289	VG7241LT+926AGC	VG7241LT+926HGC	VG7241LT+946AGC	VG7241LT+946HGC
VG7241NT	1"	11.6	182	VG7241NT+926AGC	VG7241NT+926HGC	VG7241NT+946AGC	VG7241NT+946HGC
VG7241PT	1-1/4"	18.5	111	VG7241PT+926AGC	VG7241PT+926HGC	VG7241PT+946AGC	VG7241PT+946HGC
VG7241RT	1-1/2"	28.9	71	VG7241RT+926AGC	VG7241RT+926HGC	VG7241RT+946AGC	VG7241RT+946HGC
VG7241ST	2"	46.2	46	VG7241ST+926AGC	VG7241ST+926HGC	VG7241ST+946AGC	VG7241ST+946HGC
Three-Way Mixing – NPT End Connections							
VG7842CT	1/2"	0.73	345 / 345	VG7842CT+926AGC	VG7842CT+926HGC	VG7842CT+946AGC	VG7842CT+946HGC
VG7842ET	1/2"	1.8	345 / 345	VG7842ET+926AGC	VG7842ET+926HGC	VG7842ET+946AGC	VG7842ET+946HGC
VG7842GT	1/2"	4.6	345 / 345	VG7842GT+926AGC	VG7842GT+926HGC	VG7842GT+946AGC	VG7842GT+946HGC
VG7842LT	3/4"	7.3	289 / 321	VG7842LT+926AGC	VG7842LT+926HGC	VG7842LT+946AGC	VG7842LT+946HGC
VG7842NT	1"	11.6	182 / 213	VG7842NT+926AGC	VG7842NT+926HGC	VG7842NT+946AGC	VG7842NT+946HGC
VG7842PT	1-1/4"	18.5	111 / 122	VG7842PT+926AGC	VG7842PT+926HGC	VG7842PT+946AGC	VG7842PT+946HGC
VG7842RT	1-1/2"	28.9	71 / 76	VG7842RT+926AGC	VG7842RT+926HGC	VG7842RT+946AGC	VG7842RT+946HGC
VG7842ST	2"	46.2	46 / 47	VG7842ST+926AGC	VG7842ST+926HGC	VG7842ST+946AGC	VG7842ST+946HGC

VG7000 Series Brass Trim Globe Valves with M9216 Series Electric Actuators (Continued)

VG7000 Brass Trim Globe Valve with M9216 Series Spring Return Electric Actuator, and Two Auxiliary Switches (Part 2 of 2)

Actuator Code				M9216-AGC-2	M9216-HGC-2	M9216-AGC-2	M9216-HGC-2
Actuator Input				On/Off (Floating)	0 to 10 VDC Proportional	On/Off (Floating)	0 to 10 VDC Proportional
Temperature Range				35 to 284°F Fluid Temperature, 38 psig Saturated Steam			
Valve	Size	Cv	Closeoff	Spring Return – Stem Up		Spring Return – Stem Down	
Two-Way Push-Down-to-Close – Union Sweat End Connections							
VG7281CT	1/2"	0.73	345	VG7281CT+926AGC	VG7281CT+926HGC	VG7281CT+946AGC	VG7281CT+946HGC
VG7281ET	1/2"	1.8	345	VG7281ET+926AGC	VG7281ET+926HGC	VG7281ET+946AGC	VG7281ET+946HGC
VG7281GT	1/2"	4.6	345	VG7281GT+926AGC	VG7281GT+926HGC	VG7281GT+946AGC	VG7281GT+946HGC
VG7281LT	3/4"	7.3	289	VG7281LT+926AGC	VG7281LT+926HGC	VG7281LT+946AGC	VG7281LT+946HGC
VG7281NT	1"	11.6	182	VG7281NT+926AGC	VG7281NT+926HGC	VG7281NT+946AGC	VG7281NT+946HGC
VG7281PT	1-1/4"	18.5	111	VG7281PT+926AGC	VG7281PT+926HGC	VG7281PT+946AGC	VG7281PT+946HGC
VG7281RT	1-1/2"	28.9	71	VG7281RT+926AGC	VG7281RT+926HGC	VG7281RT+946AGC	VG7281RT+946HGC
VG7281ST	2"	46.2	46	VG7281ST+926AGC	VG7281ST+926HGC	VG7281ST+946AGC	VG7281ST+946HGC
Three-Way Mixing – Union Sweat End Connections							
VG7882CT	1/2"	0.73	345 / 345	VG7882CT+926AGC	VG7882CT+926HGC	VG7882CT+946AGC	VG7882CT+946HGC
VG7882ET	1/2"	1.8	345 / 345	VG7882ET+926AGC	VG7882ET+926HGC	VG7882ET+946AGC	VG7882ET+946HGC
VG7882GT	1/2"	4.6	345 / 345	VG7882GT+926AGC	VG7882GT+926HGC	VG7882GT+946AGC	VG7882GT+946HGC
VG7882LT	3/4"	7.3	289 / 321	VG7882LT+926AGC	VG7882LT+926HGC	VG7882LT+946AGC	VG7882LT+946HGC
VG7882NT	1"	11.6	182 / 213	VG7882NT+926AGC	VG7882NT+926HGC	VG7882NT+946AGC	VG7882NT+946HGC
VG7882PT	1-1/4"	18.5	111 / 122	VG7882PT+926AGC	VG7882PT+926HGC	VG7882PT+946AGC	VG7882PT+946HGC
VG7882RT	1-1/2"	28.9	71 / 76	VG7882RT+926AGC	VG7882RT+926HGC	VG7882RT+946AGC	VG7882RT+946HGC
VG7882ST	2"	46.2	46 / 47	VG7882ST+926AGC	VG7882ST+926HGC	VG7882ST+946AGC	VG7882ST+946HGC
Two-Way Push-Down-to-Close – 3/8 in. Union Sweat End Connections							
VG7271CT	1/2"	0.73	345	VG7271CT+926AGC	VG7271CT+926HGC	VG7271CT+946AGC	VG7271CT+946HGC
VG7271ET	1/2"	1.8	345	VG7271ET+926AGC	VG7271ET+926HGC	VG7271ET+946AGC	VG7271ET+946HGC
VG7271GT	1/2"	4.6	345	VG7271GT+926AGC	VG7271GT+926HGC	VG7271GT+946AGC	VG7271GT+946HGC
Three-Way Mixing – 3/8 in. Union Sweat End Connections							
VG7872CT	1/2"	0.73	345 / 345	VG7872CT+926AGC	VG7872CT+926HGC	VG7872CT+946AGC	VG7872CT+946HGC
VG7872ET	1/2"	1.8	345 / 345	VG7872ET+926AGC	VG7872ET+926HGC	VG7872ET+946AGC	VG7872ET+946HGC
VG7872GT	1/2"	4.6	345 / 345	VG7872GT+926AGC	VG7872GT+926HGC	VG7872GT+946AGC	VG7872GT+946HGC
Two-Way Push-Down-to-Close – 3/4 in. Union Sweat End Connections							
VG7291CT	1/2"	0.73	345	VG7291CT+926AGC	VG7291CT+926HGC	VG7291CT+946AGC	VG7291CT+946HGC
VG7291ET	1/2"	1.8	345	VG7291ET+926AGC	VG7291ET+926HGC	VG7291ET+946AGC	VG7291ET+946HGC
VG7291GT	1/2"	4.6	345	VG7291GT+926AGC	VG7291GT+926HGC	VG7291GT+946AGC	VG7291GT+946HGC
Three-Way Mixing – 3/4 in. Union Sweat End Connections							
VG7892CT	1/2"	0.73	345 / 345	VG7892CT+926AGC	VG7892CT+926HGC	VG7892CT+946AGC	VG7892CT+946HGC
VG7892ET	1/2"	1.8	345 / 345	VG7892ET+926AGC	VG7892ET+926HGC	VG7892ET+946AGC	VG7892ET+946HGC
VG7892GT	1/2"	4.6	345 / 345	VG7892GT+926AGC	VG7892GT+926HGC	VG7892GT+946AGC	VG7892GT+946HGC

VG7000 Series Brass Trim Globe Valves with M9216 Series Electric Actuators (Continued)

Technical Specifications

VG7000 Brass Trim Globe Valves with M9216 Series Spring Return Electric Actuators		
Service¹		Hot Water, Chill Water, 50/50 Glycol Solutions and Steam for HVAC Systems
Fluid Temperature Limits	Water	35 to 284°F (2 to 140°C)
	Steam	38 psig (262 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	38 psig (262 kPa) Saturated Steam at 284°F (140°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 30 psig (207 kPa) for 1-1/2 and 2 in. valves
	Steam	15 psig (103 kPa)r
Flow Characteristics	Two-Way Valves	Equal Percentage
	Three-Way Valves	Linear Flow Characteristics
Rangeability²		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	M9216-AGx-2	24 VAC Three-Wire Floating Control
	M9216HGx-2	0 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.