

Johnson Controls VG7243NT

Johnson Controls VG7243NT Series VG7000 Bronze Globe Valve Instruction Manual

Model: VG7243NT | Brand: Johnson Controls

1. PRODUCT OVERVIEW

The Johnson Controls VG7000 Series Bronze Globe Valves are engineered for precise regulation of water or steam flow within HVAC systems. These valves respond directly to controller demands, ensuring optimal system performance. They are available in various configurations, including normally open, normally closed, and three-way mixing, and are compatible with both electric and pneumatic actuators.



Figure 1: Johnson Controls VG7243NT Series VG7000 Bronze Globe Valve. This image displays the valve's robust bronze body, the stainless steel trim, and the threaded NPT end connections, designed for secure installation in piping systems.

2. KEY FEATURES

- **Versatile Sizing:** Available in size ranges from 1/2 inch through 2 inches, offering broad applicability.
- **Actuator Compatibility:** Designed for use with several styles of electric and pneumatic actuators, providing flexible control options.
- **ANSI Standard Compliant:** Meets American National Standards Institute (ANSI) Class 250 pressure/temperature standards, ensuring reliability.
- **Tight Shutoff:** Rigorous shutoff testing guarantees occupant comfort and contributes to energy conservation.
- **Durable Packing:** Features standard Johnson Controls Ring Pack Packings for industry-leading reliability and extended operating life.
- **Interchangeable Actuators:** Complete actuator interchangeability allows for easy field retrofit or mounting using standardized mounting kits.

3. INSTALLATION AND SETUP

Proper installation is crucial for the optimal performance and longevity of the VG7000 Series valve. Ensure all local codes and regulations are followed.

1. **Safety First:** Before beginning installation, ensure the system is depressurized and drained. Wear appropriate personal protective equipment (PPE).
2. **Inspect Valve:** Visually inspect the valve for any shipping damage. Verify the model number and specifications match the system requirements.
3. **Prepare Piping:** Ensure piping is clean and free of debris. Align pipes properly to prevent strain on the valve body.
4. **Install Valve:** The VG7243NT model features NPT (National Pipe Tapered) end connections. Apply appropriate thread sealant to the pipe threads. Install the valve into the piping system, ensuring the flow arrow on the valve body points in the direction of fluid flow. Tighten connections securely but do not overtighten.
5. **Mount Actuator:** If an actuator is not pre-mounted, follow the specific instructions provided with the actuator for proper mounting and connection to the valve stem.
6. **System Check:** After installation, slowly pressurize the system and check for leaks at all connections.

4. OPERATING INSTRUCTIONS

The VG7000 Series globe valve operates by regulating fluid flow through the movement of its stem and disc assembly. When connected to an appropriate actuator and controller, the valve will modulate its position to maintain desired flow rates or temperatures.

- **Automatic Operation:** In most HVAC applications, the valve will be controlled automatically by a building management system (BMS) or a dedicated controller. The controller sends signals to the actuator, which in turn positions the valve.
- **Manual Override (if applicable):** Some actuators may feature a manual override. Refer to the actuator's specific manual for instructions on engaging and disengaging manual control. Always return the valve to automatic control for normal operation.
- **Flow Direction:** Always ensure fluid flows in the direction indicated by the arrow on the valve body for optimal performance and to prevent damage.

5. MAINTENANCE

Regular maintenance helps ensure the long-term reliability and efficiency of your Johnson Controls valve.

- **Routine Inspection:** Periodically inspect the valve and its connections for any signs of leaks, corrosion, or physical damage.
- **Packing Gland:** The valve features durable Ring Pack Packings. If minor stem leakage occurs over time, the packing gland nut may require slight tightening. Do not overtighten, as this can impede stem movement.
- **Cleaning:** Keep the exterior of the valve clean. Avoid using harsh chemicals that could damage the bronze or stainless steel components.
- **Actuator Maintenance:** Refer to the actuator's specific maintenance schedule and instructions.
- **Professional Service:** For any significant issues or internal repairs, it is recommended to contact a qualified HVAC technician or Johnson Controls service representative.

6. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, consult a professional.

Problem	Possible Cause	Solution
Valve Leaking at Connections	Loose NPT connections; insufficient thread sealant; damaged threads.	Ensure connections are properly tightened. If necessary, depressurize, disassemble, reapply thread sealant, and reassemble. Inspect threads for damage.
Valve Leaking at Stem/Packing Gland	Packing gland nut loose; worn packing.	Slightly tighten the packing gland nut. If leakage persists, the packing may need replacement by a qualified technician.
Valve Not Modulating Properly	Actuator malfunction; control signal issue; debris in valve.	Check actuator power and control signals. Refer to actuator manual for troubleshooting. If suspected debris, system flush or professional inspection may be required.
No Flow or Reduced Flow	Valve fully closed; blockage in piping; incorrect flow direction.	Verify valve position (open/closed). Check for blockages upstream/downstream. Confirm flow arrow on valve body matches system flow.

7. SPECIFICATIONS

Attribute	Value
Model Number	VG7243NT
Brand	Johnson Controls
Material	Bronze
Exterior Finish	Stainless Steel Trim
Valve Type	Globe Valve, Two-Way Push-Down-to-Close
End Connection Type	NPT (National Pipe Tapered)
Valve Size	1 inch
Cv Value	11.6
ANSI Class	250 (Pressure/Temperature)
Package Dimensions	4 x 4 x 4 inches
Item Weight	4 Pounds
Date First Available	August 15, 2013

8. WARRANTY AND SUPPORT

For information regarding the warranty of your Johnson Controls VG7243NT Series VG7000 Bronze Globe Valve, please refer to the documentation provided at the time of purchase or visit the official Johnson Controls website. For technical support, service, or to inquire about replacement parts, please contact Johnson Controls customer service or an authorized distributor.

Johnson Controls Official Website: www.johnsoncontrols.com