



[Manuals.plus](#) /

› [Johnson Controls](#) /

› Johnson Controls V-9502 Series Pneumatic Valve Actuator Positioner Instruction Manual

Johnson Controls V-9502-16

Johnson Controls V-9502 Series Pneumatic Valve Actuator Positioner Instruction Manual

1. INTRODUCTION

The Johnson Controls V-9502 Series Pneumatic Valve Actuator Positioner is a precision relay device engineered to operate pneumatic valve actuators. It is designed for applications requiring stable and accurate control, ensuring optimal performance of the valve system.

This manual provides essential information for the safe and effective installation, operation, and maintenance of your V-9502 Series Positioner. Please read all instructions carefully before proceeding with installation or operation.

2. SAFETY INFORMATION

Always observe standard safety precautions during installation, operation, and maintenance of this equipment. Failure to follow these instructions may result in personal injury or equipment damage.

- Ensure all power and pneumatic supplies are disconnected before performing any service or maintenance.
- Installation and service should only be performed by qualified personnel.
- Wear appropriate personal protective equipment (PPE) as required by site safety regulations.
- Verify that the operating pressure does not exceed the maximum rated pressure for the device and connected equipment.

3. PRODUCT OVERVIEW

The V-9502 Series Positioner enhances the performance of pneumatic valve actuators by providing maximum positioning power. This power helps resist external forces that could otherwise compromise the actuator's ability to maintain its set position.

Key features include:

- **Precision Control:** Ensures stable and accurate positioning of valve actuators.

- **Flow Surge Compensation:** Feedback from the actuator stem allows the positioner to compensate for flow surges in the piping system, maintaining the valve's position as dictated by the controller.
- **Adjustable Operating Span:** Field-selectable operating span and starting point for versatile application, including valve sequencing.
- **Compatibility:** Designed for direct mounting to V-3000 Series, 3R, 4R, 5R, 8R, or MP8000 Series pneumatic valve actuators.



Figure 1: Johnson Controls V-9502 Series Pneumatic Valve Actuator Positioner. This image shows the compact design of the positioner, which integrates with various valve actuators to provide precise control.

4. SETUP AND INSTALLATION

4.1 Mounting

The V-9502 Series Positioner can be mounted directly to compatible pneumatic valve actuators, including V-3000 Series, 3R, 4R, 5R, 8R, and MP8000 Series. In many cases, the positioner can be ordered factory-installed on these actuator and valve assemblies.

Ensure proper alignment and secure fastening according to the specific actuator's mounting instructions. Refer to the actuator's manual for detailed mounting procedures.

4.2 Operating Span Adjustment

The operating span and starting point adjustments determine the control signal pressure range over which the actuator strokes. The V-9502's operating span is field-selectable from 3 to 13 psi (21 to 90 kPa) on 3R, 4R, 5R, 8R, and MP8000 Series pneumatic valve actuators.

To adjust the operating span:

- Locate the spring in the positioner operating span lever arm.
- **For a 3 psi (21 kPa) span:** Install the spring in the hole closest to the V-9502 Positioner cover.
- **For a 13 psi (90 kPa) span:** Install the spring in the hole furthest from the positioner cover.
- Intermediate spans can be achieved by selecting other available holes, if present, or by fine-tuning the starting point adjustment.

The lower value of the operating range is the control signal pressure at which the actuator begins to stroke. The upper value is the control signal pressure at which the actuator reaches its maximum stroke. The difference between these values is the operating span.

5. OPERATING PRINCIPLES

The V-9502 Positioner modulates the stroke of the actuator in direct relation to a pressure change from the controller. It receives a control signal pressure and translates this into a precise pneumatic output to the actuator.

Repositioning is highly precise, even for small changes in the output pressure from the controller. The internal feedback mechanism, involving the actuator stem, spring, and lever arm assembly, continuously

monitors the actuator's position. This allows the V-9502 to dynamically adjust its output to compensate for disturbances like flow surges, ensuring the valve remains at the position dictated by the control signal.

6. MAINTENANCE

The V-9502 Series Positioner is designed for reliable operation with minimal maintenance. Regular inspection is recommended to ensure optimal performance.

- **Periodic Inspection:** Visually inspect the positioner and its connections for any signs of wear, damage, or leaks.
- **Cleanliness:** Keep the exterior of the positioner clean and free from dust or debris. Avoid using harsh chemicals that could damage the housing.
- **Pneumatic Supply:** Ensure the pneumatic supply is clean, dry, and within the specified pressure range. Contaminants in the air supply can affect performance.
- **Calibration Check:** Periodically verify the operating span and starting point to ensure the positioner is responding accurately to the control signal.

For any internal servicing or repair, contact qualified service personnel or Johnson Controls technical support.

7. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For more complex problems, contact technical support.

Problem	Possible Cause	Solution
Actuator not responding to control signal	No pneumatic supply; Incorrect control signal; Positioner malfunction	Check pneumatic supply pressure; Verify control signal range; Inspect positioner connections.
Inaccurate valve positioning	Incorrect span/start point adjustment; Feedback mechanism issue; Contaminated air supply	Recalibrate operating span and start point; Check feedback linkage; Ensure clean air supply.
Air leaks	Loose connections; Damaged tubing/fittings	Tighten all pneumatic connections; Replace damaged components.

8. SPECIFICATIONS

- **Model Number:** V-9502-16
- **Brand:** Johnson Controls
- **Manufacturer:** Johnson Controls, Inc
- **Operating Span:** Field selectable from 3 to 13 psi (21 to 90 kPa)
- **Compatible Actuators:** V-3000 Series, 3R, 4R, 5R, 8R, MP8000 Series pneumatic valve actuators
- **Package Dimensions:** 6 H x 6 L x 5 W (inches)
- **Package Weight:** 0.6 pounds
- **Country of Origin:** United States

9. WARRANTY AND SUPPORT

For warranty information, please refer to the official Johnson Controls warranty statement provided with your product or visit the Johnson Controls website. Keep your proof of purchase for warranty claims.

For technical support, service, or replacement parts, please contact your authorized Johnson Controls distributor or visit the Johnson Controls official support portal. Provide the model number (V-9502-16) and a detailed description of the issue when seeking assistance.