

V11

Three-Way Solenoid Air Valve

Description

The V11 Three-Way Solenoid Valve is used in applications where an electrical circuit operates a pneumatic control device.

Refer to *V11 Series Three-Way Solenoid Air Valve Product Bulletin (LIT-7171550P)* for important product information.

Application

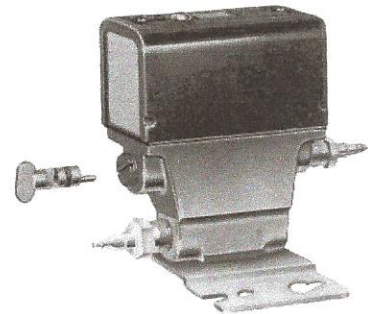
All V11 Series air valves are designed for use as operating devices. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices or systems to protect against, or warn of, control failure.

Features

- two-position action
- three piping connections marked:
 - N.O. (normally open)
 - N.C. (normally closed)
 - COM (common)
- can be operated manually by removing the plug and inserting a key
- furnished with an attached bracket
- operates in any position
- positive air seal

Repair Information

If the V11 Three-Way Solenoid Valve fails to operate within its specifications, replace the unit. For a replacement valve, contact the nearest Johnson Controls® representative.



V11HAA-100 Solenoid and Y99AA-4C Manual Opener Key

Selection Charts

V11 Three-Way Solenoid Valve

Code Number	Description
V11HAA-100	110/120 V, 50/60 Hz
V11HBA-100	220/240 V, 50/60 Hz
V11HCA-100	208 V, 50/60 Hz
V11HDA-100	440/480 V, 50/60 Hz
V11HFA-100	277 V, 50/60 Hz
V11HGA-100	24 V, 50/60 Hz
V11HAA-115	110/120 V, 50/60 Hz Includes Internal Grounding Lug
V11PNA-105	24 VDC

Accessories for V-11 Series

Code Number	Description
Y99AA-4C	Manual Opener Key

Technical Specifications

V11 Three-Way Solenoid Valve		
Air Connections		1/4 in. Barb Connections in Common Port and Normally Closed Port; Normally Open Port is 1/8 in. NPT (Internal)
Ambient Temperatures	Alternating Current Models	Minimum 32°F (0°C) Maximum 140°F (60°C)
	Direct Current Models	Minimum 32°F (0°C) Maximum 104°F (40°C)
Conduit Opening		7/8 in. Diameter
Finish	Valve Body	Dull Gray (Iridate)
	Cover and Case	Zinc Plated
Material	Valve Body	Die Cast Aluminum
	Cover and Case	Cold, Rolled Steel
Maximum Pressure Rating		30 psig (210 kPa)
Operating Pressure (All Three Ports)		0 to 25 psig (0 to 175 kPa)
Power Consumption	Alternating Current Models	6 Watts
	24 VDC Models	9 Watts
Pressure and Flow Ratings		With a 15 psig (103 kPa) Inlet and 0 psig (0 kPa) Outlet. The valve will pass 1.5 cfm (2592 scim) of air from the Common to the Normally Closed connection (when energized) or from the Common to the Normally Open connection (when de-energized).
Wiring Connections		18 in. Wire Leads
Agency Listing		UL Guide No. Y10Z, File 3536 except V11PNA-105

EPRI Edgemont Precision Rebuilders Inc
 800-356-3774

V11 Series Three-Way Solenoid Air Valve

Application

V11 three-way valves are for use in applications where the operation of a pneumatically operated device is dependent upon an electrical circuit. The valve directs supply air to the pneumatic device when the coil is energized or de-energized, depending on the supply and exhaust air connections.

Do not install where the ambient temperature for the alternating current models exceeds 140°F (60°C) or for the direct current models exceeds 104°F (40°C). The maximum pressure should not exceed 30 psig (207 kPa).

All Series V11 air valves are designed for use only as operating devices. Where system closure, improper flow, or loss of pressure due to valve failure can result in personal injury and/or loss of property, it is recommended that additional devices be added to indicate proper system operation, (for example, blade position indication on the damper blades in smoke damper applications).

Operation

In a typical application, supply air is connected to the normally closed port and the control device is connected to the common port. When the solenoid is energized, a magnetic field activates a plunger-type valve stem and supply air is directed to the control device. When the solenoid is de-energized, the supply air connection is closed and the normally open port exhausts air from the control device. Reverse action may be obtained by connecting the supply air to the normally open

port, using the normally closed port for exhaust. (See Fig. 2.)

Installation

CAUTION: Contaminants, including water, in the air supply may affect valve operation. It is recommended that a filtering device be added at the air supply or within the pneumatic system to avoid damage to system components.

This air valve may be mounted in any position. It can be supported by the piping, when used, or conduit to which it is attached. When tubing is used, the bracket supplied on the valve may be used for adequate support. Tubing connections are made to the barbed connectors.

Check the voltage shown on the valve data plate against the voltage of the power source to see that the right unit is being installed.

Wiring

CAUTION: Disconnect the power supply before wiring connections are made to avoid possible electrical shock or damage to equipment.

All wiring must conform to the National Electrical Code and local regulations.

Make wiring connections to the 18 in. wire leads from the coil. The wire is brought through a 7/8 in. diameter conduit opening in the end of the case. All splices should be made utilizing approved solderless connectors or by soldering and then taping the connections.

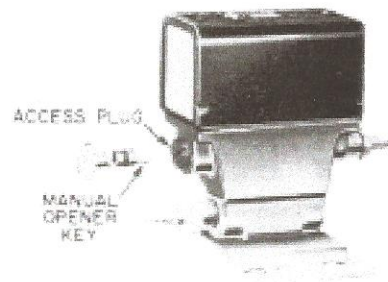


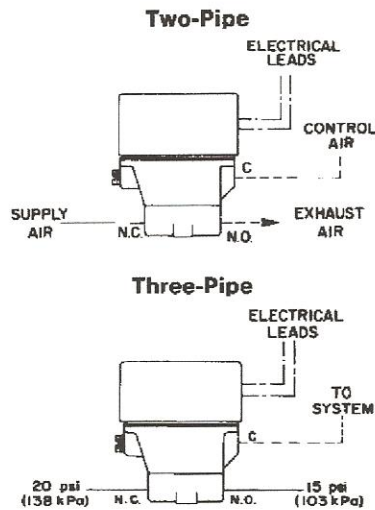
Fig. 1-VII Three-Way Solenoid Air Valve. Optional manual opener key is shown in the proper position for insertion.

Checkout Procedure

Before leaving the installation, observe at least three complete operating cycles to be sure that all components are functioning correctly.

Valves with manual openers can be checked as follows:

1. Remove the access plug.
2. Insert the manual opener key. The pin must be at the bottom. (See Fig. 1.)



2--Example application diagrams.

3. Turn the key clockwise one half turn.

This will open the normally closed line and close the normally open line. After the system has been checked, remove the key and replace the plug.

Repairs and Replacement

Field repairs must not be made except for coil replacement. The replacement coil is supplied with a cover and nameplate. For replacement air valve or replacement coil, contact the nearest Johnson Controls wholesaler.

Replacement Coil Part Numbers

Part Number	Voltage
AVC10A-600R	110/120 V, 50/60 Hz
AVC10A-601R	24 V, 50/60 Hz
AVC10A-602R	208 V, 50/60 Hz
AVC10A-603R	220/240 V, 50/60 Hz
AVC10A-609R	24 VDC
AVC10A-610R	277 V, 50/60 Hz
AVC10A-611R	440/480 V, 50/60 Hz
AVC10A-612R	550/600 V, 50/60 Hz
AVC10A-613R	115 VDC
AVC10A-614R	230 VDC

NOTE: These units should be used only in applications which are within the limitations and provisions of the applicable American National and/or U.L. standards.

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