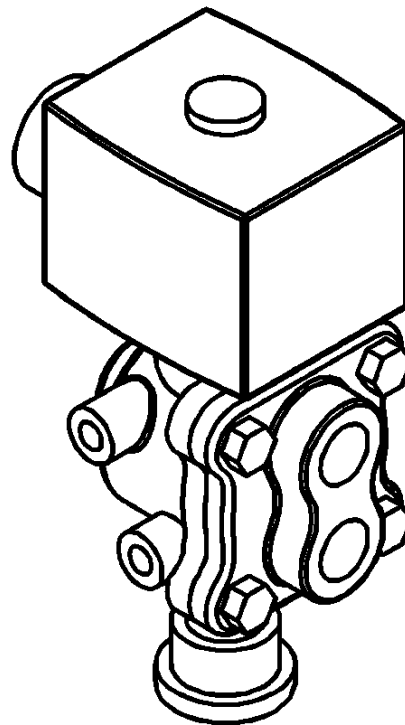


DEZURIK 4V 4-WAY PILOT VALVE

USED WITH DEZURIK DIAPHRAGM AND
CYLINDER ACTUATORS



Instruction D10392
August 2012

Instructions

These instructions are for use by personnel who are responsible for the installation, operation and maintenance of DeZURIK valves, actuators or accessories.

Safety Messages

All safety messages in the instructions are identified by a general warning sign and the signal word CAUTION, WARNING or DANGER. These messages indicate procedures to avoid injury or death.

Safety label(s) on the product indicate hazards that can cause injury or death. If a safety label becomes difficult to see or read, or if a label has been removed, please contact DeZURIK for replacement label(s).

⚠WARNING

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of pipeline material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous pipeline materials. Handle valves which have been removed from service with suitable protection for any potential pipeline material in the valve.

Inspection

Your DeZURIK product has been packaged to provide protection during shipment; however, items can be damaged in transport. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Replaceable wear parts are listed on the assembly drawing. These parts can be stocked to minimize downtime. Order parts from your local DeZURIK sales representative or directly from DeZURIK. When ordering parts please provide the following information:

If the valve has a data plate: please include the 7-digit part number with either 4-digit revision number (example: 9999999R000) or 8-digit serial number (example: S1900001) whichever is applicable. The data plate will be attached to the valve assembly. Also, include the part name, the assembly drawing number, the balloon number and the quantity stated on the assembly drawing.

If there isn't any data plate visible on the valve: please include valve model number, part name, and item number from the assembly drawing. You may contact your local DeZURIK Representative to help you identify your valve.

DeZURIK Service

DeZURIK service personnel are available to maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services. For more information, contact your local DeZURIK sales representative or visit our website at DeZURIK.com.

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ASCO 4V 4-Way Pilot Valve used with Diaphragm and Cylinder Actuators

Description

The ASCO 4V 4-way solenoid pilot valve is used on cylinder and diaphragm actuators to provide electrical control of the valve operation. Refer to the data plate attached to the solenoid pilot valve for specific product limitations. Manual override and integral speed controls are also available for the 8342 series pilot valve. Manual override is available on 8344 series pilot valves.

Operation

Double-Acting Actuators

When the solenoid is energized on a double acting actuator, it will route the supply air to one of the cylinder ports; when the solenoid is de-energized, it will route the supply air to the other cylinder port.

Note: Ports are marked “A” and “B”—reversing the connections will cause reverse operation.

Single-Acting Actuators

When the ASCO 4V 4-way solenoid pilot valve is used on a single acting actuator, one of the ports must be plugged.

Note: Ports are marked “A” and “B”—reversing the connections will cause reverse operation.

Electrical Characteristics

This pilot valve is available in several different voltages. Refer to the data plate on the pilot valve for the electrical characteristics of that unit.



CAUTION!

Applying the wrong voltage/hertz can cause the solenoid coil to overheat and malfunction. Verify that the supply voltage/hertz matches the rating on the pilot valve before applying power.



CAUTION!

If pilot valve is supplied with dual coils, do not energize both solenoids simultaneously.

Installation

Mounting on Diaphragm Actuators

The solenoid valve is bracket-mounted and attached to one of the cover screws.

1. Refer to the assembly drawing.
2. Mount the bracket to the solenoid valve with the included screws.
3. Remove one of the diaphragm cover mounting screws.
4. Mount the bracket in the same hole with the longer screw (included with kit), and the same washer and nut. Installation
5. Tighten the screw as shown in Table A.

Table A: Diaphragm Cover Torques

Model	Torque, ft. lbs
40	6±2
55	12±2
85	18±2
145	12±2
250	18±2

6. Proceed to “Piping and Electrical Connections” section.

Mounting on Double Acting and Spring Return Gear Unit Actuators

1. Refer to the assembly drawing.
2. Mount the bracket to the solenoid valve with the included screws.
3. Remove one of the cylinder tie rod nuts.
4. Mount the bracket in the same hole with the same nut and washer.
5. Tighten the nut to the torque shown in Table B.

Table B: Tie Rod Nut Torques

Fastener	Size	Torque, ft. lbs
Tie Rod Nuts	5/16-18	12 ± 2
	1/2-13	16 ± 2
	5/8-11	20 ± 2
	7/8-9	35 ± 5

6. Proceed to “Piping and Electrical Connections” section.

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ASCO 4V 4-Way Pilot Valve used with Diaphragm and Cylinder Actuators

Installation (Continued)

Mounting on Compact Pneumatic Actuators

1. Refer to the assembly drawing.
2. Mount the bracket to the solenoid valve with the included screws.
3. Mount the bracket to the top of the actuator as shown in the assembly drawing.
4. Proceed to “Piping and Electrical Connections” section.

Piping and Electrical Connections

1. Install the piping following the appropriate procedure:
 - Hose
 - a. Refer to the assembly drawing for piping requirements.
 - b. Make threaded connections first, and use liquid or paste thread sealant—do not use Teflon[®] tape.
 - c. Cut hose to length and install a swivel connector on one end of each hose.
Note: To prevent kinks in hose, allow for at least 2" bend radii.
 - d. Push ends of hose firmly on the barbed connections.
Note: Ports are marked “A” and “B”—reversing the connections will cause reverse operation.
 - Pipe/Tubing
 - a. Refer to the assembly drawing for piping requirements.
 - b. Make the threaded connections and seal with a liquid or paste thread sealant—do not use Teflon[®] tape.
 - c. Cut and bend pipe as shown in the installation drawing.
 - d. Connect the pipe with flared fittings.
Note: Ports are marked “A” and “B”—reversing the connections will cause reverse operation.



CAUTION!

Applying the wrong voltage/hertz can cause the solenoid coil to overheat and malfunction. Verify that the supply voltage/hertz matches the rating on the pilot valve before applying power. If pilot valve is supplied with dual coils, do not energize both solenoids simultaneously.

2. Check the electric rating on data plate and connect the proper power to solenoid.



CAUTION!

If pilot valve is supplied with dual coils, do not energize both solenoids simultaneously.

Reversing the Action

The valve assembly may be piped to open or to close the valve when the solenoid is energized. To reverse the action, follow these steps:

1. Close the valve.
2. If the actuator is powered, disconnect and lock out the pneumatic, hydraulic, or electrical power to prevent accidental operation of the actuator.



WARNING!

Moving parts from accidental operation of power actuator can cause personal injury or equipment damage. Disconnect and lock out power to the actuator before servicing.

3. Relieve the pressure from the actuator port(s).
4. Reverse the actuator piping at the pilot valve.
5. If the actuator is a powered actuator, reconnect power to the actuator.

Operating The Manual Override (8342 Series)

The optional manual override can be used to operate the valve when electrical power is not available.

To operate the manual override, follow these steps:

1. Pull the red knob out, turn it 30 degrees in either direction and release it.

Note: It will not go in as far as it was initially. This will provide the same action as energizing the solenoid.

2. To return the manual override to electrical control, pull out the red knob, turn it 30 degrees in either direction and release it.

Operating The Optional Manual Override (8344 Series)

The optional manual override can be used to operate the valve when electrical power is not available.

To operate the manual override, follow these steps:

1. Rotate stem just below solenoid enclosure clockwise.

Note: This will provide the same action as energizing the solenoid.

2. To return the manual override to electrical control, rotate stem counter clockwise.

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ASCO 4V 4-Way Pilot Valve used with Diaphragm and Cylinder Actuators

Speed Controls

When the pilot valve is equipped with the optional speed controls, they are positioned as shown in Figure 1. The speed controls are set at the factory to provide slow actuator operation. Turning the speed controls clockwise will increase the speed of actuator operation. When changing the speed of operation, adjust the speed controls slightly, then check the new speed of operation. Repeat the procedure until the desired speed is obtained.

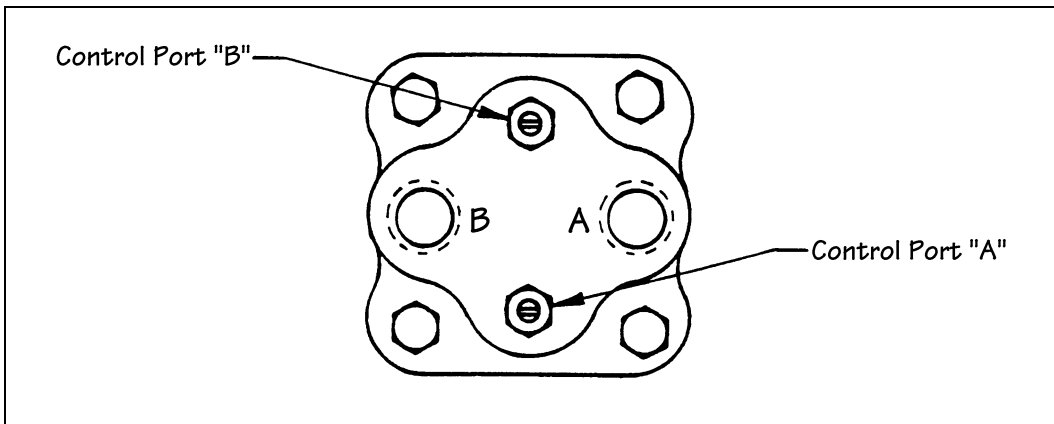


Figure 1 – Speed Control Ports

Limited Warranty

DeZURIK, Inc. ("Seller") manufactured products, auxiliaries and parts thereof that we manufacture for a period of twenty-four (24) months from date of shipment from Seller's factory, are warranted to the original purchaser only against defective workmanship and material, but only if properly stored, installed, operated, and serviced in accordance with Seller's recommendations and instructions.

For items proven to be defective within the warranty period, your exclusive remedy under this limited warranty is repair or replacement of the defective item, at Seller's option, FCA Incoterms 2020 Seller's facility with removal, transportation, and installation at your cost.

Products or parts manufactured by others but furnished by Seller are not covered by this limited warranty. Seller may provide repair or replacement for other's products or parts only to the extent provided in and honored by the original manufacturer's warranty to Seller, in each case subject to the limitations contained in the original manufacturer's warranty.

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Your failure to give written notice to us of any alleged defect under this warranty within twenty (20) days of its discovery, or attempts by someone other than Seller or its authorized representatives to remedy the alleged defects therein, or failure to return product or parts for repair or replacement as herein provided, or failure to store, install, or operate said products and parts according to the recommendations and instructions furnished by Seller shall be a waiver by you of all rights under this limited warranty.

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The foregoing limited warranty shall be null and void if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as but not limited to; an actuator is attached to the item by anyone other than a Seller factory authorized service personnel.

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Perth Branch
U2/41-45 Furnace Road
Welshpool WA 6106
Phone: +61 8 9353 2565
sales@thevalvecompany.com.au

Kalgoorlie Branch
2/69 Craig Road
West Kalgoorlie WA 6430
Phone: +61 8 9021 6668
sales@thevalvecompany.com.au

Brisbane Branch
U5/225 Queensport Road
North Murrarie QLD 4172
Phone: +61 7 3348 8636
sales@thevalvecompany.com.au

Bunbury Branch
Phone: +61 417 744 791
sales@thevalvecompany.com.au