

READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR CONNECTING AIR OR POWER TO THE VALVE. VALVES SHOULD BE WIRED BY A QUALIFIED ELECTRICIAN. DAMAGE CAUSED BY NON COMPLIANCE TO THESE INSTRUCTIONS WILL NOT BE COVERED BY WARRANTY.

STORAGE

Solenoid valves should be stored in a clean, dry environment.

INTRODUCTION

This section provides installation, operation and maintenance instructions for Valworx 5291 series direct mount solenoid valves. Single solenoid 2-position valves can be direct mounted to the actuator with the standard NAMUR VDI/VDE-3845 interface providing an economical and compact package.

DESCRIPTION

Valworx 5291 series direct mount air solenoid valves can be adapted for 5/2 or 3/2 NC functions for electrically controlling double acting or spring return air actuators. Compact high flow design includes a black anodized aluminum body with a low wattage molded coil. Unique long life spool and sleeve design can be used with lubricated or non-lubricated compressed air. Twist and lock manual override is useful in operating the valve during setup, testing or power outage situations. Easy to wire 1/2" conduit DIN plug connector with screw terminals is included with each valve. This valve offers excellent environmental protection against the ingress of liquids, dust and other foreign matter.

MOUNTING

Direct mount solenoid valve to the side of pneumatic actuators which have the international standard Namur VDI/VDE 3845 interface using the (2) M5x0.8mm socket head cap screws (included). Install one adapter plate, either the 3/2 or 5/2 as described below.

Double Acting (DA) Actuators

Install the 5/2 adapter plate as shown and bolt the valve to the side of the actuator. This valve will operate as a 4-way function.

Spring Return (SR) Actuators

Install the 3/2 adapter plate as shown and bolt the valve to the side of the actuator. This valve will operate as a 3-way normally closed function.



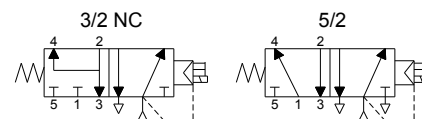
Solenoid Valve with Sandwich Mount Adapter Plate 5/2 or 3/2



Solenoid Valve Installed on an Air Actuator

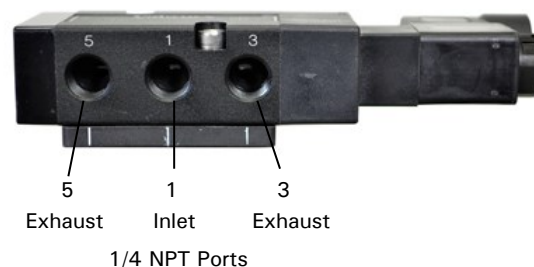
PILOT AIR SUPPLY

Air supply to the solenoid valve should be filtered <40 micron, dry or lubricated compressed air. The pressure rating is 30-116 PSI (2-8 bar). Most Valworx air actuated valve assemblies require 80-120 PSI (5.5-8 bar). Moisture free air is required below 32° F (0° C) to prevent freezing.



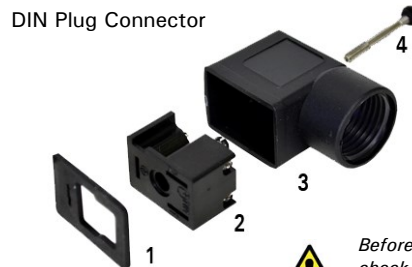
PILOT AIR CONNECTION

Connect air supply to the 1/4 NPT center port, marked 1. Optional mufflers or speed control mufflers can be installed in exhaust ports 3 and 5 to keep out dirt and contamination. Do not plug exhaust ports.



WIRING

Wiring must comply with all local and national electrical codes. Disassemble the DIN plug connector as shown in the diagram by removing retainer screw (4) and prying terminal block out with a small screw driver. Confirm coil voltage is correct and connect power wires to PIN 1 and PIN 2 (not polarity sensitive). Connect earth ground to the remaining flat PIN. Reassemble connector and plug onto coil, insure connector gasket (1) is installed and tighten retainer screw (4) securely.



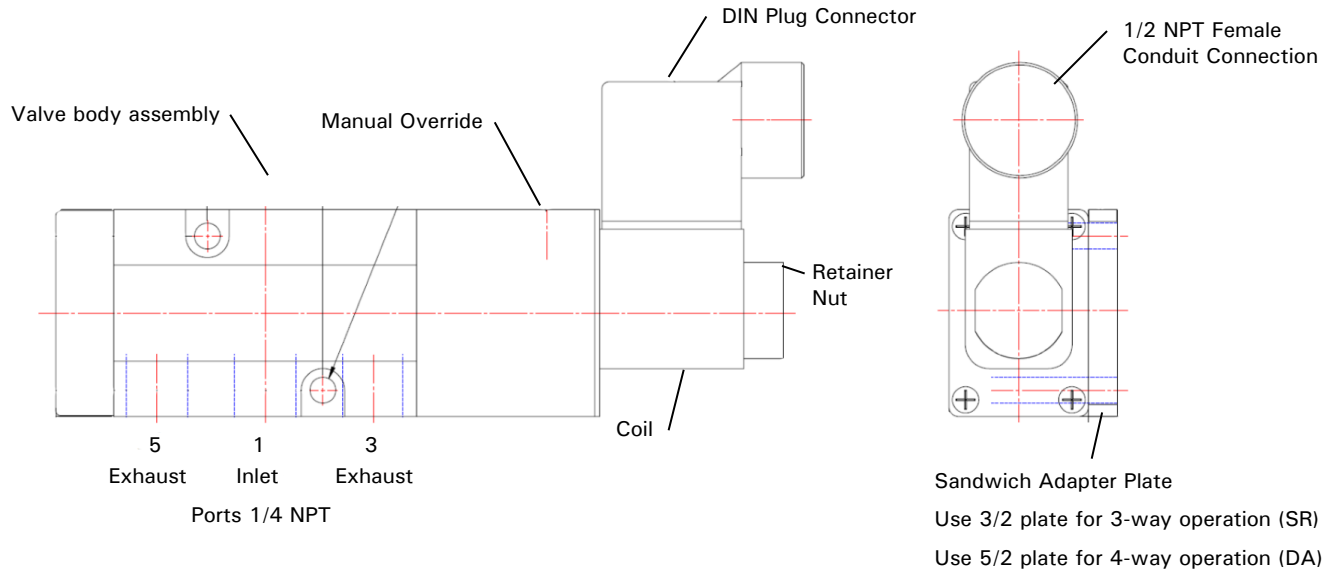
Before connecting power, check coil markings to confirm correct voltage is being applied

OPERATION

Solenoid De-energized: When the solenoid is de-energized (power off) actuator will return to the CLOSED position (off or position 1).

Solenoid Energized: When the solenoid is energized (power on), the actuator will move to the OPEN position (on or position 2).

When using these solenoid valves with spring return (SR) actuators, the actuator will fail to the closed position with loss of power or loss of air pressure (failsafe).



ENCLOSURE AND TEMPERATURE RATING

Solenoid enclosure is rated IP65 dusttight and weatherproof. Media temperature range -13 to 176° F (-25 to 80° C). Ambient temperature range -4 to 122° F (-20 to 50° C).

DUTY CYCLE

The solenoid valve coil is rated for 100% continuous duty service.

MANUAL OVERRIDE

The valve can be operated manually for setup, testing and situations where power is not available. The manual override is a twist and hold design. To operate the manual override, turn the slot head screw clockwise to the '1' position. Return to '0' position for normal electrical operation.



Manual override must be in position 'M' (shown) to operate the valve electrically.



Manual Override



WARNING: Remove electrical power and air pressure prior to performing any service work.

MAINTENANCE

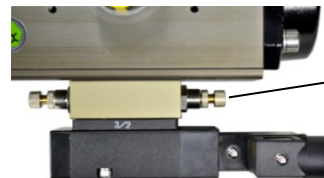
Except for coil replacement, the series 5291 valves are not repairable. There are no parts that require regular maintenance. The valve may be cleaned with warm soapy water (no solvents). The valve should be cycled at least once per month.

Coil Replacement:

1. Unplug the DIN plug connector
2. Remove the coil retainer nut and slip coil off core tube.
3. Install new coil, replace and secure retainer nut.
4. Reinstall the DIN plug connector

OPTIONAL SPEED CONTROL AND EXHAUST MUFFLERS

Precision speed controls: These sandwich mount speed controls are the most accurate method of controlling the speed of an air actuator. Easy micrometer adjustment of both the open and closed speed, for both double acting and spring return type actuators.



Sandwich Mount Precision Speed Control

Exhaust speed control mufflers: Adjustable speed control mufflers will provide rough speed control of the air actuator and keep dirt out of the solenoid valve. These speed control mufflers are installed in the exhaust ports marked 3 and 5. When used with double acting actuators, both the open and closed speed can be controlled. When used with spring return actuators, only the closing speed can be controlled (open speed cannot be fully controlled).



Exhaust Speed Control Mufflers

Porous bronze mufflers: Exhaust mufflers, when installed in ports marked 3 and 5 will help keep dirt and contamination out of the solenoid valve. Standard porous bronze mufflers do not adjust the speed of the actuator.



Exhaust Mufflers