SIEMENS

Technical Instructions
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Powers® Controls

Three-way Electro-pneumatic (EP) Valve Model 3

Description

The Series 265 Electro-Pneumatic Valve is a general purpose, electrically operated, two-position 3-way valve designed to control airflow. It can be used for interlock between an electrical system and a pneumatic control system.

This compact, lightweight air valve has barbed, plastic tube connections marked:

NC Normally closed

NO Normally open

C Common

Available types are Open Frame (yoke) and Junction Box (splice box).

Features

- UL and cUL recognized per UL 429
- Valve may be mounted in any position
- Mounting holes located in the back of the junction box or in the yoke (open frame)

Product Numbers

Table 1.

Product Enclosure Type	AC Voltage		Product Number
	60Hz	50Hz	
Junction Box	24	—	265-1021
Junction Box	120	110	265-1022
Junction Box	240	220	265-1024
Open Frame	24	—	265-1027
Open Frame	120	110	265-1028

Warning/Caution Notations

WARNING:	⚠	Personal injury/loss of life may occur if you do not perform a procedure as specified.
CAUTION:	⚠	Equipment damage/loss of data may occur if you do not perform a procedure as specified.

Specifications

Material:	
Body	Polybutylene Terephthalate (PBT)
Internal	Glass filled thermoplastic material, stainless steel, copper, Buna N
Ambient Temperature:	0°F to 122°F (0°C to 50°C)
Control Fluid	Air Only
Maximum Air Pressure	50 psi (345 kPa)
Airflow Capacity:	
Airflow	600 SCIM (164 ml/s)
@ Inlet Pressure	20 psig (138 kPa)
@ Differential Pressure	1 psig (7 kPa)
Cv Flow Factor	0.06
Electrical Ratings:	
Voltages	24 to 240 Vac
Rated power consumption	6 VA
Air Connections	Barbed fittings for 1/4-inch (6.4 mm) OD plastic tubing
Shipping Weight	
Open Frame Type	0.25 lb (0.11 kg)
Junction Box Type	0.50 lb (0.23 kg)
Dimensions	See Figure 2.

Application

These valves are commonly used to alternately apply pressure to, and exhaust pressure from, pneumatically controlled devices (valves, damper actuators) by an electrical input energizing or de-energizing the solenoid of the valve.

A standard method is shown in Figure 1. The input air is connected to the Normally Closed Port (NC), and the output is connected to the Common Port (C). When the solenoid is energized, the NC Port connects to the C Port permitting the thermostat to control the damper actuator. When the solenoid is de-energized, the Normally Open Port (NO) is connected to C Port exhausting air from the actuator permitting it to return to its normal position.

Other valves can be provided to meet specific OEM requirements. Contact National OEM Sales for information.

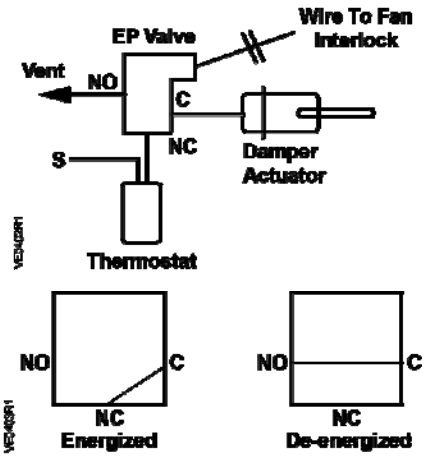


Figure 1. Standard Application.

Application, Continued

NOTE: When replacing an existing Series 265 Electro-pneumatic valve, note that the port configuration of the Model 3 is slightly different than previous versions. (See Table 2.) If replacing a device from another manufacturer, carefully note the tubing connections on the current valve before removing it.

Table 2. Port Designation/Configuration.

Designation		Function
Models 1 and 2	Model 3	
1	NC	Normally Closed
2	NO	Normally Open
3	C	Common

Installation

General

These valves are designed for either wall mounting or panel mounting and may be mounted in any position. The coil and enclosure may be rotated 360° in relation to the body, if necessary. Make certain there is sufficient space around the valve for ease of future servicing. These valves require no adjustment or calibration.

WARNING:

Be sure power is off during installation and servicing.

NOTE: Media filtration—although these valves have no sliding parts and are generally not sensitive to small amounts of foreign material, filtration of oil and dirt from air line is recommended. Dirt or foreign material in the media may cause excessive leakage, excessive wear or, in exceptional cases, malfunction. Lubrication is not required.

Air Connections

All pneumatic piping connections are sized for 1/4-inch (6 mm) OD polyethylene tubing. The connections are sharp, barb-type connections.

Electrical Connection

Electrical supply must conform to nameplate rating. Connect coil leads to electrical circuit using standard electrical practice. Wiring connections on the junction box models are made via splices inside the box. A hole for the conduit connection is provided in the box, and a grounding screw is provided at the rear of box.

Wire leads provide a means of connection on the open frame models. Use standard wire nut connectors when making these connections (not included).

Wall Mounting (Junction Box Type)

If the valve is to be wall-mounted, holes must be drilled for the mounting screws (not included). Drill holes for No. 8 screws. Mounting holes are located on the back of the junction box.

Panel Mounting (Open Frame Type)

Panel mounting the valve is similar to wall mounting the device. Line up the No. 8 mounting holes and slot in yoke with holes in the panel or drill new holes. Attach the valve to the panel using mounting screws (not included).

Coil Housing Temperature

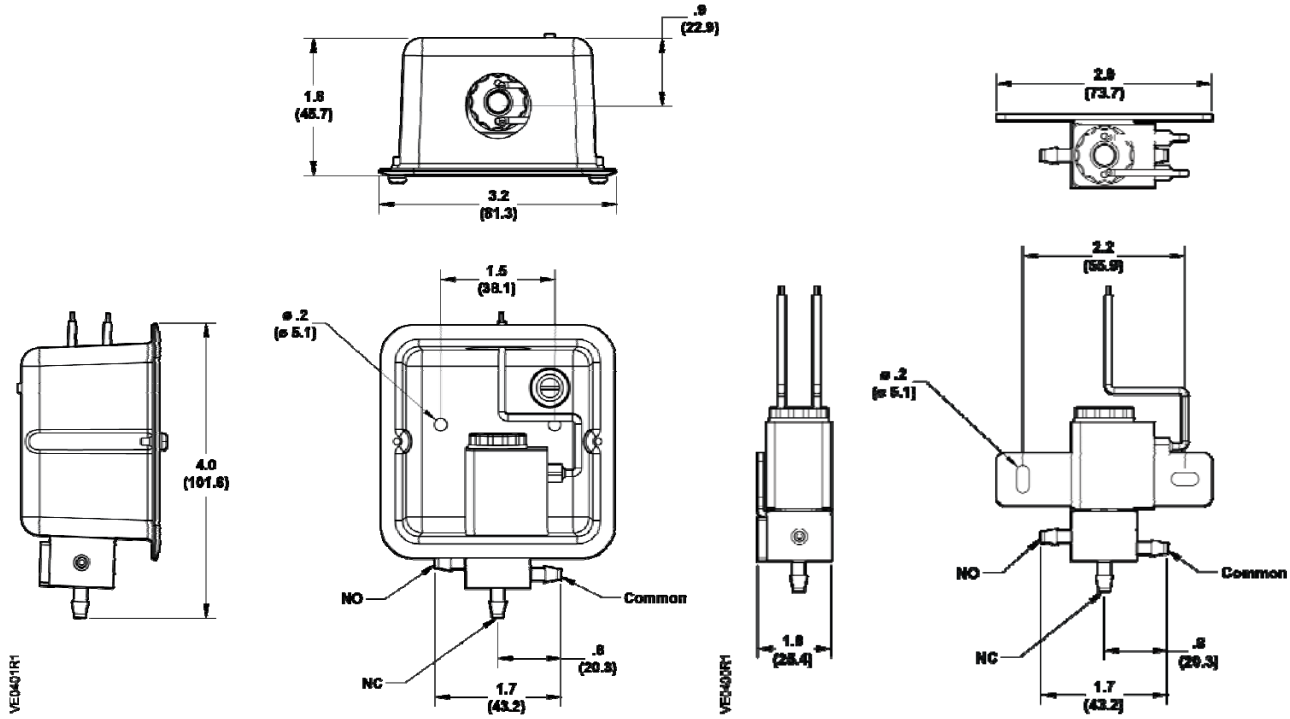
Standard valves are supplied with coils designed for continuous duty service. Normal free space must be provided for proper ventilation. When the coil is energized continuously for long periods of time, the coil housing will become hot. The coil is designed to operate permanently under these conditions.

Troubleshooting

Table 3. Troubleshooting.

Problem	Procedure
Valve fails to operate	1. Check electrical supply with voltmeter. 2. Check coil with ohm meter for short or open coil. 3. Check pressure line for dirt.
External leakage	Replace valve.
Internal leakage	Standard valve design permits 40 cc/min. max. @ 50 psi.
Noise or buzzing	Check voltage with voltmeter to be sure it corresponds with nameplate rating. Also check pressure for same.

Dimensions



EP Valve with Junction Box **EP Valve with Open Frame**

Figure 2. EP Valve Dimensions in Inches (Millimeters).

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