TAC
1354 Clifford Avenue
P. O. Box 2940
Loves Park, IL 61132-2940
www.tac.com

AL-190 Series

Solenoid Air Valve
General Instructions

Application

For applications where an electrical circuit is used to control a pneumatically operated devices. Used to direct supply or control air to pneumatic devices when the coil is either energized or de-energized, depending on the supply and exhaust air connections.

Features

- Plastic corrosion-resistant body provides long life.
- Mounting bracket and fittings for 1/4" O.D. plastic tubing supplied with valve for simple, quick installation.
- High capacity of AL-190 series allows more devices to be used with fewer solenoid air valves.
- All popular voltages from 24V to 480V available for maximum application flexibility.

Applicable Literature

- TAC Cross-Reference Guide, F-23638
- TAC Reference Manual, F-21683
- TAC Application Manual, F-21335

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SPECIFICATIONS

Valve Inputs

Power Input: 6.1 Watts (energized).
Available Voltages: See Table-1.
Electrical Connections: 18" (457 mm) leads on the coil. Coil leads are red; ground lead is green. Threaded hole for 1/2" conduit connector. Accepts 1/2" EMT fittings.
Maximum Inlet Air Pressure: 30 psig (345 kPa). Clean, dry, oil free air required (reference EN-123).
Air Connections: For 1/4" compression fittings. Three (3) compression fittings (PKG-1141) for 1/4" plastic tubing supplied with each valve.

N.O., Normally open, Port 3.
N.C., Normally closed, Port 2.
COM, Common, Port 1.

Valve Outputs

Flow Capacity: 0.59 scfm (236 ml/s) at 15 psig (103 kPa) supply with 1 psig (6.9 kPa) drop.

Environment

Ambient Temperature Limits:

Shipping, -40 to 150°F (-40 to 65°C).
Operating, 32 to 130°F (0 to 54°C).
Supply Air, 40 to 130°F (4 to 54°C).

Humidity: 5 to 95% RH, non-condensing.
Location: NEMA Types 1, 2, 3, 3S, 4 and 4X.

Table-1 Model Chart and Replacement Parts for Solenoid Air Valves.

Part Number	Voltage (AC 60 Hz) +10/-15%	Replacement Part Numbers
		TAC
AL-190	24	PNR-326-24
AL-191	120	PNR-326-120
AL-192	208	PNR-326-208
AL-193	240	PNR-326-240
AL-195	480	PNR-326-480

ACCESSORIES
AL-196 Compression fitting for 1/4" metal tubing (18 per package)

TYPICAL APPLICATION

When the supply fan is started, Electric Pneumatic (EP) Solenoid Air Valve E.P.-1 is energized, connecting N.C. and common ports. Main Air (20 Psig) is supplied to P.E.-1, starting Humidifier Fan; to Room Humidistat H-1, placing normally-closed Steam Humidifier Valve under control; to positioners of outside, Return and Relief Damper temperature controller, and to Remote Exhaust Damper Motor M-4, opening the normally-closed Exhaust Damper fully.

When the supply fan is stopped, E.P.-1 is de-energized, connecting the Common and N.O. ports, exhausting main air from control devices. P.E.-1 stops the Humidifier Fan; the normally-closed Humidifier Valve closes; the Outside Air and Relief Damper close; the Return Damper opens and the Exhaust Damper closes.

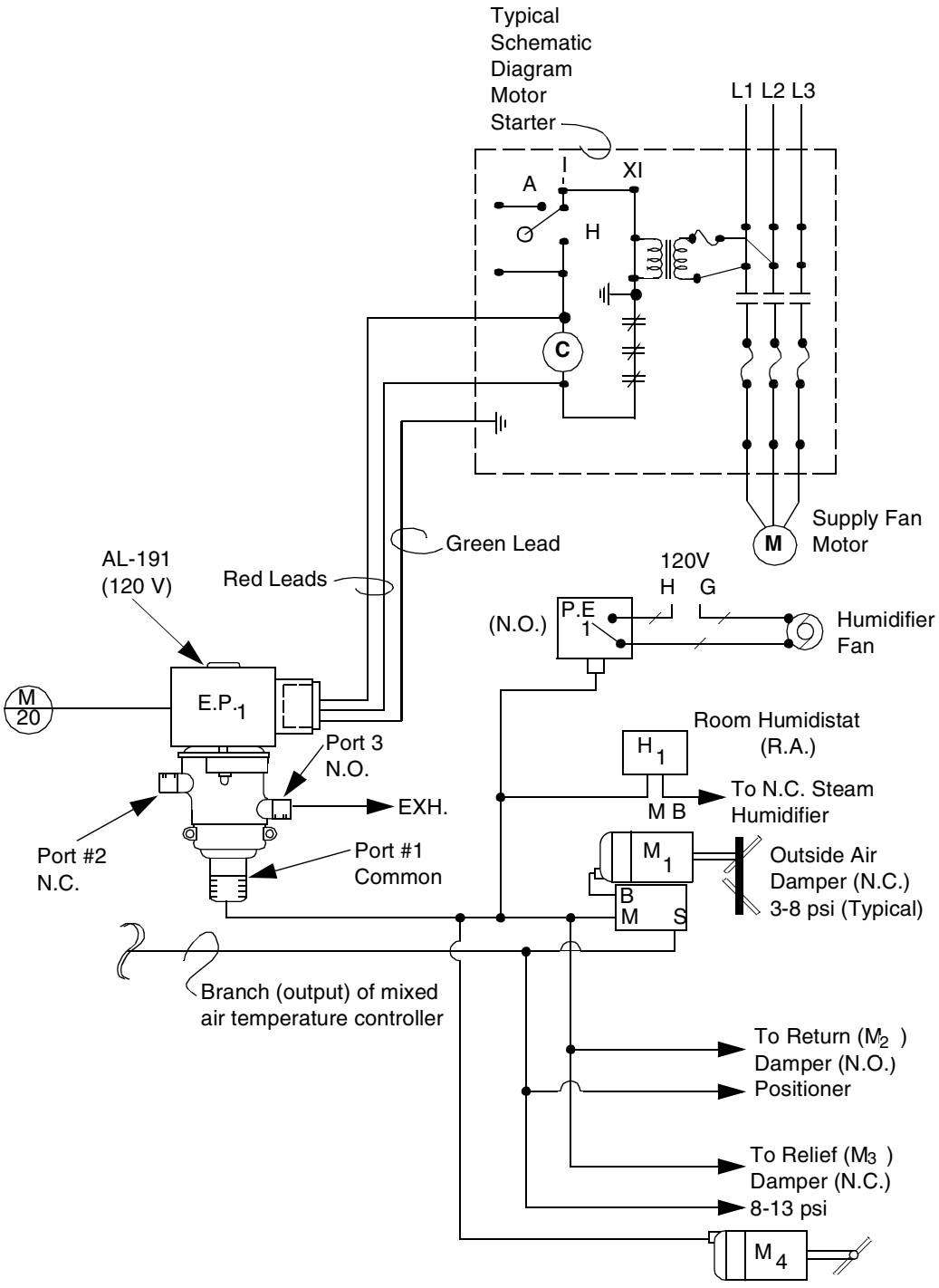

Figure-1 Typical Application Wiring Diagram.

INSTALLATION

Inspection

Inspect the carton for damage. If damaged, notify the appropriate carrier immediately. Inspect the device for obvious damage. Return damaged products.

Requirements

- Job wiring diagrams
- Tools (not provided)
- Installer must be a qualified, experienced technician

CAUTION

- Disconnect all power supplies (line power) before installation.
- Make all connections in accordance with the wiring diagram and in accordance with national and local electrical codes. *Use copper conductors only.*
- Do not exceed ratings of the device(s).
- Avoid locations where excessive moisture, corrosive fumes, or vibration is present.

Mounting

1. Fasten to wall, duct or cabinet subpanel with two #8 sheet metal screws or equivalent, using mounting bracket supplied with unit.
2. Valve should be mounted vertically with solenoid at top and port 1 at bottom.
3. Rotate the solenoid enclosure to the most convenient wiring position.

CHECKOUT

Go No Go Test

1. Connect solenoid ports.
2. Apply air to Port #1, Ports #1 and #3 should be connected.
3. Apply power to the solenoid, Ports #1 and #2 should be connected.
4. If Ports #1 and #2 are not connected, check to see if the proper voltage is applied.
5. Replace the solenoid with a functional unit if solenoid is powered and Ports #1 and #2 are not connected.

MAINTENANCE

Regular maintenance of the total system is recommended to assure sustained optimum performance.

FIELD REPAIR

None. Replace with a functional solenoid.

DIMENSIONAL DATA

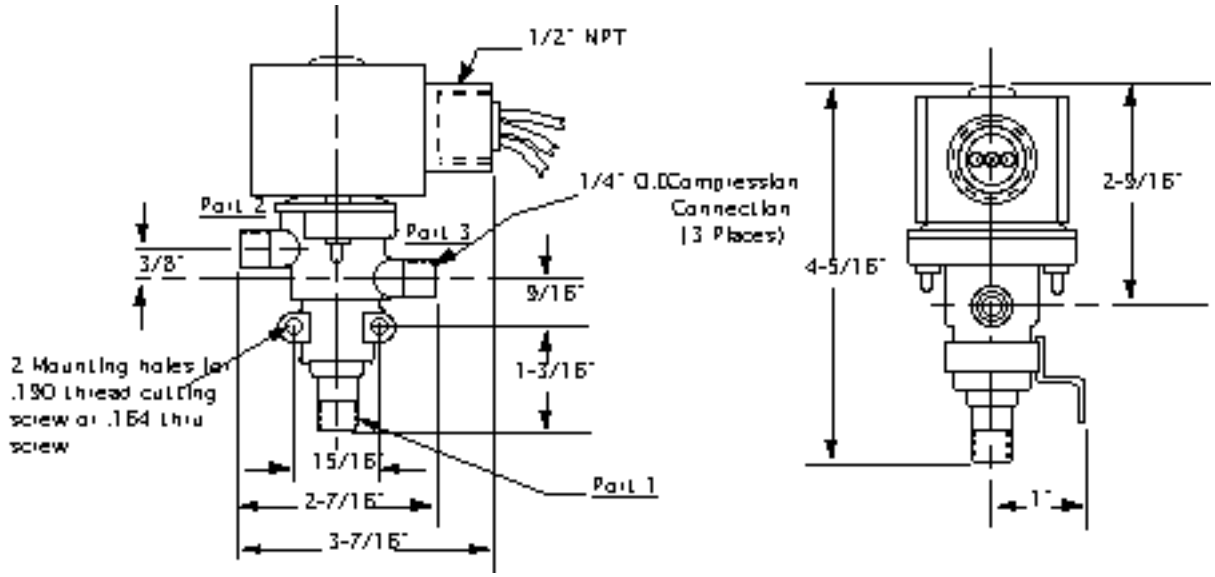

Figure-2 AL-190 Dimensional Drawing.

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