



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

AL-161-4

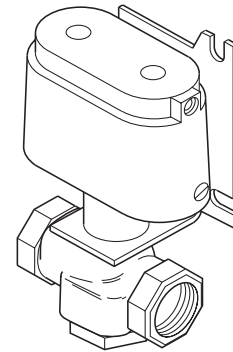
***Three-way Air Switching Valve
General Instructions***

Application

The AL-161-4 is a three-way air switching valve used for central supply air changeover in dual pressures systems.

Features

- Die cast aluminum actuator with replaceable neoprene diaphragm



Applicable Literature

- TAC Cross-Reference Guide, F-23638
- TAC Reference Manual, F-21683
- TAC Application Manual, F-21335
- TAC Valve Products Catalog, F-27384
- EN-123 Air Quality Requirements for Pneumatic HVAC Control Systems, F-22516

SPECIFICATIONS

Valve Body Rating: 250 psig (1724 kPa).

Actuator Maximum Air Pressure: 30 psig (207 kPa).

Spring Range 8-13 psig (55-90 kPa).

Flow Capacity: 25,920 scim (7,080 ml/s) at 15 psig (103 kPa) supply with 1 psig (6.9 kPa) drop.

Connections:

Actuator, 1/8" FNPT.

Valve Body, 1/2" FNPT.

Port Code and Flow Pattern: See Table-1.

Ambient Temperature Limits:

Shipping & Storage, -40 to 220 ° F (-40 to 104° C).

Operating, 35 to 140° F (2 to 60° C).

Humidity: 5 to 95% RH, non-condensing.

Location: NEMA Type 1.

Table-1 Flow Pattern.

Stem Up (No Air to Actuator)		Stem Down 20 psig (138 kPa) Air to Actuator	
Flow	Closed Port	Flow	Closed Port
B to AB*	A	A to AB*	B

*AB Common.

TYPICAL APPLICATIONS

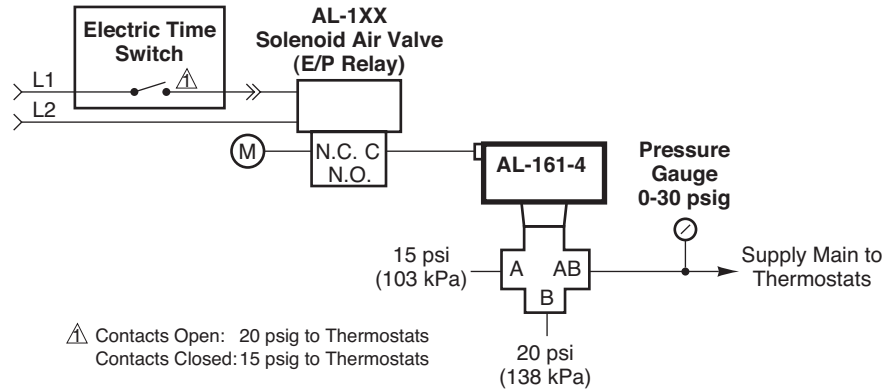


Figure-1 Typical Piping Diagram.

INSTALLATION

Inspection

Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for obvious damage. Return damaged products.

Requirements

- Job piping diagrams
- Tools (not provided):
 - Appropriate drill and drill bit for mounting screws
 - Appropriate screw drivers and wrenches
- Mounting screws (not provided)
- Training: Installer must be a qualified, experienced technician



▼ **WARNING**

- Disconnect the power supply (line power) before installation to prevent equipment damage.
- Make all connections in accordance with the piping diagram.

▼ **CAUTION**

- Do not exceed the ratings of the device(s).
- Avoid locations where excessive moisture, corrosive fumes, or vibration is present.
- Do not install insulation on any part of the actuator.

Mounting

The AL-161-4 is not position sensitive.

1. Mount the AL-161-4 to the wall or the subpanel of a control cabinet at any angle, using the attached mounting bracket.
2. Use three (3) 1/4" (6 mm) mounting screws (not provided) to secure the AL-161-4 to the mounting surface.
3. See Figure-2 for mounting dimensions.

Piping

Refer to the typical piping application in Figure-1.

CHECKOUT

With no air to the actuator the flow will be from ports B to AB. Apply 20 psig (38 kPa) to the actuator; the flow will be from ports A to AB.

MAINTENANCE

Regular maintenance of the total system is recommended for sustained optimum performance. For information on air quality requirements consult **EN-123, Air Quality Requirements for Pneumatic HVAC Control Systems, F-22516**.

FIELD REPAIR

Use part number PNV-102-1 when the replacement of the actuator diaphragm is necessary.

DIMENSIONAL DATA

See Figure-2 for dimensional data.

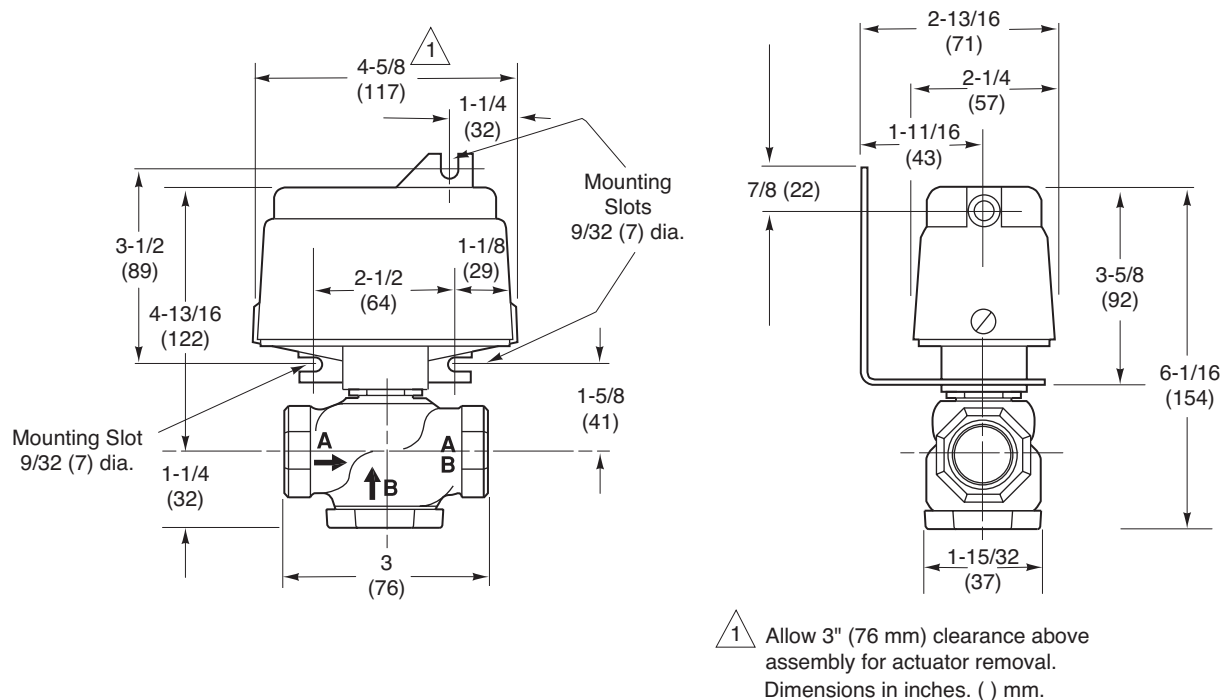


Figure-2 AL-161-4 Air Switching Valve Dimensions.

Copyright 2006, TAC
All brand names, trademarks and registered trademarks are the property of their respective owners. Information contained within this document is subject to change without notice.

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

F-21286-3