

Type 770-1 Air Switch

With SPDT Switch Action
(Responds to Positive, Negative, or Differential Pressure)
INSTALLATION INSTRUCTIONS

Operator: Save these instructions for future use!

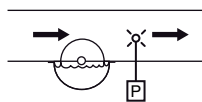
FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

DESCRIPTION

The Type 770-1 has an SPDT switch that can be actuated by a positive pressure, negative pressure, or a differential of pressure. These features, plus its field ad-

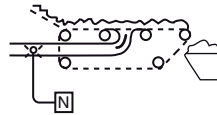
justable "operating range", give this control unmatched versatility on a wide variety of applications, some of which are shown below.

APPLICATIONS



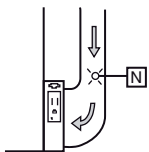
Power Humidifiers

Switch permits unit to operate whenever there is proper air movement.



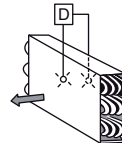
Process Drying

Switch monitors negative pressure to stop conveyor or process, and provides alarm signal on fan failure. Ideal for bulk chemicals, food processing, grain drying.



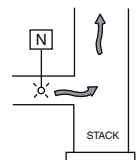
Electronic Air Cleaners

Switch permits power to cleaner whenever blower of system is operating



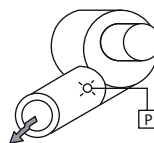
Refrigeration Equipment

Switch responds to pressure drop across refrigeration coils to signal alarm condition or automatically initiate or terminate defrost cycle.



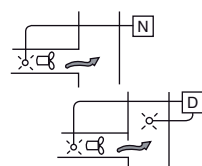
Natural Draft Boilers

Switch signals insufficient draft, provides safety limit to stop firing on lack of draft, starts again on sufficient draft.



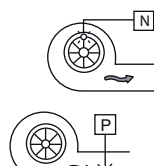
Gas-Fired Units

Switch proves sufficient air flow before permitting gas valve to open and ignition to occur.



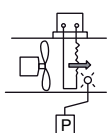
Induced Draft Boilers

Proves operation on I.D. fan by sampling draft or air flow. Shuts off firing equipment on fan failure.



Forced Draft Boilers


Proves operation of blower by sampling positive or negative pressures for firing control and safety.



Duct Strip Heaters

Switch proves air movement across heaters by positive pressure in front of heater. Turns off heater to prevent burn-out on insufficient air flow.

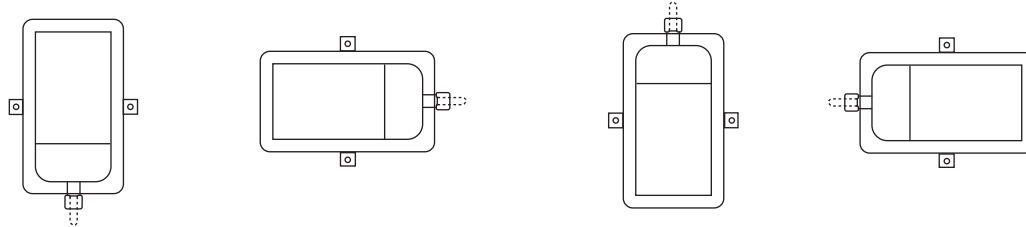
Legend

- N** Negative Pressure
- P** Positive Pressure
- D** Pressure Differential
-  Pressure Sample Line

SPECIFICATIONS

| | |
|---|--|
| Electrical Rating. | 15 AMP 125/250/277 VAC N. I. 1/4 HP 125 VAC. 1/2 HP 250 VAC. |
| Electrical Switch. | Single pole, double throw snap action switch |
| Control Setpoint. | Adjustable |
| Field Adjustable. | On pressure rise at .05 to 12" w.c. |
| Conduit Opening. | 7/8" diameter opening accepts 1/2" conduit |
| Recommended Operating Position. | Diaphragm vertical |
| Operating Temperature Range. | -40 to 180°F |
| Sample Line Connectors. | Male externally threaded 7/16" -24 UNS 2 A thread complete with nut and self aligning ferrule. |
| Sample Line Connections. | Connectors will accept 1/4" O.D. rigid or semi rigid tubing. Slip on tubing adaptors optional |

MOUNTING INSTRUCTIONS



The air switch must be mounted to a vertical surface, as shown in above drawings to assure that diaphragm will be in a vertical plane.

SEE LAST PAGE FOR MOUNTING DIMENSIONS

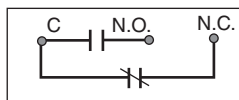
WIRING

NOTE

All wiring should be done according to local and national electrical codes and ordinances.

The SPDT switch can be actuated by a positive or negative pressure, or by a differential of pressure. This control is ideally suited for residential applications such as Electronic Air Cleaners and Humidifiers, but it is equally well suited for commercial installations, including applications where alarm circuits are required.

Fig. 1 - SPDT Switch of Type 770-1



(Without pressure applied to diaphragm, switch contacts are in position shown.)

Fig. 2 - Typical Air Cleaner Installation

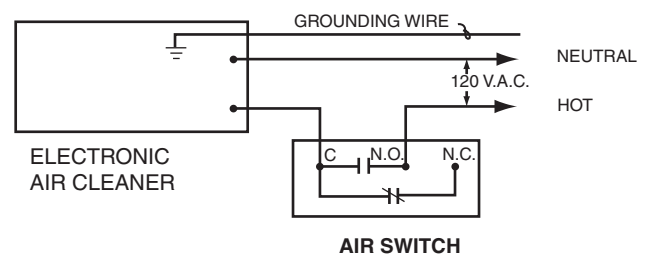
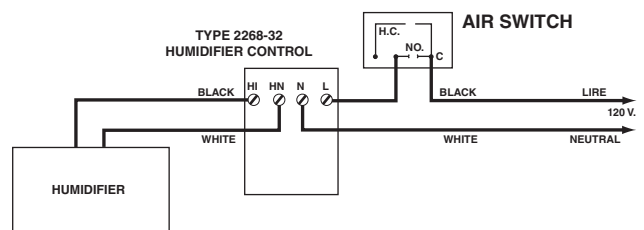
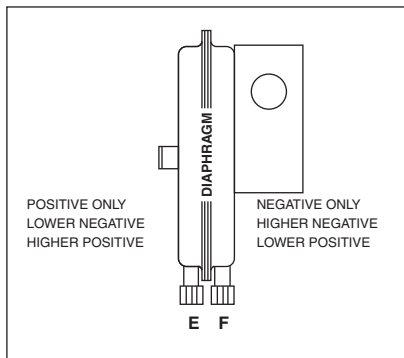


Fig. 3 - Typical Humidifier Installation



Sample Lines



Male externally threaded with nut and self-aligning ferrule.

Positive Pressure Only:

Connect sample line to E; F remains open to atmosphere

Negative Pressure Only:

Connect sample line to F; E remains open to atmosphere

Two Negative Samples:

Connect highest negative sample to F; lower sample to E.

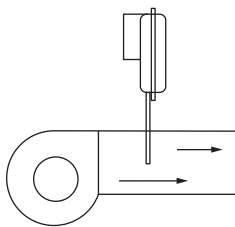
Two Positive Samples:

Connect highest positive sample to E; lower sample to F.

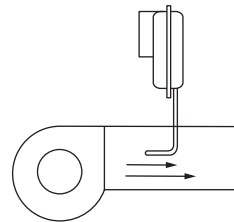
One Positive and One Negative:

Connect positive sample to E; connect negative sample to F

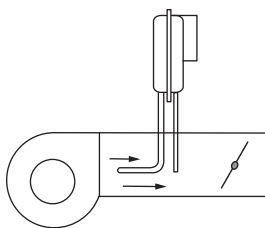
Location of Sample Lines



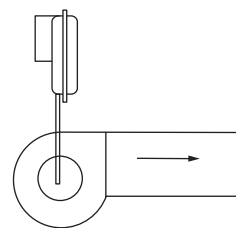
Fan operation or true airflow with little or no static pressure, probe must be perpendicular to flow.



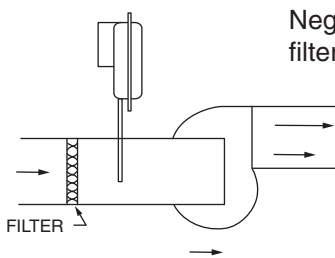
Fan operation or air flow with no static pressure.



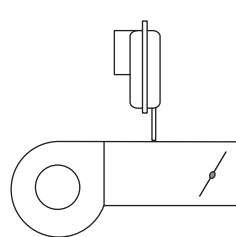
Fan operation and true air flow with varying amounts of static pressure. Probe must be perpendicular to flow.



Suction or fan operation



Negative pressure increases as filter gets dirty.



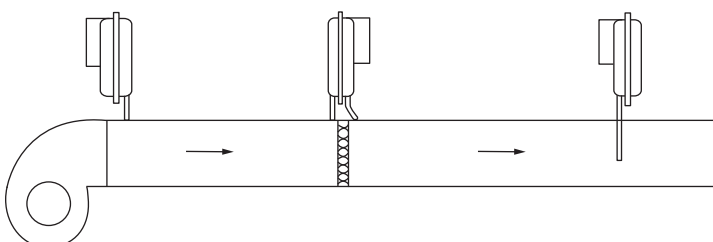
Prove positive static pressure

3 Ways to Prove Filter on Positive Pressure

Positive static pressure increases as the filter gets dirty.

Diff. across filter changes as it gets dirty

Flow is reduced as filter gets dirty.



Pressure Conversion Table

1" Water = .0361 lbs/sq. in. or .0735 in. Mercury

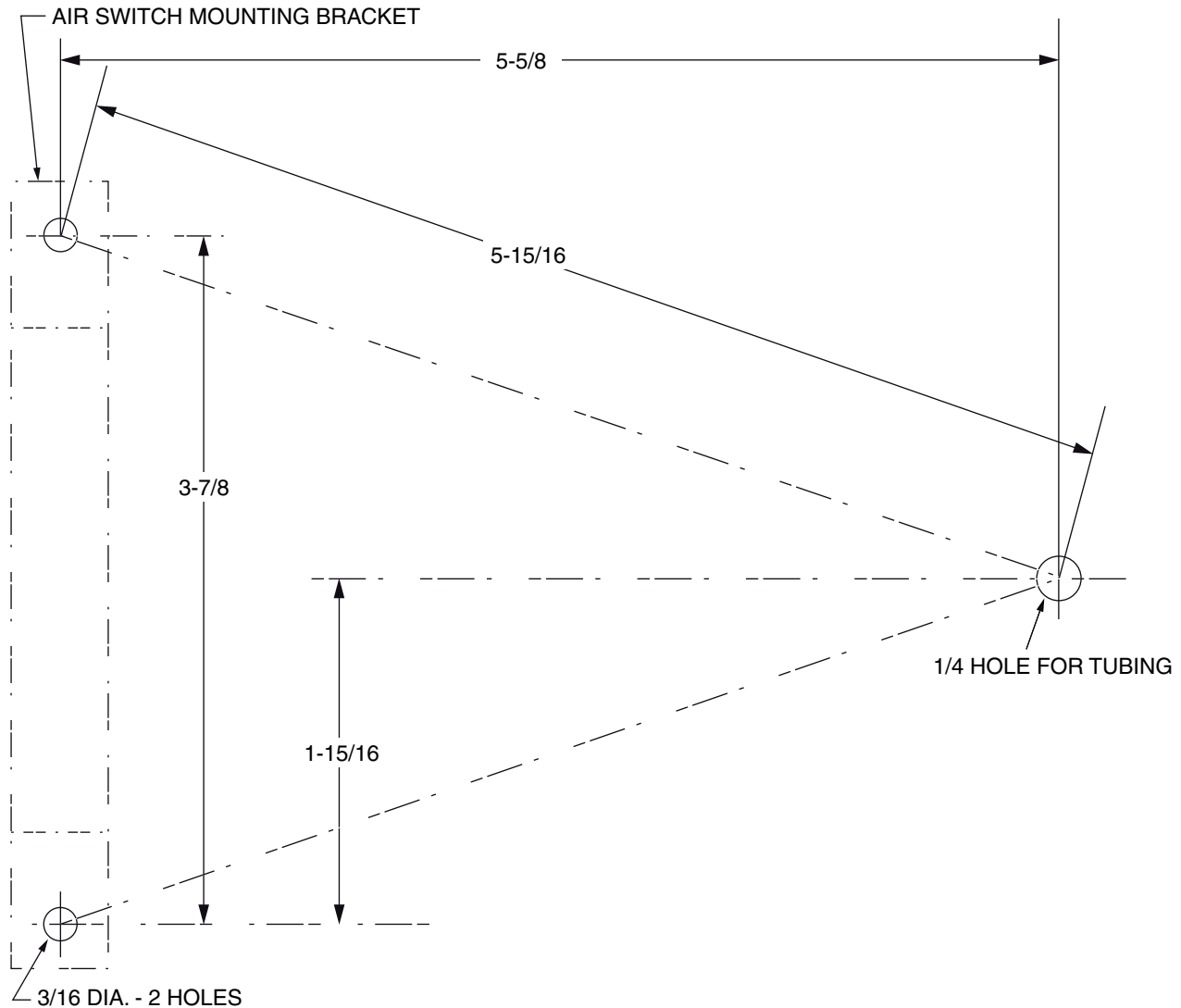
1" Mercury = 13.6 in. water or .491 lbs/sq. in.

1 PSI = 27.7 in. water or 2.036 in. Mercury

ADJUSTMENT

Merely turn the knurled knob clockwise to field adjust the “operate range” from .05” to 12.0” W.C.

MOUNTING DIMENSIONS



HOMEOWNER HELP LINE: 1-800-284-2925

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