

## Solon Industrial Controls

## 7PV PRESSURE ACTUATED AIR VALVES MV SERIES

**SPECIFICATIONS** - One or two Model LTV-5 snap-acting pneumatic valves can be applied to 7PS pressure switch mechanisms to offer 7PV and 7PV2 pressure actuated air valves. Some advantages in the design of pneumatic circuits are:

- 1) The valve is a snap-acting and positive.
- 2) The deadbands are comparable to that of pressure switches using electric switches.
- 3) The valve has a flow capacity of approximately 15 SCFM at 100 PSIG through 1/8" NPTF ports.
- 4) The valve can handle a wide variety of pressures from a minimum of 30 PSIG to a maximum of 125 PSIG.

7PV and 7PV2 pressure actuated air valves of the MV series can be pressure, vacuum, or differential pressure actuated in the ranges of 1.5" WC through 150" WC. Special features are designated in the model number the same way as shown in the Solon Pressure Switch Catalog. Special features which can be applied to air valves are:

D, DD, DO, F, G, M, S, T,

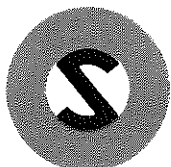
The valve spool of the LTV-5 air valve is shifted by means of differential areas. The control of this shifting is accomplished by a small pin operated poppet valve which requires only a small movement when pushed by the pressure switch mechanism. The deadband is comparable to the figure given for a standard Micro-Switch in the 7PS catalog. In the low pressure ranges of 1.5", 3", 6", 15", deadbands will widen when the

air valves are operated at higher valve pressures. Lower valve pressures will reduce deadbands, but increase the time it takes to snap-over the valve. On the average, the valve will snap-over or snap-back in less than 0.5 seconds with the valve pressure at 50 PSI.

The use of two valves is not recommended in the low pressure ranges of 1.5", 3", 6", 15".

**INSTALLATION** - 7PV units should be mounted vertically. Process pressure to operate the switch mechanism is piped through the 1/4" NPT connection at the bottom of the switch assembly. On a differential pressure mechanism the ports are marked HIGH and LOW. Pressure controlled by the valve is piped into the valve through 1/8" NPT connections.

Valve ports are marked IN, NO, NC. IN is connected to NO in the normal position when the pressure that operates the switch mechanism is under the trip point. When the pressure exceeds the trip point, the valve snaps over and IN is connected to NC. There must be a minimum of 30 PSI continuous supply of pressure to the IN port to operate the valve - that is so the valve responds to the motion of the switch mechanism. The maximum pressure the valve will handle is 125 PSIG.



Call Toll Free 1-800-323-9717 In Ohio Call (216) 286-7149

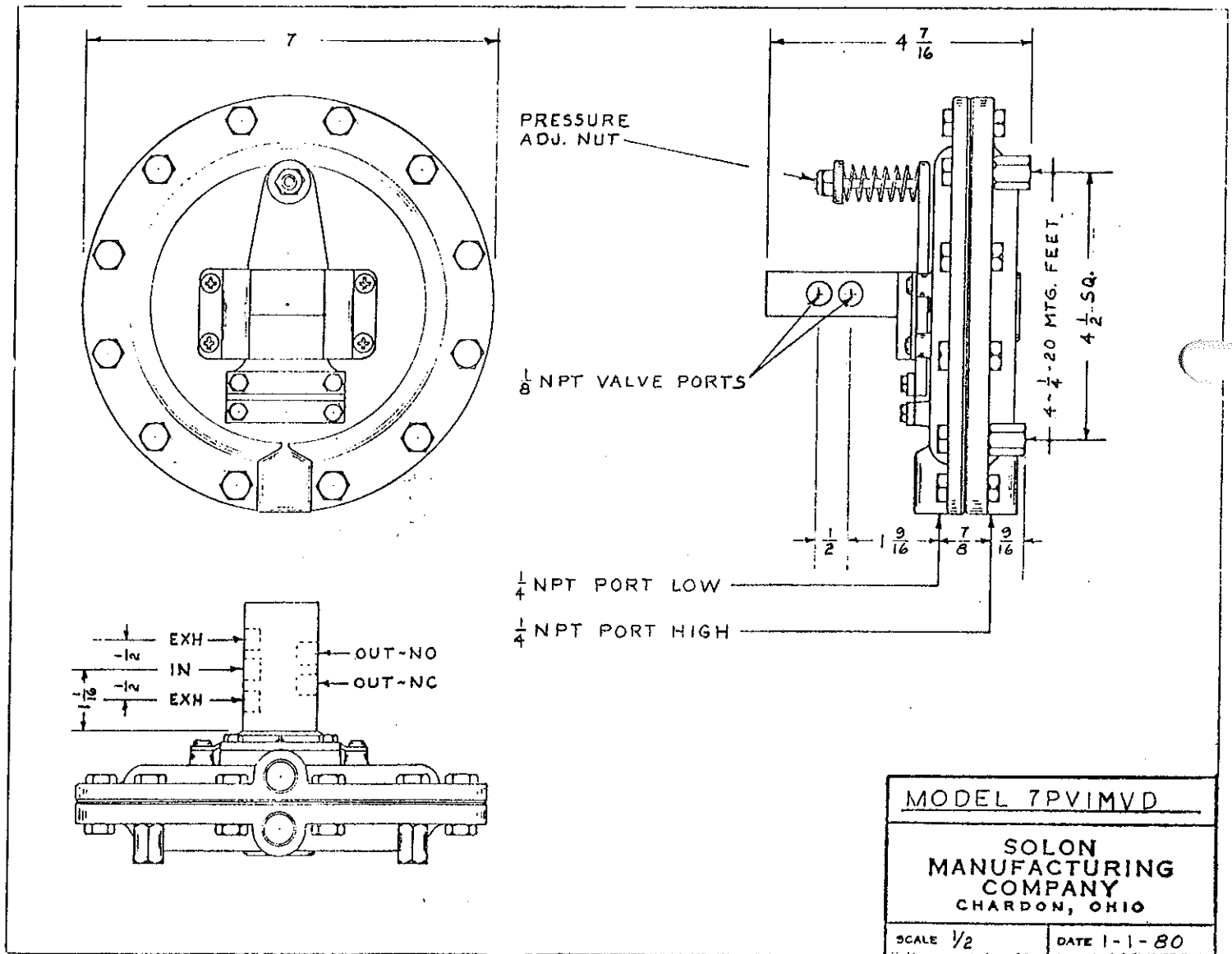
### Solon Manufacturing Company

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**PRESSURE ADJUSTMENT** - To adjust the pressure which operates the switch mechanism and thereby change the pressure at which the valve snaps-over and snaps back, turn the elastic stop nut on the spring stud. Turn the nut clockwise to increase the pressure setting. Turn the nut counter-clockwise to increase the vacuum setting.

On 7PV2 models each valve has an adjustment nut. These are used to set each valve individually. Because of the staggered location of the valve actuators, the adjustment for the right valve has considerable less span than the adjustment for the left valve. Adjust the right valve for LOW setting and the left valve for HIGH setting for the maximum difference between settings.

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