



Model 1672

Pressure Sensing Valve

FEATURES

- EASY FIELD ADJUSTMENT
- COMPATIBLE IN HYDRAULIC OR GAS SYSTEMS
- FACTORY SET
- GULFPROOFED FINISH & VITON SEALS
- PNEUMATIC LOCKOUT AVAILABLE

APPLICATIONS

PRESSURE SENSING APPLICATIONS ON ENGINES AND OTHER INDUSTRIAL EQUIPMENT

- COMPRESSOR SUCTION OR DISCHARGE
- LUBRICATING OIL
- COOLING WATER
- COMBUSTION AIR
- CONTROL AIR
- FUEL OIL
- FUEL GAS
- STARTING AIR



AMOT Model 1672 Pressure Valves are 2-way normally open sensors (closed under satisfied operating conditions) which are opened by the sensed pressure decreasing or increasing past the trip point. Dual purpose construction (trip on rising or falling pressure) provides a wide latitude of applications and permits easy field adjustment or change-over from trip on falling to trip on rising pressure. The valve is snap-acting and suitable for hydraulic or gas control systems with up to 80 psi maximum control pressure.

Pressure Ranges 1, 2, & 3 (Diaphragm Sensor):

- Adjustable ranges from 5 - 315 psi.
- Easy to service/replace diaphragm.
- Pneumatic lockout available for Range 1 (See description under "Operation").

Pressure Ranges 4, 5, 6, & 7 (Piston Sensor):

- Adjustable ranges from 15 - 3600 psi.
- Corrosion resistant, stainless steel piston sensor.
- Easy to service/replace teflon piston seal.

With its sturdy but simple construction, the 1672 Pressure Valve provides reliable and economical pilot control for operating pneumatic indicating relays such as AMOT Model 2400 and 4400, or for directly controlling master shutdown devices such as AMOT 1476, 2800, or 4112 Safety Controls or AMOT 4057 3-Way Valves.

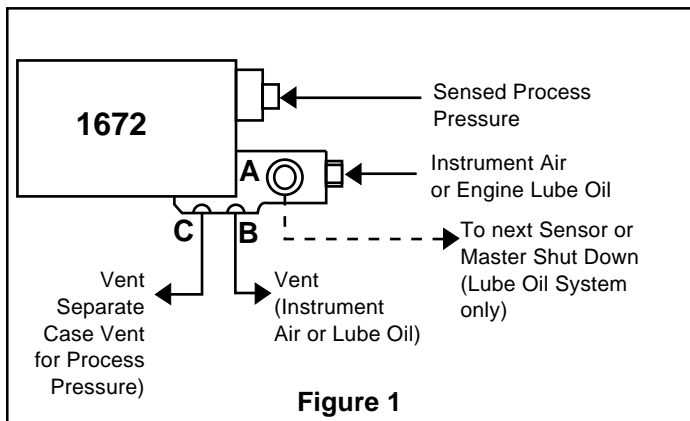


Figure 1

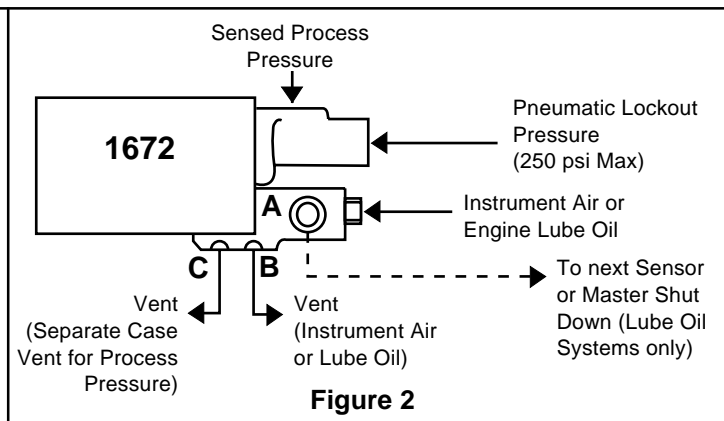


Figure 2

OPERATION

The operation of the 1672 Pressure Valve is simple and straightforward. The sensed pressure moves the diaphragm or piston operator against the larger adjusting spring. The motion is transmitted to the valve through a lever and fulcrum pin which operates the valve pushrod. Location of the pin in one of two holes in the case determines the rising or falling pressure trip function. See Parts List cutaway on the back page and Figure 1 above.

Pneumatic Lockout is an optional feature which can eliminate the need for a separate blocking valve. For a tripping pressure of 16 psi falling, a 100 psi lockout pressure is required. 200 psi is required to override a 30 psi trip setting. The maximum lockout pressure is 250 psi. This feature is available only on models in Pressure Range 1. See Figure 2 above.

ADJUSTMENT (Refer to Cross Sectional on back)

The trip-point setting is changed by turning adjusting nut (4) clockwise to raise the trip pressure on either a rising or falling pressure setting.

The small screw (25) which operates the valve pushrod is for factory adjustment and is not to be used to change the trip-point setting. It may, however, require minor adjustment when the trip action is changed from rising to falling if the valve leaks slightly with full pressure at the sensing port.

INSTALLATION

For easy mounting, two 3/8"-16NC tapped holes run through the back of the valve's case. Bolts can be threaded into the case from the back, or 1/4" bolts can be installed from the valve's inside and threaded into a mounting plate behind the valve.

Normally, the unit is installed with the vent connection (C) on the bottom, however, it will operate in any position. Care should be taken to prevent dirt from entering Ports B & C when they are not pointed downward. The valve should not be supported by piping unless it is secured against vibration.

CONNECTIONS

All valve connections are made with 1/4" pipe thread fittings. Apply a quality thread sealant such as Loctite™ Pipe

Sealant to pipe thread connections. This sealant must not enter the valve passages. Teflon thread sealing tape may be used but must be applied such that shreds of the tape do not enter the valve. 1/4" O.D. tubing is the minimum size recommended for air or gas. 5/16" O.D. is the recommended minimum for short lengths of lube oil, especially in cold weather operation. Be sure that all scale, dirt, tubing chips, etc. are removed from fittings and tubing before they are connected to the valve.

Important: The 1672 has an auxiliary inlet port (A) cast into the housing. The connection must be used on lube oil pressured systems. Do not connect the inlet port to the end of a branch run or tubing off a main header, as the falling pressure signal will not be properly transmitted to the Master Safety Control.

When using the valve on a gas pressured system, the valve outlet (B) should be connected to an outside vent line of large capacity. In such an application, the valve outlet (B) should be run to a vent line separate from the case vent (C) to prevent mixing potentially volatile fluids.

When sensing diesel fuel or other fluids that transmit medium to high frequency pulsations to the 1672 diaphragm, an AMOT 2185L001 or equal orifice should be ordered and installed at the diaphragm bonnet.

When checking an oil pressured system, be sure all trapped air is bled from the connecting tubing. To do this, start at the first connection after the restricting orifice, and bleed each one until all air is purged. The most critical point is at the master safety control.

SPECIFICATIONS

Housing	Cast Aluminum
Coating	Gulfproofed
Internal Parts	Aluminum & Plated Steel
Control Valve	Aluminum & Stainless Steel
Standard Valve Seat & O-Ring Seal	Viton
Standard Diaphragm (Ranges 1-3)	Buna N
Piston & Cylinder (Ranges 4-7)	Stainless Steel
Piston Seal (Ranges 4-7)	Teflon
Flow Coefficient	Cv=0.3
Maximum Valve Operating Pressure	80 psi (551 kPa)
Net Weight for;	
Ranges 1-3	4.5 lbs (2.0kg)
Range 1 w/Lockout	5.5 lbs (2.5 kg)
Ranges 4 - 7	5.0 lbs (2.3 kg)

	Differential* psi (kPa)	Proof psi (kPa)
Range 1	3.5 (24)	350 (2413)
Range 2	5-10 (35-68)	350 (2413)
Range 3	10-15 (69-103)	350 (2413)
Range 4	10-27 (69-186)	1000 (6895)
Range 5	8-40 (56-275)	1000 (6895)
Range 6	30-60 (207-413)	4000 (27579)
Range 7	30-140 (207-965)	4000 (27579)

* Differential is the change in sensed pressure above or below the trip point that is required to open the valve and cause an AMOT Pneumatic Indicating Relay to change from red to green with a 50 psi air pressure supply. The lower differential pressures shown are at the low end of the ranges and the higher pressures are for the higher end of the ranges.

HOW TO ORDER

When ordering please specify the following:

1. Basic model number
2. Tripping pressure
3. Tripping Action:
 - a) To trip on rising pressure
 - b) To trip on falling pressure
4. Pressure Range from Model Code Table A. If this number is not specified, a unit in which the specified pressure falls nearest the middle of the range will be furnished.
5. Any of the following special features if required:
 - a) Pneumatic Lockout (available on Range 1 only .)
 - b) BSP Parallel Port Threads (instead of NPT.)
Available from U.K. factory only.

The unit may be ordered using the full description as shown above or by constructing a Model No. using the Model Code System. The complete Model No. for a unit with Range 1, gulfproofed, NPT threads, Viton seals and a 20 psi falling pressure setting is "1672E1F1 set at 20 psi falling."

MODEL CODE SYSTEM

1672E 1 F 1 = ()
 Basic Model No. Special Requirements Made-To-Order (M.T.O.)

= Non-Standard, special charge may apply.

* Available in U.K. only.

DESCRIPTION – Sensed Pressure kPa in ()	TABLE A Spring Code No.	TABLE B Thread, Finish & Seal Code No.		TABLE C Process Sensing Seal Code No.	
		Gulfproof Finish, Viton Seals, NPT	Gulfproof Finish, Viton Seals, BSP(PL)*	Buna N	Viton
Range 1 8–33 psi (56–227) rising 5–30 psi (35–206) falling	1	F	M	1	4
Range 1 with Pneumatic Lockout 8–33 psi (56–227) rising 5–30 psi (35–206) falling	1	H	S	7	8
Range 2 25–160 psi (173–1103) rising 20–150 psi (138–1034) falling	2	F	M	1	4
Range 3 60–315 psi (414–2171) rising 50–300 psi (345–2068) falling	3	F	M	1	4
Range 4 35–250 psi (242–1723) rising 15–230 psi (104–1585) falling	2	E	N		3
Range 5 90–650 psi (621–4481) rising 50–560 psi (345–3861) falling	3	E	N		3
Range 6 210–1400 psi (1448–9652) rising 175–1250 psi (1207–8618) falling	2	C	P		3
Range 7 350–3600 psi (2414–24821) rising 250– 3300 psi (1724– 22752)falling	3	C	P		3

NOTE: Letters or numbers in the MTO space, other than nothing, A1 or AA, indicate the unit is built to special requirements and some of the other code numbers may not be valid. Check with the factory for full specification of such models.

Pressure settings are not part of this Model Code. The desired setting and whether it is to trip on rising or falling pressure must be specified separately and will appear on the nameplate.

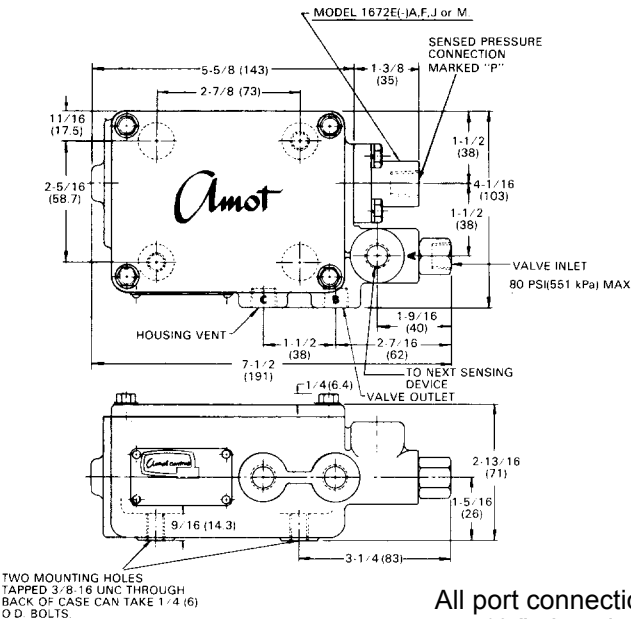
MAINTENANCE

Properly applied and installed, Model 1672 Series Valves require minimal maintenance. An inspection of the unit at yearly intervals is adequate to detect and make provision for normal wear. The diaphragm seals and o-rings should be checked for wear, damage, and hardness and replaced as necessary. Lightly coat the diaphragm seals and o-rings with Dow Corning No. 33 Grease (AMOT Part No. 911L001) before installing them. Other internal parts should be inspected for excessive wear or damage or replaced as necessary.

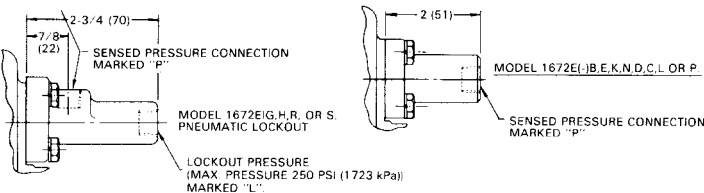
Use caution on assembly of seal (Ranges 4 – 7) so the edge is not damaged. Cycle the valve about 12 times before making the final trip setting.

It is recommended that the valve should be checked monthly if possible, for proper function by simulating an unsafe condition.

DIMENSIONS



All port connections are 1/4" pipe size.



AMOT designs and tests all its products to ensure that high quality standards are met. For good product life, carefully follow AMOT's installation and maintenance instruction; failure to do so could result in damage to the equipment being protected or controlled.

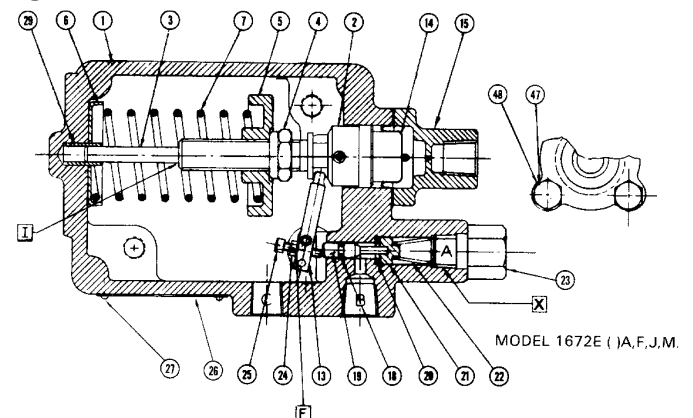
When communicating with AMOT regarding operation of a control always give the Model No. If ordering service parts, also include the description, Part No., and quantity desired. If any parts are ordered by Reference No. only, please also include the Form No., Revision No., and date of this brochure.

SERVICE KITS

Ref. No.	Part No.	Qty.	Description
for Model 1672E-F1, M1			Service Kit 9118X
14	7818	1	Diaphragm – Buna N
18	251	1	O-ring - Buna N
20	3644	1	Valve Seat - Buna N
51	7543	1	Gasket
for Model 1672E-F4, M4			Service Kit 9118X001
14	7818L002	1	Diaphragm - Viton
18	251L001	1	O-ring - Viton
20	3644L001	1	Valve Seat - Viton
51	7543	1	Gasket
for Model 1672E-H7, S7			Service Kit 9118X002
--	9118X	1	Service Kit No. 9118X
45	207	2	O-ring - Buna N
for Model 1672E-H8, S8			Service Kit 9118X003
--	9118X001	1	Service Kit 9118X001
45	207L001	2	O-ring - Viton
for Model 1672E-E3, N3			Service Kit 9112X001
18	251L001	1	O-ring - Viton
20	3644L001	1	Valve Seat - Viton
32	831L016	1	Seal
51	7543	1	Gasket
for Model 1672E-C3, P3			Service Kit 9119X001
18	251L001	1	O-ring - Viton
20	3644L001	1	Valve Seat - Viton
32	831L008	1	Seal
51	7543	1	Gasket

Parts List is effective with Valve Serial No. B721.

CUT AWAY VIEW



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