# Low Pressure Valve

# Model 4047

### **Overview**

AMOT Model 4047 is used as a 2-way or 3-way high capacity, low pressure valve for settings from 0.007 bar (0.1) psi falling to 0.77 bar (11.2 psi) rising over several ranges. Applications include sensing low pressure low pressure gas, water, fuel, oil, or for liquid level sensing and control. By piping to the vacuum port, the valve can be used to sense vacuum pressure from 0.007 bar (0.1) psi falling. The 4047 can detect overload on gas engines by sensing the vacuum pressure in the intake manifold.



### **Typical applications**

- Sense low pressure or vacuum of water, air, natural gas, oil and more
- Detection of overload on gas engines
- Sensing of vacuum intake air manifold

### Key features and benefits

- 3-way valve has balanced force design
- Pressure can be applied at any port
- Buna N (Nitrile) "tadpole" seals are easily replaced
- Bubble-tight seals with center dead spot (no port overlap)
- Gulfproof finish standard



### Operation

#### 2-WAY

Valve to open on rising pressure Port 1 must be plugged. Rising pressure will open Port 2 to Port 3 above the trip point.

#### Valve to open on falling pressure

Port 3 must be plugged. Falling pressure will open Port 2 to Port 1 below the set trip point.

#### 3-WAY

Valve operation for 3-way action is identical with that for 2-way except that there will be no plugged

ports. On valves set to trip on rising pressure, Port 1 will open to Port 2 until just below the trip point. Port 3 will open to Port 2 at the trip point. On falling pressure, Port 3 will close first. Then Port 1 will open to Port 2.

AMOT Model 4047 has a "dead spot" in the exact center position, which prevents the overlapping of Ports 1 and 3. Because of this, Ports 1 and 3 will not open and close simultaneously at the trip point.

### Specification

| Valve body and<br>diaphragm housing              | Gulfproofed (anodized) aluminum |           |
|--|---------------------------------|-----------|
| Valve spool                                      | Glass reinforced Ryton          |           |
| Standard seals and diaphragm                     | Buna N (Nitrile)                |           |
| Maximum operating pressures at Ports 1, 2 and 3  | 8.6 bar                         | (125 psi) |
| Maximum continuous control pressure at diaphragm | 1.4 bar                         | (20 psi)  |
| Proof pressure - diaphragm                       | 2.1 bar                         | (30 psi)  |
| Maximum Temperature                              | 66°C                            | (150°F)   |
| Valve free flow area<br>(9/32" diameter port)    | Kv = 1.0                        | Cv = 1.2  |
| Net weight                                       | 2.3 kg                          | (5 lbs)   |

# Dimensions

Dimensions inches (mm)





### How to order

Use the tables below to select the unique specification of your 4047 Low Pressure Valve:

| Example: <b>4047B</b> | A B | С | D - | EE |
|-----------------------|-----|---|-----|----|
|-----------------------|-----|---|-----|----|

| Α | Pressure Range |                |               |  |
|---|----------------|----------------|---------------|--|
|   | Tripping Pres  | Reset          |               |  |
|   | Rising         | Falling        | Differential  |  |
| 1 | 0.028 - 0.09   | 0.0069 - 0.069 | 0.014 - 0.021 |  |
|   | (0.4 - 1.3)    | (0.1 - 1.0)    | (0.2 - 0.3)   |  |
| 2 | 0.055 - 0.48   | 0.028 - 0.43   | 0.028 - 0.055 |  |
|   | (0.8 - 7.0)    | (0.4 - 6.2)    | (0.4 - 0.8)   |  |
| 3 | 0.17 - 0.77    | 0.14 - 0.69    | 0.034 - 0.083 |  |
|   | (2.5 - 11.2)   | (2.0 - 10.0)   | (0.5 - 1.2)   |  |

| С | Reset Type                      |
|---|---------------------------------|
| 0 | Automatic Reset                 |
| 1 | Manual Reset (falling pressure) |
| 2 | Manual Reset (rising pressure)  |
|   |                                 |

| D | Seal Material    |
|---|------------------|
| Α | Buna N (Nitrile) |
| В | Viton            |

| EE | Special Requirements   |  |
|----|--|--|
| AA | Standard   |  |
|    | Special requirements made to order.<br>Contact Factory for order code. |  |

В

2 NPT Thread, Gulfproof (Anodized) Finish

### Maintenance

Properly applied and installed, Model 4047 requires minimal maintenance. Unless leakage or other problems are noticed sooner, an inspection of the units at yearly intervals is adequate to detect and make provision for normal wear and preventative maintenance. It is recommended that the valve be checked monthly if possible for proper functioning by simulating an unsafe condition.

# Service kits



### Service Kit No. 9169X001 - Buna N

| Ref | Qty | Description |
|-----|-----|-------------|
| 8   | 1   | O-ring      |
| 10  | 1   | Diaphragm   |
| 12  | 2   | Seal        |
| 15  | 1   | O-ring      |
| 21  | 1   | O-ring      |
| 31  | 4   | Seal ring   |

### Service Kit No. 9169X002 - Viton

| Ref | Qty | Description |
|-----|-----|-------------|
| 8   | 1   | O-ring      |
| 10  | 1   | Diaphragm   |
| 12  | 2   | Seal        |
| 15  | 1   | O-ring      |
| 21  | 1   | O-ring      |
| 31  | 4   | Seal ring   |

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This product can expose you to chemicals including Lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

