## Type-14 Pneumatic

# Diaphragm Valves

## Parts Type-14 Pneumatic (1/2" - 2")

| PARTS |                           |      |                     |
|-------|---------------------------|------|---------------------|
| NO.   | DESCRIPTION               | PCS. | MATERIAL            |
| 1     | Body                      | 1    | PVC, CPVC, PP, PVDF |
| 3     | Diaphragm                 | 1    | EPDM, PTFE, Others  |
| 3a    | Diaphragm Metal Insert    | 1    | Stainless Steel 304 |
| 4     | Cushion*                  | 1    | EPDM                |
| 5     | PVDF Gas Barrier**        | 1    | PVDF                |
| 6     | Compressor                | 1    | PVDF                |
| 7     | Joint                     | 1    | Stainless Steel 304 |
| 11    | Gauge Cover               | 1    | PC                  |
| 14    | O-Ring (A)                | 1    | EPDM                |
| 21    | Screw                     | 1    | Stainless Steel 304 |
| 31    | Stem (A)                  | 1    | Copper Alloy        |
| 32    | Stem (B)                  | 1    | Copper Alloy        |
| 33    | Compressor Push Plate     | 1    | Copper Alloy        |
| 34    | Cylinder Body             | 1    | PPG                 |
| 34a   | Metal Insert for Above    | 4    | Copper Alloy        |
| 35    | Cylinder Bonnet           | 1    | PPG                 |
| 35a   | Metal Insert for Above    | 1    | Stainless Steel 304 |
| 35b   | Metal Insert for Above    | 8    | Copper Alloy        |
| 35c   | Threaded Insert for #35   | 2    | Stainless Steel 304 |
| 36    | Cylinder Diaphragm        | 1    | NBR                 |
| 37    | Cylinder Diaphragm Plate  | 2    | Stainless Steel 304 |
| 38    | Conical Spring Washer (B) | 1    | Stainless Steel 304 |
| 39    | Bolt (A)                  | 8    | Stainless Steel 304 |
| 40    | Bolt (B)                  | 4    | Stainless Steel 304 |
| 41    | Indicating Rod            | 1    | Stainless Steel 304 |
| 43    | Stopper                   | 1    | Stainless Steel 304 |
| 44    | O-Ring (D)                | 1    | NBR                 |
| 45    | O-Ring (E)                | 1    | NBR                 |
| 46    | O-Ring (F)                | 1    | NBR                 |
| 47    | Nipple                    | 1    | Copper Alloy        |
| 48    | Spring (A)                | 1    | Spring Steel        |
| 49    | Spring (B)                | 1    | Spring Steel        |
| 50    | Spring (C)                | 1    | Spring Steel        |

- \* Used for PTFE diaphragm.
- \*\* Used for PTFE diaphragm.

## Troubleshooting

#### What if valve does not open or close?

- Air pressure is too low. Adjust the pressure.
- 2. Power source of solenoid valve is off. Check the connection.
- 3. Solenoid wiring is disconnected. Connect.
- 4. Solenoid voltage is low or incorrect. Check voltage with tester and reset.

- 5. Air not supplied to solenoid valve.
- 6. Bypass valve is open. Close it.
- 7. Speed control on solenoid set incorrectly. Adjust.

#### What if fluid flows even when closed?

- Operating pressure is too low (air-to-air only).
  Adjust. Air not exhausted (air-to-spring only).
  Exhaust air.
- 2. Diaphragm is damaged or worn. Replace.
- 3. Body may be damaged. Inspect and replace.
- 4. Foreign material is caught between weir and diaphragm. Disassemble and clean.

### What if valve leaks to atmosphere?

- Bolts for body and actuator improperly tightened. Tighten as specified in Operation and Maintenance manual.
- 2. True union style: (a) union nut(s) not tightened properly. Tighten; (b) O-ring between end connector and body is damaged. Replace.

## Valve cannot be opened or closed, even though actuator works.

1. Diaphragm is damaged or its compressor joint is broken. Replace part(s).

### Sample Specification

All Type-14 actuated diaphragm valves shall be of solid thermoplastic construction for body (molded flanged or true union socket, threaded or butt end connectors) and bonnet with the actuator housing of glass-filled polypropylene. The actuator shall come standard with an "at a glance" position indicator and pad mount according to NAMUR for solenoid mounting. Air supply shall be 60-90psi. The valve body shall have a panel mount feature for support. Actuator to body mount shall be of square design, diaphragm shall be bayonet type connection. Face-to-face dimensions of flanged version shall conform to Type-G. PVC conforming to ASTM D1784 Cell Classification 12454A, CPVC conforming to ASTM D1784 Cell Classification 23567A, PP conforming to ASTM D4101 Cell Classification PP0210B67272, PPG (Bonnet Only) conforming to ASTM D4101 Cell Classification PP0110M20A21130, and PVDF conforming to ASTM D3222 Cell Classification Type II. PVC, CPVC, PP and PVDF shall be rated to 150psi for elastomeric and PTFE diaphragms at 70° F, as manufactured by Asahi/America, Inc.