

Diaphragm Valves

Replaceable-Seat Pneumatic Diaphragm Valves DPX Series

Introduction

Replaceable-Seat Pneumatic Diaphragm Valves are suitable for applications requiring frequent valve maintenance and replacement, such as precursor containers and canisters. Their easy operation, long cycle life, and excellent sealing performance help to reduce costs for customers

Features

- ⦿ Easily replaceable valve seat, without need for special tools
- ⦿ Valve seat assembly with perfectly symmetrical structure to eliminate need to distinguish the orientation of seats
- ⦿ Actuator cylinder plate color-coded for easy identification of replaceable-seat valves



Technical Data

| | | |
|-------------------------------------|---|--|
| Port Size | 1/4" to 3/8" or 6 mm to 8 mm | |
| Flow Coefficient (Cv) | 0.3 | |
| Orifice Size | 0.16 in. (4.1 mm) | |
| Working Pressure | Vacuum to 250 psig (17.2 bar) | |
| Pneumatic Actuator Working Pressure | 60 ~ 90 psig (4.2 ~ 6.2 bar) | |
| Working Temperature | PCTFE: -10 ~ 176 °F (-23 ~ 80 °C) PFA: -10 ~ 302 °F (-23 ~ 150 °C) | |
| Leak Rate (Helium) | Internal | $\leq 1 \times 10^{-9}$ std cm ³ /s |
| | External | $\leq 1 \times 10^{-9}$ std cm ³ /s |

Flow Data

Air @ 70 °F (21 °C)
Water @ 60 °F (16 °C)

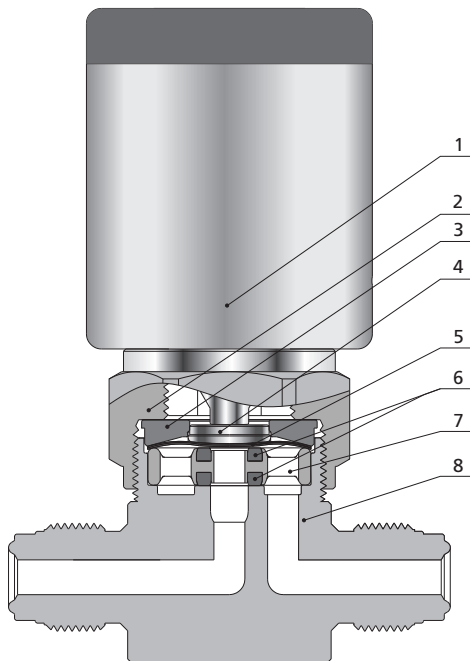
| Pressure Drop to Atmosphere psig (bar) | Air (l/min) | Water (l/min) |
|---|----------------|------------------|
| 10 (0.68) | 96 | 3.6 |
| 50 (3.4) | 250 | 7.9 |
| 100 (6.8) | 450 | 11.0 |

Process Specification

| Process | Material | |
|--------------------------|---|---------------------------|
| | 316L SS | 316L VAR |
| Process Specification | Standard Cleaning and Packaging (FC-01) Special Cleaning and Packaging (FC-02) | Ultra High Purity (FC-03) |
| Wetted Surface Roughness | Ra 5 μin. (0.13 μm) | |
| Polishing Process | Electropolished | |

Note: Refer to page P-01 for a detailed description of Process Specification.

Major Materials of Construction

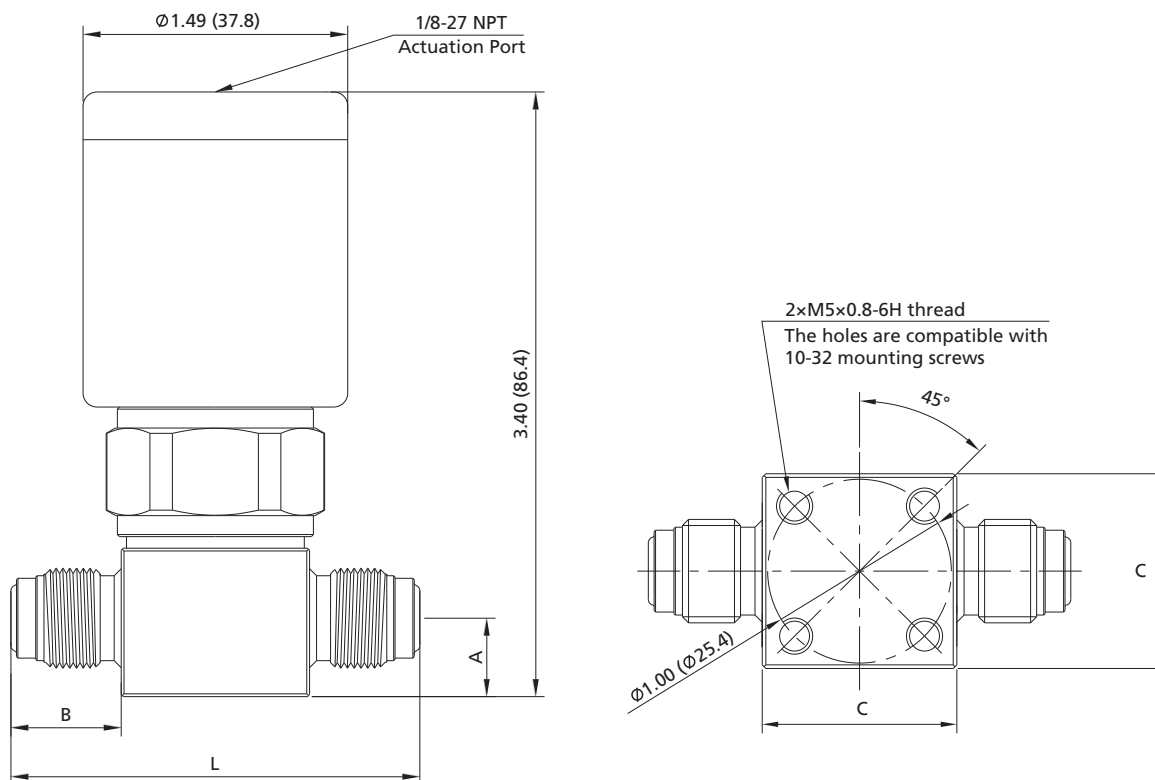


| Item | Component | Material/Specification |
|------|---------------|------------------------------------|
| 1 | Actuator | Aluminum |
| 2 | Bonnet Nut | 316 SS/ASTM A479 |
| 3 | Bonnet | S17400/ASTM A564 |
| 4 | Button | 316 SS/ASTM A479 |
| 5 | Diaphragm (2) | Cobalt Alloy/AMS 5876 |
| 6 | Seat | PCTFE/ASTM D1430 or PFA/ASTM D3307 |
| 7 | Seat Retainer | 316L SS or 316L VAR |
| 8 | Body | 316L SS or 316L VAR |

Normally Closed Pneumatic Model
(Replaceable-Seat Type)

Dimensions and Ordering Information

Dimensions, in inches (millimeters), are for reference only.



03 Diaphragm Valves

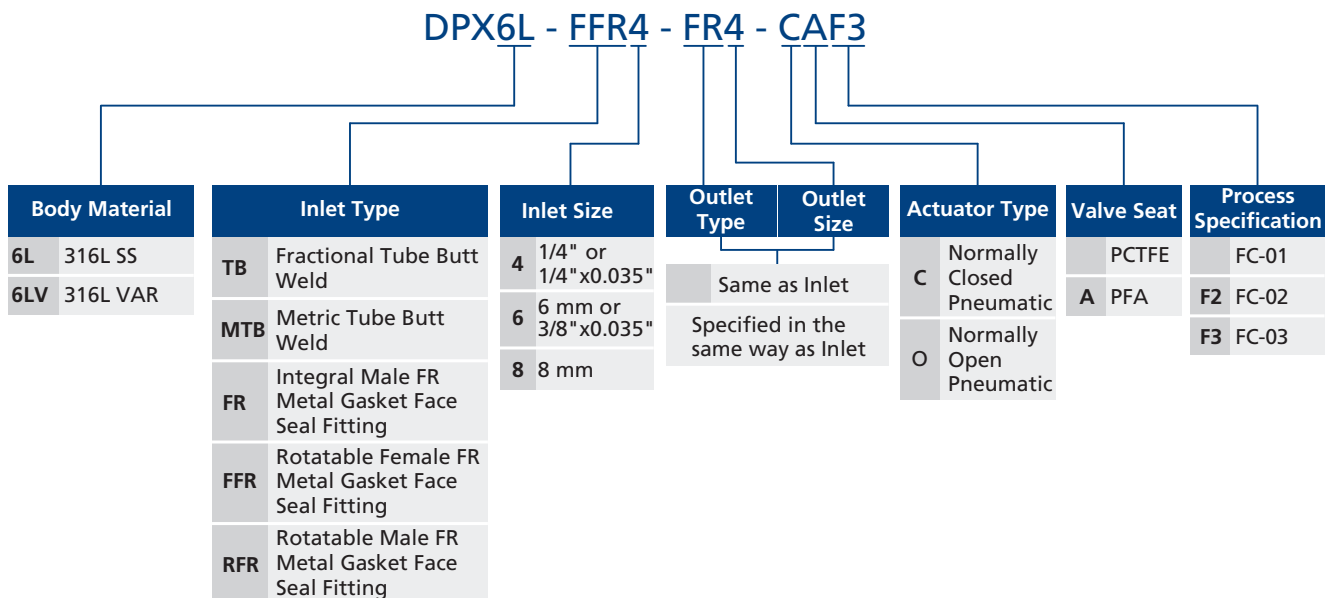
| Basic Ordering Number | Connection Type and Size | Dimension, in. (mm) | | | |
|-----------------------|---|---------------------|-------------|-------------|-------------|
| | | A | B | C | L |
| DPX□□-TB4- | 1/4" x 0.035" Tube Butt Weld | 0.44 (11.2) | 0.30 (7.6) | 1.06 (26.9) | 1.74 (44.2) |
| DPX□□-TB6- | 3/8" x 0.035" Tube Butt Weld | 0.44 (11.2) | 0.26 (6.6) | 1.06 (26.9) | 1.74 (44.2) |
| DPX□□-FFR4- | 1/4" Rotatable Female FR Metal Gasket Face Seal Fitting | 0.44 (11.2) | 0.86 (21.8) | 1.06 (26.9) | 2.78 (70.6) |
| DPX□□-RFR4- | 1/4" Rotatable Male FR Metal Gasket Face Seal Fitting | 0.44 (11.2) | 0.86 (21.8) | 1.06 (26.9) | 2.78 (70.6) |
| DPX□□-FR4- | 1/4" Integral Male FR Metal Gasket Face Seal Fitting | 0.44 (11.2) | 0.62 (15.7) | 1.06 (26.9) | 2.30 (58.4) |

Service Kit Ordering Information

| Basic Ordering Information | Description | Remarks |
|----------------------------|---|--|
| □□DQX-KIT | Includes 1 piece of seat assembly (seat material: PCTFE), 2 pieces of cobalt alloy diaphragms, and maintenance instructions | Applies to replaceable-seat diaphragm valves |
| □□DQX-A-KIT | Includes 1 piece of seat assembly (seat material: PFA), 2 pieces of cobalt alloy diaphragms, and maintenance instructions | |



Ordering Number Description



Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available. Should you have any questions, please contact FITOK Group or our authorized distributors.