

Replaceable-Seat Diaphragm Valves

DQX Series

Introduction

Replaceable-Seat Diaphragm Valves are suitable for applications requiring frequent valve maintenance and seat 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. Service kits are available
- ◎ Valve seat assembly with perfectly symmetrical structure to eliminate need to distinguish the orientation of seats
- ◎ Black handle 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)
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

Process Specification

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

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



open



close

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

Fittings

Valves

Regulators

Filters

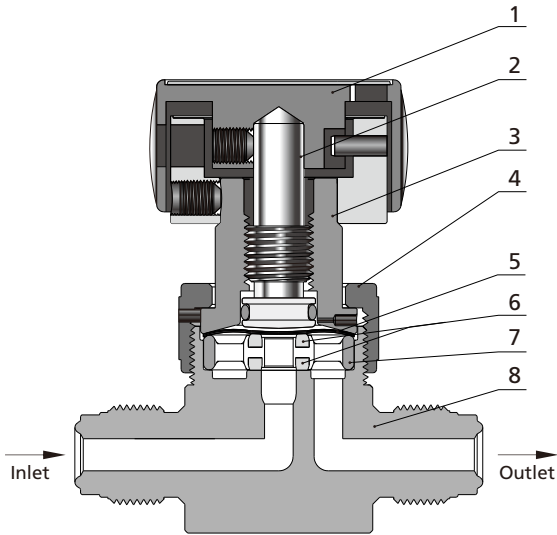
Tubing

Integrated Systems

Other Products

Technical Information

Major Materials of Construction

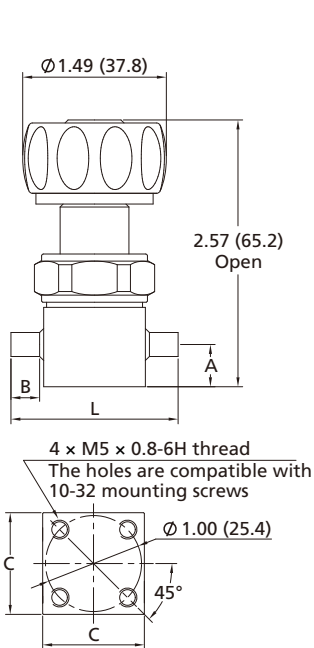


Item	Component	Material/Specification
1	Round Handle	Aluminum
	Integral Lockout (LOTO) Handle	Aluminum
2	Stem	316 SS/ASTM A479
3	Bonnet	S17400/ASTM A564
4	Bonnet Nut	316 SS/ASTM A479
5	Diaphragm (2)	Cobalt Alloy/AMS 5876
6	Seat	PCTFE/ASTM D1430 or PFA/ASTM D3307
7	Seat Retainer	316L SS or 316L SS VAR
8	Body	316L SS or 316L SS VAR

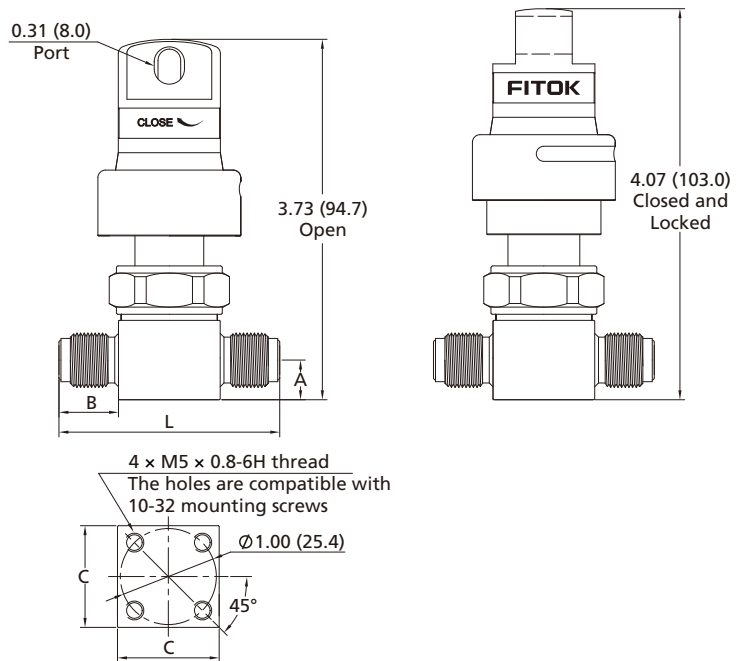
Dimensions and Ordering Information

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

Round Handle



Integral Lockout (LOTO) Handle



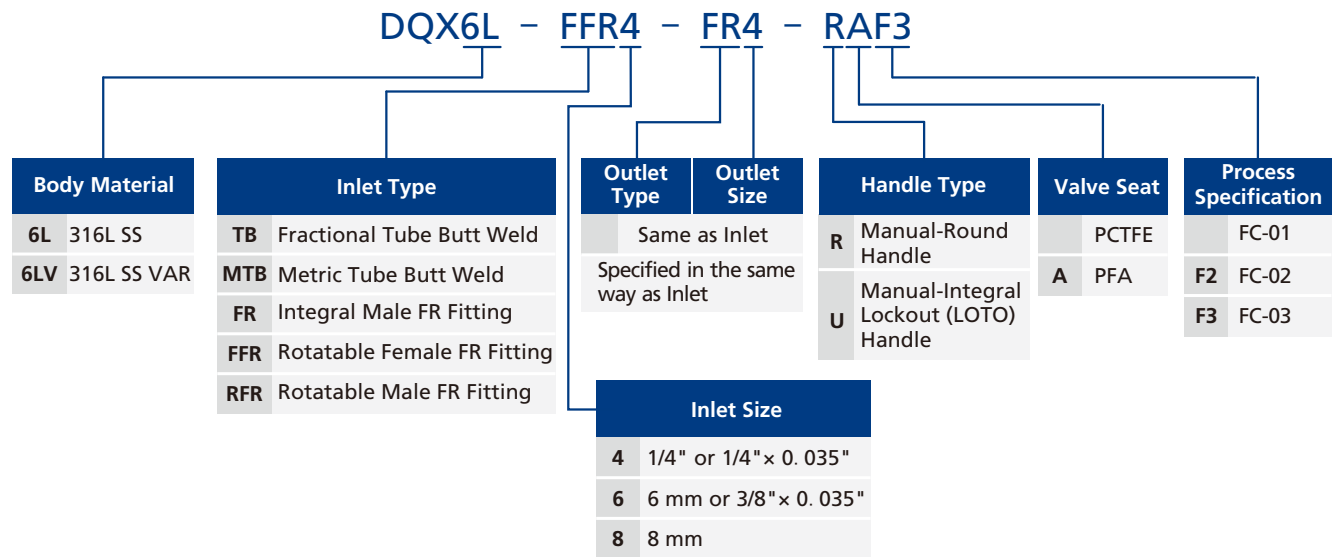
Basic Ordering Number	Connection Type and Size	Dimension, in. (mm)			
		A	B	C	L
DQX□□-TB4-	1/4" x 0.035" Tube Butt Weld	0.44 (11.2)	0.30 (7.6)	1.06 (26.9)	1.74 (44.2)
DQX□□-TB6-	3/8" x 0.035" Tube Butt Weld		0.26 (6.6)		
DQX□□-FFR4-	1/4" Rotatable Female FR Fitting		0.86 (21.8)		2.78 (70.6)
DQX□□-RFR4-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

Service Kit Ordering Information

Basic Ordering Information	Description	Remarks
<input type="checkbox"/> <input type="checkbox"/> 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
<input type="checkbox"/> <input type="checkbox"/> 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.

Fittings

Valves

Regulators

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Technical Information

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 the need for special tools. Service kits are available
- ⦿ Valve seat assembly with perfectly symmetrical structure to eliminate need to distinguish the orientation of seats
- ⦿ Black actuator cylinder plate 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)

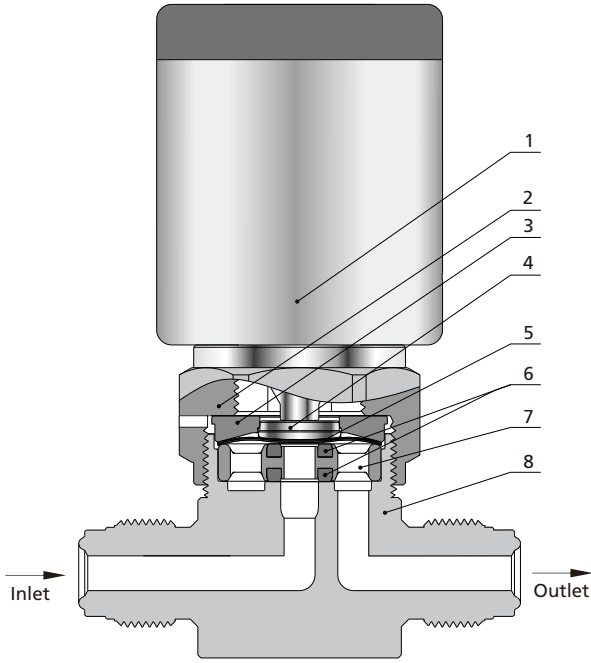
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Item	Process Specification	Standard Cleaning and Packaging Process (FC-01) Special Cleaning and Packaging Process (FC-02)	Ultra High Purity Process (FC-03)
	Material		316L SS
Wetted Surface Roughness		Ra 5 μin. (0.13 μm)	
Polishing Process		Electropolished	

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

Major Materials of Construction

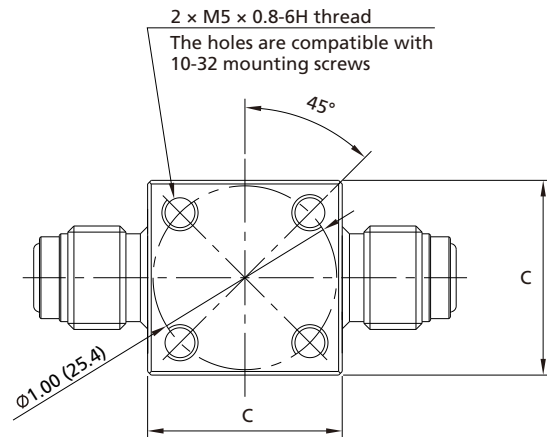
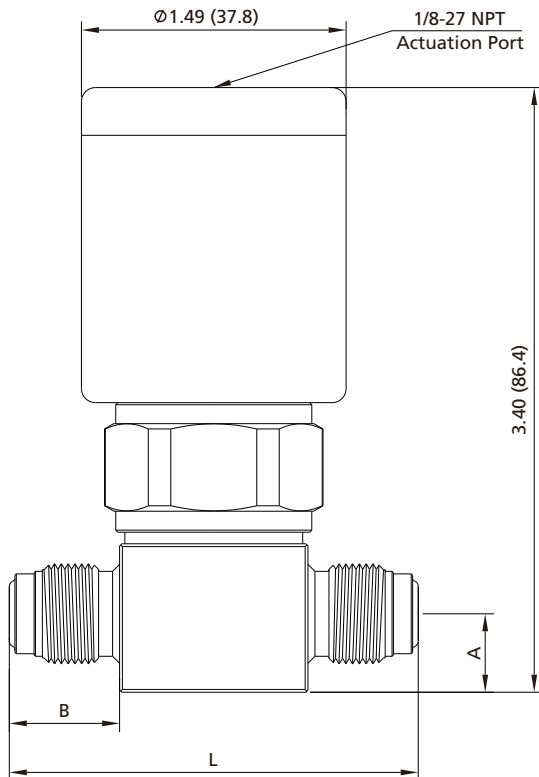


Normally Closed Pneumatic Model
(Replaceable-Seat Type)

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 SS VAR
8	Body	316L SS or 316L SS VAR

Dimensions and Ordering Information

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



Basic Ordering Number	Connection Type and Size	Dimension, in. (mm)			
		A	B	C	L
DPX□□-TB4-	1/4" × 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" × 0.035" Tube Butt Weld		0.26 (6.6)		
DPX□□-FFR4-	1/4" Rotatable Female FR Fitting		0.86 (21.8)		2.78 (70.6)
DPX□□-RFR4-	1/4" Rotatable Male FR Fitting		0.62 (15.7)		
DPX□□-FR4-	1/4" Integral Male FR Fitting				

Service Kit Ordering Information

Basic Ordering Information	Description	Remarks
□□DPX-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
□□DPX-A-KIT	Includes 1 piece of seat assembly (seat material: PFA), 2 pieces of cobalt alloy diaphragms, and maintenance instructions	



Ordering Number Description

DPX6L - FFR4 - FR4 - CAF3

Body Material		Inlet Type		Inlet Size		Outlet Type	Outlet Size	Actuator Type	Valve Seat		Process Specification		
6L	316L SS	TB	Fractional Tube Butt Weld	4	1/4" or 1/4" × 0.035"	Same as Inlet	Specified in the same way as Inlet	C	Normally Closed Pneumatic	A	PCTFE	FC-01	
6LV	316L SS VAR			6	6 mm or 3/8" × 0.035"							FC-02	
		MTB	Metric Tube Butt Weld	8	8 mm			O	Normally Open Pneumatic			F3	FC-03
		FR	Integral Male FR Fitting										
		FFR	Rotatable Female FR Fitting										
		RFR	Rotatable Male FR Fitting										

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