

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)

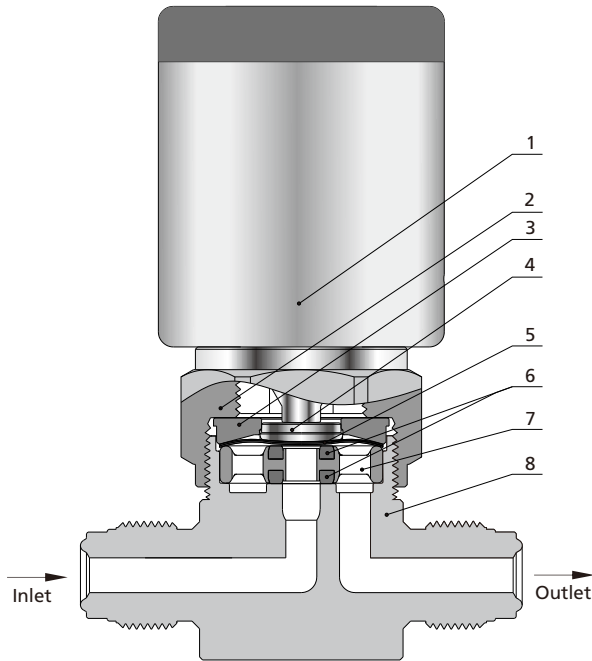
Pressure Drop to Atmosphere psig (bar)	Air (l/min)	Water (l/min)
10 (0.68)	96	3.6
50 (3.4)	250	7.9
100 (6.8)	450	11.0

Process Specification

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

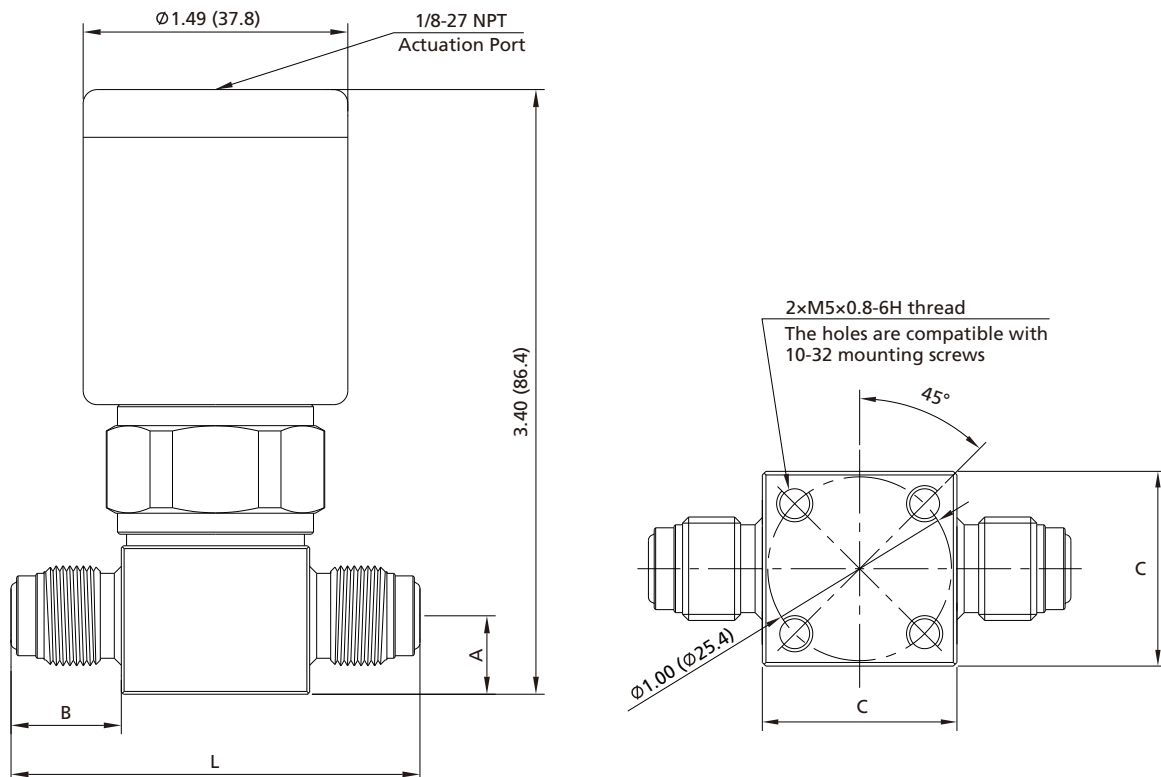


Normally Closed Pneumatic Model
(Replaceable-Seat Type)

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.



03 Diaphragm Valves

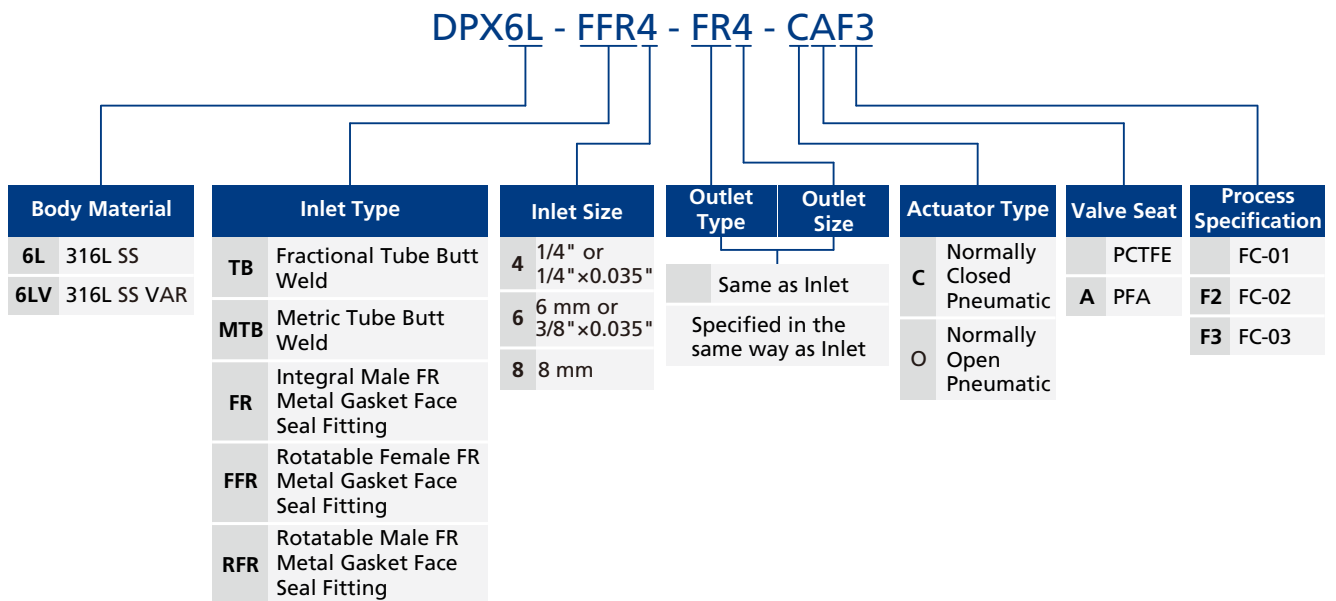
Basic Ordering Number	Connection Type and Size	Dimension, in. (mm)			
		A	B	C	L
DPX□□-TB4-	1/4"×0.035" Tube Butt Weld	0.44 (11.2)	0.30 (7.6)	1.06 (26.9)	1.74 (44.2)
DPX□□-TB6-	3/8"×0.035" Tube Butt Weld	0.44 (11.2)	0.26 (6.6)	1.06 (26.9)	1.74 (44.2)
DPX□□-FFR4-	1/4" Rotatable Female FR Metal Gasket Face 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
□□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



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.

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



open



close

Flow Data

Air @ 70 °F (21 °C)

Water @ 60 °F (16 °C)

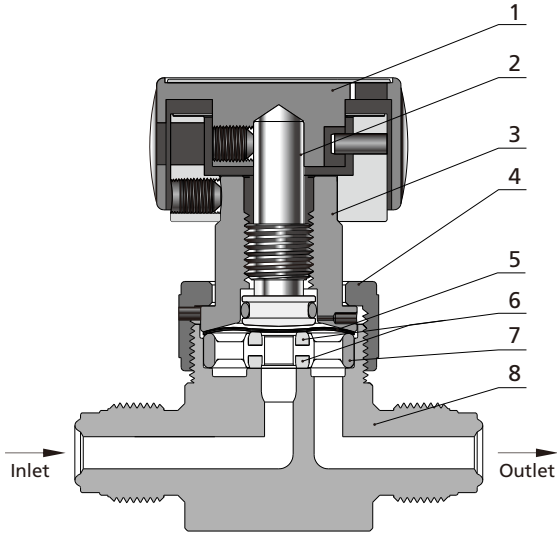
Pressure Drop to Atmosphere psig (bar)	Air (l/min)	Water (l/min)
10 (0.68)	96	3.6
50 (3.4)	250	7.9
100 (6.8)	450	11.0

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.

Major Materials of Construction

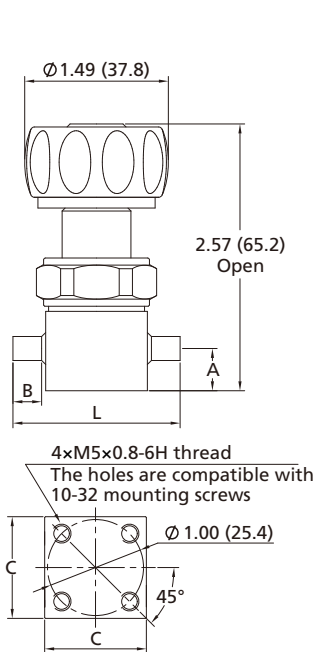


Item	Component		Material/Specification
1	Handle	Round Handle	Aluminum
		Integral Lockout Handle	Aluminum
2	Stem		316 SS/ASTM A479
3	Bonnet		S17400/ASTM A564
4	Bonnet Nut		316 SS/ASTM A479
5	Diaphragm (2)		Cobalt Alloy/AMS 5876
6	Seat		PCTFE/ASTM D1430 or PFA/ASTM D3307
7	Seat Retainer		316L SS or 316L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

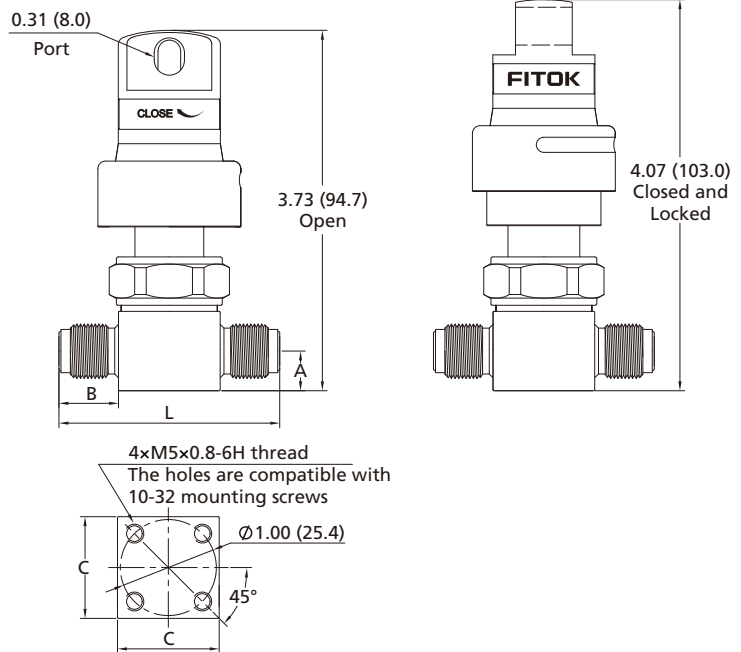
Dimensions and Ordering Information

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Round Handle



Integral Lockout Handle



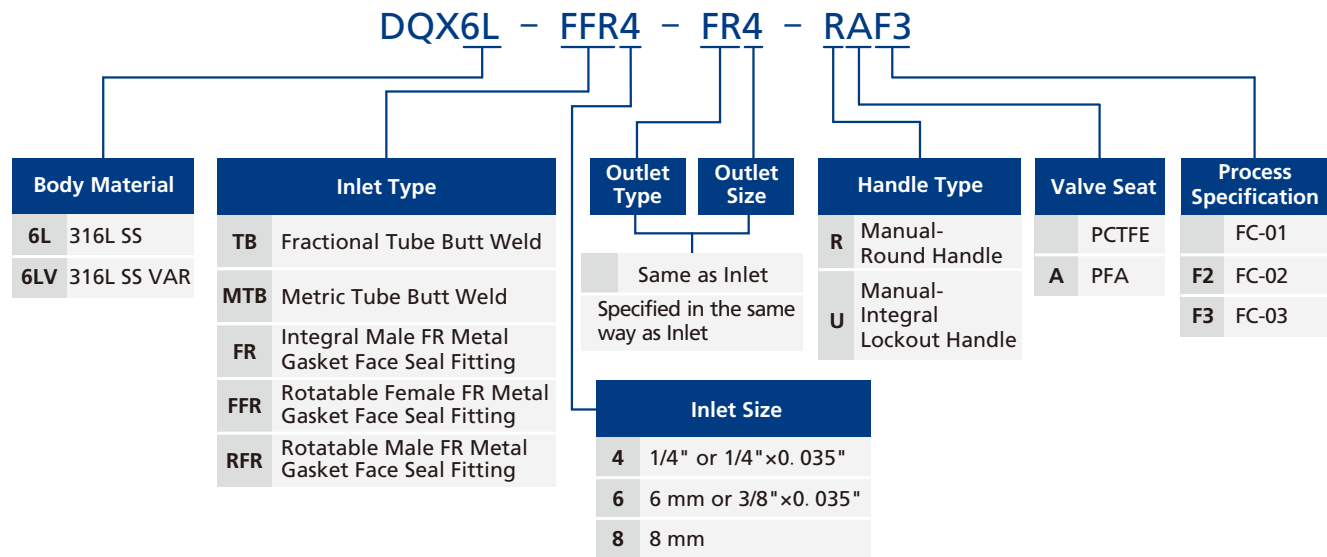
Basic Ordering Number	Connection Type and Size	Dimension, in. (mm)			
		A	B	C	L
DQX□□-TB4-	1/4" x 0.035" Tube Butt Weld	0.44 (11.2)	0.30 (7.6)	1.06 (26.9)	1.74 (44.2)
DQX□□-TB6-	3/8" x 0.035" Tube Butt Weld	0.44 (11.2)	0.26 (6.6)	1.06 (26.9)	1.74 (44.2)
DQX□□-FFR4-	1/4" Rotatable Female FR Metal Gasket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



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