

# Diaphragm Valves

## High Temperature Diaphragm Valves

### DK Series

#### Features

- ⦿ Thermal immersion design for use in high temperature up to 482 °F (250 °C)
- ⦿ Metal seat to provide excellent resistance to swelling and contamination
- ⦿ Cobalt alloy diaphragm with high strength and corrosion resistance to ensure long cycle life
- ⦿ All-Metal wetted parts with broad chemical compatibility
- ⦿ Minimum particle generation and dead space, easy to purge



#### Technical Data

Port Size	1/4" to 3/8" or 6 mm to 8 mm	
Flow Coefficient (Cv)	0.27	
Orifice Size	0.16 in. (4.1 mm)	
Max. Working Pressure	145 psig (10 bar)	
Pneumatic Actuator Operating Pressure	72 ~ 101 psig (5 ~ 7 bar)	
Temperature	14 ~ 482 °F (-10 ~ 250 °C)	
Leak Rate (helium)	Internal	$\leq 3 \times 10^{-9}$ std cm <sup>3</sup> /s
	External	$\leq 3 \times 10^{-9}$ std cm <sup>3</sup> /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)	86	3.2
50 (3.4)	230	7.2
100 (6.8)	410	10.2

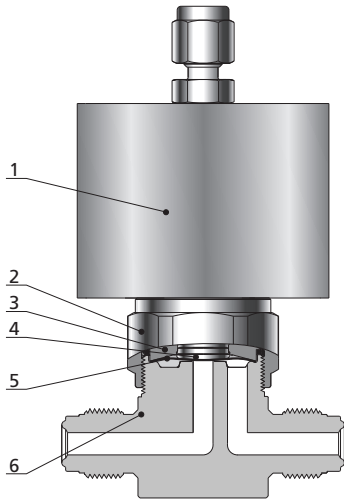
#### Process Specification

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)	Ultra High Purity (FC-03)
Wetted Surface Roughness	Ra 10 μin. (0.25 μm) <sup>①</sup>	Ra 5 μin. (0.13 μm)	Ra 5 μin. (0.13 μm)	
Polishing Process	Machine finished <sup>①</sup>	Electropolished	Electropolished	

① For valves with FR connections and tube butt connections, the standard polishing process is electropolishing and the internal surface roughness is finished to an average of Ra 5 μin. (0.13 μm).

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

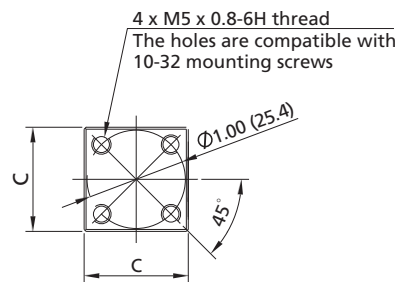
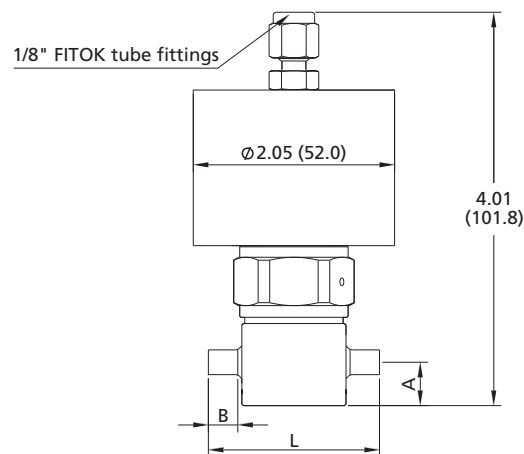
## Major Materials of Construction



Item	Component	Material/Specification
1	Actuator	316 SS/ASTM A479
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	Body	316L SS or 316L VAR

## Dimensions and Ordering Information

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



Basic Ordering Number	Connection Type and Size	Dimensions, in. (mm)			
		A	B	C	L
DK□□-TB4-4-	1/4" Tube Butt Weld	0.44 (11.2)	0.30 (7.6)	1.06 (26.9)	1.74 (44.2)
DK□□-TB6-4-	3/8" Tube Butt Weld	0.44 (11.2)	0.26 (6.6)	1.06 (26.9)	1.74 (44.2)
DK□□-FFR4-4-	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)
DK□□-RFR4-4-	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)
DK□□-FR4-4-	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)

## Ordering Number Description

DK6L - TB4 - FR4 - 4 - CF3



Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.

Fittings

Valves

Pressure Gauges

Integrated Systems and Others

Process Specification