



# Springless Diaphragm Valves

## SF Series

- Suitable for Ultra High-Purity Applications
- 316L Single Melt, Double Melt  
Stainless Steel Body
- Metal Seal, Tube Butt Weld,  
Tube End Connections
- Manual or Pneumatic Actuation



## Actuator Options

### Pneumatic Actuators



#### Low-Pressure Models

- Pressure rating : 150 psig (10bar)
- Temperature rating :  
-10 to 150°F (-23 to 65°C)

### Manual Actuators



#### Round

- Quick, quarter-turn actuation
- Handle with window provides  
Visual indication of OPEN and  
CLOSED position
- Pressure rating : 300 psig (20.8bar)



#### Locking

- Quick, quarter-turn actuation
- Lockable in the CLOSED position for safety
- Handle shape and window indicator  
provides visual indication of OPEN  
and CLOSED position
- Pressure rating : 300 psig (20.8bar)

## Ordering Information

Number	Series	End Connection	Flow	Manual Handle	Handle	Pneumatic	Option	Grade
S : 316L Stainless steel D : 316L Stainless steel VAR		VF RM TW	1 2 3 4 5 6 7 8 9	L(Locking Handle) R(Round Handle)	BK - Black RD - Red BL - Blue SBL - Sky Blue WH - White GR - Green YW - Yellow OR - Orange	C - Normally Closed D - Normally Open	X**	BLANK - BA Grade P - EP Grade
	•8SF (Manual) •8PSF (Pneumatic)		10 BLANK : Straight Type					
	8 : 1/2"							

GRADE	BA	EP
Inner Surface Roughness	Ry ≤ 3.0µm 10µinch Ra (Avg.) Cut Off Length : 0.8mm Measuring Length : 4mm	Ry ≤ 0.7µm 5µinch Ra (Avg.) Cut Off Length : 0.25mm Measuring Length : 1.25mm
Polishing	Machining Finish	Electro Polishing Finish

## Example Part Numbers

Ordering	S8SF-VM-L-GR-P
Material	316L Stainless Steel
Series	Manual Diaphragm Valve
End Connection	1/2" Male Integral MFS Fitting
Flow	Straight Type
Manual Handle	Locking Handle
Handle Color	Green
Pneumatic	-
Grade	EP Grade

## Color Coded Handles

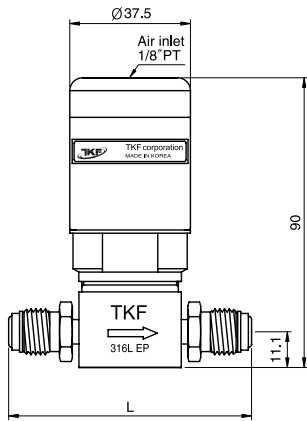


- BL Blue    - SBL Sky Blue    - OR Orange    - YW Yellow    - GR Green    - RD Red    - BK Black    - WH White

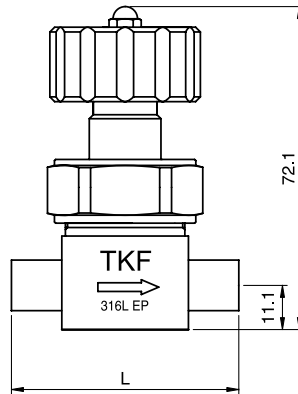
\* Eight handle colors are available  
\* Blue Handle as standard

Dimensions

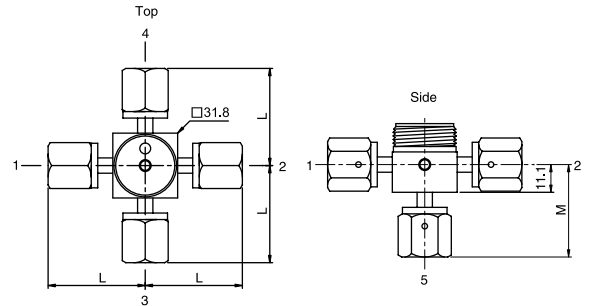
Pneumatic Actuator  
Male Integral MFS Fittings



Directional and Round Handle  
Tube Butt Weld Ends



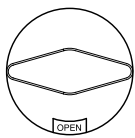
Side & Top



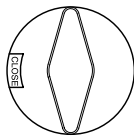
LOCKING HANDLE

Female MFS Fittings

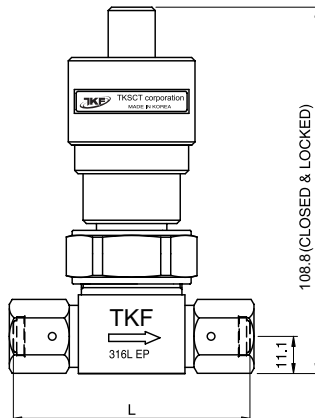
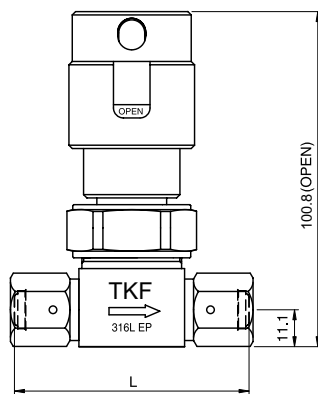
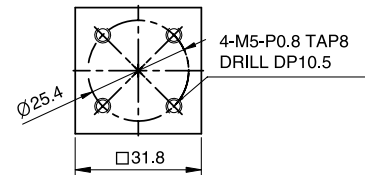
Open



Closed and Locked



Bottom



Material

Body	316L Stainless Steel 316L Stainless Steel VAR
Seat	PCTFE
Diaphragm	Ni-Co Alloy
O-Ring	FKM

Major Specifications

	Manual Actuators	Pneumatic Actuators
Cv Valve	0.6	0.6
Orifice Size	5.8mm	5.8mm
Max. Working Pressure (G.)	Vacuum to 300 psig (20.8bar)	Vacuum to 150 psig (10bar)
Operating Pressure (G.)	-	60 ~ 100 psig (4.1 ~ 7bar)
Burst Pressure (G.)	3,200 psig (220bar)	
Max. Working Temp.	-10 ~ 150°F (-23 ~ 65°C)	
Internal Leakage Allowance (He) Test Pressure ≤ 1 x 10 <sup>-2</sup> Torr	≤ 1 x 10 <sup>-9</sup> atm · cc/sec	
External Leakage Allowance (He) Test Pressure ≤ 1 x 10 <sup>-2</sup> Torr	≤ 1 x 10 <sup>-9</sup> atm · cc/sec	
Particle Inspection (BA, EP) Pressure : 60 ~ 80psi N <sub>2</sub> Gas Sample Volume : 1CFM 0.1µm and Larger	No count	

# SF Series

## Flow Path

Ports	Schematic	Flow Path		Designator
		Closed	Open	
4 Port				4
				5
3 Port				1
				2
				3
				6
				7
2 Port				8
				9
				10

## End Connections

End Connection	Basic Ordering		L mm(inch)
	Inlet/Outlet	Size	
Female MFS Fittings	1/4"		S4SF-VF- 70.6 (2.78)
	1/2"		S8SF-VF- 106 (4.16)
Male MFS Fittings	1/4"		S4SF-RM- 75.2 (2.96)
	1/2"		S8SF-RM- 106 (4.16)
Tube Butt Weld	3/8"		S6SF-TW- 57.1 (2.25)
	1/2"		S8SF-TW-



# Springless Diaphragm Valves



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