

Diaphragm Valves

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18

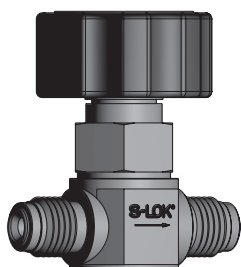


Catalogue No. S-LOK Oct.2020

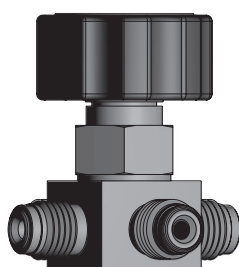
Features

- 316L Stainless steel body material (316L Single and double melting stainless steel materials available)
- Ni-Co alloy material diaphragm for strength and corrosion resistance
- Fully contained seat design minimizes particle generation
- Maximize flow capacity & minimize entrapment areas
- Optimal design for long cycle life
- Manual and pneumatic actuator
- All Valves are factory tested with helium.

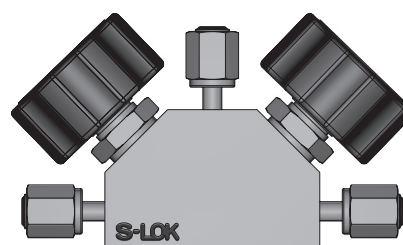
Models



Straight Type



Branch Type



Block Type

Product Grade

Level	Inner Surface Roughness	
	Ra	Ry
EP	≤ 5 μ inch	≤ 0.7 μm
BA	≤ 10 μ inch	≤ 3.0 μm
AP	≤ 100 μ inch	≤ 25 μm

Materials of Construction

Component	Material
Body	316L Stainless Steel (Single / Double Melt)
Seat	PCTFE
Diaphragm	Ni-Co Alloy
Actuator Cap	Aluminum
Handle	ABS

Moisture Test

Test procedure per SEMI F58 for low surface area component, time to recover to baseline from 200 ppb spike in 1 hour.

Reliability

- More than 3 million cycles for pneumatic valves.
- More than 100,000 cycles for manual valves.

Chemical Composition

Element	Composition, Wt%									
	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	Al
SS316L Single Melt	≤ 0.03	≤ 0.75	≤ 0.8	≤ 0.04	≤ 0.005	12.0~16.0	16.0~18.0	2.0~3.0	≤ 0.5	-
SS316L Double Melt	≤ 0.01	≤ 0.3	≤ 0.4	≤ 0.03	≤ 0.003	14.5~15.0	16.5~17.0	2.2~2.5	≤ 0.25	≤ 0.01
SS316L VIM/VAR	≤ 0.01	≤ 0.2	≤ 0.05	≤ 0.02	≤ 0.003	14.5~15.0	16.5~17.0	2.2~2.5	≤ 0.2	≤ 0.01

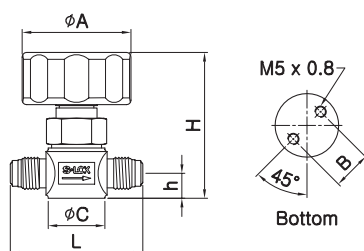
Specifications

Size in.	Working Pressure Mpa (psig)	Temperature Rating °C (°F)	Flow Coefficient (Cv)	Orifice mm (in.)	Across the Seat Helium Leak Rates	Inboard Helium Leak Rates	Particle Inspection (EP) (0.1 μm and Larger)
1/4	1 (145)	-10 ~ 80 (-23 ~ 176)	0.3	4.0 (0.16)	≤ 1 x 10 ⁻⁹ atm cc/sec	≤ 1 x 10 ⁻⁹ atm cc/sec	No count Pressure: 60~80psi N2 Gas
3/8, 1/2, 3/4			0.7	7.0 (0.27)			

Ordering Information and Dimension – Straight Type Manual Diaphragm Valves

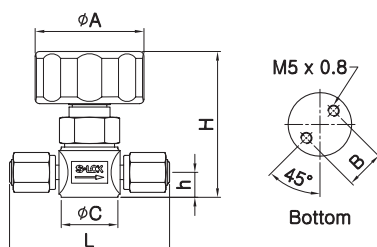
SFDV	-	MG	-	8	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Product Grade		Body Material
- SFDV : Forged Body - SSDV : Square Body		- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld		- 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4"		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



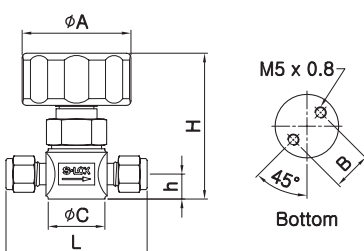
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SFDV-MG-4	1/4	57	11	65	45	17	28
SFDV-MG-6	3/8	77	16	79	45	28	38
SFDV-MG-8	1/2	77	16	79	45	28	38
SFDV-MG-12	3/4	122	22	85	45	28	38

Metal Face Seal - Female



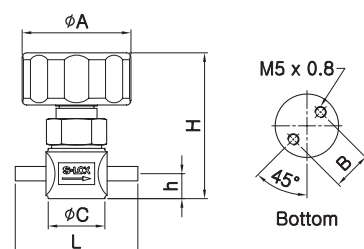
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SFDV-FG-4	1/4	78	11	65	45	17	28
SFDV-FG-6	3/8	104.6	16	79	45	28	38
SFDV-FG-8	1/2	104.6	16	79	45	28	38
SFDV-FG-12	3/4	122	22	85	45	28	38

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SFDV-S-4	1/4	55	11	65	45	17	28
SFDV-S-6	3/8	70	16	79	45	28	38
SFDV-S-8	1/2	70	16	79	45	28	38
SFDV-S-12	3/4	84	22	85	45	28	38

Butt Weld



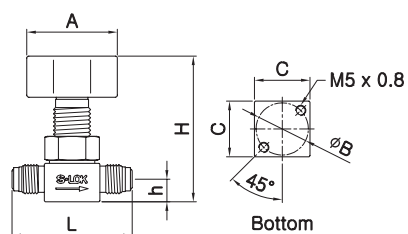
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SFDV-S-4	1/4	54	11	65	45	17	28
SFDV-S-6	3/8	69	16	79	45	28	38
SFDV-S-8	1/2	69	16	79	45	28	38
SFDV-S-12	3/4	150	22	85	45	28	38

Ordering Information and Dimension – Straight Type Quarter-Turn Diaphragm Valves

SQDV	-	MG	-	8	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Product Grade		Body Material

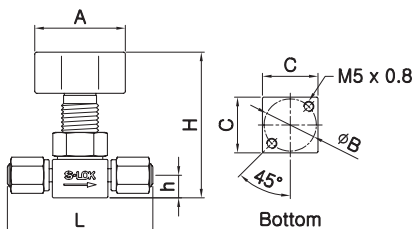
Valve Model	Connection Type	Connection Size	Product Grade	Body Material
- SQDV : Quarter-Turn Diaphragm Valve	- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld	- 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4"	- BA : BA - EP : EP	- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



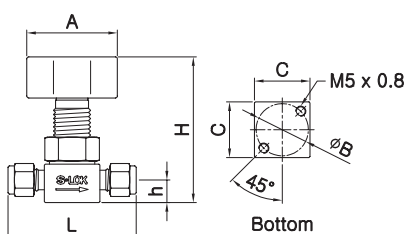
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SQDV-MG-4	1/4	57	11	80	37	25.4	28
SQDV-MG-6	3/8	77	16	100	52	28	38
SQDV-MG-8	1/2	77	16	100	52	28	38
SQDV-MG-12	3/4	122	22	110	52	28	38

Metal Face Seal - Female



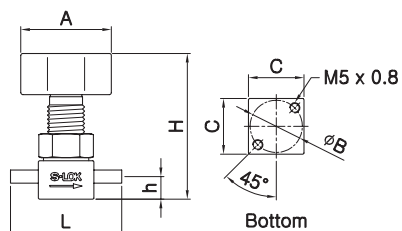
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SQDV-FG-4	1/4	70.6	11	80	37	25.4	28
SQDV-FG-6	3/8	83	16	100	52	28	38
SQDV-FG-8	1/2	83	16	100	52	28	38
SQDV-FG-12	3/4	122	22	110	52	28	38

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SQDV-S-4	1/4	55	11	80	37	25.4	28
SQDV-S-6	3/8	70	16	100	52	28	38
SQDV-S-8	1/2	70	16	100	52	28	38
SQDV-S-12	3/4	84	22	110	52	28	38

Butt Weld



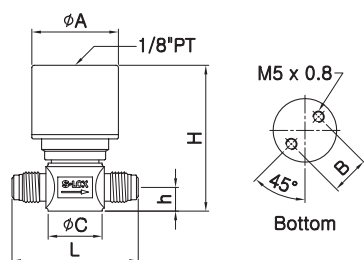
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SQDV-S-4	1/4	54	11	80	37	25.4	28
SQDV-S-6	3/8	69	16	100	52	28	38
SQDV-S-8	1/2	69	16	100	52	28	38
SQDV-S-12	3/4	150	22	110	52	28	38

Ordering Information and Dimension – Straight Type Pneumatic Diaphragm Valves

SPDV	-	MG	-	8	-	NC	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Actuation		Product Grade		Body Material

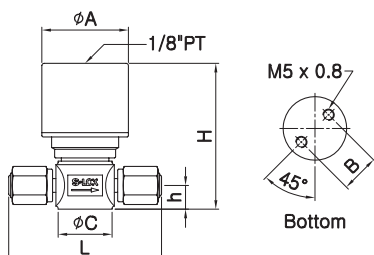
Valve Model	Connection Type	Connection Size	Actuation	Product Grade	Body Material
- SPDV : Pneumatic Diaphragm Valve	- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld	- 4 : 1/4" - 8 : 1/2"	- NC : Normally Closed - NO : Normally Open	- BA : BA - EP : EP	- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



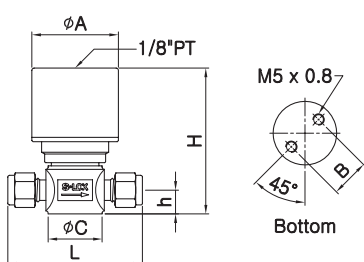
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-MG-4	1/4	57	11	64	39.6	17	28
SPDV-MG-8	1/2	77	16	79.4	52	28	38

Metal Face Seal - Female



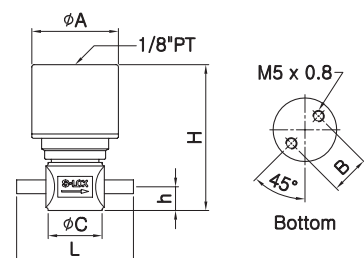
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-FG-4	1/4	78	11	64	39.6	17	28
SPDV-FG-8	1/2	104.6	16	79.4	52	28	38

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-S-4	1/4	55	11	64	39.6	17	28
SPDV-S-8	1/2	70	16	79.4	52	28	38

Butt Weld



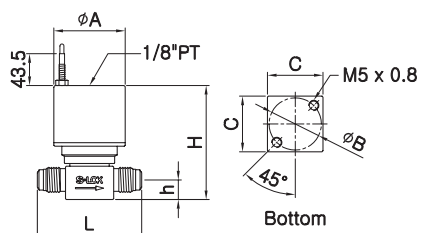
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-BW-4	1/4	54	11	64	39.6	17	28
SPDV-BW-8	1/2	69	16	79.4	52	28	38

Ordering Information and Dimension – Straight Type Switch Diaphragm Valves

SPDV	-	MG	-	4	-	NCS	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Actuation		Product Grade		Body Material

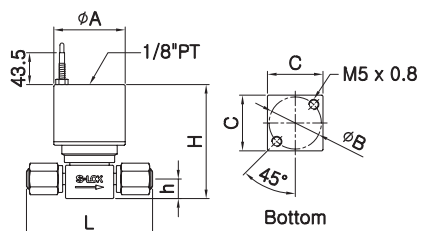
Valve Model	Connection Type	Connection Size	Actuation	Product Grade	Body Material
-SPDV : Pneumatic Diaphragm Valve	- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld	- 4 : 1/4"	-NCS : Normally Closed Switch Type Switch Specification  + BROWN (RED) - BLUE (WHITE)	- BA : BA - EP : EP	- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



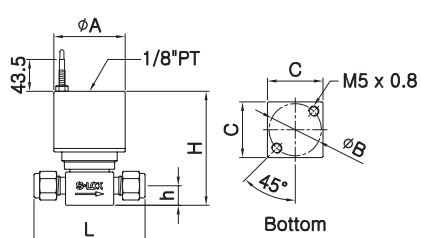
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-MG-4-NCS	1/4	57	11	60	42	25.4	28

Metal Face Seal - Female



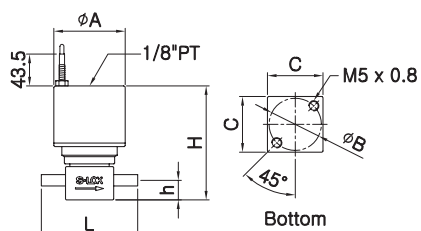
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-FG-4-NCS	1/4	70.6	11	60	42	25.4	28

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-S-4-NCS	1/4	55	11	60	42	25.4	28

Butt Weld



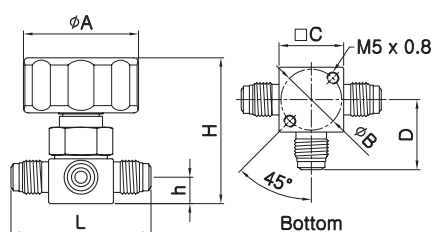
Basic Ordering Number	Size inch	Dimensions, mm					
		L	h	H	A	B	C
SPDV-BW-4-NCS	1/4	54	11	60	42	25.4	28

Ordering Information and Dimension – Branch Type Manual Diaphragm Valves

STDV	-	MG	-	4	-	V3	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Product Grade		Body Material

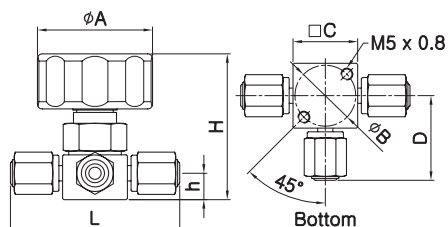
Valve Model	Connection Type	Connection Size	Flow Path	Product Grade	Body Material
- STDV : Branch Type Manual Diaphragm Valve	- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld	- 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4"	- V1 :  - V2 :  - V3 : 	- BA : BA - EP : EP	- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



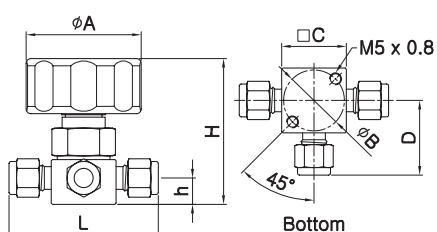
Basic Ordering Number	Size inch	Dimensions, mm						
		L	h	H	A	B	C	D
STDV-MG-4	1/4	57	11	63	45	25.4	28	28.5
STDV-MG-6	3/8	77	16	76	45	28	38	38.5
STDV-MG-8	1/2	77	16	76	45	28	38	38.5
STDV-MG-12	3/4	122	22	82	45	28	38	61

Metal Face Seal - Female



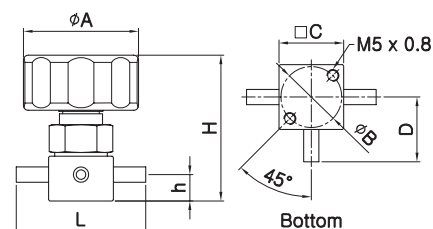
Basic Ordering Number	Size inch	Dimensions, mm						
		L	h	H	A	B	C	D
STDV-FG-4	1/4	70.6	11	63	45	25.4	28	35.3
STDV-FG-6	3/8	83	16	76	45	28	38	41.5
STDV-FG-8	1/2	83	16	76	45	28	38	41.5
STDV-FG-12	3/4	122	22	82	45	28	38	61

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm						
		L	h	H	A	B	C	D
STDV-S-4	1/4	55	11	63	45	25.4	28	27.5
STDV-S-6	3/8	70	16	76	45	28	38	35
STDV-S-8	1/2	70	16	76	45	28	38	35
STDV-S-12	3/4	84	22	82	45	28	38	42

Butt Weld

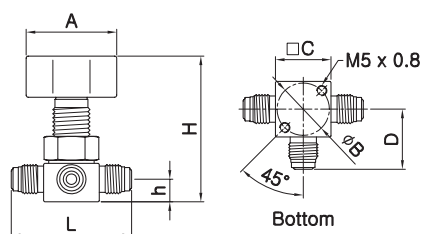


Basic Ordering Number	Size inch	Dimensions, mm						
		L	h	H	A	B	C	D
STDV-BW-4	1/4	54	11	63	45	25.4	28	27
STDV-BW-6	3/8	69	16	76	45	28	38	34.5
STDV-BW-8	1/2	69	16	76	45	28	38	34.5
STDV-BW-12	3/4	150	22	82	45	28	38	75

Ordering Information and Dimension – Branch Type Quarter-Turn Diaphragm Valves

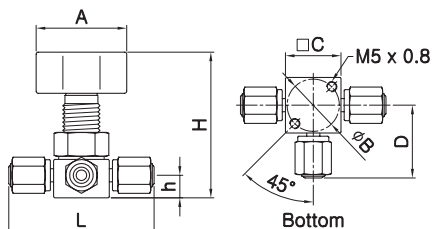
STQDV	-	MG	-	4	-	V3	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Product Grade		Body Material
Valve Model	Connection Type		Connection Size		Flow Path		Product Grade		Body Material	
- STQDV : Branch Type Quarter-Turn Diaphragm Valve	- MG : Male Metal Face Seal		- 4 : 1/4"		- V1 :		- BA : BA		- S6LS : SS316L Single Melt	
	- FG : Female Metal Face Seal		- 6 : 3/8"		- V2 :		- EP : EP		- S6LV : SS316L Double Melt	
	- S : S-LOK		- 8 : 1/2"		- V3 :				- S4 : SS304	
	- BW : Butt Weld		- 12 : 3/4"							

Metal Face Seal - Male



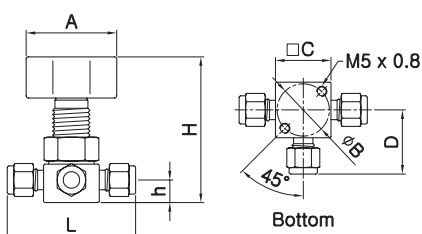
Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STQDV-MG-4	1/4	57	11	80	37	25.4	28	28.5	
STQDV-MG-6	3/8	77	16	100	52	28	38	38.5	
STQDV-MG-8	1/2	77	16	100	52	28	38	38.5	
STQDV-MG-12	3/4	122	22	110	52	28	38	61	

Metal Face Seal - Female



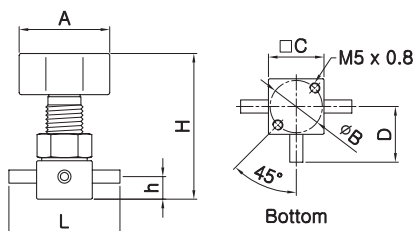
Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STQDV-FG-4	1/4	70.6	11	80	37	25.4	28	35.3	
STQDV-FG-6	3/8	83	16	100	52	28	38	41.5	
STQDV-FG-8	1/2	83	16	100	52	28	38	41.5	
STQDV-FG-12	3/4	122	22	110	52	28	38	61	

S-LOK



Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STQDV-S-4	1/4	55	11	80	37	25.4	28	27.5	
STQDV-S-6	3/8	70	16	100	52	28	38	35	
STQDV-S-8	1/2	70	16	100	52	28	38	35	
STQDV-S-12	3/4	84	22	110	52	28	38	42	

Butt Weld

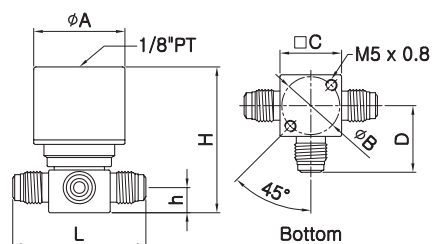


Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STQDV-BW-4	1/4	54	11	80	37	25.4	28	27	
STQDV-BW-6	3/8	69	16	100	52	28	38	34.5	
STQDV-BW-8	1/2	69	16	100	52	28	38	34.5	
STQDV-BW-12	3/4	150	22	110	52	28	38	75	

Ordering Information and Dimension – Branch Type Pneumatic Diaphragm Valves

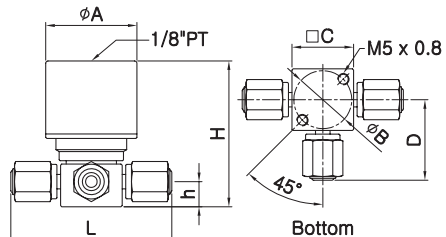
STPDV	-	MG	-	4	-	V3	-	NC	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Actuation		Product Grade		Body Material
-STPDV : Branch Type Pneumatic Diaphragm Valve		- MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Butt Weld		- 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4"		- V1 :  - V2 :  - V3 : 		- NC : Normally Closed - NO : Normally Open		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



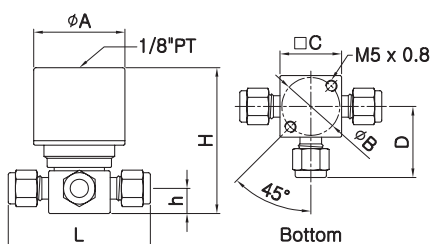
Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STPDV-MG-4	1/4	57	11	60	39.6	25.4	28	28.5	
STPDV-MG-6	3/8	77	16	76	52	28	38	38.5	
STPDV-MG-8	1/2	77	16	76	52	28	38	38.5	
STPDV-MG-12	3/4	122	22	90	52	28	38	61	

Metal Face Seal - Female



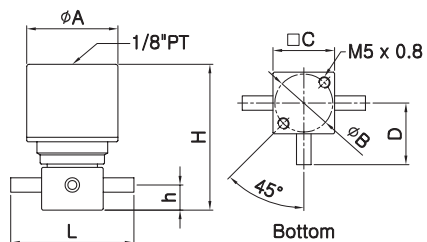
Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STPDV-FG-4	1/4	70.6	11	60	39.6	25.4	28	35.3	
STPDV-FG-6	3/8	83	16	76	52	28	38	41.5	
STPDV-FG-8	1/2	83	16	76	52	28	38	41.5	
STPDV-FG-12	3/4	122	22	90	52	28	38	61	

S-LOK



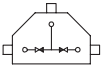
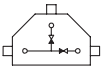
Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STPDV-S-4	1/4	55	11	60	39.6	25.4	28	27.5	
STPDV-S-6	3/8	70	16	76	52	28	38	35	
STPDV-S-8	1/2	70	16	76	52	28	38	35	
STPDV-S-12	3/4	84	22	90	52	28	38	42	

Butt Weld

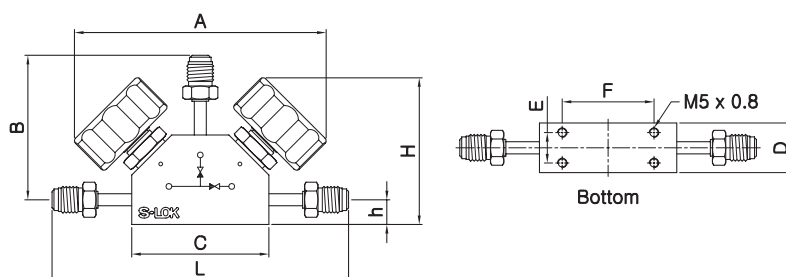


Basic Ordering Number	Size inch	Dimensions, mm							
		L	h	H	A	B	C	D	
STPDV-BW-4	1/4	54	11	60	39.6	25.4	28	27	
STPDV-BW-6	3/8	69	16	76	52	28	38	34.5	
STPDV-BW-8	1/2	69	16	76	52	28	38	34.5	
STPDV-BW-12	3/4	150	22	90	52	28	38	75	

Ordering Information and Dimension – Block Type Manual Diaphragm Valves

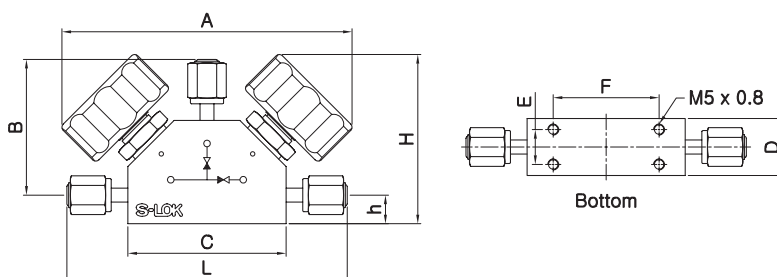
SBDV	-	MG	-	4	-	V24	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Product Grade		Body Material
- SBDV : Block Type Manual Diaphragm Valve		- MG : Male Metal Face Seal - FG : Female Metal Face Seal		- 4 : 1/4"		- V12 :  - V24 : 		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



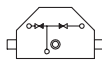
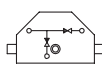
Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBDV-MG-4-V24 or SBDV-MG-4-V12	1/4	128.7	11	70	118	64.3	64	28	15	40

Metal Face Seal - Female

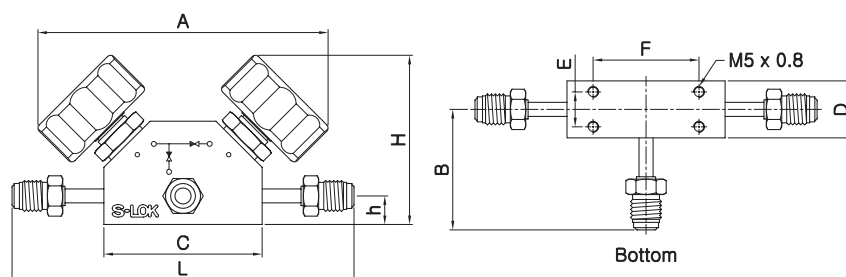


Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBDV-FG-4-V24 or SBDV-FG-4-V12	1/4	107.6	11	70	118	53.8	64	28	15	40

Ordering Information and Dimension – Block Type Manual Diaphragm Valves

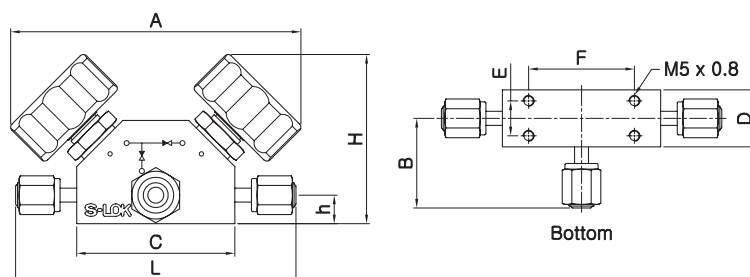
SBDV Valve Model	-	MG Connection Type	-	4 Connection Size	-	H23 Flow Path	-	EP Product Grade	-	S6LS Body Material
Valve Model		Connection Type		Connection Size		Flow Path		Product Grade		Body Material
-SBDV : Block Type Manual Diaphragm Valve		- MG : Male Metal Face Seal - FG : Female Metal Face Seal		- 4 : 1/4"		- H12 :  - H23 : 		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



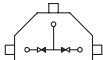
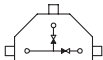
Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBDV-MG-4-H23 or SBDV-MG-4-H12	1/4	128.7	11	70	118	46.3	64	28	15	40

Metal Face Seal - Female

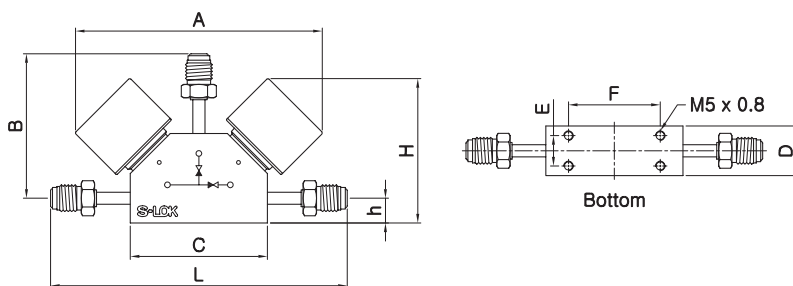


Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBDV-FG-4-H23 or SBDV-FG-4-H12	1/4	107.6	11	70	118	35.8	64	28	15	40

Ordering Information and Dimension - Block Type Pneumatic Diaphragm Valves

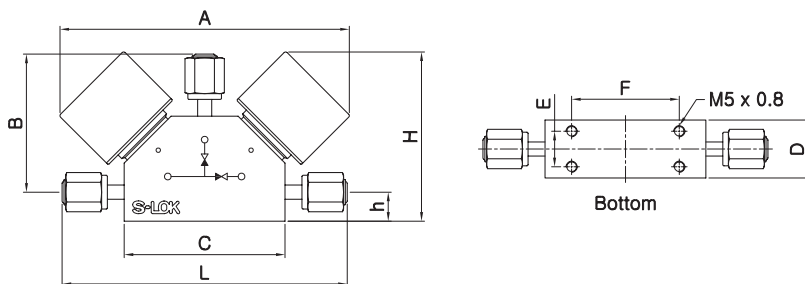
SBPDV	-	MG	-	4	-	V24	-	NC	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Actuation		Product Grade		Body Material
-SBPDV : Block Type Pneumatic Diaphragm Valve		- MG : Male Metal Face Seal - FG : Female Metal Face Seal		- 4 : 1/4"		- V12 :  - V24 : 		- NC : Normally Closed - NO : Normally Open		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



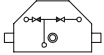
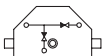
Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBDPV-MG-4-V24 or SBDPV-MG-4-V12	1/4	128.7	11	71	120	64.3	64	28	15	40

Metal Face Seal - Female

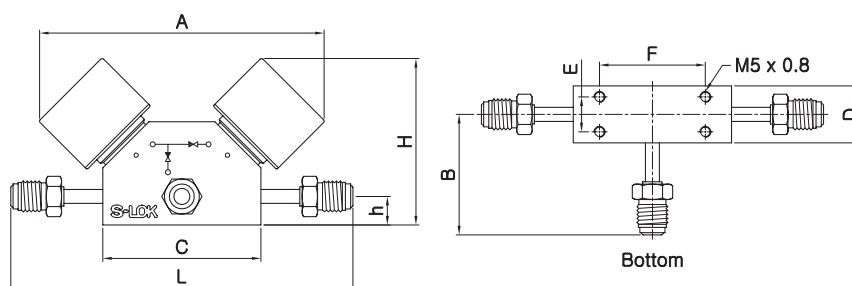


Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBPDV-FG-4-V24 or SBPDV-FG-4-V12	1/4	107.6	11	71	120	53.8	64	28	15	40

Ordering Information and Dimension – Block Type Pneumatic Diaphragm Valves

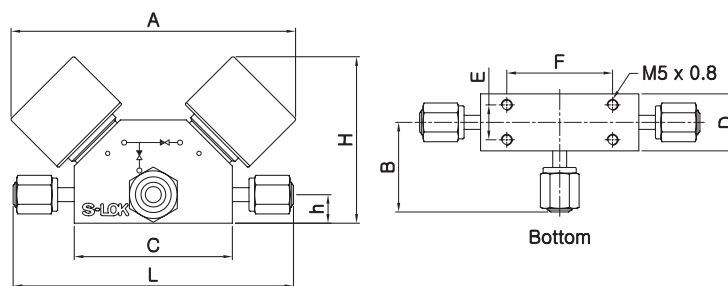
SBPDV	-	MG	-	4	-	H23	-	NC	-	EP	-	S6LS
Valve Model		Connection Type		Connection Size		Flow Path		Actuation		Product Grade		Body Material
- SBPDV : Block Type Pneumatic Diaphragm Valve		- MG : Male Metal Face Seal - FG : Female Metal Face Seal		- 4 : 1/4"		- H12 :  - H23 : 		- NC : Normally Closed - NO : Normally Open		- BA : BA - EP : EP		- S6LS : SS316L Single Melt - S6LV : SS316L Double Melt - S4 : SS304

Metal Face Seal - Male



Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBPDV-MG-4-H23 or SBPDV-MG-4-H12	1/4	128.7	11	71	120	46.3	64	28	15	40

Metal Face Seal - Female



Basic Ordering Number	Size inch	Dimensions, mm								
		L	h	H	A	B	C	D	E	F
SBPDV-FG-4-H23 or SBPDV-FG-4-H12	1/4	107.6	11	71	120	35.8	64	28	15	40

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