

Bellows Valves

The best partner for value creation
We support the innovations of customers



08



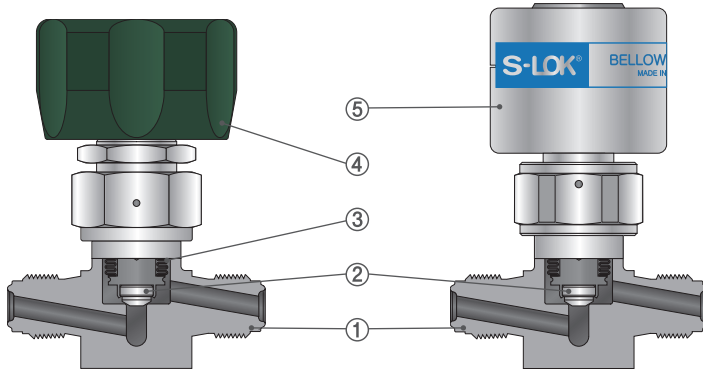
Catalogue No. S-LOK Mar.2024

Features

- Compact Design, Manual bellows, Pneumatically actuated bellows
- Bellows Design for High Purity and long cycle life
- Handle with open/close indicator is standardized
- Panel and bottom mounting
- All Valves are factory tested with helium

Cleaning and Packaging

- All parts are free of emulsion composition and residues involved in the machining process.
- Valves are assembled, inspected, tested and packaged in a CLASS 10-100 cleanroom.
- Double bag packaging is standard, and the inner bag contains ultra pure nitrogen.



Materials of Construction

| No. | Component | Material |
|-----|-----------|---|
| 1 | Body | 316L Stainless Steel (Single / Double Melt) |
| 2 | Seat | PCTFE |
| 3 | Bellows | SS316 |
| 4 | Handle | 1/4" ~ 1/2" : HI100 3/4" : Aluminum |
| 5 | Actuator | Aluminum |

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 |

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 | | | 0.36 | 4.5(0.18) | | | |
| 3/8, 1/2 | 1 (145) | -10 ~ 80 | 1.1 | 8(0.31) | ≤ 1 x 10 ⁻⁹ atm cc/sec | ≤ 1 x 10 ⁻⁹ atm cc/sec | No count Pressure: 60~80psi N2 Gas |
| 3/4 | | | 2.6 | 12(0.47) | | | |

Low Pressure Manual Bellows Valve - Square Body



Handle Position

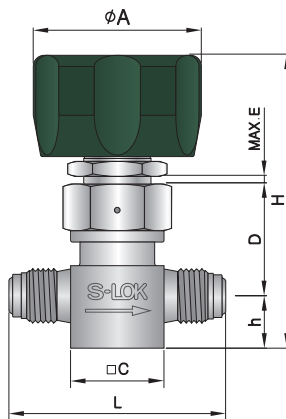


OPEN

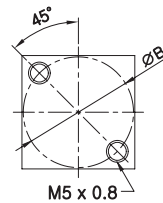
Ordering Information

| | | | | | | | | |
|---|---|--|---|---|---|---|---|--|
| SSBEV | - | MG | - | 8 | - | EP | - | S6LS |
| Valve Model | | Connection Type | | Connection Size | | Product Grade | | Body Material |
| - SSBEV : Low Pressure Manual Bellows Valve - Square Body | | - MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Tube Butt Weld | | - 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4" | | - LN : Lock Nut - BA : BA - EP : EP | | - S6LS : SS316L Single Melt - S6LV : SS316L Double Melt |

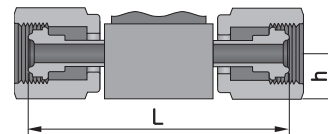
Dimensions



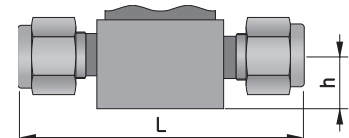
Male Metal Face Seal



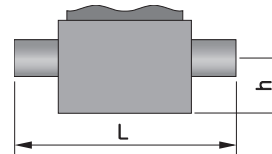
Bottom



• Female Metal Face Seal



• S-LOK Tube Fitting



• Tube Butt Weld

| Basic Ordering Number | End Connection | Dimensions, mm | | | | | | | |
|-----------------------|---------------------|----------------|----|------|----|----|----|------|---|
| | | L | h | H | A | B | C | D | E |
| SSBEV-MG-4 | Male MFS 1/4" | 58 | 14 | 78.6 | 45 | 23 | 25 | 30.2 | 2 |
| SSBEV-MG-8 | Male MFS 1/2" | 60 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-MG-12 | Male MFS 3/4" | 125 | 22 | 124 | 65 | 32 | 33 | 58 | 6 |
| SSBEV-FG-4 | Female MFS 1/4" | 70.5 | 14 | 78.6 | 45 | 23 | 25 | 30.2 | 2 |
| SSBEV-FG-8 | Female MFS 1/2" | 90 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-FG-12 | Female MFS 3/4" | 115 | 22 | 124 | 65 | 32 | 33 | 58 | 6 |
| SSBEV-S-4 | S-LOK 1/4" | 63 | 14 | 78.6 | 45 | 23 | 25 | 30.2 | 2 |
| SSBEV-S-6 | S-LOK 3/8" | 77.8 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-S-8 | S-LOK 1/2" | 83.3 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-S-12 | S-LOK 3/4" | 99.8 | 22 | 124 | 65 | 32 | 33 | 58 | 6 |
| SSBEV-BW-4 | Tube Butt Weld 1/4" | 150 | 14 | 78.6 | 45 | 23 | 25 | 30.2 | 2 |
| SSBEV-BW-6 | Tube Butt Weld 3/8" | 150 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-BW-8 | Tube Butt Weld 1/2" | 150 | 16 | 85.1 | 45 | 23 | 25 | 36.7 | 2 |
| SSBEV-BW-12 | Tube Butt Weld 3/4" | 158 | 22 | 124 | 65 | 32 | 33 | 58 | 6 |

Low Pressure Pneumatic Bellows Valve - Square Body

Handle Position



NORMAL CLOSE



NORMAL OPEN

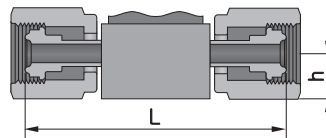
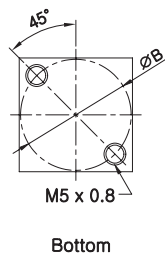
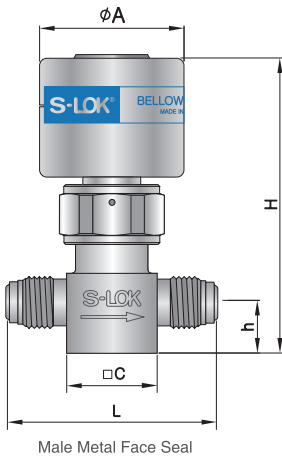
Ordering Information

SSPBEV - **MG** - **8** - **EP** - **S6LS**

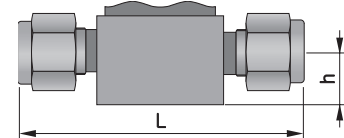
Valve Model Connection Type Connection Size Product Grade Body Material

| Valve Model | Connection Type | Connection Size | Actuation | Product Grade | Body Material |
|---|--|---|--|------------------------|--|
| - SSPBEV : Low Pressure Pneumatic Bellows Valve | - MG : Male Metal Face Seal - FG : Female Metal Face Seal - S : S-LOK - BW : Tube Butt Weld | - 4 : 1/4" - 6 : 3/8" - 8 : 1/2" - 12 : 3/4" | - NC : Normally Closed - NO : Normally Open | - BA : BA - EP : EP | - S6LS : SS316L Single Melt - S6LV : SS316L Double Melt |

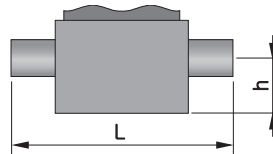
Dimensions



• Female Metal Face Seal



• S-LOK Tube Fitting



• Tube Butt Weld

| Basic Ordering Number | End Connection | Dimensions, mm | | | | | |
|-----------------------|---------------------|----------------|----|------|----|----|----|
| | | L | h | H | A | B | C |
| SSPBEV-MG-4 | Male MFS 1/4" | 58 | 14 | 82.3 | 40 | 23 | 25 |
| SSPBEV-MG-8 | Male MFS 1/2" | 60 | 16 | 88.8 | 40 | 23 | 25 |
| SSPBEV-FG-4 | Female MFS 1/4" | 70.5 | 14 | 82.3 | 40 | 23 | 25 |
| SSPBEV-FG-8 | Female MFS 1/2" | 90 | 16 | 88.8 | 40 | 23 | 25 |
| SSPBEV-S-4 | S-LOK 1/4" | 63 | 14 | 82.3 | 40 | 23 | 25 |
| SSPBEV-S-6 | S-LOK 3/8" | 77.8 | 16 | 88.8 | 40 | 23 | 25 |
| SSPBEV-S-8 | S-LOK 1/2" | 83.3 | 16 | 88.8 | 40 | 23 | 25 |
| SSPBEV-BW-4 | Tube Butt Weld 1/4" | 150 | 14 | 82.3 | 40 | 23 | 25 |
| SSPBEV-BW-6 | Tube Butt Weld 3/8" | 150 | 16 | 88.8 | 40 | 23 | 25 |
| SSPBEV-BW-8 | Tube Butt Weld 1/2" | 150 | 16 | 88.8 | 45 | 23 | 25 |