

PBV1 Bellows Valves

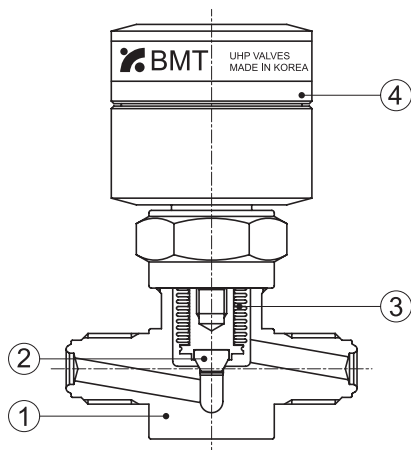
Low Pressure Pneumatic Bellows Valves (Standard Type) - N.O/N.C



Specifications

| | | |
|--|---|------------|
| Size | 1/4" | 3/8", 1/2" |
| Cv Value | 0.36 | 1.1 |
| Orifice Size | 4.5 mm | 8.0 mm |
| Max. Working Pressure | 10 bar (145 psig) | |
| Operating Pressure | 0.4~0.6 MPa (58~87 psig) | |
| Working Temperature | PCTFE: -10 ~ 80°C (14 ~ 176°F) / PI: -10 ~ 150°C (14 ~ 302°F) | |
| Inboard Leak Test Rates (He) (Holding Time ≥ 15 sec.) | ≤4x10 ⁻⁹ atm.cc/s | |
| Across the Seat Leak Test Rates (He) (Holding Time ≥ 15 sec.) | ≤4x10 ⁻⁹ atm.cc/s | |
| Particle Inspection (EP Only) (0.1µm and Larger) | No Count | |

Material

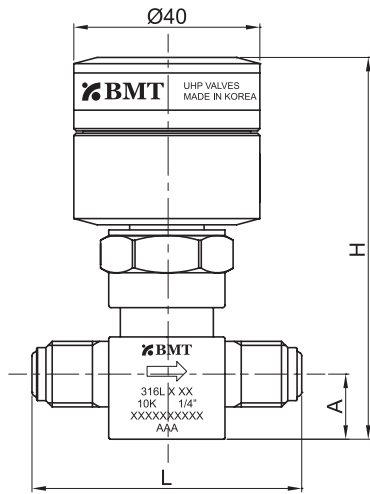


| No. | Component | Material |
|-----|-----------|--------------------------------|
| 1 | Body | 316L Stainless Steel |
| | | 316L Stainless Steel VAR |
| | | 304 Stainless Steel |
| 2 | Seat | PCTFE (<i>standard</i>) / PI |
| 3 | Bellows | 316L Stainless Steel |
| 4 | Actuator | Aluminium |

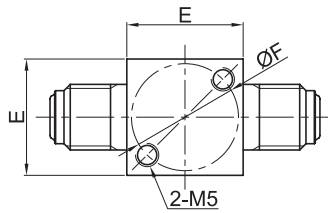
*Dimensions and Drawings are for reference only and are subject to change without prior notice.

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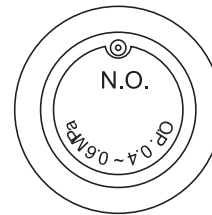
Dimensions



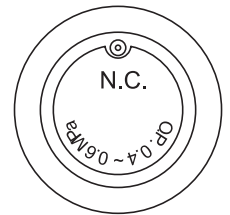
Male BVC



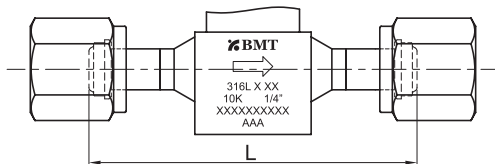
Bottom Mounting



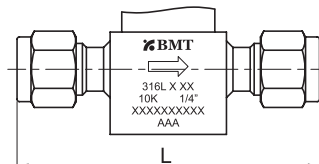
Normal Open



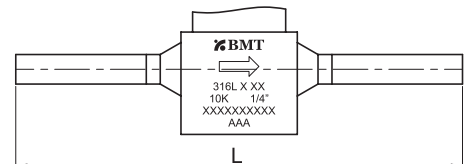
Normal Close



Female BVC



SUPERLOK Tube Fitting



Tube Butt Weld

| End Connection | Part No. | Dimensions (mm) | | | | |
|-----------------------|-------------|-----------------|------|----|----|-------|
| | | L | H | A | E | F (Φ) |
| Male BVC | SMPBV1C-VM4 | 58 | 82.7 | | | |
| | SMPBV1C-VM6 | 60 | 86.6 | 14 | 25 | 23 |
| | SMPBV1C-VM8 | 60 | 86.6 | | | |
| Female BVC | SMPBV1C-VF4 | 70.5 | 82.7 | | | |
| | SMPBV1C-VF6 | 90 | 86.6 | 14 | 25 | 23 |
| | SMPBV1C-VF8 | 90 | 86.6 | | | |
| SUPERLOK Tube Fitting | SMPBV1C-S4 | 65 | 82.7 | | | |
| | SMPBV1C-S6 | 78 | 86.6 | 14 | 25 | 23 |
| | SMPBV1C-S8 | 83.4 | 86.6 | | | |
| Tube Butt Weld | SMPBV1C-TW4 | 150 | 82.7 | | | |
| | SMPBV1C-TW6 | 150 | 86.6 | 14 | 25 | 23 |
| | SMPBV1C-TW8 | 150 | 86.6 | | | |

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Ordering Information

Low Pressure Pneumatic Bellows Valves (Standard Type) - N.O/N.C

*Additional configurations available upon request.

| | | | | | | | | | | |
|----------|-------------|----------|---|----------|----------|---|----------|---|----------|--|
| A | PBV1 | B | - | C | D | - | E | - | F | |
| SM | PBV1 | C | - | VM | 4 | - | PI | - | P | |

A Standard feature
PBV1 Standard feature
B Standard feature
C Standard feature
D Standard feature
E Optional
F Optional

| A | Materials |
|-----|--------------------------|
| SM | 316L Stainless Steel |
| DM | 316L Stainless Steel VAR |
| 4SS | 304 Stainless Steel |

| B | Operation Method |
|---|------------------|
| C | Normally Closed |
| O | Normally Open |

| C | Connection Type |
|-------|----------------------------------|
| VM | Male BVC (BMT Vacuum Coupling) |
| VF | Female BVC (BMT Vacuum Coupling) |
| S | SUPERLOK Tube Fitting |
| TW | Butt Weld |
| VMXVF | In Male-Out Female |

| D | Connection Size | | | |
|-----------|-----------------|--------------|------------------|----------------|
| ASTM Tube | | | | |
| | Designator | Nominal Size | Outside Diameter | Wall Thickness |
| | 4 | 1/4 in. | 6.35 mm | 1.00 mm |
| | 6 | 3/8 in. | 9.53 mm | 1.00 mm |
| | 8 | 1/2 in. | 12.7 mm | 1.24 mm |

| E | Seat Material |
|---|---------------|
| PCTFE is standard. No part designator needed. | |
| PI | Polyimide |

| F | Wetted Surface Grade | |
|--|----------------------|--|
| BA is standard. No part designator needed. | | |
| P | EP | |
| MP | MP | |
| AP | AP | |

Part Number Examples

| | SMPBV1C-VM4-PI-P | | 4SSPBV10-TW6-AP | |
|------------------|------------------|----------------------|-----------------|----------------------|
| Material | SM | 316L Stainless Steel | 4SS | 304 Stainless Steel |
| Series | PBV1 | PBV1 series | PBV1 | PBV1 series |
| Operation Method | C | Normally Closed | O | Normally Open |
| Connection Type | VM | BVC Male | TW | Butt Weld |
| Connection Size | 4 | 1/4" | 6 | 3/8" |
| Flow Path | | Omit for PBV1 series | | Omit for PBV1 series |
| Seat Material | PI | Polyimide | | PCTFE (standard) |
| Grade | P | EP grade | AP | AP grade |

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