

Check Valve Series

SHCV, SOCV, SOACV, SACV Series



 **SUPERLOK®**

 **BMT Co., Ltd.**
www.superlok.com

HIGH PRESSURE CHECK VALVES

SHCV SERIES



Features

- Pressure rating up to 6,000psig(413bar) at 100 °F (37°C)
- Temperature rating up to 375 °F (190°C) with viton seal standard
- Cracking pressure fixed from 1/3 to 25psig (0.02 to 1.7bar)
- Variety of end connections
- 316 stainless steel body material as standard.
- Each and every valve is tested at the factory.

Technical Data

| Series | Orifice (mm) | Working and Back Pressure @70 °F(20 °C) | Flow Coefficient Cv | Nominal Cracking Pressure |
|--------|--------------|--|------------------------|---|
| SHCV1 | 4.8 | 6000psig (413bar) | 0.67 | 1/3, 1, 5, 10, 25 psig (0.02, 0.06, 0.34, 0.68, 1.7 bar) |
| SHCV2 | 7.8 | | 1.80 | |
| SHCV3 | 15.0 | 5000psig (344bar) | 4.70 | |

Seal Materials

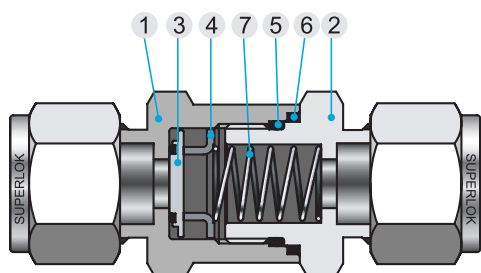
| Material | Temperature Rating | Designator |
|--------------------|------------------------------------|------------|
| Viton | -10 °F to 375 °F (-23°C to 190 °C) | Standard |
| NBR | -10 °F to 250 °F (-23°C to 121 °C) | N |
| Ethylene Propylene | -50 °F to 300 °F (-45°C to 148 °C) | E |

To order add the seal material designator to the ordering number.
ex) SHCV1-S8-1P-N

Cracking Pressure and Reseal Pressure at 70 °F (20°C)

| Nominal Spring Size psig(bar) | Cracking Pressure Range psig(bar) | Min. Reseal Pressure psig(bar) | Designator |
|-------------------------------------|---|--------------------------------------|------------|
| 1/3 (0.02) | 0~3 (0~0.20) | 6 (0.41) back pressure | 0.3P |
| 1 (0.068) | 0~4 (0~0.27) | 5 (0.34) back pressure | 1P |
| 5 (0.34) | 3~9 (0.20~0.62) | 2 (0.13) back pressure | 5P |
| 10 (0.68) | 7~15 (0.48~1.0) | 3 (0.20) | 10P |
| 25 (1.7) | 20~30 (1.3~2.0) | 17 (1.1) | 25P |

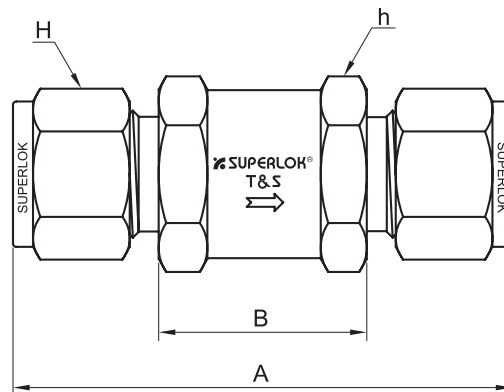
Materials of Construction



| No. | Component | Material |
|-----|----------------|--------------------|
| 1 | Inlet Body | SS316 |
| 2 | Outlet Body | SS316 |
| 3 | Poppet | Viton-bonded SS316 |
| 4 | Poppet Stopper | SS316 |
| 5 | O-Ring | Viton standard |
| 6 | Packing | PTFE |
| 7 | Spring | SS304 |

Testing

All valves are factory tested for cracking pressure and reseal performance.


Table of Dimensions

| Order Number | | Orifice (mm) | Cv Max. | End Connection | Pressure Rating psig (bar) | Dimensions (mm) | | | |
|--------------|----------|-----------------|------------|-----------------|-------------------------------|-----------------|---------------|-------------|-----------------|
| Series | Part No. | | | | | A | B | H | h |
| SHCV1 | S2 | 4.8 | 0.67 | 1/8" SUPERLOK | 6000 (413) | 57.7 | 26.4 | 11.1(9/16) | 17.5 (11/16) |
| | S4 | | | 1/4" SUPERLOK | | 61.7 | | 14.3(7/16) | |
| | S6M | | | 6mm SUPERLOK | | | | 14 | |
| | F4N | | | 1/4" FEMALE NPT | | 54.1 | - | - | |
| | M2N | | | 1/8" MALE NPT | | 45.5 | 26.4 | | |
| | M4N | | | 1/4" MALE NPT | | 55.1 | | | |
| SHCV2 | S6 | 7.8 | 1.8 | 3/8" SUPERLOK | 6000 (413) | 69.9 | 31.2 | 17.5(11/16) | 25.4(1) |
| | S8 | | | 1/2" SUPERLOK | | 75.2 | | 22.2(7/8) | |
| | S8M | | | 8mm SUPERLOK | | 68.6 | | 16 | |
| | S10M | | | 10mm SUPERLOK | | 71.1 | | 19 | |
| | S12M | | | 12mm SUPERLOK | | 75.2 | | 22 | |
| | F6N | | | 3/8" FEMALE NPT | 5000 (344) | 64.8 | - | - | 26.9(1-1/16) |
| | F8N | | | 1/2" FEMALE NPT | 4600 (316) | 77.0 | | | |
| | M6N | | | 3/8" MALE NPT | 6000 (413) | 59.9 | | | |
| | M8N | | | 1/2" MALE NPT | | 69.3 | | | |
| | SHCV3 | | | S12 | 15 | 4.7 | 3/4" SUPERLOK | 5000 (344) | |
| S16 | | 1" SUPERLOK | 4700 (323) | 98.6 | | | 45.5 | 38.1(1-1/2) | |
| S22M | | 22mm SUPERLOK | 5000 (344) | 88.4 | | | | 32 | |
| S25M | | 25mm SUPERLOK | | 98.6 | | | | 40 | |
| F12N | | 3/4" FEMALE NPT | 4300 (296) | 82.0 | | | - | - | |
| F16N | | 1" FEMALE NPT | 4100 (282) | 97.3 | | | | | |
| M12N | | 3/4" MALE NPT | 5000 (344) | 83.6 | | | 45.5 | | |
| M16N | | 1" MALE NPT | | 93.2 | | | 45.7 | | |

Dimensions, shown on the above table, are measured based on finger-tight.

All dimensions are for reference only, subject to change.

Ordering information

SHCV2 - **S** **6** - **1P** - **SS**

1 2 3 4 5

1 : Valve Series 2 : End Connection Type 3 : Connection Size 4 : Cracking Pressure Designator

5 : Body Material Designator [SS : 316 stainless steel(standard), B : Brass]

ONE-PIECE CHECK VALVES

SOCV SERIES



Features

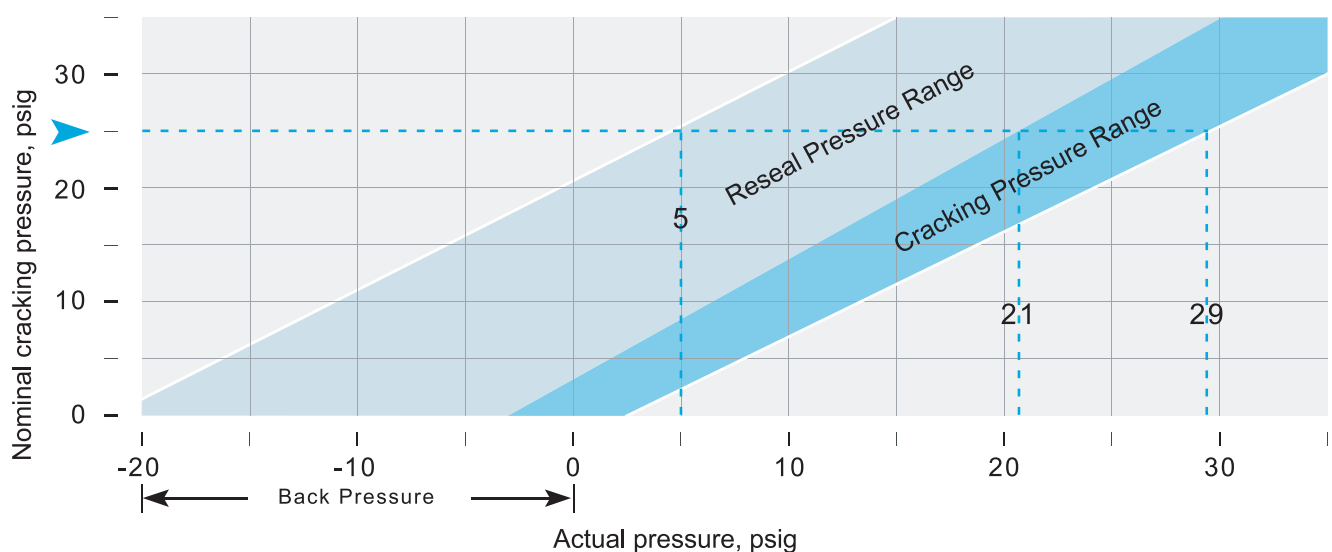
- One-piece Body
- Working pressure up to 3000 psig (206bar)
- Temperature rating up to 375 °F (190°C) with viton seal standard.
- Cracking pressure fixed from 1/3 to 25psig (0.02 to 1.7 bar)
- NPT and ISO pipe end connections
- 316 stainless steel and brass materials
- Each and every valve is tested at the factory.

Technical Data

| | |
|--|---|
| Nominal Cracking Pressure | 1/3, 1, 10 and 25psig (0.02, 0.06, 0.68, 1.7bar) |
| Maximum Working Pressure at 70 °F (20°C) | 3000psig (206bar) |
| Maximum Back Pressure at 70 °F (20°C) | 3000psig (206bar) |
| Flow Coefficient (Cv) | SOCV1 / SOCV2 : 0.35 SOCV3 / SOCV4 : 1.20 |
| Temperature Rating | VITON O-ring : -10 °F to 375 °F (-23°C to 190°C) NBR O-ring : -10 °F to 250 °F (-23°C to 121°C) (add "N" to the end of ordering number) |

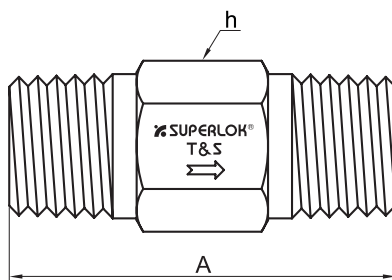
Cracking Pressure and Reseal Pressure

SOCV Series Valves with nominal cracking pressure of 20 psig (1.3 bar) or lower may require back pressure to reseal bubble-tight.



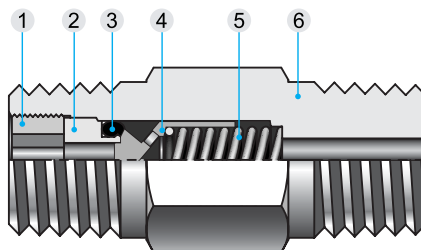
Testing

All valves are factory tested for cracking pressure and reseal performance.



| Order Number | | End Connection | | A | h Hex mm (in.) |
|--------------|----------|----------------|----------------|------|-------------------|
| Series | Part No. | Inlet | Outlet | | |
| SOCV1 | M4N | 1/4 Male NPT | 1/4 Male NPT | 41.2 | 14.3 (9/16) |
| | M4R | 1/4 Male ISO | 1/4 Male ISO | | |
| SOCV2 | F4N | 1/4 Female NPT | 1/4 Female NPT | 61.2 | 19.1 (3/4) |
| | F4R | 1/4 Female ISO | 1/4 Female ISO | 64.5 | |
| | M4N-F4N | 1/4 Male NPT | 1/4 Female NPT | 44.5 | |
| | F4N-M4N | 1/4 Female NPT | 1/4 Male NPT | 58.2 | |
| SOCV3 | M8N | 1/2 Male NPT | 1/2 Male NPT | 57.9 | 22.2 (7/8) |
| SOCV4 | F8N | 1/2 Female NPT | 1/2 Female NPT | 94.2 | 26.9 (1-1/16) |
| | M8N-F8N | 1/2 Male NPT | 1/2 Female NPT | 71.9 | |

All dimensions are for reference only, subject to change.



| No. | Component | Valve Body Materials | |
|-----|-------------------|----------------------|-------|
| | | Stainless steel | Brass |
| 1 | Insert Lock Screw | 316SS / A276 | Brass |
| 2 | Insert | 316SS / A276 | Brass |
| 3 | O-Ring | VITON | NBR |
| 4 | Poppet | 316SS / A276 | Brass |
| 5 | Spring | SS304 | |
| 6 | Body | 316SS / A276 | Brass |

$$\frac{\text{SOCV1}}{1} - \frac{M}{2} \quad \frac{4N}{3} - \frac{1P}{4} - \frac{SS}{5}$$

1 : Valve Series 2 : End Connection Type 3 : Connection Size

4 : Cracking Pressure Designator(0.3P : 1/3psig, 1P : 1psig, 10P : 10psig, 25P : 25psig)

5 : Body Material Designator [SS : 316 stainless steel(standard), B : Brass]

ONE-PIECE ADJUSTABLE CHECK VALVES

SOACV SERIES



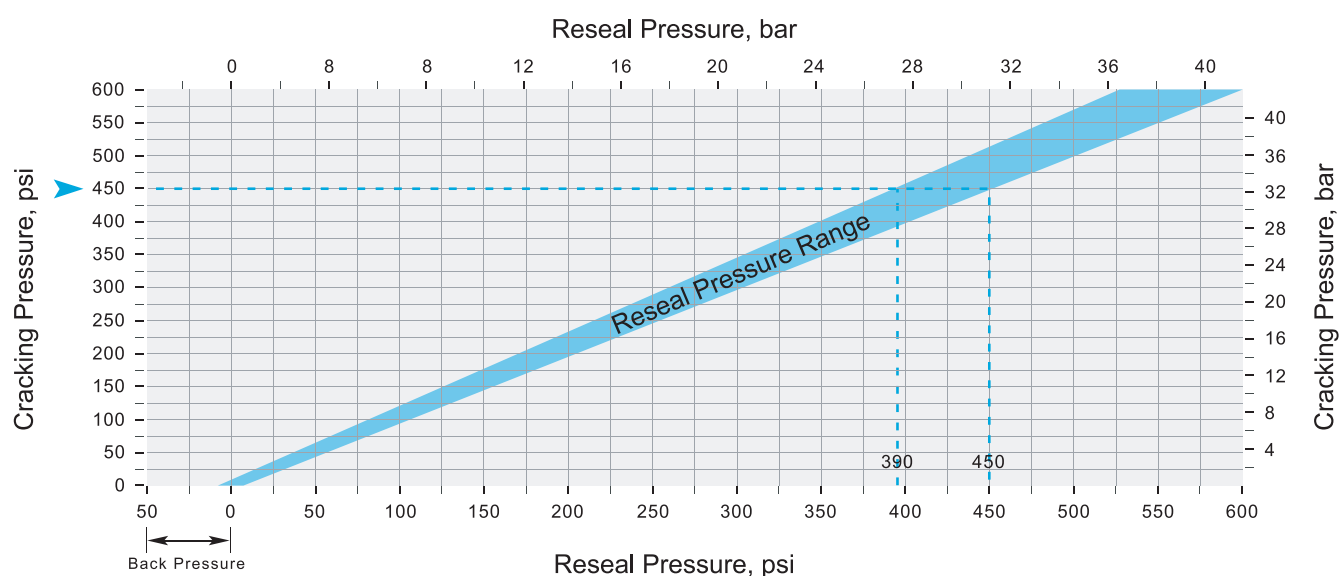
Features

- One-Piece body
- Working pressure up to 3000psig (206 bar)
- Cracking pressure adjustable from 3 to 600psig (0.2 to 41.3bar)
- NPT and ISO pipe end connections in 1/4 and 1/2 in. sizes
- 316 stainless steel and brass materials
- Each and every valve is tested at the factory.

Technical Data

| Series | SOACV1 / SOACV2 | SOACV3 |
|---|---|--------|
| Cracking Pressure Ranges | 3 to 50psi (0.2 to 3.4bar) 50 to 150psi (3.4 to 10.3bar) 150 to 350psi (10.3 to 24.1bar) 350 to 600psi (24.1 to 41.3bar) | |
| Working and Back Pressure at 70 °F (20°C) | 3000psig (206bar) | |
| Temperature Rating | VITON O-Ring : -10 °F to 375 °F (-23°C to 190°C) NBR O-Ring : -10 °F to 250 °F (-23°C to 121°C) | |
| Flow Coefficient (Cv) | 0.35 | 1.20 |

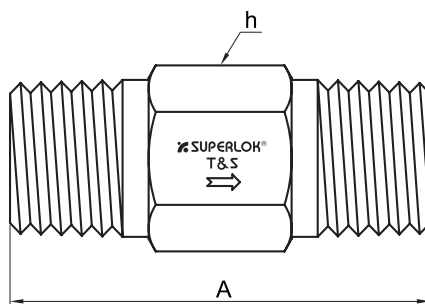
Cracking and Reseal Pressure at 70 °F (20°C)



Testing

All valves are factory tested for cracking pressure and reseal performance.

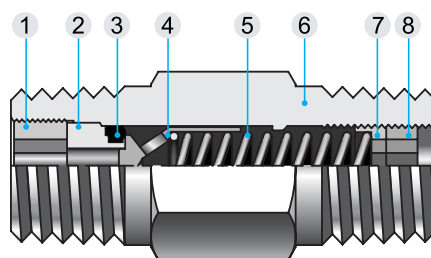
Table of Dimensions



| Order Number | | End Connections | A(mm) | h HEX mm (in.) |
|--------------|----------|-----------------|-------|-------------------|
| Series | Part No. | | | |
| SOACV1 | M4N | 1/4 Male NPT | 41.1 | 14.3 (9/16) |
| | M4R | 1/4 Male ISO | 41.1 | 14.3 (9/16) |
| SOACV2 | F4N | 1/4 Female NPT | 75.7 | 19.1 (3/4) |
| SOACV3 | M8N | 1/2 Male NPT | 65.0 | 22.2 (7/8) |
| | M8R | 1/2 Male ISO | 65.0 | 22.2 (7/8) |

All dimensions are for reference only, subject to change.

Materials of Construction



| No. | Component | Valve Body Materials | |
|-----|-------------------|----------------------|-------|
| | | Stainless steel | Brass |
| 1 | Insert Lock Screw | 316SS / A276 | Brass |
| 2 | Insert | 316SS / A276 | Brass |
| 3 | O-Ring | VITON | NBR |
| 4 | Poppet | 316SS / A276 | Brass |
| 5 | Spring | SS304 | |
| 6 | Body | 316SS / A276 | Brass |
| 7 | Adjusting screw | 316SS / A276 | Brass |
| 8 | Locking screw | 316SS / A276 | Brass |

Ordering information

SOACV1 - **M** **4N** - **A** - **SS**

1 2 3 4 5

1 : Valve Series 2 : End Connection Type 3 : Connection Size

4 : Cracking Pressure Designator (A : 3~50 psi, B : 50~150 psi, C : 150~350 psi, D : 350~600psi)

5 : Body Material Designator [SS : 316 stainless steel(standard), B : Brass]

ADJUSTABLE CHECK VALVE

SACV SERIES



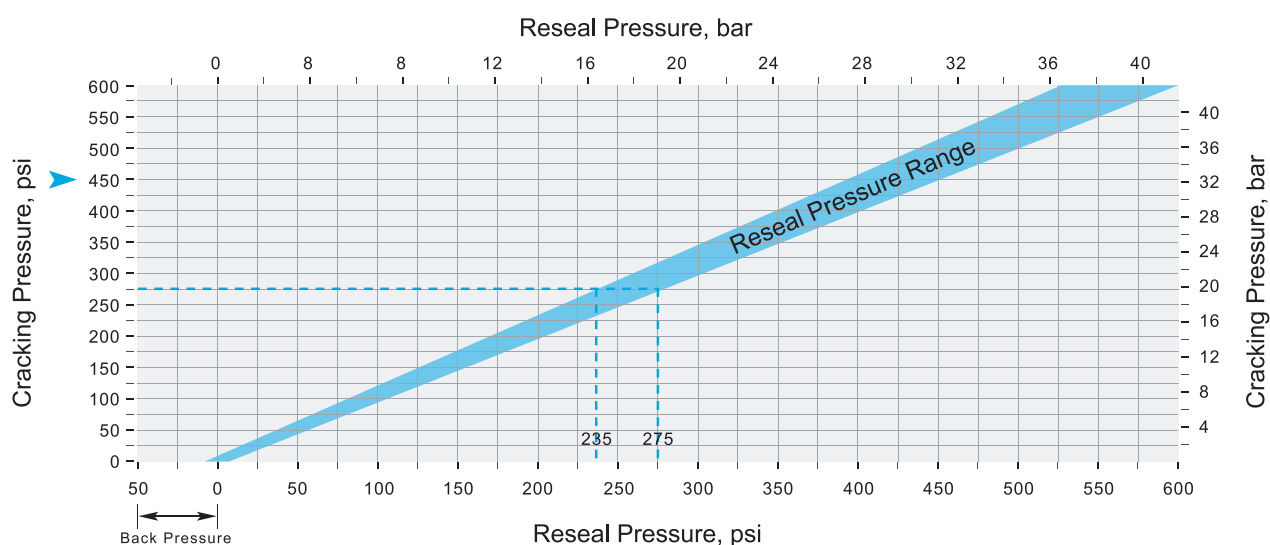
Features

- Working pressures up to 3000 psig (206 bar)
- Temperature range from -10°F to 375°F (-23°C to 191°C) with Viton Seal
- Cracking pressures adjustable from 3 to 600psi (0.2 to 14.3bar)
- Variety of end connections
- 316 stainless steel and brass materials
- Each and every valve is tested at the factory.

Technical Data

| Series | SACV |
|--|---|
| Cracking Pressure Ranges | 3 to 50psi (0.2 to 3.4bar) 50 to 150psi (3.4 to 10.3bar) 150 to 350psi (10.3 to 24.1bar) 350 to 600psi (24.1 to 41.3bar) |
| Working and Back Pressure at 70°F (20°C) | 3000psig (206bar) |
| Temperature Rating | VITON O-Ring : -10°F to 375°F (-23°C to 190°C) NBR O-Ring :-10°F to 250°F (-23°C to 121°C) |
| Flow Coefficient (Cv) | 0.37 |

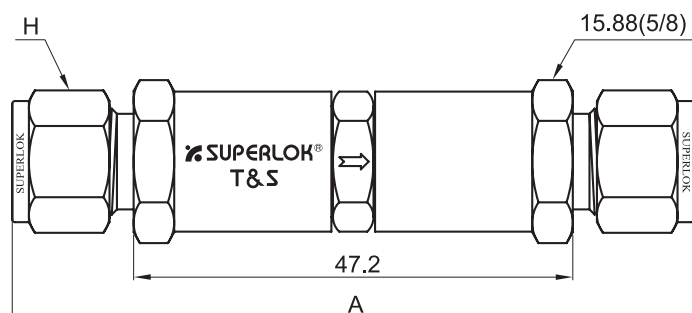
Cracking and Reseal Pressure at 70°F (20°C)



Testing

All valves are factory tested for cracking pressure and reseal performance.

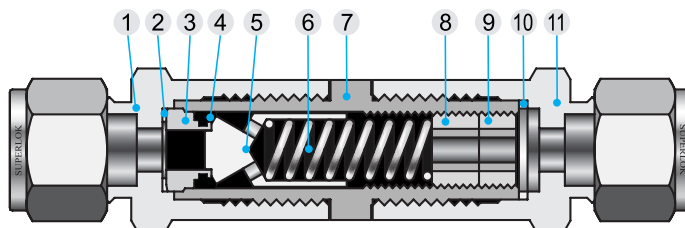
Table of Dimensions



| Part No. | | End Connections | | A (mm) | H mm(in.) |
|----------|--------|-----------------|---------------|-----------|--------------|
| | | Inlet | Outlet | | |
| SACV | S4 | 1/4" SUPERLOK | | 82.0 | 14.3 (9/16) |
| | S6M | 6mm SUPERLOK | | | 14 |
| | S8M | 8mm SUPERLOK | | 84.3 | 16 |
| | M4N-S4 | 1/4 Male NPT | 1/4" SUPERLOK | 79.2 | 14.3 (9/16) |

All dimensions are for reference only, subject to change.

Materials of Construction



| No. | Component | Valve Body Materials | |
|-----|---------------|----------------------|--------------|
| | | Stainless steel | Brass |
| 1 | Inlet body | 316SS / A276 | Brass |
| 2 | Inlet gasket | PTFE - coated 316SS | |
| 3 | Insert | 316SS / A276 | Brass |
| 4 | O-Ring | VITON | NBR |
| 5 | Poppet | 316SS / A276 | Brass |
| 6 | Spring | SS304 | |
| 7 | Center body | 316SS / A276 | Brass |
| 8 | Adjust screw | | 316SS / A276 |
| 9 | Locking screw | | |
| 10 | Outlet gasket | PTFE - coated 316SS | |
| 11 | Outlet Body | 316SS / A276 | Brass |

Ordering information

SACV
-
S
4
A
-
SS

1

2

3

4

5

1 : Valve Series

2 : End Connection Type

3 : Connection Size

4 : Cracking Pressure Designator (A : 3~50 psi, B : 50~150 psi, C : 150~350 psi, D : 350~600psi)

5 : Body Material Designator (SS : 316 stainless steel(standard), B : Brass)

Valve Series

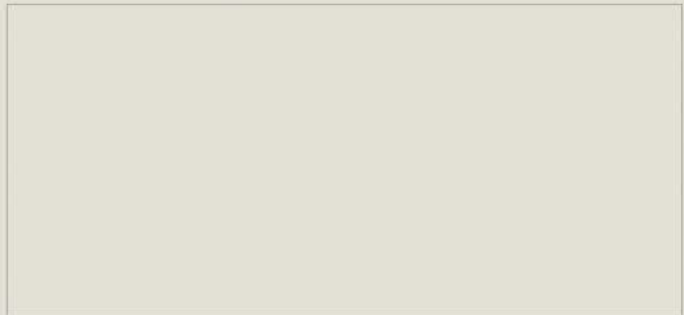
- Key Operation Ball Valves
- Key Operation Needle Valves
- Ball Valves
- Integral Bonnet Needle Valves
- Union Bonnet Needle Valves
- Check Valves
- High Pressure Check Valves
- High Pressure Needle Valves
- Plug Valves
- Manifold Valves
- Vacuum Clamps
- Water Regulators
- Flexible Hoses
- Double Block & Bleed Valves
- Swing-Out Ball Valves
- Toggle Valves
- Bleed & Purge Valves
- Quick Connectors
- High Pressure Ball Valves
- Hydraulic Ball Valves
- Trunnion Ball Valves
- Rising Plug Valves
- Relief Valves
- Cryogenic Needle Valves
- Cryogenic Ball Valves
- Micron in-Line Filters
- Gauge Root Valves
- Hydraulic Flange and Components

Fitting Series

Tube Fittings (Compression Type)
Instrument Thread Fittings
Forged Fittings
Bite Type Tube Fittings (DIN2353)
Bite Type Tube Fittings (JIS B2351)
37 Flared Tube Fittings (SAE J514)
O-Ring Face Seal Fittings
Hose Connectors & Push-On Hose Fittings

Electric

MCPD(Molded Case Power Distributor)



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