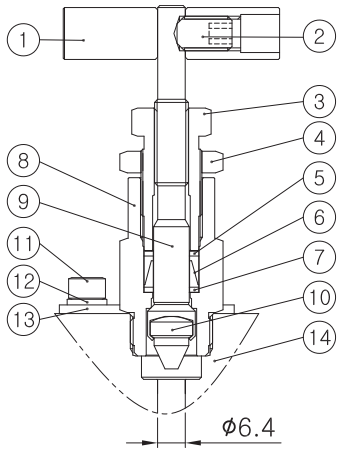
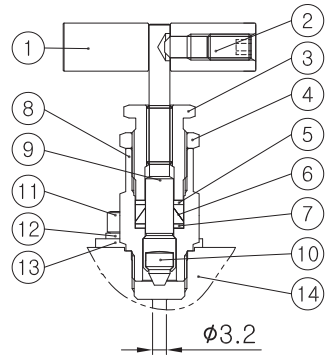
# Product Information

## Materials of Construction




| Component | Valve Body Materials | |
|---|---|---|
| | Stainless Steel | Carbon Steel |
| | Bonnet Valve | |
| | Grade/ASTM Specification | |
| 1.Handle | Stainless steel | Aluminum black anodized |
| 2.Set screw | S316 / A276 or A479 | S316 / A276 or A479 |
| 3.Packing bolt | | C.Steel / A108 |
| 4.Lock nut | | S316 / A276 or A479 |
| 5.Upper gland | | |
| 6.Packing | Standard chevron PTFE packing, optional Graphite | |
| 7.Lower gland | S316 / A276 or A479 | S316 / A276 or A479 |
| 8.Bonnet | | C.Steel / A108 |
| 9.Stem | | S316 / A276 or A479 |
| 10.Non-rotaing stem tip | S630 / A564 | |
| 11.Lock plate bolt | Stainless steel | |
| 12.Spring washer | Stainless steel | |
| 13.Lock plate | Stainless steel | Carbon steel |
| 14.Body | S316 / A276 or A479 | C.Steel / A108 or A105 Yellow zinc alvanized |
| Flange seals (not shown) | PTFE / D1710,optional Graphite and Florocarbon FKM O-ring | |
| Flange bolts (not shown) | Stainless steel / A193 | Carbon steel / A193 |
| Lubricant | Fluorinated base with PTFE and tungsten disulfide | |
| | Hydrocarbon based | |

# Product Information

## Features

- Non-rotating stem tip at closure for long-life and leak-tight shutoff. Blunt VEE tip.
- Exclusive 2-piece, chevron PTFE packing design provides far improved sealing integrity. Grafoil packing optional.
- Isolated Threads : Packing located below the threads prevents media contamination and thread lubricant washout.
- Packing under the stem threads is to isolate the threads from the system fluid and lubricant washout.
- Packing bolt permits stem packing adjustment.

## Features

| Body Material | Packing Material | Temperature Range | Pressure Rating @100°F | Pressure Rating @Max. Temperature |
|---|---|---|---|---|
| Stainless Steel | PTFE | -54~232°C (-65~450°F) | 413bar (6,000 psig) | 4,130psig @450°F (285bar @232°C) |
| | Graphite | -54~648°C(1) (-65~1,200°F) | | 1,715psig @1,200°F (118bar @648°C) |
| Carbon Steel | PTFE | -29~176°C (-20~350°F) | 413bar (6,000 psig) | 5.230psig @350°F (360bar @176°C) |
| | Graphite | -29~176°C (-20~350°F) | | |

(1) Graphite packing rating is limited to 537°C(1,000°F) with flange end connection. In air, Graphite rating is limited 523°C (975°F), in steam it can go up to the maximum temperature of 648°C (1,200°F).

- -28 to 204°C (-18 to 399°F) with optional fluorocarbon FKM flange seal.

## Testing

- Each instrument manifold is tested with nitrogen@1,000 psig (69 bar) to max. leak rate of 0.1 (SSCM).
- Hydrostatic shell test is performed at 1.5 times the working pressure as an option.
- Other tests are available upon request

## Sour Gas Service

- For the use of valves on sour gas, materials for wetted components are selected in accordance with NACE standard as MR0175, latest revision.

## How to Order Manifolds with Options

- To order the optional Grafoil packing, add-GF to the ordering number. SM3V-F-8N-GF-S6
- To order sour gas service valve, add-SG to the ordering number. SM3V-F-8N-GF-SG-S6
- To complete the ordering number, select valve body material designator -S6 for S316, -CS for carbon steel, Example: SM3V-F-8N-S6
- Packing adjustment : Extreme or rapid temperature cycle may require packing adjustment to maintain a leak-free system. Tightening the Locknut on the bonnet is for the packing adjustment.

# Product Information

| 2-Valve | 3-Valve | 5-Valve |
|---|---|---|
| For isolating, calibrating and draining Pressure gauges and transmitters. | For measuring flow or leveling, using a differential pressure transmitter. | For measuring flow or leveling, using a differential pressure transmitter. Gauge with bleeding, calibration and test function. |
| In operation, the block valve is normally open when the bleed valve is closed. To remove the instrument, close the block valve fist, and open the bleed valve to relieve pressure at the upstream of the block valve.<br><br>For calibration, connecting a calibration gauge to the bleed port allows checking the calibration of the instrument without removing it from the installation. | In operation, both block valves are open while the equalizer valve is closed to read a differential pressure to the pressure gauge or transmitter. To zero the instrument, close the block valve first then open the equalizer valve which will adjust the instrument to zero.<br><br>To remove the instrument, close block valves first, then unscrew the bleeding plug to relieve pressure between the manifold and instrument. | In operation, both block valves are open while the equalizer and bleed valves are closed to read a differential pressure to pressure gauge or transmitter. To zero the instrument, close block valves and bleed valve, and open the equalizer valve which will adjust the instrument to zero.<br><br>For calibration, connect the bleed port to a pressure gauge to check the calibration of the instrument. |

## Ordering and Technical Information

| Manifolds | | Basic Ordering Number | End Connection | | Orifice mm (in.) | Weight kg (lb.) |
|---|---|---|---|---|---|---|
| | | | Process | Instrument | | |
| Remote Mount | Block | SM2V-F-8N | 1/2 in. Female NPT | | 3.2 (.126) | 0.8(1.8) |
| | | SM3V-F-8N | | | 6.4 (.251) | 2.0(4.4) |
| | | SM5V-F-8N | | | | 2.2(4.9) |
| Direct Mount | Single Flange | SM2V1-F-8N | 1/2 in. Female NPT to Flange Flange design meets MSS SP-99. | | 3.2 (.126) | 1.0(2.2) |
| | | SM3V1-F-8N | | | 6.4 (.251) | 2.2(4.9) |
| | | SM5V1-F-8N | | | | 2.7(6.0) |
| | Double Flange | SM3V2 | Flange to Flange. Flange design meets MSS SP-99. | | 6.4 (.251) | 2.5(5.5) |
| | | SM5V2 | | | | 2.7(6.0) |
| | Single Flange with slotted feature | SM2V1S-F-8N | 1/2 in. Female NPT to Flange. Flange design meets MSS SP-99. | | 3.2 (.126) | 1.0(2.2) |
| | | SM3V1S-F-8N | | | 6.4 (.251) | 2.2(4.9) |
| | | SM5V1S-F-8N | | | | 2.7(6.0) |
| | Double Flange with feature | SM3V2S | Flange to Flange. Flange design meets MSS SP-99 | | 6.4 (.251) | 2.5(5.5) |
| | | SM5V2S | | | | 2.7(6.0) |
| | Vertical | SM2VD-F-8N | 1/2 in. Female NPT to Flange, Flange design meets MSS SP-99. | | 3.2 (.126) | 1.6(3.5) |
| | | SM3VD-F-8N | | | 6.4 (.251) | 1.7(3.8) |
| | | SM5VD-F-8N | | | | 3.3(7.3) |
| | | SM5VDS-F-8N | | | | 2.7(6.0) |
| | | SM5VDS-F-8N-CT | | | | |

- To complete the ordering number, select valve material designator.
  -S6 for S316, -CS for Carbon steel. Example : SM2V-F-8N-GF-S6/CS
- To order optional Graphite packing, add –GF to the ordering number. Example : SM2V-F-8N-GF-S6
- To order sour gas service valve, add –SG to the ordering number. Example : SM2V-F-8N-GF-SG-S6

# Vertical Direct Mount

## SM5VD-F-8N