

Sour Service Products

Pressures to 30,000 psi (2068 bar)

For over 50 years Parker Autoclave Engineers has designed and built premium quality valves, fittings and tubing. This commitment to engineering and manufacturing excellence has earned Parker Autoclave a reputation for reliable, efficient product performance and has established Autoclave as the worldwide leader in high pressure fluid components for the oil and gas industry.

Parker Autoclave Engineers designs and builds high pressure valves, fittings and tubing for use with sour oil and gas (H₂S). Parker Autoclave Engineers "SOG" components meet or exceed all requirements of NACE MR0175-2002.

High Pressure Valve Features:

- Rising stem/barstock body design.
- Metal-to-metal seating achieves bubble-tight shut-off, longer stem/seat life in abrasive flow, greater durability for repeated on/off cycles and excellent corrosion resistance.
- PTFE encapsulated packing provides dependable stem and body sealing.
- Solid, one-piece stem provides an economical valve for SOG service.
- Optional non-rotating stem assembly available.
- Stem and packing gland materials have been selected to optimize thread cycle life.

Parker Autoclave Engineers valves are complemented by a complete line of high pressure fittings, tubing and check valves. All high pressure valves and fittings use Parker Autoclave Engineers' high pressure coned-and-threaded connections for dependable performance under widely varying conditions.



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Sour Service Products

Sour Service Products - Oil and Gas Service Valves and Fittings

Oil and Gas Service Valves and Fittings

Parker Autoclave Engineers offers a complete series of high pressure valves and fittings for wellhead christmas trees. Parker Autoclave Engineers components are designed and manufactured to meet or exceed API and other applicable specifications for wellhead equipment, as well as Parker Autoclave Engineers' own exacting standards for safety, reliability and service life under high pressure operation.

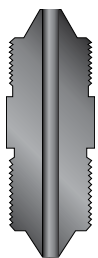
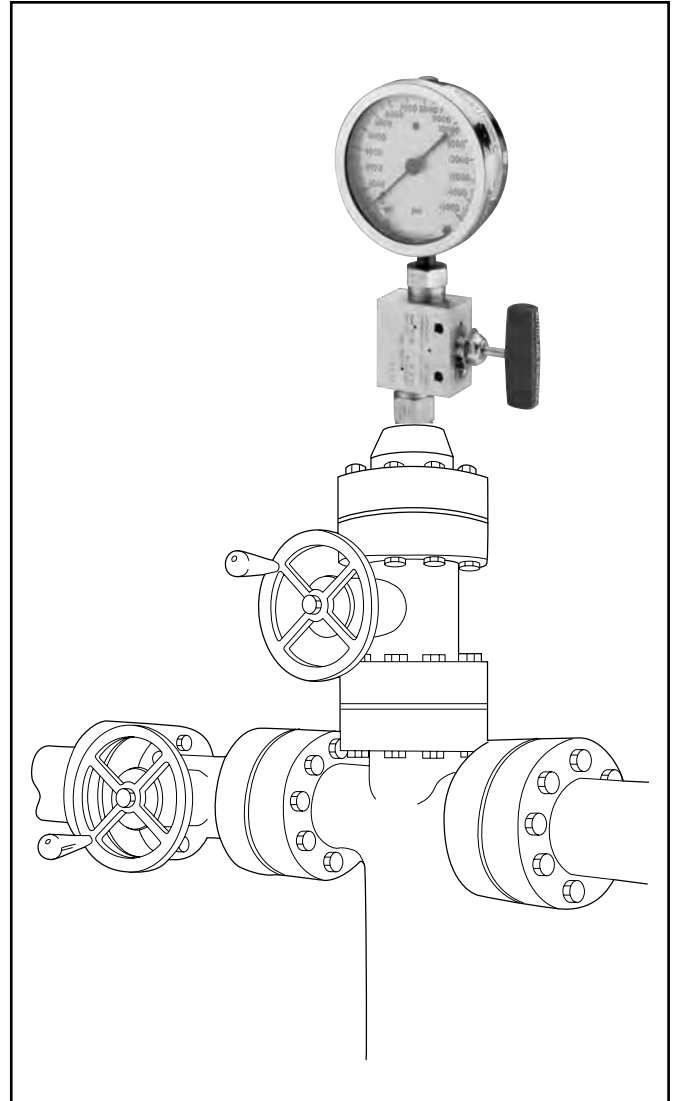
Sour Oil and Gas Service (H₂S) or Standard Service

Parker Autoclave Engineers' oil field components are offered for standard oil field service where H₂S is not present and type "SOG" for service where H₂S is present. Parker Autoclave Engineers' SOG components are manufactured with materials and procedures specified for optimum resistance to H₂S. These material specifications and manufacturing procedures are continually updated to incorporate the latest advances and customer requirements. All pressure-containing materials comply with the requirements of NACE MR0175.

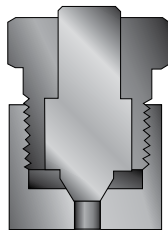
Pressure/Temperature Ratings: Valves and fittings for standard service are rated for working pressure up to 60,000 psi (4137 bar) at 100°F (38°C). Type SOG components are rated up to 30,000 psi (2068 bar) at 100°F (38°C).

Sizes: Parker Autoclave Engineers' type SOG valves and fittings are supplied with standard API test and gauge connections (Parker Autoclave Engineers' F562C). Coned-and-threaded tubing connections in other sizes are available to meet individual requirements. Parker Autoclave Engineers stocks a wide selection of sizes for immediate shipment.

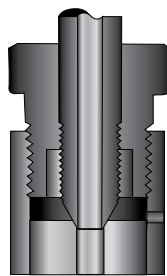
Materials: Parker Autoclave Engineers standard series valves and fittings are type 316 stainless steel, cold worked material. Type SOG valves and fittings are 316 stainless steel annealed material with PTFE packing below the stem threads on all needle valves. If required, complete material specifications are provided. All pressure-containing materials used are in accordance with NACE MR0175.



API Type I
connector



API Type II
connector



API Type III
connector

Note:

For connection torque values, see tools section, special material connection torque table.

All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

Sour Service Products - Wellhead Gauge and Bleed Valves

Pressures to 20,000 psi (1379 bar)

| Wellhead Gauge Valve | | | | | |
|----------------------|-----------------------------------|-----------------|--------------------------|----------------------|--|
| Series | Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated C _v | Pressure/Temperature Rating psi (bar) @ Room Temperature |
| 20GV | 3/8 | SF375CX | 0.125 (3.18) | 0.23 | 10,000 (690) |
| 20GV | 9/16 | SF562CX | 0.125 (3.18) | 0.23 | 10,000 (690) |
| 30GV | 9/16 | F562C | 0.125 (3.18) | 0.33 | 20,000 (1379) |

| Bleed Valve | | | | | |
|-------------|-----------------------------------|-----------------|--------------------------|----------------------|--|
| Series | Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated C _v | Pressure/Temperature Rating psi (bar) @ Room Temperature |
| 20BV | 3/8 | SM375CX | 0.093 (2.36) | - | 10,000 (690) |
| 20BV | 9/16 | SM562CX | 0.093 (2.36) | - | 10,000 (690) |
| 30BV | 9/16 | M562C | 0.093 (2.36) | - | 20,000 (1379)* |



Notes:

* Rating shown is in closed position.

Rating @ 15,000 psi (1034 bar) in open position.

Parker Autoclave Engineers' Wellhead Gauge valves are designed for reliable shut-off service at a maximum working pressure of 20,000 psi (1379 bar). The Wellhead Gauge and Bleed Valves are standard in 316 stainless steel annealed material and comply with NACE MR0175. Special materials available on request.

Applications:

Wellhead Gauge Valve

- Sample Lines
- Instrument calibration

Bleed Valve

- Pressure bleed

Gauge Valve Features:

- One inlet, three outlet ports, all ports are 9/16" API test and gauge connection ports.
- Metal-to-metal bubble tight shut-off
- Packing below stem threads
- Two piece non-rotating stem on standard service and SOG valves
- Optional use of long nipples in the inlet for installation on headers that are insulated.

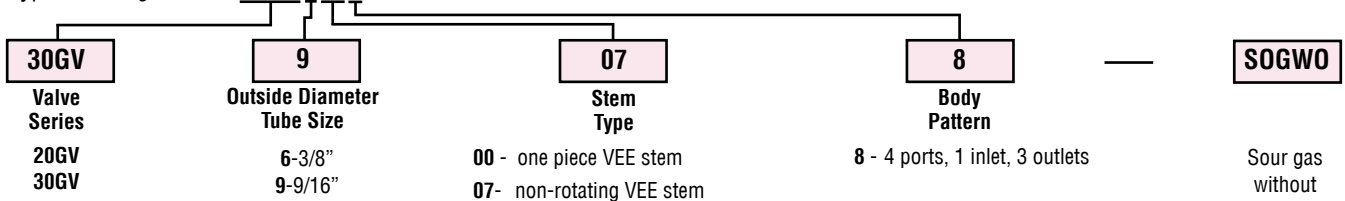
Bleed Valve Features:

- One piece hex construction allows easy installation
- Vent port tapped for plumbing to safe area
- Tee handle for easy operation
- Positive blow out prevention on stem
- Compatible with standard API test and gauge connections for 15,000 psi (1034 bar) service.

Ordering Procedure

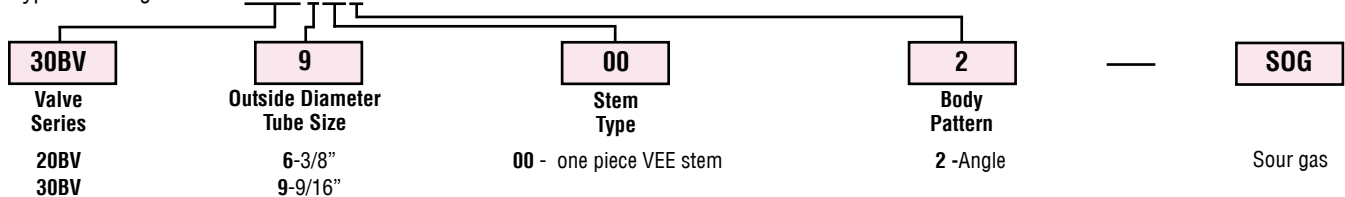
Wellhead Gauge Valve - 30GV-SOGWO valves are furnished without collars and glands unless otherwise specified.

Typical catalog number: **30GV9078 - SOGWO**



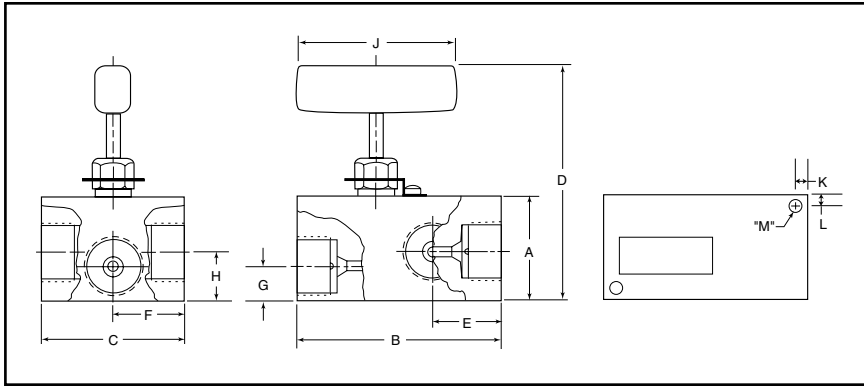
Bleed Valve

Typical catalog number: **30BV9002- SOG**



Wellhead Gauge Valve

| Catalog Number | Connection Type | Connection Size | Pressure Rating psi (bar) | Dimensions - inches (mm) | | | | | | | | | Valve Pattern |
|----------------|-----------------|-----------------|---------------------------|--------------------------|---------|---------|----------|---------|---------|---------|---------|---------|---------------|
| | | | | A | B | C | D | E | F | G | H | J | |
| 20GV6078-SOG | SF375CX | 3/8 | 10,000 | 2.00 | 3.12 | 2.00 | 4.75 | 1.13 | 1.00 | 0.50 | 0.94 | 3.00 | See Figure 1 |
| | | | (690) | (50.80) | (79.25) | (50.80) | (120.65) | (28.58) | (25.40) | (12.70) | (23.83) | (76.20) | |
| 20GV9078-SOG | SF562CX | 9/16 | 10,000 | 2.00 | 3.88 | 2.75 | 4.54 | 1.31 | 1.38 | 0.66 | 0.94 | 3.00 | |
| | | | (690) | (50.80) | (98.55) | (69.85) | (115.31) | (33.27) | (34.93) | (16.76) | (23.83) | (76.20) | |
| 30GV9078-SOG | F562C | 9/16 | 20,000 | 2.00 | 3.88 | 2.75 | 4.75 | 1.31 | 1.38 | 0.66 | 0.94 | 3.00 | |
| | | | (1379) | (50.80) | (98.55) | (69.85) | (120.65) | (33.27) | (34.93) | (16.76) | (23.83) | (76.20) | |



| Mounting Dimensions | | | |
|---------------------|-----------|-----------|-----------|
| | K | L | "M" Dia. |
| 20GV6078-SOG | .25 (6.4) | .25 (6.4) | .28 (7.1) |
| 20GV9078-SOG | .38 (9.7) | .38 (9.7) | .28 (7.1) |
| 30GV9078-SOG | .38 (9.7) | .38 (9.7) | .28 (7.1) |

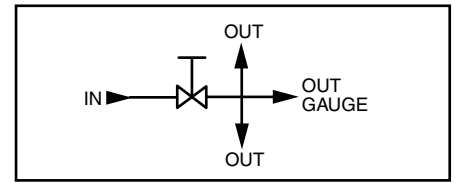


Figure 1 - Wellhead Gauge Valve

Bleed Valve

| Catalog Number | Connection Type | Connection Size | Pressure Rating psi (bar) | Dimensions - inches (mm) | | | | | | | | | Valve Pattern |
|----------------|-----------------|-----------------|---------------------------|--------------------------|---------|---------|---------|---------|---|---|---|---|---------------|
| | | | | A | B | C | D | E | F | G | H | J | |
| 20BV6002-SOG | SM375CX | 3/8 | 10,000 | 3.23 | 2.42 | 1.12 | 1.38 | 1.50 | | | | | See Figure 2 |
| | | | (690) | (82.04) | (61.47) | (28.45) | (35.05) | (38.10) | | | | | |
| 20BV9002-SOG | SM562CX | 9/16 | 10,000 | 3.68 | 2.86 | 1.13 | 1.38 | 1.50 | | | | | |
| | | | (690) | (93.47) | (76.64) | (28.70) | (35.05) | (38.10) | | | | | |
| 30BV4002-SOG | M250C | 1/4 | 20,000 | 3.06 | 2.24 | 1.12 | 1.38 | 1.50 | | | | | |
| | | | (1379) | (77.72) | (56.90) | (28.45) | (35.05) | (38.10) | | | | | |
| 30BV9002-SOG | M562C | 9/16 | 20,000 | 3.44 | 2.61 | 1.12 | 1.38 | 1.50 | | | | | |
| | | | (1379) | (87.38) | (66.29) | (28.45) | (35.05) | (38.10) | | | | | |

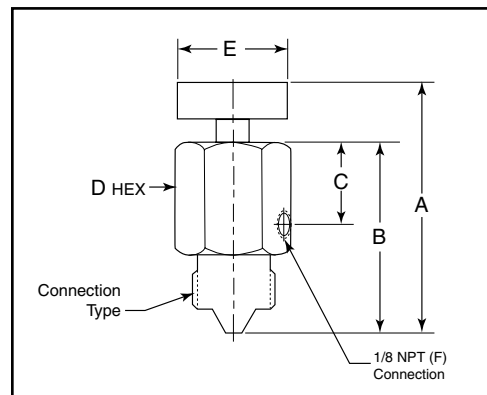


Figure 2 - Bleed Valve

Sour Service Products - 30VM-SOGWO Series

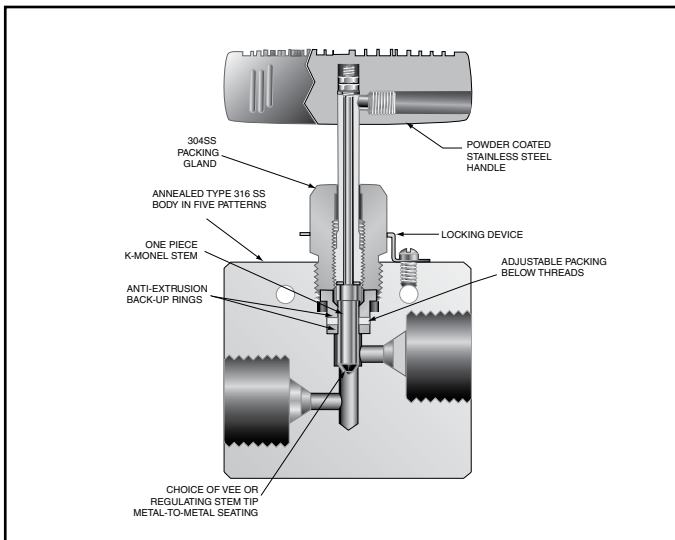
Pressures to 20,000 psi (1379 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated C_V^* | Pressure/Temperature Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| 1/4 | F250C | 0.094 (2.39) | 0.12 | 20,000 (1379) |
| 3/8 | F375C | 0.125 (3.18) | 0.23 | 20,000 (1379) |
| 9/16 | F562C | 0.125 (3.18) | 0.33 | 20,000 (1379) |

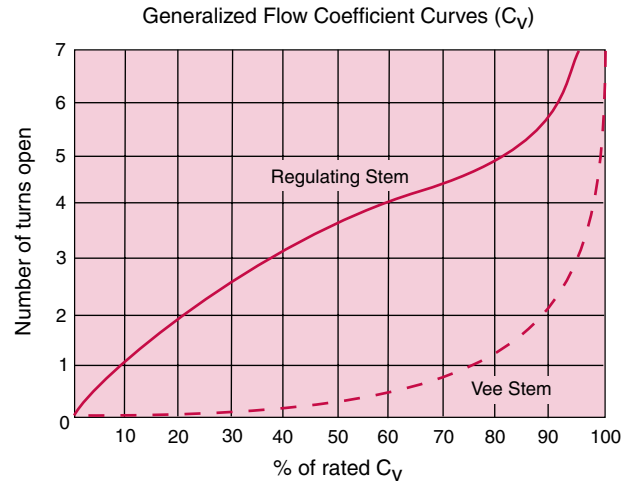
Notes:

* C_V values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase C_V value 50%.

** For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



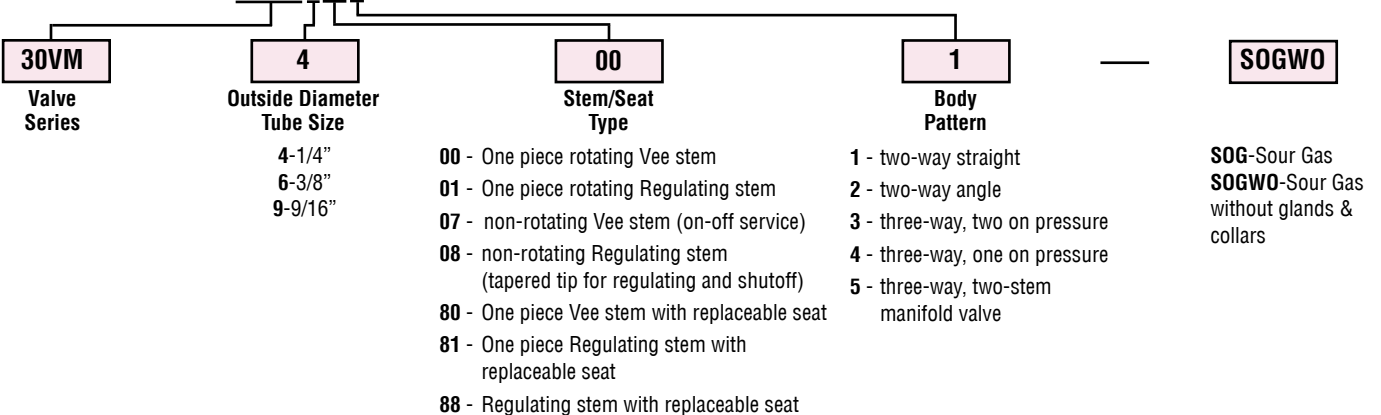
Note: For information on standard 30VM valves, refer to the Needle Valve Section.



Ordering Procedure

The 30VM-SOGWO Series valves are furnished **without** collars and glands, unless otherwise specified.

Typical catalog number: **30VM4001-SOGWO**



Repair Kits: add "R" to the front of valve catalog number for proper repair kit.
(Example: **R30VM4001-SOGWO**)

Note:
All sour service valves and fittings supplied without collars and glands unless otherwise specified.

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) | | | | | | | | | | | | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
| | | | | A | B | C | D | D ₁ | E | F | G | G ₁ | H* | M | N | | |

2-Way Straight

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4001-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.50 | 1.12 | 2.00 | 3.00 | 1.00 | 0.22 | 4.62 | 0.69 | 0.38 | 1.00 | See Figure 1 |
| 30VM4081-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (38.10) | (28.45) | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) | |
| 30VM6001-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.50 | 1.12 | 2.00 | 3.00 | 1.00 | 0.22 | 4.68 | 0.69 | 0.38 | 1.00 | |
| 30VM6081-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (38.10) | (28.45) | (50.80) | (76.20) | (25.40) | (5.59) | (118.87) | (17.53) | (9.65) | (25.40) | |
| 30VM9001-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.56 | 1.12 | 2.44 | 3.00 | 1.00 | 0.28 | 5.06 | 0.69 | 0.38 | 1.50 | |
| 30VM9081-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (39.62) | (28.45) | (61.98) | (76.20) | (25.40) | (7.11) | (128.52) | (17.53) | (9.65) | (38.10) | |

2-Way Angle

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4002-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.12 | | 2.00 | 3.00 | 1.00 | 0.22 | 4.62 | 0.69 | 0.38 | 1.00 | See Figure 2 |
| 30VM4082-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) | | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) | |
| 30VM6002-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.12 | | 2.12 | 3.00 | 1.00 | 0.22 | 4.74 | 0.69 | 0.38 | 1.00 | |
| 30VM6082-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) | | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) | |
| 30VM9002-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.12 | | 2.44 | 3.00 | 1.00 | 0.28 | 5.06 | 0.69 | 0.38 | 1.50 | |
| 30VM9082-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (28.45) | | (61.98) | (76.20) | (25.40) | (7.11) | (128.52) | (17.53) | (9.65) | (38.10) | |

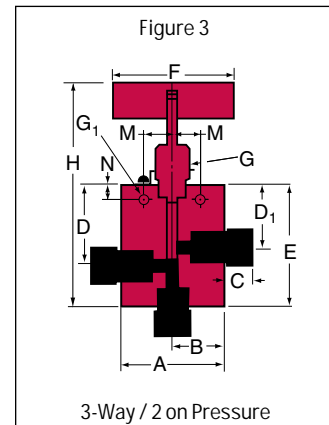
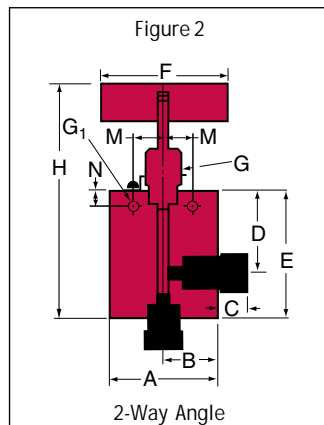
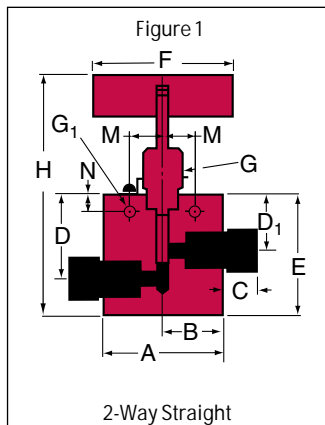
3-Way / 2 on Pressure

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4003-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.50 | 1.12 | 2.12 | 3.00 | 1.00 | 0.22 | 4.74 | 0.69 | 0.38 | 1.00 | See Figure 3 |
| 30VM4083-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (38.10) | (28.45) | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) | |
| 30VM6003-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.50 | 1.12 | 2.50 | 3.00 | 1.00 | 0.22 | 5.12 | 0.69 | 0.38 | 1.00 | |
| 30VM6083-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (38.10) | (28.45) | (63.50) | (76.20) | (25.40) | (5.59) | (130.05) | (17.53) | (9.65) | (25.40) | |
| 30VM9003-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.56 | 1.12 | 2.88 | 3.00 | 1.00 | 0.28 | 5.49 | 0.69 | 0.38 | 1.50 | |
| 30VM9083-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (39.62) | (28.45) | (73.15) | (76.20) | (25.40) | (7.11) | (139.45) | (17.53) | (9.65) | (38.10) | |

G - Packing gland mounting hole drill size
G₁ - Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change.
* H Dimension is with stem in the closed position.

For prompt service,
Parker Autoclave Engineers stocks select products. Consult factory.



| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) | | | | | | | | | | | | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
| | | | | A | B | C | D | D ₁ | E | F | G | G ₁ | H* | M | N | | |

3-Way / 1 on Pressure

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4004-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.12 | | 2.00 | 3.00 | 1.00 | 0.22 | 4.62 | 0.69 | 0.38 | 1.00 | See Figure 4 |
| 30VM4084-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) | | (50.80) | (76.20) | (25.40) | (5.59) | (117.35) | (17.53) | (9.65) | (25.40) | |
| 30VM6004-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.12 | | 2.12 | 3.00 | 1.00 | 0.22 | 4.74 | 0.69 | 0.38 | 1.00 | |
| 30VM6084-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) | | (53.85) | (76.20) | (25.40) | (5.59) | (120.40) | (17.53) | (9.65) | (25.40) | |
| 30VM9004-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.12 | | 2.44 | 3.00 | 1.00 | 0.28 | 5.12 | 0.69 | 0.38 | 1.50 | |
| 30VM9084-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (28.45) | | (61.98) | (76.20) | (25.40) | (7.11) | (130.05) | (17.53) | (9.65) | (38.10) | |

2-Way Angle / Replaceable Seat

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4802-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.12 | 2.06 | 2.38 | 3.00 | 1.00 | 0.22 | 5.80 | 0.69 | 0.38 | 1.00 | See Figure 5 |
| 30VM4882-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (28.45) | (52.32) | (60.45) | (76.20) | (25.40) | (5.59) | (147.32) | (17.53) | (9.65) | (25.40) | |
| 30VM6802-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.12 | 2.31 | 2.38 | 3.00 | 1.00 | 0.22 | 6.05 | 0.69 | 0.38 | 1.00 | |
| 30VM6882-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (28.45) | (58.67) | (60.45) | (76.20) | (25.40) | (5.59) | (153.67) | (17.53) | (9.65) | (25.40) | |
| 30VM9802-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.19 | 2.62 | 2.44 | 3.00 | 1.00 | 0.28 | 6.45 | 0.69 | 0.38 | 1.50 | |
| 30VM9882-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (30.23) | (66.55) | (61.98) | (76.20) | (25.40) | (7.11) | (163.83) | (17.53) | (9.65) | (38.10) | |

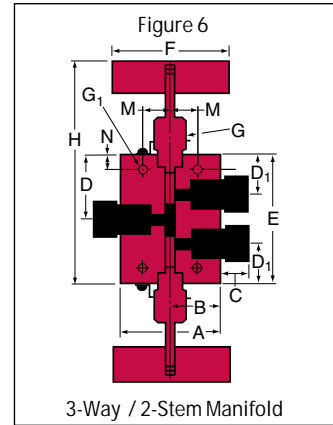
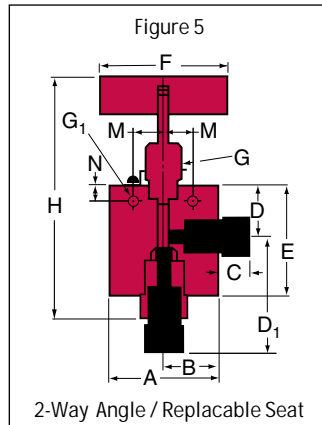
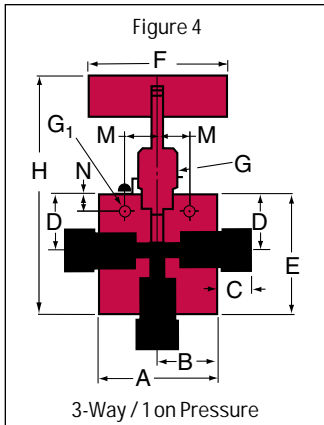
3-Way / 2-Stem Manifold

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 30VM4005-SOGWO | VEE | 1/4 | 0.094 | 2.00 | 1.00 | 0.50 | 1.53 | 1.12 | 3.06 | 3.00 | 1.00 | 0.22 | 5.68 | 0.69 | 0.38 | 1.00 | See Figure 6 |
| 30VM4085-SOGWO | REG | (6.35) | (2.39) | (50.80) | (25.40) | (12.70) | (38.86) | (28.45) | (77.72) | (76.20) | (25.40) | (5.59) | (144.27) | (17.53) | (9.65) | (25.40) | |
| 30VM6005-SOGWO | VEE | 3/8 | 0.125 | 2.00 | 1.00 | 0.53 | 1.62 | 1.12 | 3.25 | 3.00 | 1.00 | 0.22 | 5.87 | 0.69 | 0.38 | 1.00 | |
| 30VM6085-SOGWO | REG | (9.53) | (3.18) | (50.80) | (25.40) | (13.46) | (41.15) | (28.45) | (82.55) | (76.20) | (25.40) | (5.59) | (149.10) | (17.53) | (9.65) | (25.40) | |
| 30VM9005-SOGWO | VEE | 9/16 | 0.125 | 2.62 | 1.31 | 0.81 | 1.88 | 1.12 | 3.75 | 3.00 | 1.00 | 0.28 | 6.37 | 0.69 | 0.38 | 1.50 | |
| 30VM9085-SOGWO | REG | (14.29) | (3.18) | (66.55) | (33.27) | (20.57) | (47.75) | (28.45) | (95.25) | (76.20) | (25.40) | (7.11) | (161.80) | (17.53) | (9.65) | (38.10) | |

G - Packing gland mounting hole drill size
G₁ - Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change.
* H Dimension is with stem in the closed position.

For prompt service,
Parker Autoclave Engineers stocks
select products. Consult factory.



Sour Service Products - 60VM-SOGWO Series

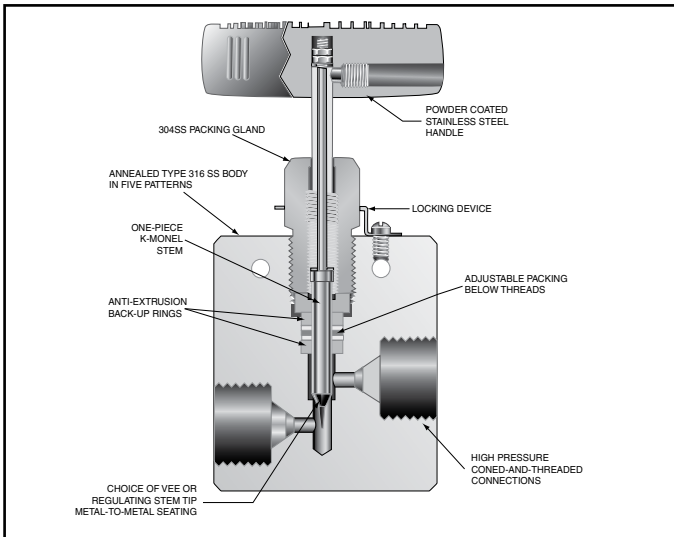
Pressures to 30,000 psi (2068 bar)

| Tube Outside Diameter Size Inches | Connection Type | Orifice Size Inches (mm) | Rated C_V^* | Pressure/Temperature Rating psi (bar) @ Room Temperature** |
|-----------------------------------|-----------------|--------------------------|---------------|--|
| 1/4 | F250C | 0.062 (1.57) | 0.08 | 30,000 (2068) |
| 3/8 | F375C | 0.062 (1.57) | 0.09 | 30,000 (2068) |
| 9/16 | F562C | 0.078 (1.98) | 0.14 | 30,000 (2068) |

Notes:

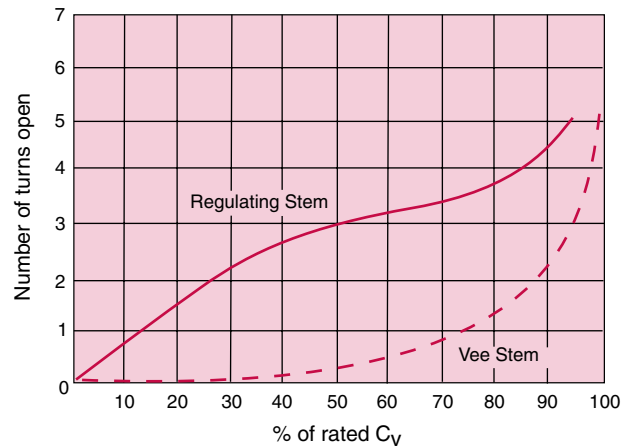
* C_V values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase C_V value 50%.

** For complete temperature ratings see pressure/temperature rating guide in Technical Information section.



Note: For information in standard 60VM valves refer to the Needle Valve Section.

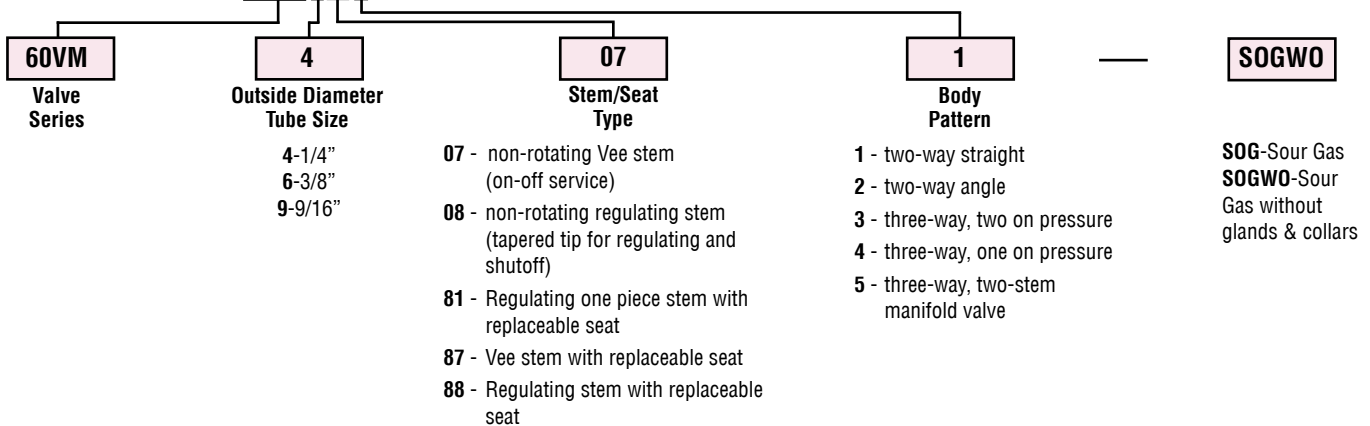
Generalized Flow Coefficient Curves (C_V)



Ordering Procedure

The 60VM-SOGWO Series valves are furnished **without** glands and collars, unless otherwise specified.

Typical catalog number: **60VM4071-SOGWO**



Repair Kits: add "R" to the front of valve catalog number for proper repair kit.
(Example: **R60VM4071-SOGWO**)

Note: All sour service valves and fittings supplied without col-lars and glands unless otherwise specified.

Valve Bodies: Valve bodies are available. Order using the eight (8) digit part number found in the valve drawing or contact your Sales Representative for information.

Consult your Parker Autoclave Engineers representative for pricing on repair kits and valve bodies. Refer to the Tools, Installation, Operation and Maintenance section for proper maintenance procedures.

| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) | | | | | | | | | | | Block Thick-ness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|------------------|---------------|
| | | | | A | B | C | D | D ₁ | E | F | G | G ₁ | H* | M | | |

2-Way Straight

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4071-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.69 | 1.31 | 2.12 | 3.00 | 1.00 | 0.22 | 4.75 | 0.69 | 0.38 | 1.00 | See Figure 1 |
| 60VM4081-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (42.93) | (33.27) | (53.85) | (76.20) | (25.40) | (5.59) | (120.65) | (17.53) | (9.65) | (25.40) | |
| 60VM6071-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.69 | 1.31 | 2.25 | 3.00 | 1.00 | 0.22 | 4.87 | 0.69 | 0.38 | 1.00 | |
| 60VM6081-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (42.93) | (33.27) | (57.15) | (76.20) | (25.40) | (5.59) | (123.70) | (17.53) | (9.65) | (25.40) | |
| 60VM9071-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 1.75 | 1.31 | 2.50 | 3.00 | 1.00 | 0.28 | 5.13 | 0.69 | 0.38 | 1.50 | |
| 60VM9081-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (45.45) | (33.27) | (63.50) | (76.20) | (25.40) | (7.11) | (130.30) | (17.53) | (9.65) | (38.10) | |

2-Way Angle

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4072-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.31 | | 2.38 | 3.00 | 1.00 | 0.22 | 5.00 | 0.69 | 0.38 | 1.00 | See Figure 2 |
| 60VM4082-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) | | (60.45) | (76.20) | (25.40) | (5.59) | (127.00) | (17.53) | (9.65) | (25.40) | |
| 60VM6072-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.31 | | 2.62 | 3.00 | 1.00 | 0.22 | 5.25 | 0.69 | 0.38 | 1.00 | |
| 60VM6082-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) | | (66.55) | (76.20) | (25.40) | (5.59) | (133.35) | (17.53) | (9.65) | (25.40) | |
| 60VM9072-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 1.31 | | 2.81 | 3.00 | 1.00 | 0.28 | 5.44 | 0.69 | 0.38 | 1.50 | |
| 60VM9082-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) | | (71.37) | (76.20) | (25.40) | (7.11) | (138.18) | (17.53) | (9.65) | (38.10) | |

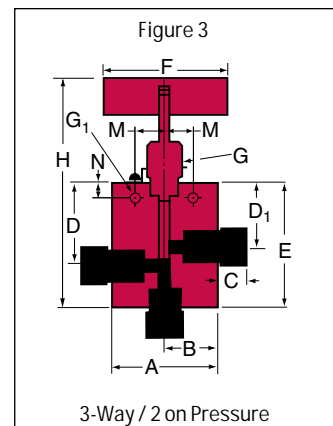
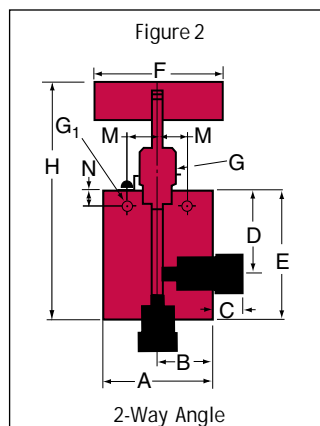
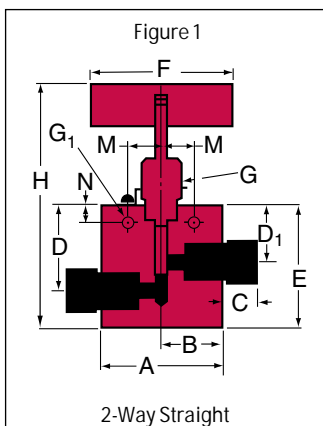
3-Way / 2 on Pressure

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4073-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.69 | 1.31 | 2.12 | 3.00 | 1.00 | 0.22 | 4.75 | 0.69 | 0.38 | 1.00 | See Figure 3 |
| 60VM4083-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (42.93) | (33.27) | (53.85) | (76.20) | (25.40) | (5.59) | (120.65) | (17.53) | (9.65) | (25.40) | |
| 60VM6073-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.69 | 1.31 | 2.25 | 3.00 | 1.00 | 0.22 | 4.87 | 0.69 | 0.38 | 1.00 | |
| 60VM6083-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (42.93) | (33.27) | (57.15) | (76.20) | (25.40) | (5.59) | (123.70) | (17.53) | (9.65) | (25.40) | |
| 60VM9073-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 1.75 | 1.31 | 2.50 | 3.00 | 1.00 | 0.28 | 5.13 | 0.69 | 0.38 | 1.50 | |
| 60VM9083-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (45.45) | (33.27) | (63.50) | (76.20) | (25.40) | (7.11) | (130.30) | (17.53) | (9.65) | (38.10) | |

G - Packing gland mounting hole drill size
G₁ - Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change.
* H Dimension is with stem in the closed position.

For prompt service,
Parker Autoclave Engineers stocks
select products. Consult factory.



| Catalog Number | Stem Type | Outside Diameter Tube | Orifice Diameter | Dimensions - inches (mm) | | | | | | | | | | | | Block Thickness | Valve Pattern |
|----------------|-----------|-----------------------|------------------|--------------------------|---|---|---|----------------|---|---|---|----------------|----|---|---|-----------------|---------------|
| | | | | A | B | C | D | D ₁ | E | F | G | G ₁ | H* | M | N | | |

3-Way / 1 on Pressure

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|--|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4074-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.31 | | 2.38 | 3.00 | 1.00 | 0.22 | 5.00 | 0.69 | 0.38 | 1.00 | See Figure 4 |
| 60VM4084-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) | | (60.45) | (76.20) | (25.40) | (5.59) | (127.00) | (17.53) | (9.65) | (25.40) | |
| 60VM6074-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.31 | | 2.62 | 3.00 | 1.00 | 0.22 | 5.25 | 0.69 | 0.38 | 1.00 | |
| 60VM6084-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) | | (66.55) | (76.20) | (25.40) | (5.59) | (133.35) | (17.53) | (9.65) | (25.40) | |
| 60VM9074-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 1.31 | | 2.81 | 3.00 | 1.00 | 0.28 | 5.44 | 0.69 | 0.38 | 1.50 | |
| 60VM9084-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) | | (71.37) | (76.20) | (25.40) | (7.11) | (138.18) | (17.53) | (9.65) | (38.10) | |

2-Way Angle / Replaceable Seat

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4872-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.31 | 2.12 | 2.62 | 3.00 | 1.00 | 0.22 | 6.28 | 0.69 | 0.38 | 1.00 | See Figure 5 |
| 60VM4882-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (33.27) | (53.85) | (66.55) | (76.20) | (25.40) | (5.59) | (159.51) | (17.53) | (9.65) | (25.40) | |
| 60VM6872-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.31 | 2.36 | 2.62 | 3.00 | 1.00 | 0.22 | 6.52 | 0.69 | 0.38 | 1.00 | |
| 60VM6882-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (33.27) | (59.94) | (66.55) | (76.20) | (25.40) | (5.59) | (165.60) | (17.53) | (9.65) | (25.40) | |
| 60VM9872-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 1.31 | 2.68 | 2.62 | 3.00 | 1.00 | 0.28 | 6.90 | 0.69 | 0.38 | 1.50 | |
| 60VM9882-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (33.27) | (68.07) | (66.55) | (76.20) | (25.40) | (7.11) | (175.26) | (17.53) | (9.65) | (38.10) | |

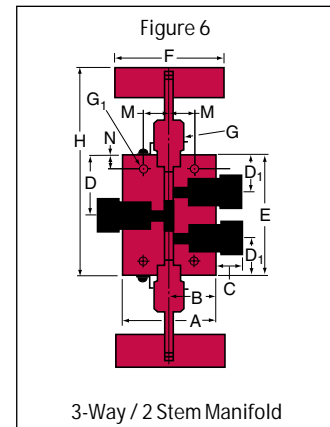
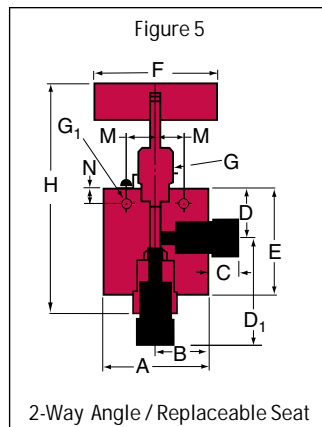
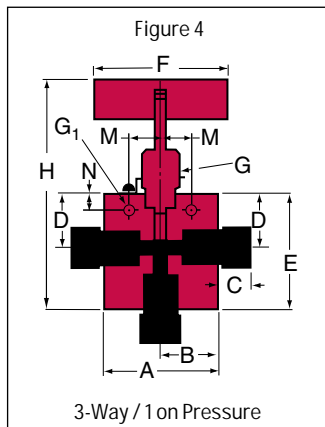
3-Way / 2-Stem Manifold

| | | | | | | | | | | | | | | | | | |
|----------------|-----|---------|--------|---------|---------|---------|---------|---------|----------|---------|---------|--------|----------|---------|--------|---------|--------------|
| 60VM4075-SOGWO | VEE | 1/4 | 0.062 | 2.00 | 1.00 | 0.50 | 1.72 | 1.31 | 3.44 | 3.00 | 1.00 | 0.22 | 6.07 | 0.69 | 0.38 | 1.00 | See Figure 6 |
| 60VM4085-SOGWO | REG | (6.35) | (1.57) | (50.80) | (25.40) | (12.70) | (43.69) | (33.27) | (87.38) | (76.20) | (25.40) | (5.59) | (154.18) | (17.53) | (9.65) | (25.40) | |
| 60VM6075-SOGWO | VEE | 3/8 | 0.062 | 2.00 | 1.00 | 0.53 | 1.88 | 1.31 | 3.75 | 3.00 | 1.00 | 0.22 | 6.37 | 0.69 | 0.38 | 1.00 | |
| 60VM6085-SOGWO | REG | (9.53) | (1.57) | (50.80) | (25.40) | (13.46) | (47.75) | (33.27) | (95.25) | (76.20) | (25.40) | (5.59) | (161.80) | (17.53) | (9.65) | (25.40) | |
| 60VM9075-SOGWO | VEE | 9/16 | 0.078 | 2.62 | 1.31 | 0.72 | 2.06 | 1.31 | 4.12 | 3.00 | 1.00 | 0.28 | 6.37 | 0.69 | 0.38 | 1.50 | |
| 60VM9085-SOGWO | REG | (14.29) | (1.98) | (66.55) | (33.27) | (18.29) | (52.32) | (33.27) | (104.65) | (76.20) | (25.40) | (7.11) | (161.80) | (17.53) | (9.65) | (38.10) | |

G - Packing gland mounting hole drill size
G₁ - Bracket mounting hole size
Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change.
* H Dimension is with stem in the closed position.

For prompt service,
Parker Autoclave Engineers stocks
select products. Consult factory.



Sour Service Products - High Pressure Fittings

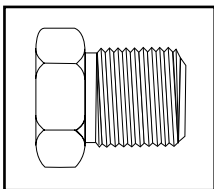
Pressures to 30,000 psi (2068 bar)

Parker Autoclave Engineers manufactures high pressure fittings for both standard oil field service where H₂S is not present and type SOGWO for service where H₂S is present. Utilizing Parker Autoclave Engineers high pressure coned-and-threaded connections, the SOGWO fittings detailed on this page are correlated for use with series 30VM-SOGWO and 60VM-SOGWO valves. Standard service fittings are correlated for use with series 30VM and 60VM valves. For complete information on standard service fittings, refer to Fitting and Tubing High Pressure Section.



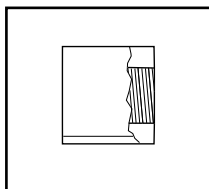
Connection Components

Type SOGWO valves and fittings are furnished **without** glands and collars. To order these components separately, use order numbers listed. When using plug, collar is not required.



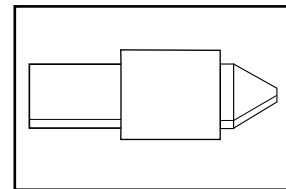
Gland

CGL ()- 316 SOG



Collar

CCL ()- 316 SOG



Plug

CP ()- 316 SOG

Add tube size ()

- 1/4" - 40
- 3/8" - 60
- 9/16" - 90

Example:

1/4" Gland - CGL (40) - 316 SOG

To ensure proper fit use Parker Autoclave Engineers tubing.

| Connection Type | Gland | Collar | Plug | Connection Components (Industry Standard) |
|-----------------|--------------|--------------|-------------|---|
| F250C | CGL40-316SOG | CCL40-316SOG | CP40-316SOG | Parker Autoclave Engineer's high pressure SOG fittings 1/4, 3/8 and 9/16 connection components to 30,000 psi (2068 bar). For use with 30VM-SOGWO, 60VM-SOGWO valves and fittings. |
| F375C | CGL60-316SOG | CCL60-316SOG | CP60-316SOG | |
| F562C | CGL90-316SOG | CCL90-316SOG | CP90-316SOG | |

Associated Products

A complete line of high pressure anti-vibration collet gland assemblies is available. Please refer to high pressure fitting and tubing section.

| Catalog Number | Connection Type | Outside Diameter Tube | Pressure Rating psi (bar)* | Minimum Opening | Dimensions - inches (mm) | | | | | | | Block Thickness | Fitting Pattern |
|----------------|-----------------|-----------------------|----------------------------|-----------------|--------------------------|---|---|-----------|---|---|-------------|-----------------|-----------------|
| | | | | | A | B | C | D Typical | E | F | G Thickness | | |

Elbow

| | | | | | | | | | | | | | |
|--------------|-------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|-----------------|--------------|
| CL4400-SOGWO | F250C | 1/4 (6.35) | 30,000 (2068.39) | 0.094 (2.39) | 1.00 (25.40) | 1.50 (38.10) | 0.50 (12.70) | 0.63 (15.88) | 0.62 (15.75) | 0.88 (22.35) | | 0.75 (19.05) | See Figure 1 |
| CL6600-SOGWO | F375C | 3/8 (9.53) | 30,000 (2068.39) | 0.125 (3.18) | 1.50 (38.10) | 2.00 (50.80) | 0.53 (13.46) | 0.81 (20.62) | 1.00 (25.40) | 1.25 (31.75) | | 1.00 (25.40) | |
| CL9900-SOGWO | F562C | 9/16 (14.29) | 30,000 (2068.39) | 0.188 (4.78) | 1.88 (47.75) | 2.62 (66.55) | 0.81 (20.57) | 1.19 (30.23) | 1.12 (28.45) | 1.88 (47.75) | | 1.50 (38.10) | |

Tee

| | | | | | | | | | | | | | |
|--------------|-------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|-----------------|--------------|
| CT4440-SOGWO | F250C | 1/4 (6.35) | 30,000 (2068.39) | 0.094 (2.39) | 1.25 (31.75) | 2.00 (50.80) | 0.50 (12.70) | 0.63 (15.88) | 0.88 (22.35) | 1.00 (25.40) | | 1.00 (25.40) | See Figure 2 |
| CT6660-SOGWO | F375C | 3/8 (9.53) | 30,000 (2068.39) | 0.125 (3.18) | 1.56 (39.62) | 2.00 (50.80) | 0.53 (13.46) | 0.81 (20.62) | 1.06 (26.92) | 1.00 (25.40) | | 1.00 (25.40) | |
| CT9990-SOGWO | F562C | 9/16 (14.29) | 30,000 (2068.39) | 0.188 (4.78) | 2.12 (53.85) | 2.62 (66.55) | 0.81 (20.57) | 1.19 (30.23) | 1.38 (35.05) | 1.31 (33.27) | | 1.50 (38.10) | |

Cross

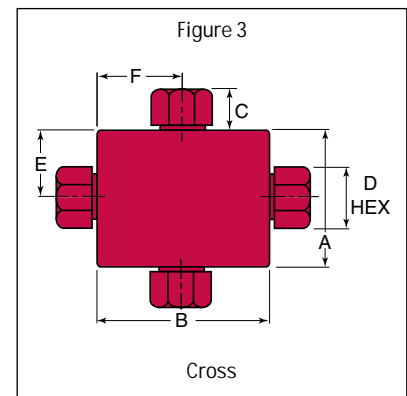
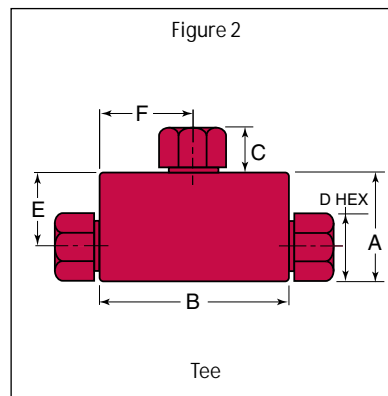
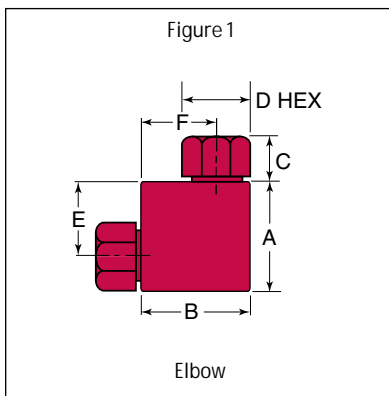
| | | | | | | | | | | | | | |
|--------------|-------|-----------------|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|-----------------|--------------|
| CX4444-SOGWO | F250C | 1/4 (6.35) | 30,000 (2068.39) | 0.094 (2.39) | 1.25 (31.75) | 2.00 (50.80) | 0.50 (12.70) | 0.63 (15.88) | 0.62 (15.75) | 1.00 (25.40) | | 1.00 (25.40) | See Figure 3 |
| CX6666-SOGWO | F375C | 3/8 (9.53) | 30,000 (2068.39) | 0.125 (3.18) | 2.12 (53.85) | 2.00 (50.80) | 0.53 (13.46) | 0.81 (20.62) | 1.06 (26.92) | 1.00 (25.40) | | 1.00 (25.40) | |
| CX9999-SOGWO | F562C | 9/16 (14.29) | 30,000 (2068.39) | 0.188 (4.78) | 2.75 (69.85) | 2.62 (66.55) | 0.81 (20.57) | 1.19 (30.23) | 1.38 (35.05) | 1.31 (33.27) | | 1.50 (38.10) | |

*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by tubing pressure rating, if lower.

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.



Note: Fittings such as 45° elbows, reducer elbows, and reducer 45° elbows are available upon request. For mounting hole option add suffix PM to catalog number, consult factory for mounting hole dimensions. Contact your local sales representative for additional information.

| Catalog Number | Connection Type | Outside Diameter Tube | Pressure Rating psi (bar)* | Minimum Opening | Dimensions - inches (mm) | | | | | | | Block Thickness | Fitting Pattern |
|----------------|-----------------|-----------------------|----------------------------|-----------------|--------------------------|---|---|-----------|---|---|-------------|-----------------|-----------------|
| | | | | | A | B | C | D Typical | E | F | G Thickness | | |

Straight Coupling/Union Coupling

| | | | | | | | | | | | | |
|----------------|-------|---------|-----------|--------|---------|---------|---------|---------|----------|--|--|--------------|
| 60F4433-SOGWO | F250C | 1/4 | 30,000 | 0.094 | 0.75 | 1.38 | 0.50 | 0.63 | Straight | | | See Figure 4 |
| 60UF4433-SOGWO | | (6.35) | (2068.39) | (2.39) | (19.05) | (35.05) | (12.70) | (15.88) | Union | | | |
| 60F6633-SOGWO | F375C | 3/8 | 30,000 | 0.125 | 1.00 | 1.75 | 0.53 | 0.81 | Straight | | | |
| 60UF6633-SOGWO | | (9.53) | (2068.39) | (3.18) | (25.40) | (44.45) | (13.46) | (20.62) | Union | | | |
| 60F9933-SOGWO | F562C | 9/16 | 30,000 | 0.188 | 1.38 | 2.19 | 0.81 | 1.19 | Straight | | | |
| 60UF9933-SOGWO | | (14.29) | (2068.39) | (4.78) | (35.05) | (55.63) | (20.57) | (30.15) | Union | | | |

Bulkhead Coupling

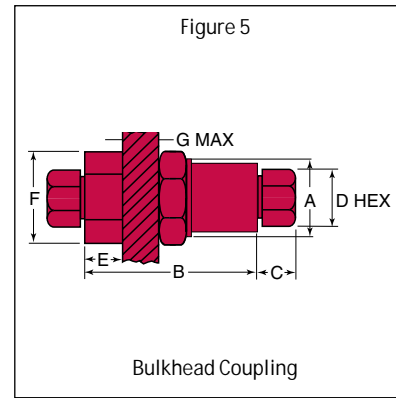
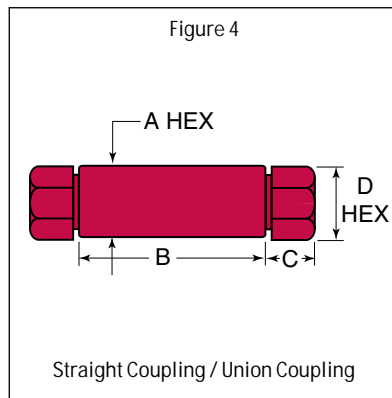
| | | | | | | | | | | | | |
|----------------|-------|---------|-----------|--------|---------|---------|---------|---------|---------|---------|--------|--------------|
| 60BF4433-SOGWO | F250C | 1/4 | 30,000 | 0.094 | 0.094 | 1.88 | 0.50 | 0.63 | 0.50 | 1.00 | 0.38 | See Figure 5 |
| 60BF6633-SOGWO | F375C | 3/8 | 30,000 | 0.125 | 1.12 | 2.38 | 0.53 | 0.81 | 0.78 | 1.38 | 0.38 | |
| 60BF9933-SOGWO | F562C | 9/16 | 30,000 | 0.188 | 1.69 | 2.75 | 0.81 | 1.19 | 1.00 | 1.88 | 0.38 | |
| | | (14.29) | (2068.39) | (4.78) | (42.93) | (69.85) | (20.57) | (30.23) | (25.40) | (47.75) | (9.65) | |

*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by tubing pressure rating, if lower.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.



Union Couplings are designed with a removable seat insert allowing disassembly and tubing removal without the necessity of loosening other items in a line.

Sour Service Products - High Pressure Tubing

Pressures to 30,000 psi (2068 bar)

Parker Autoclave Engineers offers a complete selection of seamless annealed stainless steel tubing designed to match the performance standards of Parker Autoclave Engineers valves and fittings for sour oil and gas service. Parker Autoclave Engineers high pressure tubing is manufactured specifically for high pressure applications requiring both strength and corrosion resistance. The tubing is furnished in random lengths between 20 feet (6 meters) and 27 feet (8.2 meters). The average is 24 feet (7.3 meters). Sour service tubing is available in three sizes.



Inspection and Testing

Parker Autoclave Engineer's high pressure tubing is inspected to assure freedom from seams, laps, fissures or other flaws, as well as carburization or intergranular carbide precipitation. The outside and inside diameters of the tubing are controlled within close tolerances. Sample pieces of tubing for each lot are tested to confirm mechanical properties. Hydrostatic testing is also performed on a statistical basis and is conducted at the working pressure of the tube. Autoclave will perform 100% hydrostatic testing at additional cost if desired.

Tubing Tolerance

Nominal Tubing Size inches (mm) Tolerance/Outside Diameter inches (mm)

1/4 (6.35) .248/.243 (6.30/6.17)
 3/8 (9.53) .370/.365 (9.40/9.27)
 9/16 (14.29) .557/.552 (14.15/14.02)

| Catalog Number | Tube Material | Fits Connection Type | Tube Size Inches (mm) | | | Flow Area in. ² (mm ²) | Working Pressure psi (bar)* | | | | |
|----------------|---------------|----------------------|-----------------------|-----------------|-----------------|---|--------------------------------|---------------------|---------------------|---------------------|---------------------|
| | | | Outside Diameter | Inside Diameter | Wall Thickness | | -325 to 100°F -198 - 37.8°C | 200°F 93°C | 400°F 204°C | 600°F 316°C | 800°F 427°C |
| MS15-254 | 316SS | F250C | 1/4 (6.35) | 0.083 (2.11) | 0.083 (2.11) | 0.005 (3.23) | 30,000 (2068.39) | 30,000 (2068.39) | 28,750 (1982.21) | 27,000 (1861.56) | 25,250 (1741.00) |
| MS15-252 | 316SS | F375C | 3/8 (9.53) | 0.125 (3.18) | 0.125 (3.18) | 0.012 (0.30) | 30,000 (2068.39) | 30,000 (2068.39) | 28,750 (1982.21) | 27,000 (1861.56) | 25,250 (1741.00) |
| MS15-251 | 316SS | F562C | 9/16 (14.29) | 0.188 (4.78) | 0.187 (4.75) | 0.028 (0.71) | 30,000 (2068.39) | 30,000 (2068.39) | 28,750 (1982.21) | 27,000 (1861.56) | 25,250 (1741.00) |

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

* 316SS annealed material complies with NACE MR0175 material requirements.

*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by tubing pressure rating, if lower.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

Sour Service Products - High Pressure Coned-and-Threaded Nipples

Pressures to 30,000 psi (2068 bar)

For rapid system make-up, Parker Autoclave Engineers supplies pre-cut, coned-and-threaded nipples in various sizes and lengths for Parker Autoclave Engineers high pressure valves and fittings.

Special lengths

In addition to the standard lengths listed in the table below, nipples are available in any custom length. Consult factory.

Materials

Catalog numbers in table refer to Type 316 Stainless steel. Catalog numbers with suffix 316SOG denote 316SS annealed in compliance with NACE MR0175.



Material in table is 316 Stainless steel

| Catalog Number | | | | | | | Fits Connection Type | Tube Size inches (mm) | | Working Pressure at 100°F (37.8°C) psi (bar) |
|-----------------------|---------------|----------------|----------------|----------------|-----------------|-----------------|----------------------|-----------------------|--------------|--|
| Nipple Length In (mm) | | | | | | | | O.D. | I.D. | |
| 2.75" (69.85) | 3.00" (76.20) | 4.00" (101.60) | 6.00" (152.40) | 8.00" (203.20) | 10.00" (254.00) | 12.00" (304.80) | | | | |
| CN4402-316SOG | CN4403-316SOG | CN4404-316SOG | CN4406-316SOG | CN4408-316SOG | CN44010-316SOG | CN44012-316SOG | F250C | 1/4 (6.35) | 0.083 (2.11) | 30,000 (2068.39) |
| | CN6603-316SOG | CN6604-316SOG | CN6606-316SOG | CN6608-316SOG | CN66010-316SOG | CN66012-316SOG | F375C | 3/8 (9.53) | 0.125 (3.18) | 30,000 (2068.39) |
| | | CN9904-316SOG | CN9906-316SOG | CN9908-316SOG | CN99010-316SOG | CN99012-316SOG | F562C | 9/16 (14.29) | 0.188 (4.78) | 30,000 (2068.39) |

Note:

1. See Sour Service tubing section for pressure ratings at various temperatures.
2. Parker Autoclave Engineers does not recommend bending of SOG tubing.

*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by tubing pressure rating, if lower.

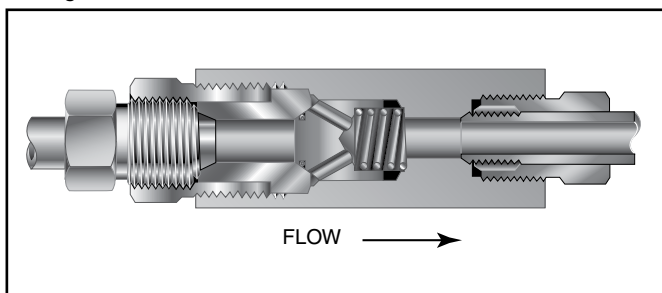
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

Sour Service Products - High Pressure Check Valves

Pressures to 30,000 (2068 bar)

O-Ring Check Valves

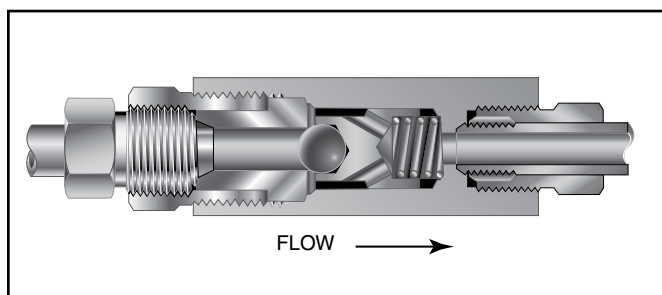


Provides unidirectional flow and tight shut-off for liquids and gas with high reliability. When differential drops below cracking pressure*, valve shuts off. **(Not for use as relief valve.)**

Materials: Body, cover, poppet: 316 Annealed Stainless Steel, Cover gland: Annealed Stainless Steel, Spring: High Nickel Alloy, Standard O-ring: Viton, for operation to 400° F (204°C). Buna-N or PTFE available for 250°F (121°C) or 400°F (204°C) respectively; specify when ordering.

***Cracking Pressure:** 20 psi (1.38 bar) ±30%. Springs for higher cracking pressures (up to 100 psi (6.89 bar)) available on special order for O-ring style check valves only.

Ball Check Valves

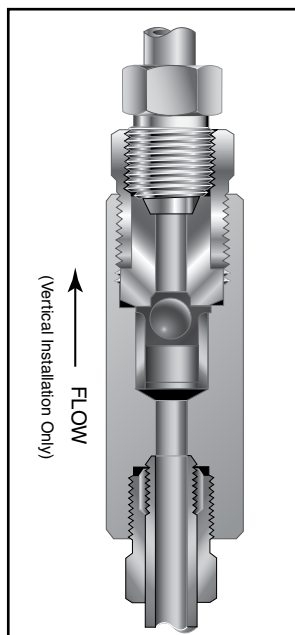


Prevents reverse flow where **leak-tight shut-off is not mandatory**. When differential drops below cracking pressure, valve closes. With all-metal components, valve can be used up to 1200°F (649°C). See Technical Information section for connection temperature limitations. **(Not for use as a relief valve.)**

Ball and poppet are an integral design to assure positive, in-line seating without “chatter”. Poppet is designed essentially for axial flow with minimum pressure drop.

Materials: Body, cover, poppet: 316 Annealed Stainless Steel, Cover gland: Annealed Stainless Steel, Ball, Spring: High Nickel Alloy

Ball Type Excess Flow Valves



Protects pressure gauges and pressure instrumentation from surges in flow or sudden venting in the event of line failure.

Materials: Body, cover, sleeve: Type 316 Annealed Stainless Steel, Ball: 300 Series Annealed Stainless Steel, Cover gland: annealed stainless steel.

Vertical Installation: Since this type of check valve employs a non-spring loaded ball, valve **MUST** be installed in VERTICAL position with arrow on valve body pointing UP. (cover gland up).

Resetting Valve: Equalize the pressure across the ball. The ball will drop and reset automatically.

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

CAUTION: While testing has shown O-Rings to provide satisfactory service life, both cyclic and shelf life may vary widely with differing service conditions, properties of reactants, pressure and temperature cycling and age of the O-ring. **FREQUENT INSPECTIONS SHOULD BE MADE** to detect any deterioration, and O-rings replaced as required.

Sour Service Products - High Pressure Check Valves

| Catalog Number | Fits Connection Type | Pressure Rating psi (bar)* | Orifice inches (mm) | Rated C _v | Dimensions - inches (mm) | | | | |
|----------------|----------------------|----------------------------|---------------------|----------------------|--------------------------|---|---|--------------|-----|
| | | | | | A | B | C | D Typical | Hex |

O-Ring Check Valves

| | | | | | | | | | | |
|---------------|-------|-----------|--------|------|----------|---------|---------|---------|---------|--------------|
| CKO4400-SOGWO | F250C | 30,000 | 0.094 | 0.15 | 3.38 | 2.50 | 0.50 | 0.63 | 1.18 | See Figure 1 |
| | | (2068.39) | (2.39) | | (85.85) | (63.50) | (12.70) | (16.00) | (29.97) | |
| CKO6600-SOGWO | F375C | 30,000 | 0.125 | 0.28 | 3.75 | 2.62 | 0.53 | 0.75 | 1.18 | |
| | | (2068.39) | (3.18) | | (95.25) | (66.55) | (13.46) | (19.05) | (29.97) | |
| CKO9900-SOGWO | F562C | 30,000 | 0.187 | 0.63 | 4.62 | 3.38 | 0.81 | 1.12 | 1.50 | |
| | | (2068.39) | (4.75) | | (117.35) | (85.85) | (20.57) | (28.45) | (38.10) | |

Ball Check Valves

| | | | | | | | | | | |
|--------------|-------|-----------|--------|------|----------|---------|---------|---------|---------|--------------|
| CB4401-SOGWO | F250C | 30,000 | 0.094 | 0.15 | 3.38 | 2.50 | 0.50 | 0.63 | 1.18 | See Figure 1 |
| | | (2068.39) | (2.39) | | (85.85) | (63.50) | (12.70) | (16.00) | (29.97) | |
| CB6601-SOGWO | F375C | 30,000 | 0.125 | 0.28 | 3.75 | 2.62 | 0.53 | 0.75 | 1.18 | |
| | | (2068.39) | (3.18) | | (95.25) | (66.55) | (13.46) | (19.05) | (29.97) | |
| CB9901-SOGWO | F562C | 30,000 | 0.187 | 0.63 | 4.62 | 3.38 | 0.81 | 1.12 | 1.50 | |
| | | (2068.39) | (4.75) | | (117.35) | (85.85) | (20.57) | (28.45) | (38.10) | |

Ball Type Excess Flow Valves

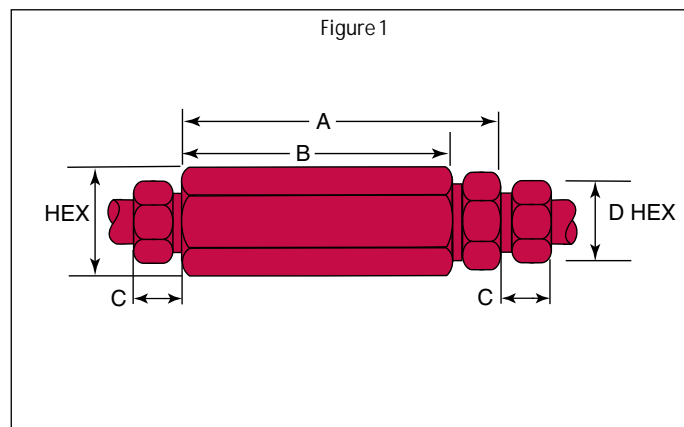
| | | | | | | | | | | |
|--------------|-------|-----------|--------|--|----------|---------|---------|---------|---------|--------------|
| CK4402-SOGWO | F250C | 30,000 | 0.094 | | 3.38 | 2.50 | 0.50 | 0.63 | 1.18 | See Figure 1 |
| | | (2068.39) | (2.39) | | (85.85) | (63.50) | (12.70) | (16.00) | (29.97) | |
| CK6602-SOGWO | F375C | 30,000 | 0.125 | | 3.75 | 2.62 | 0.53 | 0.75 | 1.18 | |
| | | (2068.39) | (3.18) | | (95.25) | (66.55) | (13.46) | (19.05) | (29.97) | |
| CK9902-SOGWO | F562C | 30,000 | 0.187 | | 4.62 | 3.38 | 0.81 | 1.12 | 1.50 | |
| | | (2068.39) | (4.75) | | (117.35) | (85.85) | (20.57) | (28.45) | (38.10) | |

*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by tubing pressure rating, if lower.

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

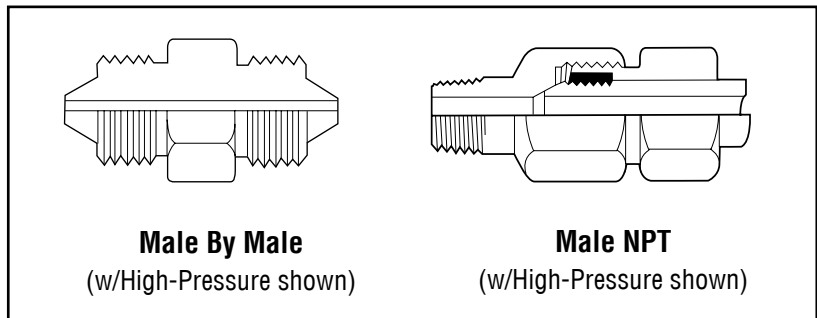


Sour Service Products - Adapters/Couplings

Pressures to 30,000 psi (2068 bar)

How to use the Ordering Chart below:

1. Locate Male or Female end in horizontal heading.
2. Locate desired Female or Male end of adapter down the side of chart.
3. Catalog number of required adapter is located at intersection of columns.



| | | "A" Connection | | | | | | |
|---------------------------------------|--------|----------------|---------------|---------------|---------------|-----------------|-----------------|-----------------|
| | | Male | | | Female | | | |
| | | Connection "A" | 1/4" M250C | 3/8" M375C | 9/16" M562C | 1/4" F250C | 3/8" F375C | 9/16" F562C |
| | | Connection "B" | | | | | | |
| AE High Pressure 30,000 psi @100°F | Male | 1/4" M250C | 60MAH4H4-SOG | 60MAH4H6-SOG | 60MAH4H9-SOG | | 60M46B3-SOGWO | 60M49B3-SOGWO |
| | | 3/8" M375C | | 60MAH6H6-SOG | 60MAH6H9-SOG | 60M64B3-SOGWO | | 60M69B3-SOGWO |
| | | 9/16" M562C | | | 60MAH9H9-SOG | 60M94B3-SOGWO | 60M96B3-SOGWO | |
| | Female | 1/4" F250C | | 60M64B3-SOGWO | 60M94B3-SOGWO | 60F4433-SOGWO | 60F4633-SOGWO | |
| | | 3/8" F375C | 60M46B3-SOGWO | | 60M96B3-SOGWO | 60F4633-SOGWO | 60F6633-SOGWO | 60F6933-SOGWO |
| | | 9/16" F562C | 60M49B3-SOGWO | 60M69B3-SOGWO | | 60F4933-SOGWO | 60F6933-SOGWO | 60F9933-SOGWO |
| NPT 10,000 psi* @100°F | Male | 1/4" NPT | 15MAH4P4-SOG | 15MAH6P4-SOG | 15MAH9P4-SOG | 15M44N3-SOGWO | 15M46N3-SOGWO | 15M49N3-SOGWO |
| | | 3/8" NPT | | 15MAH6P6-SOG | 15MAH9P6-SOG | 15M64N3-SOGWO | 15M66N3-SOGWO | 15M69N3-SOGWO |
| | | 1/2" NPT | 15MAH4P8-SOG | 15MAH6P8-SOG | 15MAH9P8-SOG | 15M84N3-SOGWO | 15M86N3-SOGWO | 15M89N3-SOGWO |
| | | 3/4" NPT | | | 10MAH9P12-SOG | 10M124N3-SOGWO | 10M126N3-SOGWO | 10M129N3-SOGWO |
| | | 1" NPT | | | 10MAH9P16-SOG | 10M164N3-SOGWO | 10M166N3-SOGWO | 10M169N3-SOGWO |
| | Female | 1/4" NPT | 15M44B8-SOG | 15M64B8-SOG | 15M94B8-SOG | 15F4483-SOGWO | 15F4683-SOGWO | 15F4983-SOGWO |
| | | 3/8" NPT | 15M46B8-SOG | 15M66B8-SOG | 15M96B8-SOG | 15F6483-SOGWO | 15F6683-SOGWO | 15F6983-SOGWO |
| | | 1/2" NPT | 15M48B8-SOG | 15M68B8-SOG | 15M98B8-SOG | 15F8483-SOGWO | 15F8683-SOGWO | 15F8983-SOGWO |
| | | 3/4" NPT | 10M412B8-SOG | 10M612B8-SOG | 10M912B8-SOG | 10F12483-SOGWO | 10F12683-SOGWO | 10F12983-SOGWO |
| | | 1" NPT | | 10M616B8-SOG | 10M916B8-SOG | 10F16483-316SOG | 10F16683-316SOG | 10F16983-316SOG |

*The maximum pressure for an adapter coupling is determined by the connection component with the LOWEST pressure rating; that is, the two end connections and the tubing or pipe used, whichever is LOWER.

In selecting an adapter involving two different sized connections, the larger connection should be on the male end where maximum the mechanical strength of the adapter.

All dimensions for reference only and subject to change.
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.
CAUTION: See appropriate pressure section in reference to proper selection of tubing.

NOTE: All sour oil and gas valves and fittings supplied without collars and glands unless otherwise specified.

NOTE: -OP is one piece adapter.

Sour Service Products - Severe Service Valve

Pressures to 10,000 psi (690 bar)

| Valve Size (inches) | Orifice inches (mm) | Rated Cv | Maximum Working Pressure psi (bar) |
|---------------------|---------------------|----------|------------------------------------|
| 1/4 | .188 (4.76) | .61 | 10,000 (690) |
| 1/2 | .250 (6.35) | .78 | 10,000 (690) |
| 3/4 | .375 (9.53) | 1.79 | 7,500 (517) |

Operating temperature: -20°F to 275°F (-29°C to 135°C)

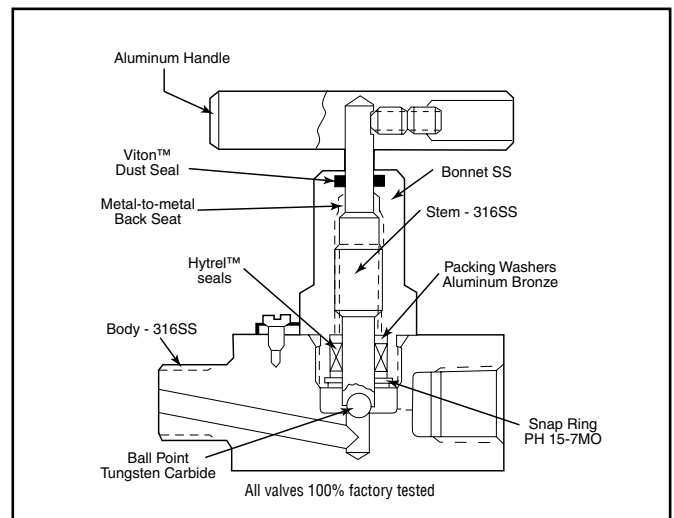
Parker Autoclave Engineers' severe service valve is designed for reliable shut-off service with maximum working pressure to 10,000 psi (690 bar). They are suitable for a wide range of severe duty applications and comply with NACE MR0175. The valve's unique stem design includes a non-rotation ball point as well as blow-out protection.

Applications:

- All areas where reliable shut-off is required in severe service including abrasive, erosive, corrosive and sour fluids.
- Sampling and blowdown lines.
- Blow-out preventers
- Wireline service equipment
- Chemical processing industry

Parker Autoclave Engineers service valves feature:

- Low operating torque
- Non-rotating tungsten carbide (ball point) stem
- Stem back seat for blow-out prevention
- Dust seal prevents stem thread contamination
- Stem packing adjustment not required
- Complies with NACE MR0175
- Moly lubricated stem threads
- Panel mount option available



| Catalog Number | End Connection | | Dimensions - inches (mm) | | | | | | | | | Valve Pattern |
|----------------|----------------|---------------|--------------------------|---|---|---|---|---|---|---|---|---------------|
| | Inlet N.P.T. | Outlet N.P.T. | A | B | C | D | E | F | G | H | J | |

2-Way Straight

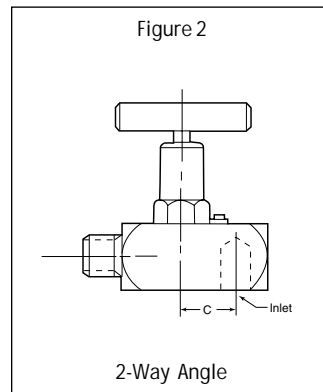
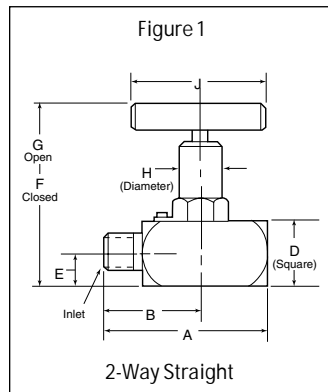
| | | | | | | | | | | | | |
|-------------|-------------|-------------|---------|---------|---|---------|---------|----------|----------|---------|---------|--------------|
| SSV71M4F4 | 1/4" male | 1/4" Female | 3.00 | 1.75 | - | 1.25 | .625 | 3.25 | 3.41 | 0.75 | 2.50 | See Figure 1 |
| | | | (76.20) | (44.45) | - | (31.75) | (15.88) | (82.55) | (86.51) | (19.05) | (63.50) | |
| SSV71F4 | 1/4" Female | 1/4" Female | 3.00 | 1.50 | - | 1.25 | 0.63 | 3.25 | 3.41 | 0.75 | 2.50 | |
| | | | (76.20) | (38.10) | - | (31.75) | (15.88) | (82.55) | (86.51) | (19.05) | (63.50) | |
| SSV71M8F8 | 1/2" Male | 1/2" Female | 3.81 | 2.22 | - | 1.50 | 0.75 | 4.25 | 4.41 | 1.00 | 3.25 | |
| | | | (96.82) | (56.34) | - | (38.10) | (19.05) | (107.95) | (111.91) | (25.40) | (82.55) | |
| SSV71F8 | 1/2" Female | 1/2" Female | 3.81 | 1.91 | - | 1.50 | 0.75 | 4.25 | 4.41 | 1.00 | 3.25 | |
| | | | (96.82) | (48.41) | - | (38.10) | (19.05) | (107.95) | (111.91) | (25.40) | (82.55) | |
| SSV71M12F12 | 3/4" Male | 3/4" Female | 3.81 | 2.19 | - | 1.75 | 0.88 | 4.94 | 5.13 | 1.00 | 3.25 | |
| | | | (96.82) | (55.55) | - | (44.45) | (22.23) | (125.40) | (130.18) | (25.40) | (82.55) | |
| SSV71F12 | 3/4" Female | 3/4" Female | 3.81 | 1.91 | - | 1.75 | 0.88 | 4.94 | 5.13 | 1.00 | 3.25 | |
| | | | (96.82) | (48.41) | - | (44.45) | (22.23) | (125.40) | (130.18) | (25.40) | (82.55) | |

2-Way Angle

| | | | | | | | | | | | | |
|-------------|-------------|-------------|----------|---------|---------|---------|---------|----------|----------|---------|---------|--------------|
| SSV72M4F4 | 1/4" Female | 1/4" Male | 3.75 | 1.63 | 1.16 | 1.25 | 0.63 | 3.25 | 3.41 | 0.75 | 2.50 | See Figure 2 |
| | | | (95.25) | (41.28) | (29.36) | (31.75) | (15.88) | (82.55) | (86.51) | (19.05) | (63.50) | |
| SSV721F4 | 1/4" Female | 1/4" Female | 3.00 | 1.63 | 1.16 | 1.25 | 0.63 | 3.25 | 3.41 | 0.75 | 2.50 | |
| | | | (76.20) | (41.28) | (29.63) | (31.75) | (15.88) | (82.55) | (86.51) | (19.05) | (63.50) | |
| SSV72M8F8 | 1/2" Female | 1/2" Male | 4.25 | 2.03 | 1.28 | 1.50 | 0.75 | 4.25 | 4.41 | 1.00 | 3.25 | |
| | | | (107.95) | (51.59) | (32.54) | (38.10) | (19.05) | (107.95) | (111.91) | (25.40) | (82.55) | |
| SSV72F8 | 1/2" Female | 1/2" Female | 3.81 | 2.00 | 1.28 | 1.50 | 0.75 | 4.25 | 4.41 | 1.00 | 3.25 | |
| | | | (96.82) | (50.80) | (32.54) | (38.10) | (19.05) | (107.95) | (111.91) | (25.40) | (82.55) | |
| SSV72M12F12 | 3/4" Female | 3/4" Male | 4.94 | 2.75 | 2.00 | 1.75 | 0.88 | 4.94 | 5.13 | 1.00 | 3.25 | |
| | | | (125.40) | (69.85) | (50.80) | (44.45) | (22.23) | (125.40) | (130.18) | (25.40) | (82.55) | |
| SSV72F12 | 3/4" Female | 3/4" Female | 4.50 | 2.75 | 2.00 | 1.75 | 0.88 | 4.94 | 5.13 | 1.00 | 3.25 | |
| | | | (114.30) | (69.85) | (50.80) | (44.45) | (22.23) | (125.40) | (130.18) | (25.40) | (82.55) | |

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Sour Service Products - Pressure Gauges

Pressures to 20,000 psi (1379 bar)

Material and Features:

- Accuracy within 1.0% of full scale range
- Stainless steel case and ring
- K-Monel Bourdon tube and socket
- M562C male 9/16" tube connection in bottom (API Type III)
- Precision stainless steel movement for accuracy and resistance to atmospheric corrosion.
- Pointer zero adjustment located on front of gauge behind dial cover for convenience.
- Gauges can be liquid filled (Add - LF to Catalog #) *
- All gauges furnished with SOG collar and gland
- Gauges are NACE MR175-2002



| Calibrated in PSI Only | | | |
|------------------------|--------------------|--------------------------------|---------------------------|
| Catalog Number | Pressure psi (bar) | Minor Interval Value psi (bar) | Dial Diameter inches (mm) |
| H-0380 | 0-5000 (345) | 50 (3.45) | 4-1/2 (114.30) |
| H-0336 | 0-10,000 (690) | 100 (6.90) | 4-1/2 (114.30) |
| H-0071 | 0-15,000 (1034) | 100 (6.90) | 4-1/2 (114.30) |
| H-0304 | 0-20,000 (1379) | 200 (13.79) | 4-1/2 (114.30) |
| H-0360 | 0-30,000 (2068) | 500 (34.5) | 4-1/2 (114.30) |

* Glycerine is standard liquid fill for "LF" option.



WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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