

# Sour Service Products

## *Pressures to 30,000 psi (2068 bar)*

For over 50 years Autoclave Engineers has designed and built premium quality valves, fittings and tubing. This commitment to engineering and manufacturing excellence has earned 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.

Autoclave designs and builds high pressure valves, fittings and tubing for use with sour oil and gas ( $H_2S$ ). Autoclave "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.

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



# Sour Service Products - Oil and Gas Service Valves and Fittings

## Oil and Gas Service Valves and Fittings

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

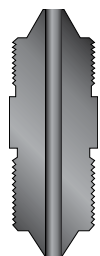
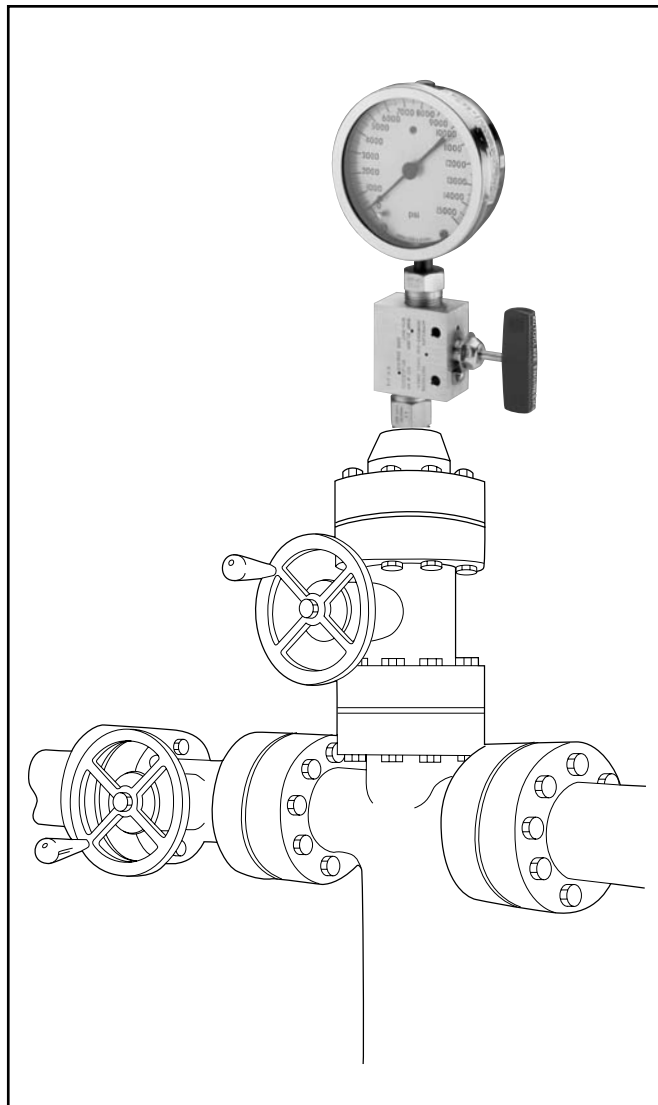
### **Sour Oil and Gas Service (H<sub>2</sub>S) or Standard Service**

Autoclave oil field components are offered for standard oil field service where H<sub>2</sub>S is not present and type "SOG" for service where H<sub>2</sub>S is present. Autoclave SOG components are manufactured with materials and procedures specified for optimum resistance to H<sub>2</sub>S. 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.

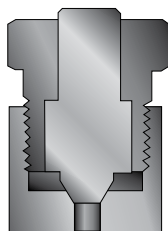
**Pressure/Temperature Ratings:** Valves and fittings for standard service are rated for working pressure up to 60,000 psi (4137 bar) at 100°F (38°C). Type SOG components are rated up to 30,000 psi (2068 bar) at 100°F (38°C).

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

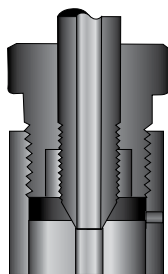
**Materials:** Autoclave standard series valves and fittings are type 316 stainless steel, cold worked material. Type SOG valves and fittings are 316 stainless steel annealed material with Teflon packing below the stem threads on all needle valves. If required, complete material specifications are provided.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



API Type I  
connector



API Type II  
connector



API Type III  
connector

Note 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 <sub>v</sub>	Pressure/ Temperature Rating psi (bar) @ Room Temperature
20GV	3/8	F375C	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					
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.

Autoclave's 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.

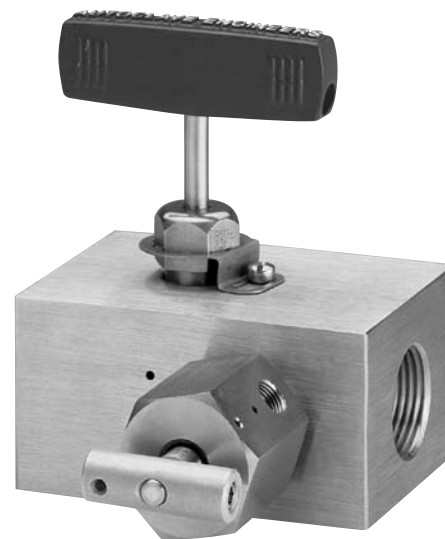
## Applications:

### 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.

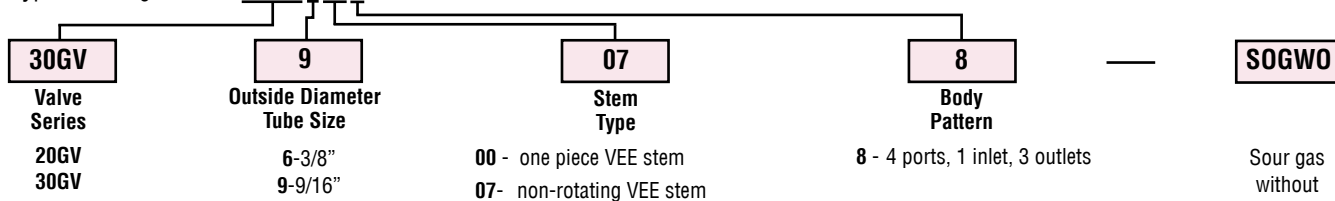
### Bleed Valve Features:

- 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

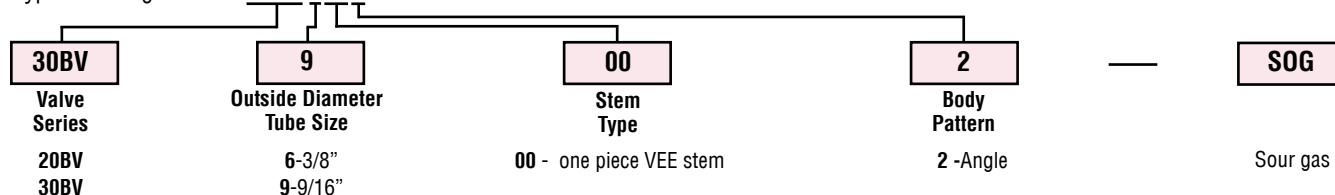
**Wellhead Gauge Valve** - 30GV-SOGWO valves are furnished without collars and glands unless otherwise specified.

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)	

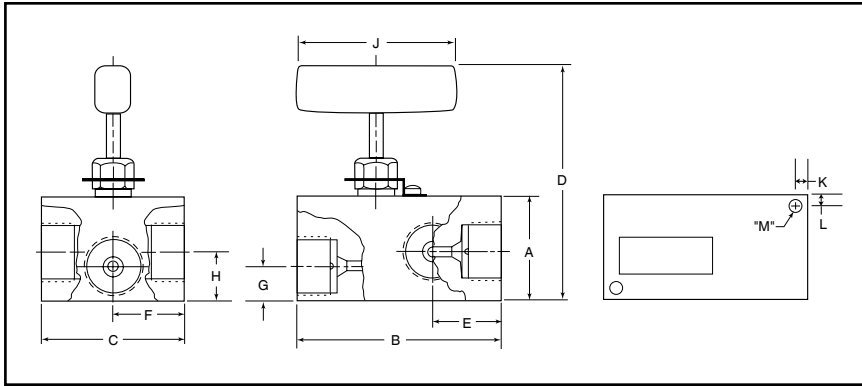
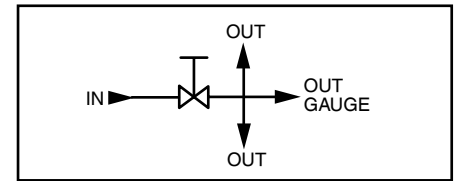


Figure 1 - Wellhead Gauge Valve

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)



## 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)					

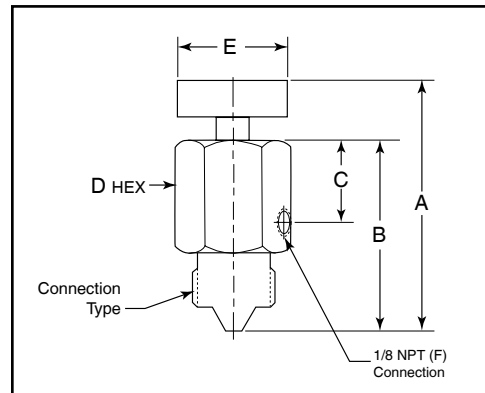


Figure 2 - Bleed Valve

# Sour Service Products - 30VM-SOGWO Series

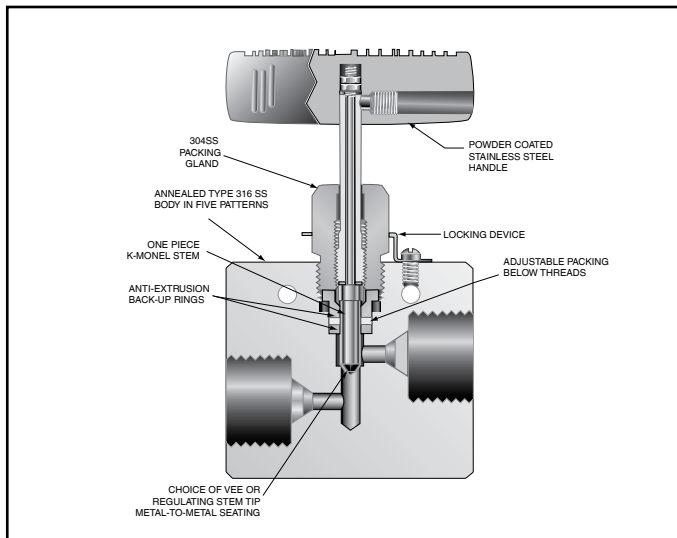
**Pressures to 20,000 psi (1379 bar)**

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:**

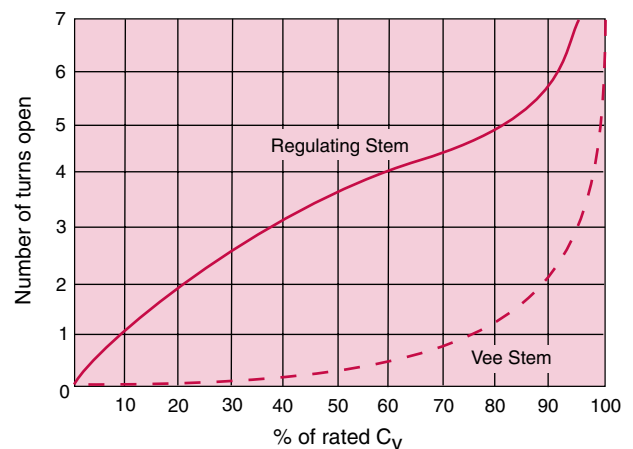
\*  $C_v$  values shown are for 2-way straight valve pattern. For 2-way angle patterns, increase  $C_v$  value 50%.

\*\* 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.

Generalized Flow Coefficient Curves ( $C_v$ )



## Ordering Procedure

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

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

30VM	4	00	1	SOGWO
Valve Series	Outside Diameter Tube Size	Stem/Seat Type	Body Pattern	
	4-1/4" 6-3/8" 9-9/16"	00 - One piece rotating Vee stem 01 - One piece rotating Regulating stem 07 - non-rotating Vee stem (on-off service) 08 - non-rotating Regulating stem (tapered tip for regulating and shutoff) 80 - One piece Vee stem with replaceable seat 81 - One piece Regulating stem with replaceable seat 88 - Regulating stem with replaceable seat	1 - two-way straight 2 - two-way angle 3 - three-way, two on pressure 4 - three-way, one on pressure 5 - three-way, two-stem manifold valve	SOG-Sour Gas SOGWO-Sour Gas without glands & collars

## Valve Maintenance

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 Autoclave 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 <sub>1</sub>	E	F	G	G <sub>1</sub>	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

G<sub>1</sub> - Bracket mounting hole size

Panel mounting drill size: 0.22" all valves.

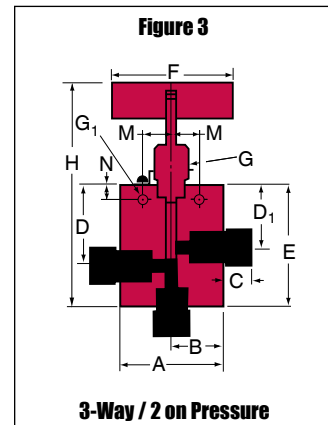
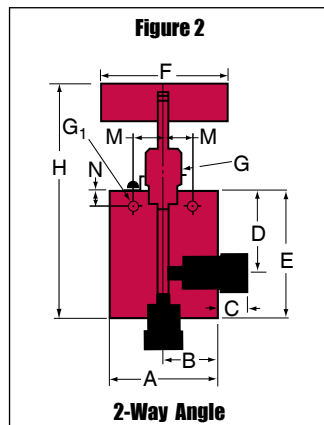
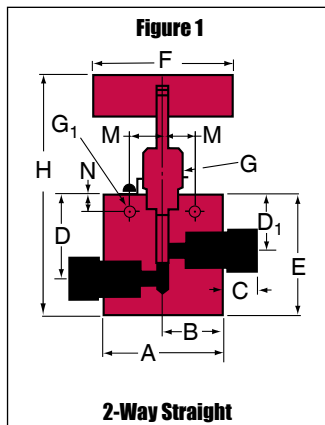
All dimensions for reference only and subject to change.

\* H Dimension is with stem in the closed position.

For prompt service,

Autoclave 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 <sub>1</sub>	E	F	G	G <sub>1</sub>	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)	

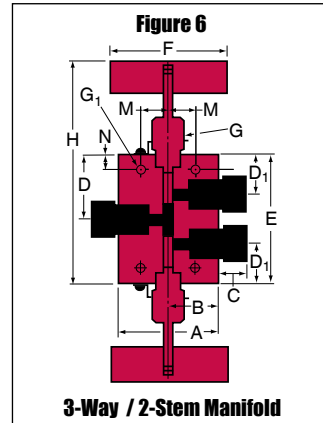
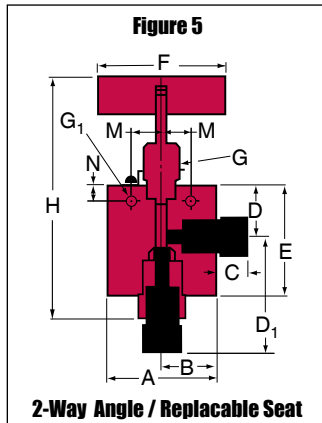
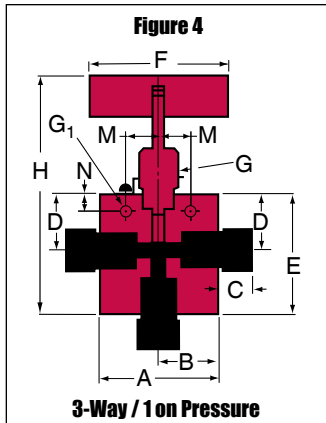
### 3-Way / 2-Stem Manifold

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  
G<sub>1</sub> - 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,  
Autoclave stocks select products.  
Consult factory.





# Sour Service Products - 60VM-SOGWO Series

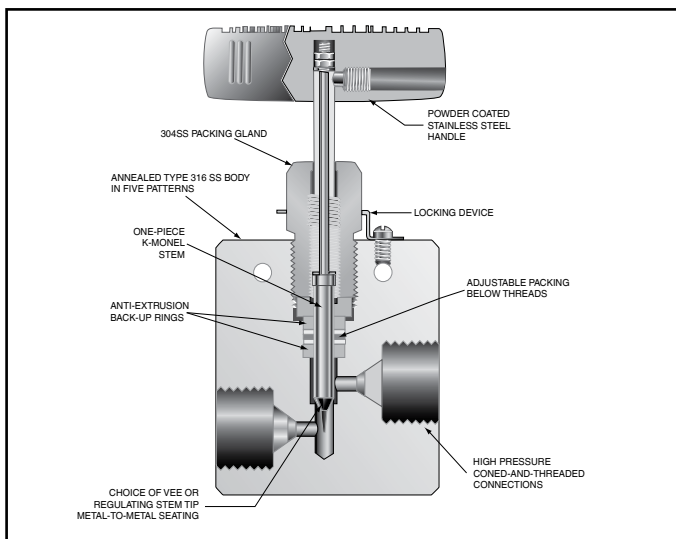
**Pressures to 30,000 psi (2068 bar)**

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)

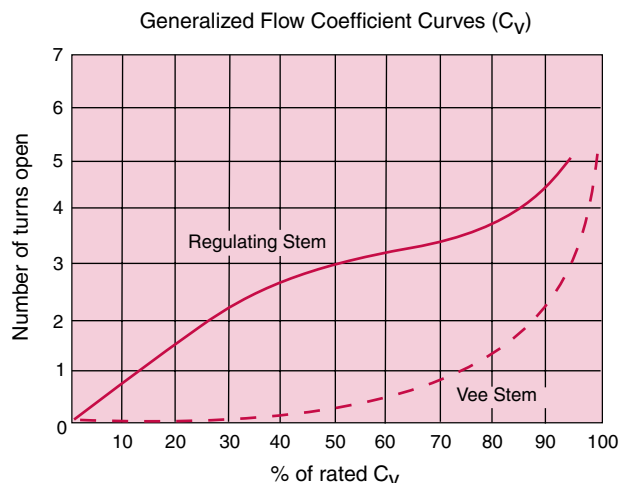
**Notes:**

\*  $C_v$  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.



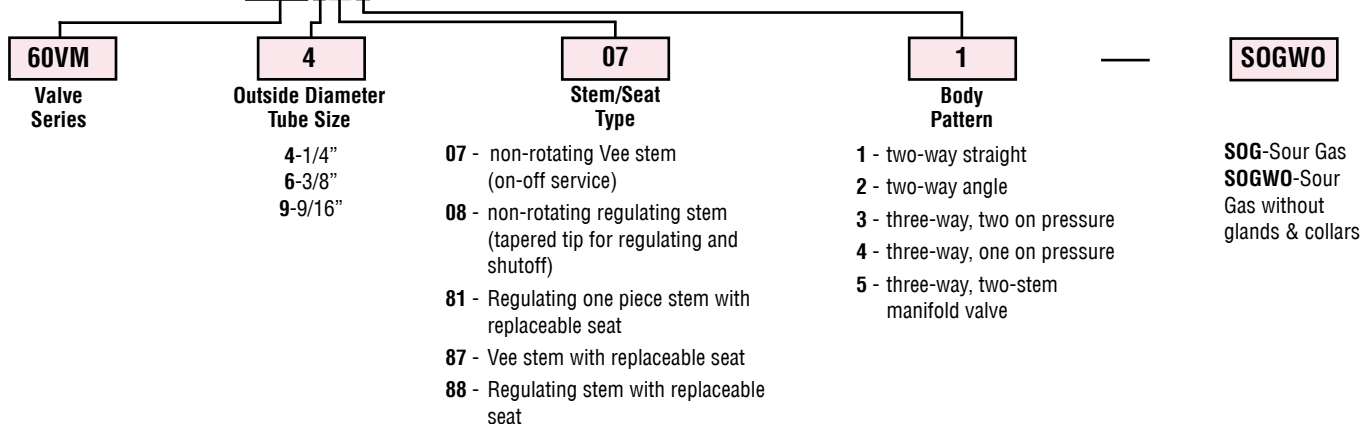
Note: For information in standard 60VM valves refer to the Needle Valve Section.



## Ordering Procedure

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

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





## Valve Maintenance

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 Autoclave 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 <sub>1</sub>	E	F	G	G <sub>1</sub>	H*	M	N		

### 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

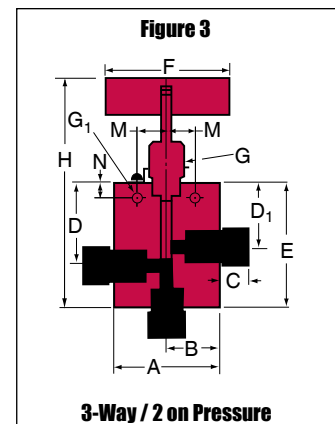
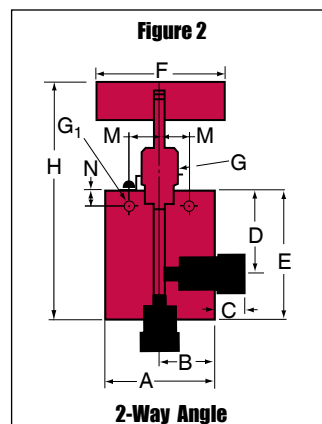
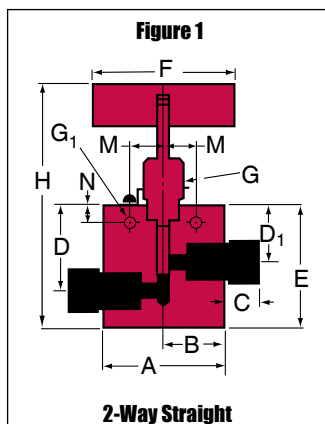
G<sub>1</sub> - Bracket mounting hole size

Panel mounting drill size: 0.22" all valves.

All dimensions for reference only and subject to change. For prompt service,

\* H Dimension is with stem in the closed position.

Autoclave 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 <sub>1</sub>	E	F	G	G <sub>1</sub>	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

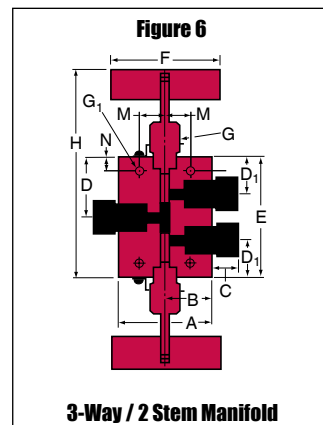
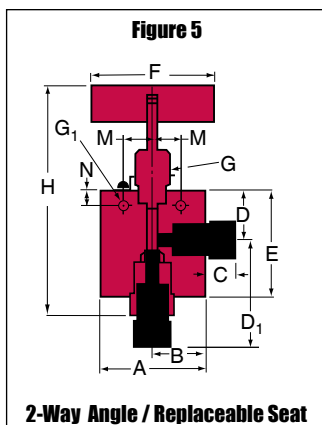
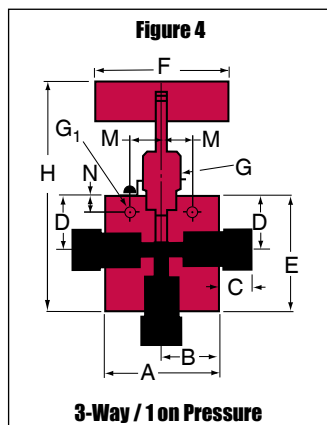
G<sub>1</sub> - Bracket mounting hole size

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,  
Autoclave stocks select products.  
Consult factory.



# Sour Service Products - High Pressure Fittings

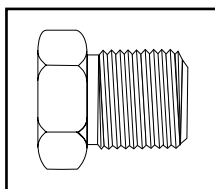
## Pressures to 30,000 psi (2068 bar)

Autoclave Engineers manufactures high pressure fittings for both standard oil field service where H<sub>2</sub>S is not present and type SOGWO for service where H<sub>2</sub>S is present. Utilizing Autoclave 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.



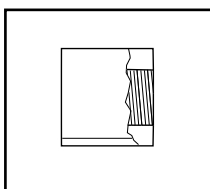
## Connection Components

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.



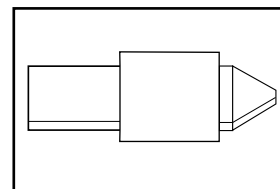
### Gland

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 Autoclave Engineers tubing.

Connection Type	Gland	Collar	Plug	Connection Components (Industry Standard)
F250C F375C F562C	CGL40-316SOG CGL60-316SOG CGL90-316SOG	CCL40-316SOG CCL60-316SOG CCL90-316SOG	CP40-316SOG CP60-316SOG CP90-316SOG	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.

## 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

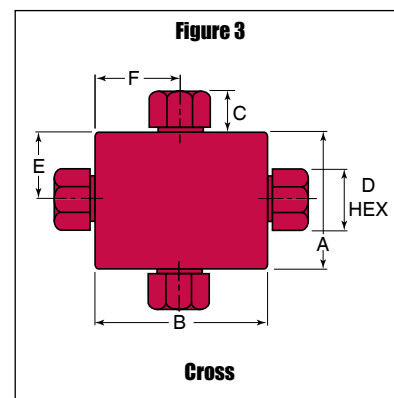
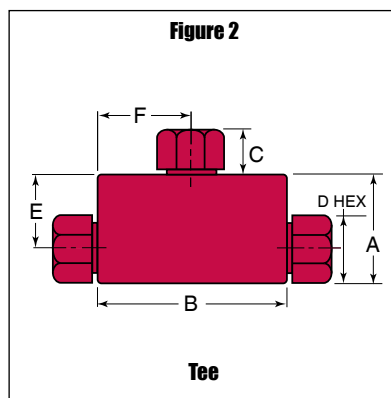
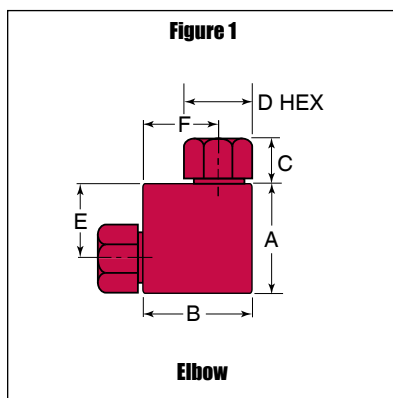
CX4444-SOGWO	F250C	1/4 (6.35)	30,000 (2068.39)	0.094 (2.39)	1.25 (31.75)	2.00 (50.80)	0.50 (12.70)	0.63 (15.88)	0.62 (15.75)	1.00 (25.40)		1.00 (25.40)	See Figure 3
CX6666-SOGWO	F375C	3/8 (9.53)	30,000 (2068.39)	0.125 (3.18)	2.12 (53.85)	2.00 (50.80)	0.53 (13.46)	0.81 (20.62)	1.06 (26.92)	1.00 (25.40)		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.

All dimensions for reference only and subject to change.

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

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



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

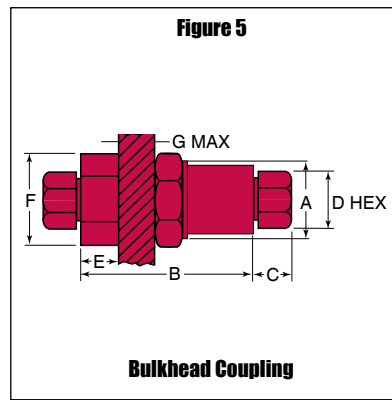
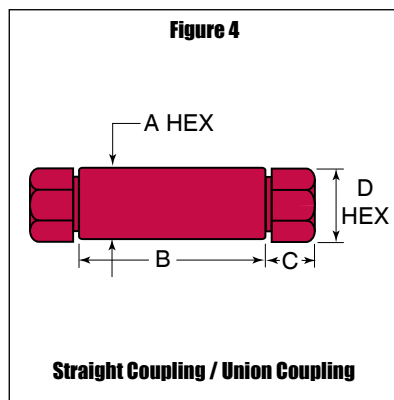
60BF4433-SOGWO	F250C	1/4	30,000	0.094	0.094	1.88	0.50	0.63	0.50	1.00	0.38	See Figure 5
60BF6633-SOGWO	F375C	3/8	30,000	0.125	1.12	2.38	0.53	0.81	0.78	1.38	0.38	
60BF9933-SOGWO	F562C	9/16	30,000	0.188	1.69	2.75	0.81	1.19	1.00	1.88	0.38	
		(14.29)	(2068.39)	(4.78)	(42.93)	(69.85)	(20.57)	(30.23)	(25.40)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

Autoclave Engineers offers a complete selection of seamless annealed stainless steel tubing designed to match the performance standards of Autoclave valves and fittings for sour oil and gas service. Autoclave 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

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. <sup>2</sup> (mm <sup>2</sup> )	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 (2.77)	0.083 (1.78)	0.005 (0.23)	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, Autoclave stocks select products. Consult your local representative.

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

## Pressures to 30,000 psi (2068 bar)

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

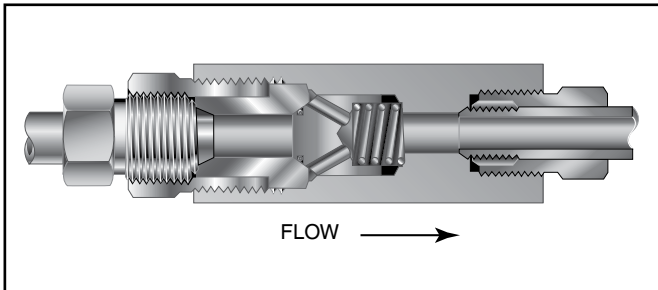
For prompt service, Autoclave stocks select products. Consult your local representative.



# Sour Service Products - High Pressure Check Valves

Pressures to 30,000 (2068 bar)

## O-Ring Check Valves

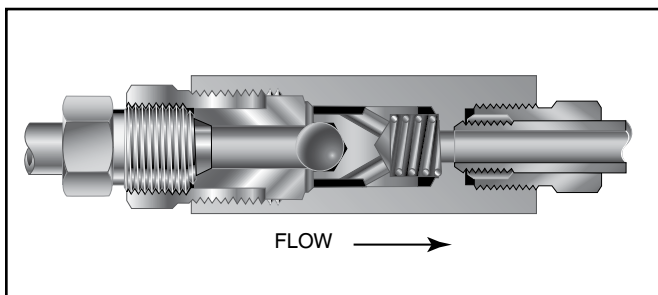


Provides unidirectional flow and tight shut-off for liquids and gas with high reliability. When differential drops below cracking pressure\*, valve shuts off. **(Not for use as relief valve.)**

**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 Teflon available for 250°F (121°C) or 400°F (204°C) respectively; specify when ordering.

**\*Cracking Pressure:** 20 psi (1.38 bar)  $\pm 30\%$ . 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

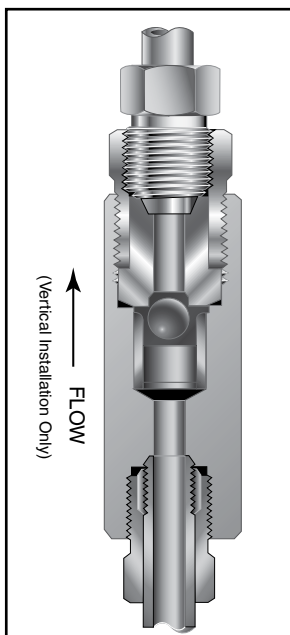


Prevents reverse flow where **leak-tight shut-off is not mandatory**. When differential drops below cracking pressure, valve closes. With all-metal components, valve can be used up to 1200°F (649°C). See Technical Information section for connection temperature limitations. **(Not for use as a relief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

## O-Ring Check Valves

CK04400-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)	
CK06600-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)	
CK09900-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

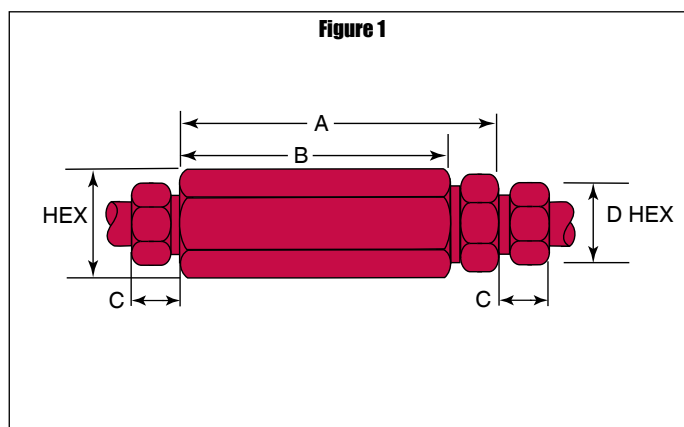
CK4402-SOGWO	F250C	30,000	0.094		3.38	2.50	0.50	0.63	1.18	See Figure 1
		(2068.39)	(2.39)		(85.85)	(63.50)	(12.70)	(16.00)	(29.97)	
CK6602-SOGWO	F375C	30,000	0.125		3.75	2.62	0.53	0.75	1.18	
		(2068.39)	(3.18)		(95.25)	(66.55)	(13.46)	(19.05)	(29.97)	
CK9902-SOGWO	F562C	30,000	0.187		4.62	3.38	0.81	1.12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

All dimensions for reference only and subject to change.

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

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

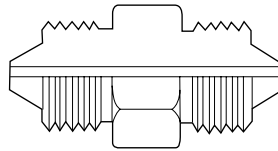


# Sour Service Products - Adapters/Couplings

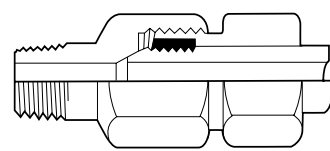
**Pressures to 30,000 psi (2068 bar)**

## 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.



**Male By Male**  
(w/High-Pressure shown)



**Male NPT**  
(w/High-Pressure shown)

		“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	15MAH4P6-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, Autoclave 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)

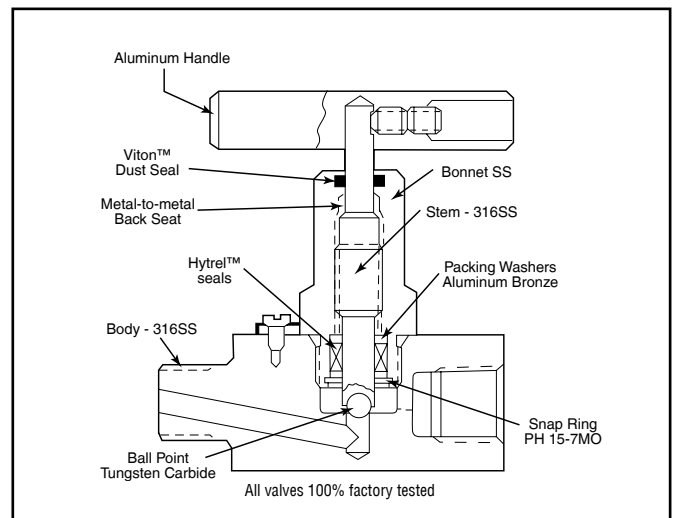
Autoclave's severe service valve is designed for reliable shut-off service with maximum working pressure to 10,000 psi (690 bar). They are suitable for a wide range of severe duty applications and comply with NACE MR0175. The valve's unique stem design includes a non-rotation ball point as well as blow-out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

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

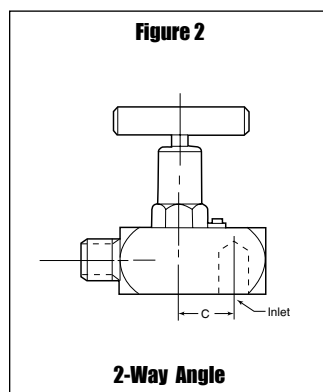
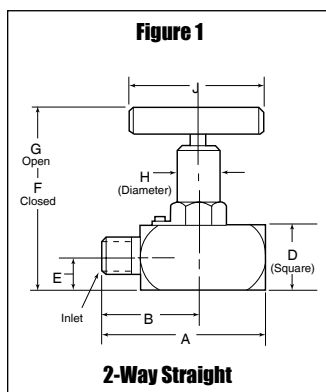
SSV71M4F4	1/4" male	1/4" Female	3.00	1.75	-	1.25	.625	3.25	3.41	0.75	2.50	See Figure 1
			(76.20)	(44.45)	-	(31.75)	(15.88)	(82.55)	(86.51)	(19.05)	(63.50)	
SSV71F4	1/4" Female	1/4" Female	3.00	1.50	-	1.25	0.63	3.25	3.41	0.75	2.50	
			(76.20)	(38.10)	-	(31.75)	(15.88)	(82.55)	(86.51)	(19.05)	(63.50)	
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)	

All dimensions for reference only and subject to change.  
For prompt service, Autoclave stocks select products.  
Consult factory.

All general terms and conditions of sale, including limitations of our liability, apply to all products and service sold.



# 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
- 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



Calibrated in PSI Only			
Catalog Number	Pressure psi (bar)	Minor Interval Value psi (bar)	Dial Diameter inches (mm)
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)

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







All general terms and conditions of sale, including limitations of our liability, apply to all products and services sold.

**! WARNING !**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE

PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE.

*This document and other information from Snap-tite, Inc., its subsidiaries and authorized distributors, provides product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operation conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.*

*The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Snap-tite, Inc. and its subsidiaries at any time without notice.*



Industrial Estate  
Whitemill-Wexford  
Republic of Ireland  
PH: 353 53 914 1566 FAX: 353 53 914 1582  
e-mail: [ste\\_sales@snap-tite.com](mailto:ste_sales@snap-tite.com)  
[www.snap-tite.com](http://www.snap-tite.com)



Fluid Components  
Division of Snap-tite, Inc.

8325 Hessinger Drive  
Erie, Pennsylvania 16509-4679 USA  
PH: 814-860-5700 FAX: 814-860-5811  
e-mail: [ae\\_sales@snap-tite.com](mailto:ae_sales@snap-tite.com)  
[www.autoclave.com](http://www.autoclave.com)

ISO-9001 Certified

02-0136SE-0109