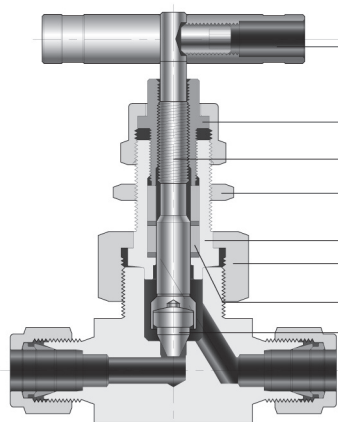


SUNV60 Series 6000psi Union Bonnet Needle Valves

Product Information

Features

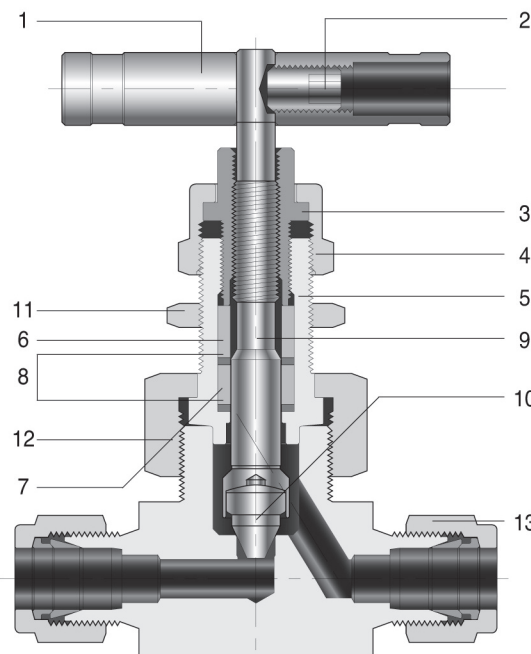
- Pressure up to 6,000 psig(413 bar) @ 100°F(38 °C).
- High Temperatures up to 449°F(232 °C) with standard PTFE packing; up to 1,200°F(648°C) with Grafoil packing.
- Standard 316 stainless steel, optional Alloy 20, and Alloy C276 construction.
- Valve stem back seating against the bevelled edge of bonnet in fully open position prevents maximum leakage through bonnet when packing fails.
- Standard non-rotating stem disc and stem packing below the threads design.



- Handle- Standard S316 bar handle.
- External Packing Bolt- allows packing adjustment without disassembling the valve..
- Roll threaded and hard chrome plated stem- is for extended valve's lifespan.
- Panel Mounting Nut- is standard and permits the access of the valve to panel or actuator.
- Union Nut- prevents accidental disassembly of the valve in its service.
- Stem Packing below the threads- prevents media contamination and thread lubricant washout.
- Non-Rotating Stem Disc at Closure- is to maximize the lifespan of the metal seat and complete sealing.

Materials of Construction

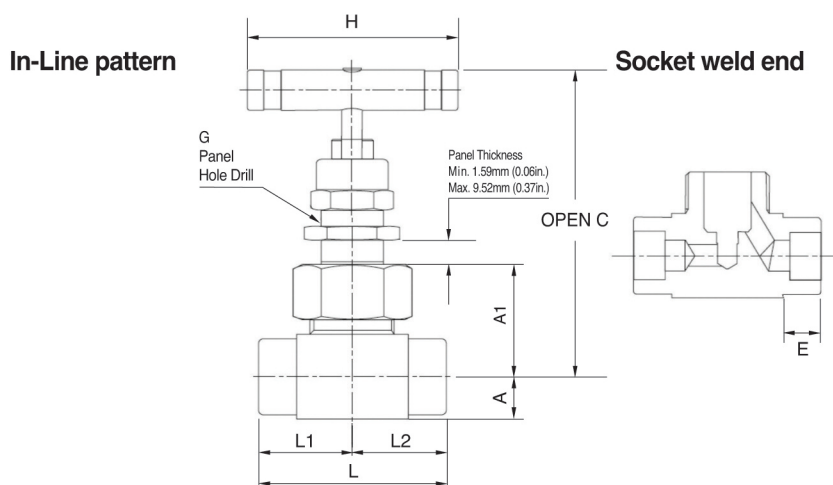
Component	Valve Body Materials		
	S316	Alloy 20	Alloy C276
Material Grade/ASTM Specification			
1. Bar handle	S316/A276, optional anodized aluminum handle		
2. Set screw	Grade B8 TYPE 304/A193		
3. Packing bolt	S316/A276 or A479		
4. Cap nut	S316/A276 or A479		
5. Bonnet *	S316/A276 or A479	Alloy 20/B473	C276/B574
6. Gland	S316/A276 or A479	Alloy 20/B473	C276/B574
7. Packing *	PTFE/D1710, optional PEEK & Graphite		
8. Packing supports	Reinforced PTFE		
9. Stem	Hard Chrome-plated S316/A276 or A479	Alloy 20/B473	C276/B574
10. Standard : Globe disc Optional : Ball disc, Regulating disc.	TYPE630/A564	Alloy 20/B473	C276/B574
11. Panel nut	S316/A276 or A479		
12. Union nut	S316/A276 or A479		
13. Body *	S316/A276 or A479	Alloy 20/B473	C276/B574



Note: * marked are wetted parts

Product Information

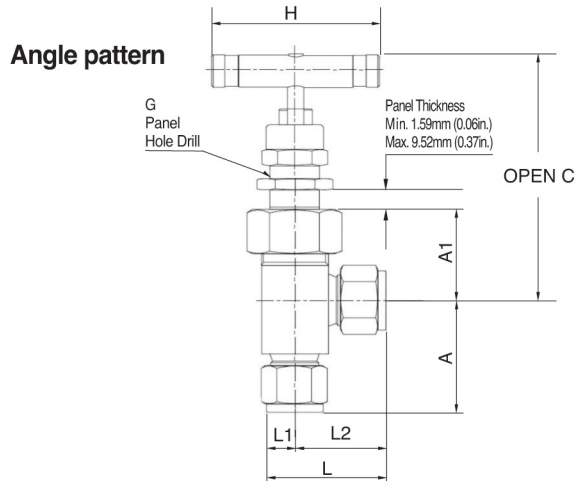
Table of Dimensions



Basic Ordering Number			End Connections		Orifice mm	Cv	Dimensions mm							
			Inlet	Outlet			L	L1	A1	A	H	G	C	E
SUNV1-	F	2N	1/8 F NPT	4.0	0.35	50.8	25.4	27.7	9.7	44.4	15.1	77.2	-	
	F	4N	1/4 F NPT			52.3	26.2	27.7	9.9	44.4	15.1	77.2	-	
	M	4N	1/4 M NPT			50.8	25.4	27.7	9.7	44.4	15.1	77.2	-	
	MF	4N	1/4 M / F NPT			51.6	26.2	27.7	9.9	44.4	15.1	77.2	-	
	S	6M	6 mm S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-	
	S	4T	1/4 S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-	
	SW	4T	1/4 TSW			46.2	23.1	27.7	9.7	44.4	15.1	77.2	7.1	
	S	8M	8 mm S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-	
SUNV2-	F	4N	1/4 F NPT	6.4	0.86	57.2	28.4	34.0	12.7	63.5	19.8	94.0	-	
	F	6N	3/8 F NPT			57.2	28.4	34.0	12.7	63.5	19.8	94.0	-	
	S	10M	10 mm S-LOK			72.4	36.1	34.0	12.7	63.5	19.8	93.7	-	
	S	6T	3/8 S-LOK			71.9	35.8	34.0	12.7	63.5	19.8	94.0	-	
	S	12M	12 mm S-LOK			77.2	38.6	34.0	12.7	63.5	19.8	94.0	-	
	S	8T	1/2 S-LOK			77.2	38.6	34.0	12.7	63.5	19.8	94.0	-	
	SW	4P	1/4 PSW			57.2	28.4	34.0	12.7	63.5	19.8	94.0	9.7	
	SW	6T	3/8 TSW			57.2	28.4	34.0	12.7	63.5	19.8	94.0	7.9	
	SW	8T	1/2 TSW			57.2	28.4	34.0	12.7	63.5	19.8	94.0	9.7	
SUNV3-	F	8N	1/2 F NPT	11.1	2.20	79.2	39.6	46.2	15.7	88.9	26.2	121	-	
	F	12N	3/4 F NPT			82.6	41.1	48.5	19.8	88.9	26.2	124	-	
	F	16N	1 F NPT			91.9	46.0	54.1	25.4	88.9	26.2	129	-	
	MF	8N	1/2 M / F NPT			79.2	39.6	46.2	15.7	88.9	26.2	121	-	
	MF	12N	3/4 M/ F NPT			82.6	41.1	48.5	19.8	88.9	26.2	124	-	
	MF	16N	1 M/ F NPT			91.9	46.0	54.1	25.4	88.9	26.2	129	-	
	S	12M	12 mm S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-	
	S	8T	1/2 S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-	
	S	12T	3/4 S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-	
	S	16T	1 S-LOK			104	51.8	47.8	17.5	88.9	26.2	121	-	
	SW	8P	1/2 PSW			79.2	39.6	47.8	17.5	88.9	26.2	123	9.7	
	SW	8T	1/2 TSW			79.2	39.6	46.2	15.7	88.9	26.2	121	9.7	
	SW	12T	3/4 TSW			79.2	39.6	46.2	15.7	88.9	26.2	121	11.2	

Product Information

Table of Dimensions



Basic Ordering Number			End Connections		Orifice mm	Cv	Dimensions mm						
			Inlet	Outlet			L2	A	L	A2	L1	H	G
SUNV1-	F	2N	1/8 F NPT	4.0	0.35	22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0
	F	4N	1/4 F NPT			22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0
	M	4N	1/4 M NPT			25.4	25.4	35.1	27.7	9.7	44.4	15.1	77.2
	MF	4N	1/4 M / F NPT			22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0
	S	6M	6 mm S-LOK			29.5	37.6	39.1	27.7	9.7	44.4	15.1	77.2
	S	4T	1/4 S-LOK			29.5	37.6	39.1	27.7	9.7	44.4	15.1	77.2
	SW	4T	1/4 TSW			22.4	30.2	31.8	27.7	9.7	44.4	15.1	77.2
	S	8M	8 mm S-LOK			-	-	-	-	-	44.4	15.1	-
SUNV2-	F	4N	1/4 F NPT	6.4	0.86	25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0
	F	6N	3/8 F NPT			25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0
	S	10M	10 mm S-LOK			33.0	39.4	45.7	34.3	12.7	63.5	19.8	94.2
	S	6T	3/8 S-LOK			32.8	42.2	45.5	31.0	12.7	63.5	19.8	90.7
	S	12M	12 mm S-LOK			35.6	41.9	48.3	34.0	12.7	63.5	19.8	94.0
	S	8T	1/2 S-LOK			35.6	41.9	48.3	34.0	12.7	63.5	19.8	94.0
	SW	4P	1/4 PSW			25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0
	SW	6T	3/8 TSW			25.4	31.8	38.1	34.0	12.7	63.5	19.8	94.0
	SW	8T	1/2 TSW			25.4	25.4	38.1	35.6	12.7	63.5	19.8	95.5
SUNV3-	F	8N	1/2 F NPT	11.1	2.20	33.3	39.6	50.8	50.8	17.5	88.9	26.2	126
	F	12N	3/4 F NPT			-	-	-	-	-	88.9	26.2	-
	F	16N	1 F NPT			-	-	-	-	-	88.9	26.2	-
	MF	8N	1/2 M / F NPT			33.3	39.6	50.8	50.8	17.5	88.9	26.2	126
	MF	12N	3/4 M / F NPT			-	-	-	-	-	88.9	26.2	-
	MF	16N	1 M / F NPT			-	-	-	-	-	88.9	26.2	-
	S	12M	12 mm S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123
	S	8T	1/2 S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123
	S	12T	3/4 S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123
	S	16T	1 S-LOK			-	-	-	-	-	88.9	26.2	123
	SW	8P	1/2 PSW			33.3	39.6	50.8	50.8	17.5	88.9	26.2	126
	SW	8T	1/2 TSW			33.3	42.9	50.8	47.8	17.5	88.9	26.2	123
	SW	12T	3/4 TSW			-	-	-	-	-	88.9	26.2	-

Product Information

Technical Data

Valve Material	Stem Disc Designator	Temperature Rating °F(°C)	Pressure Rating @ -65 to 100°F (-53 to 38°C)
- S316 - Alloy 20 - Alloy C276	- Globe: Nil. - Regulating: R - Ball: B	-65 to 449 (-53 to 232)	6,000 psig (413 barg)

Globe Disc



Ball Disc



Regulating Disc



- The above ratings are for a standard valve with PTFE packing. For optional packing materials, refer to the table show below.
- Extreme temperature fluctuations may require packing adjustment accordingly.

Packing and Body Materials & Temperature and Pressure Rating

Packing Material	Body Material	Temperature	Pressure @ Temp Rating
PTFE (Standard)	S316	-65°F ~ 450°F (-54°C ~ 232°C)	4,130 psig
	Alloy20		3,970 psig
PEEK	S316	-65°F ~ 600°F (-54°C ~ 315°C)	3,760 psig
	Alloy20	-65°F ~ 500°F (-54°C ~ 260°C)	3,960 psig
Graphite	S316	-65°F ~ 1,200°F (-54°C ~ 648°C)	1,715 psig
	Carbon Steel	-20°F ~ 350°F (-29°C ~ 176°C)	5,230 psig
	Alloy20	-65°F ~ 500°F (-54°C ~ 260°C)	3,960 psig

Note :

Applicable over 500 °F (260 °C).

PEEK is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids.

Other limitations may apply.

Pressure-Temperature Ratings

Temperature	Pressure (psig) @ Temperature Rating			
	ANSI Group	2.2	NA	3.4
	Materials	S316	Carbon Steel *	ALLY20
	ANSI Class	2,500	NA	2,500
-65°F(-54°C)	100°F(38°C)	6,000	6,000	5,000
	200°F(93°C)	5,160	5,420	4,400
	300°F(148°C)	4,660	5,320	4,120
	350°F(176°C)	4,770	5,230	4,050
	400°F(204°C)	4,280	-	3,980
	450°F(232°C)	4,130	-	3,970

- Rated at a low temperature of -20°F (-29°C)

- To determine kPa, multiply psig by 6.89 and multiply barg by 100

- When valves with S-lok fitting's end connections are connected to tubing, the working pressure of tubing must be considered in the calculation of total system working pressure

Product Information

Sour Gas Service

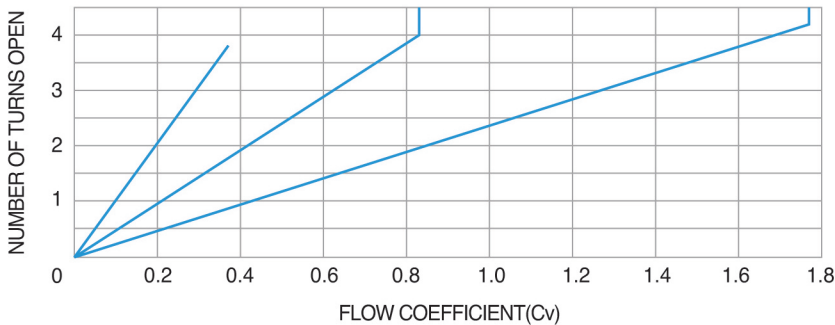
- Valves for use in sour gas are available. Valves' wetted components are selected to the requirements of NACE MR0175 for sulfide stress cracking resistant materials. To order, insert -SG in the basic ordering number.

Handles

- S316 bar handle is standard. Optionally, anodized black aluminum bar handle is available.
- To order handle for field assembly, select desired handle ordering number from the table.

Testing

Flow Data @ 100°F (38°C) for valves with regulating disc



- Valve with standard globe and ball disc is designed to be used in a fully open or fully closed position.

Testing

SUNV1-F-4N	A	PK	B	SG	S6
Series Designator	Valve Pattern Designator	Packing Material Designator	Stem Disc Designator	Sour Gas Designator	Valve Material Designator
Basic Ordering Number	- Nil : In-line - A : Angle	- Nil : PTFE - PK : PEEK - GF : Graphite	- Nil : Globe - R : Regulating - B : Ball	- Nil: no Sour Gas - SG: Sour Gas	- S6: S316 - A20: Alloy 20 - C276: Alloy C276

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. S-LOK accepts no liability for any improper selection, installation, operation or maintenance.