SBNV60 Series 6000psi Integral Bonnet Bar Stock Needle Valves

Features

- Pressure rating up to 6000psi(413bar)@100°F(38°C).
- Temperature rating from -65°F(54°C) to 450°F(232°C) with standard PTFE packing, and up to 600°F(315°C) with optional PEEK packing.
- Choice of materials : Standard S316 and available in alloy 400.
- Available Sour Gas service per NACE MR 0175.
- Every valve is 100% factory tested with the Nitrogen @1000psi (69bar).

Design

- Applications : General purpose gas, water and oil.
- Two-piece chevron-style PTFE stem packing design with compensating disc springs.
- Compact and rugged design.
- Variety stem tips include Vee, and Soft-seat with Kel-F.
- Orifice sizes : from 0.17in(4.3㎜) to 0.25in(6.3㎜).
- Flow Coefficients(Cv) : from 0.37 to 0.73.
- Bar stock body with straight and angle patterns.
- Stem threads are hard chrome-plated for maximum service life.
- Packing materials : Standard PTFE and optional PEEK packing for high temperature.
- Packing nut enables easy external adjustments to ensure leak-free stem seal.
- Variety of End connections include S-LOK, NPT & ISO threads Male/Female.
- Standard Bar Handle with S316.

Technical Data

• Temperature - Working Pressure

Description	Pressure(psig)@Temperature Rating		
	ANSI Group	2.2	3.4
	ANSI Class	2500	2500
	Materials	S316	Alloy 400
-65°F(-54°C)100°F(38°C)		6000	5000
200°F(93°C)		5160	4400
300°F(148°C)		4660	4120
350°F(176°C)		4470	4060
400°F(204°C)		4280	3980
450°F(232°C)		4130	3970

▸ Pressure ratings of valves with S-LOK end connections are determined by the tubing material and wall thickness. For more information about pressure ratings of valves with tube fitting end connections.

Note Pressure rating of valve is sometimes limited to the working pressure of pipe ends and the tubing connected.

• Temperature and Pressure Ratings

Body Material	Stem Tip	Temperature Rating	Pressure Rating @-65°Fto 100°F (-54°Cto 38°C)
316 Stainless Steel	Vee	-65°Fto 450°F (-54°Cto 232°C)	6000psig
	Soft Seat (Kel-F)	-65°Fto 200°F (-54°Cto 93°C)	
Alloy 400 (Monel)	Vee	-65°Fto 450°F (-54°Cto 232°C)	5000psig
	Soft Seat (Kel-F)	-65°Fto 200°F (-54°Cto 93°C)	

▸ The above ratings are for standard valve with PTFE packing. For optional packing materials, refer to the table shown below.

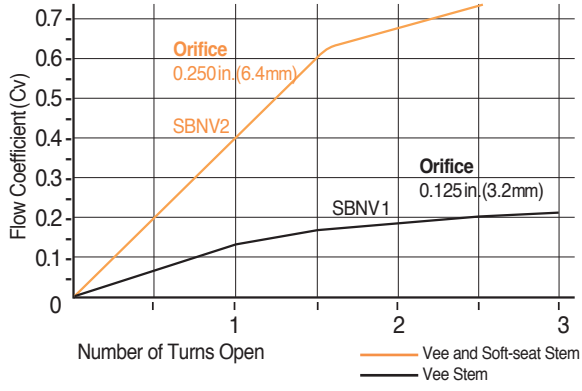
▸ Extreame temperature fluctuations may requlre packing adjustment.

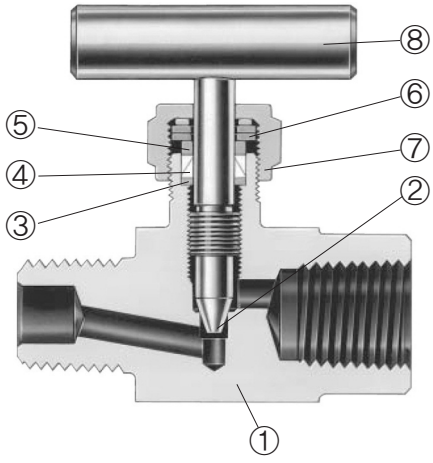
• Temperature-Pressure Rating with Packing and Body Materials

Packing Material	Body Materialp	Temperature Rating	Pressure Rating Max. Temp.
PTFE (Standard)	316 Stainless Steel	-65°Fto 450°F (-54°Cto 232°C)	4130psig
	Alloy 400*		3970psig
PEEK	316 Stainless Steel	-65°Fto 600°F (-54°Cto 315°C)	3760psig
	Alloy 400*	-65°Fto 500°F (-54°Cto 260°C)	3960psig

* Not applicable over 500°F(260℃), PEEK is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids.
▸Other limitations may apply.

• Flow Coefficient (Cv)-Number of Handle Turns



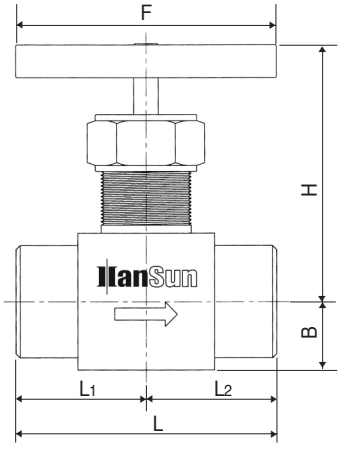


Materials of Construction

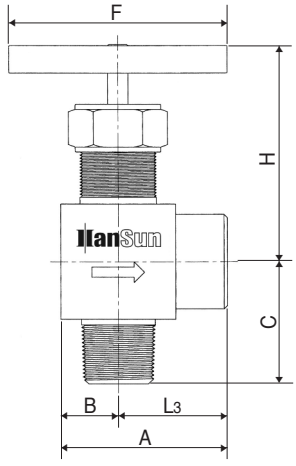
Item	Description		Material / ASTM Specification	
			S316	Alloy 400
1	Body		S316	Alloy 400/B564
2	Stem	Vee Stem	Chrome plated S316	Alloy R-405/B164
		Soft Seat Stem		
2a	Stem Tip (Soft Set)		Kel-F (PCTFE)	
3	Packing Ring		S316	Alloy R-405/B164
4	Packing		Standard PTFE, Optional PEEK	
5	Grand		S316	Alloy R-405/B164
6	Packing Spring		17-7PH	
7	Packing Nut		S316	
8	Bar Handle		S316	Alloy R-405/B164

Wetted parts are listed in orange color.
Standard Lubrication : Fluorocarbon based.

Inline pattern



Angle pattern



Ordering Information and Table of Dimensions

Valve Ordering Number		Orifice (mm)	Cv	End Connection		Dimensions (mm)								
				Inlet	Outlet	L	L_1	L_2	L_3	A	B	C	H	F
SBNV1	F-4N	3.2	0.21	1/4″ Female NPT		47.8	23.9	23.9	25.4	36.6	11.2	25.4	42.2	44.5
	F-4R			1/4″ Male NPT										
	M-4N			1/4″ Male NPT		49.3	24.6	24.6	-	-		-		
	MF-4N			1/4″ Male NPT	1/4″ Female NPT	48.5	24.6	23.9	25.4	36.6		26.2		
	MS-4N4T			1/4″ Male NPT		55.8	24.6	31.2	28.7	39.9		26.2		
	S-4T			1/4″ S-LOK	1/4″ S-LOK	62.5	31.2	31.2	28.7	39.9		29.5		
SBNV2	F-6N	6.4	0.73	3/8″ Female NPT		63.5	31.8	31.8	31.8	48.6	16.8	31.8	58.7	64
	F-8N			1/2″ Female NPT								35.8		
	F-8R			1/2″ Female ISO										
	MF-6N			3/8″ Male NPT	3/8″ Female NPT							31.0		
	MF-8N			1/2″ Male NPT	1/2″ Female NPT	64.8	33.0					35.8		
	MF-12N8N			3/4″ Male NPT	1/2″ Female NPT	63.5	31.8		-	-		-		
	S-6T			3/8″ S-LOK		78.2	39.1	39.1	-	-		-		
	S-8T			1/2″ S-LOK		83.8	41.9	41.9	-	-		-		

Dimension shown are for reference only, subject to change.

• Sour Gas Service

-Sour Gas Service is provided to meet NACE Standard MR 0175.

• Handle

-Stainless Steel bar handle is standard all body valves.
-Black phenolic knop is standard for soft seat stem valves.

• Testing

-Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi(69bar).
-Seats have a maximum allowable leak rate of 0.1 sccm **Hydrostatic Shell tests** is performed optional with water at 1.5 times the working Pressure.

• Safety in Valve Selection

-When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

• Ordering Information

SBNV2	S	8T	A	R	SG	S6
Series Designator by Orifice Size	**End Connection Designator**	**Inlet-Outlet Size Designator**	**Flow Designator**	**Stem Designator**	**Sour Gas Designator**	**Body Material Designator**
			• Nil : Standard Pattern • A : Angle Pattern	• Nil : Vee Stem • K : Soft Tip with Kel-F	• Nil : Standard • SG: Sour Gas Service	• S6 : 316 Stainless Steel • MO: Alloy 400