

## 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(4.3mm) to 0.25in(6.3mm).
- 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°F to 100°F (-54°C to 38°C)
316 Stainless Steel	Vee	-65°F to 450°F (-54°C to 232°C)	6000psig
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)	
Alloy 400 (Monel)	Vee	-65°F to 450°F (-54°C to 232°C)	5000psig
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)	

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

▶ Extreme temperature fluctuations may require packing adjustment.

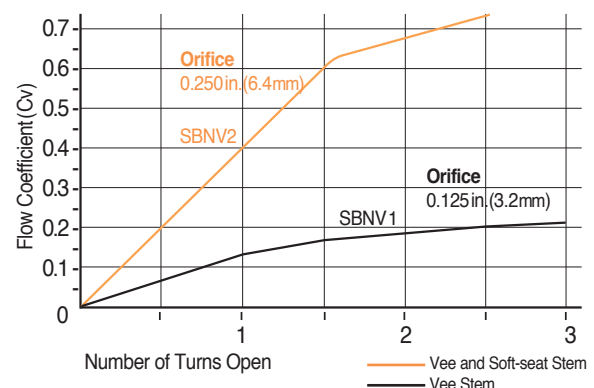
#### • Temperature-Pressure Rating with Packing and Body Materials

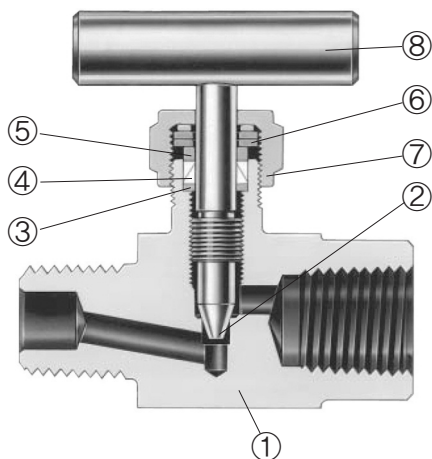
Packing Material	Body Material	Temperature Rating	Pressure Rating Max. Temp.
PTFE (Standard)	316 Stainless Steel	-65°F to 450°F (-54°C to 232°C)	4130psig
	Alloy 400*		3970psig
PEEK	316 Stainless Steel	-65°F to 600°F (-54°C to 315°C)	3760psig
	Alloy 400*		3960psig

\* Not 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.

#### • Flow Coefficient (Cv)-Number of Handle Turns

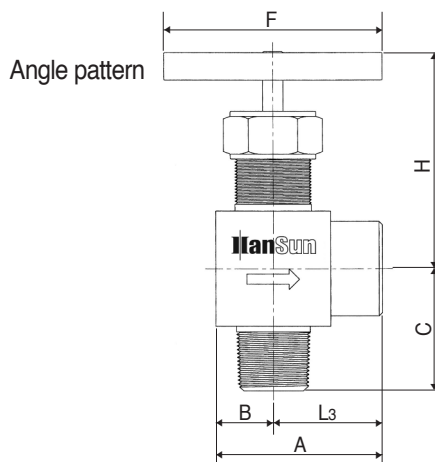
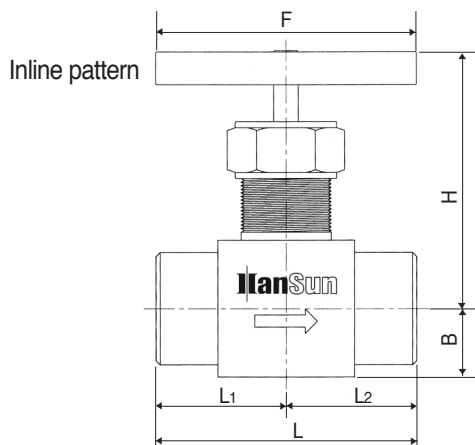




### Materials of Construction

Item	Description	Material / ASTM Specification	
		S316	Alloy 400
1	Body	S316	Alloy 400/B564
2	Vee Stem	Chrome plated S316	Alloy R-405/B164
	Soft Seat Stem		
2a	Stem Tip (Soft Set)	Kel-F (PTFE)	
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.



### Ordering Information and Table of Dimensions

Valve Ordering Number	Orifice (mm)	Cv	End Connection		Dimensions (mm)									
			Inlet	Outlet	L	L1	L2	L3	A	B	C	H	F	
SBNV1	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	
			1/4" Male NPT											
			1/4" Male NPT		49.3	24.6	24.6	-	-					-
			1/4" Male NPT	1/4" Female NPT										
			1/4" Male NPT		55.8	24.6	31.2	28.7	39.9					26.2
			1/4" S-LOK	1/4" S-LOK										
SBNV2	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	
			1/2" Female NPT											
			1/2" Female ISO											
			3/8" Male NPT	3/8" Female NPT	64.8	33.0	-	-	31.0					
			1/2" Male NPT	1/2" Female NPT							64.8			33.0
			3/4" Male NPT	1/2" Female NPT	63.5	31.8	-	-	-					
			3/8" S-LOK								78.2			39.1
			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 knob 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

