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# High Pressure Bar Stock Needle Valves



# High Pressure Bar Stock Needle Valves

## SHBNV Series

### Features

- Bar stock body
- Compact design
- Low operating torques
- Variety of End Connections
- Straight and Angle flow patterns
- Each and every valve is tested at the factory



### Specifications

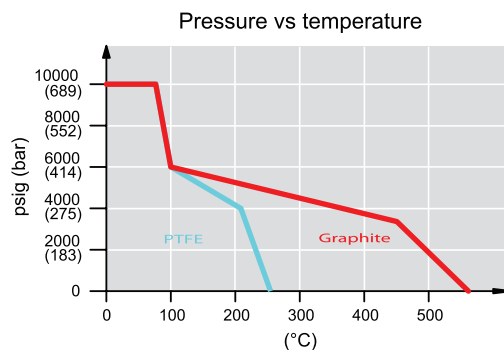
|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Maximum Working Pressure rating | 10000psig (689bar) @100°F(38°C)                |
| Temperature rating              | -65 to 450°F (-54 to 232 °C) with PTFE packing |
| Body material                   | 316 stainless steel, Carbon steel              |
| Orifice                         | 0.197 in. (5.0mm)                              |

### Testing

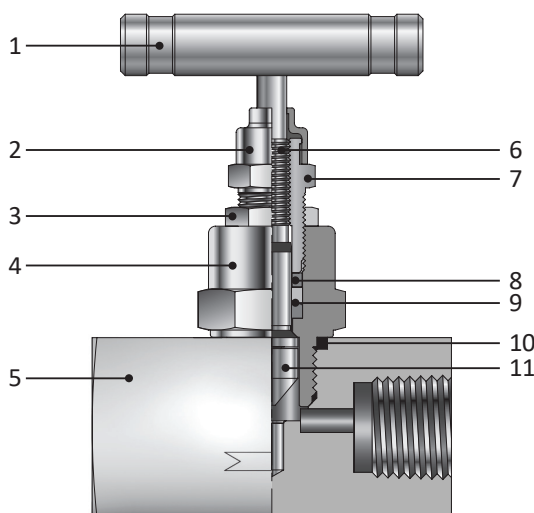
- Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure. (OPTION)

### Technical Data

| Body Material                     | Stainless Steel                        | Carbon Steel                           |
|-----------------------------------|----------------------------------------|----------------------------------------|
| Temperature Rating                | -65 °F ~ 450 °F<br>(-54 °C ~ 232 °C)   | -20 °F ~ 350 °F<br>(-29 °C ~ 176 °C)   |
| Pressure Rating @ 100 °F          | 10000 psig (689bar)                    | 10000 psig (689bar)                    |
| Pressure Rating @ Max Temperature | 4000 psig @ 500 °F<br>276 bar @ 260 °C | 5230 psig @ 350 °F<br>360 bar @ 176 °C |



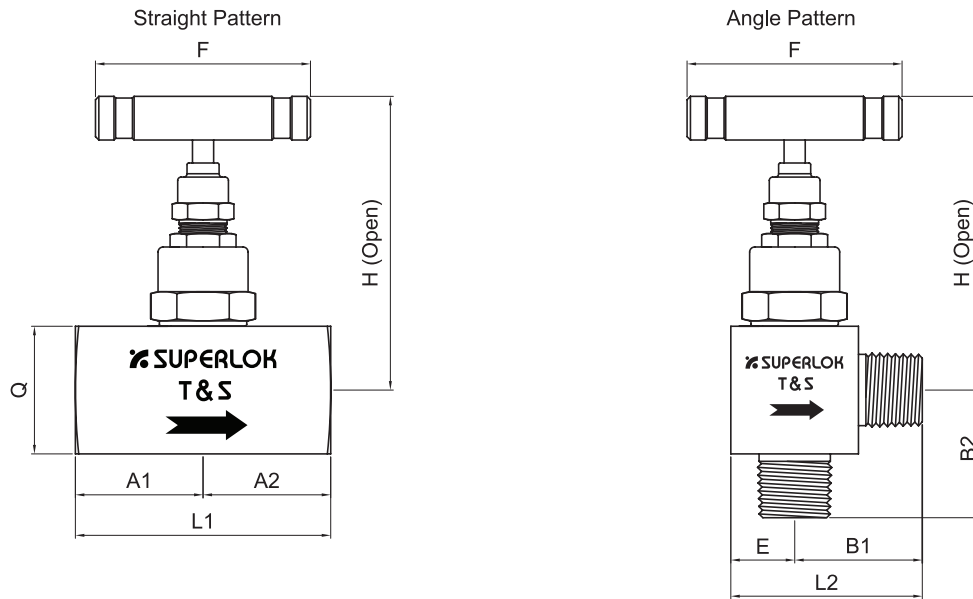
### Materials of Construction



| No. | Component     | Material Grade / ASTM Specification |              |
|-----|---------------|-------------------------------------|--------------|
|     |               | Stainless Steel                     | Carbon Steel |
| 1   | Bar Handle    | Stainless Steel                     |              |
| 2   | Dust Cap      | Nylon                               |              |
| 3   | Lock Nut      | Stainless Steel                     |              |
| *4  | Bonnet        | SS316 / A479                        | A105         |
| *5  | Body          | SS316 / A479                        | A105         |
| *6  | Stem          | SS316 / A479                        |              |
| 7   | Packing Bolt  | SS316 / A276                        |              |
| 8   | Packing Gland | SS316 / A276                        |              |
| *9  | Packing       | PTFE, Graphite                      |              |
| 10  | Bonnet Seal   | PTFE, Graphite                      |              |
| *11 | Vee Tip       | SS630 / A564                        |              |

\* Wetted components

## SHBNV Series



## Table of Dimensions

| Part No. | Orifice | Cv  | End Connections |                | Dimensions     |      |      |      |      |      |      |      |      |      |      |
|----------|---------|-----|-----------------|----------------|----------------|------|------|------|------|------|------|------|------|------|------|
|          |         |     | Inlet           | Outlet         | L1             | A1   | A2   | Q    | L2   | B1   | B2   | E    | F    | H    |      |
| SHBNV    | F4N     | 4.0 | 0.52            | 1/4 Female NPT |                | 60.4 | 30.2 | 30.2 | 32.0 | 51.0 | 35.0 | 35.0 | 16.0 | 64.0 | 85.5 |
|          | M4N-F4N |     |                 | 1/4 Male NPT   | 1/4 Female NPT | 60.4 | 30.2 | 30.2 |      |      |      |      |      |      |      |
|          | F6N     |     |                 | 3/8 Female NPT |                | 61.0 | 30.5 | 30.5 |      |      |      |      |      |      |      |
|          | M6N-F6N |     |                 | 3/8 Male NPT   | 3/8 Female NPT | 61.0 | 30.5 | 30.5 |      |      |      |      |      |      |      |
|          | F8N     |     |                 | 1/2 Female NPT |                | 68.0 | 34.0 | 34.0 |      |      |      |      |      |      |      |
|          | M8N-F8N |     |                 | 1/2 Male NPT   | 1/2 Female NPT | 68.0 | 34.0 | 34.0 |      |      |      |      |      |      |      |

- Dimensions and Drawings are for reference only and are subject to change without prior notice.
- Unless otherwise specified, all dimensions are in millimeters.
- Sizes, pressure classes, and end connections not listed are available upon request.
- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

## Ordering Information

Example :

|              |              |              |             |             |            |
|--------------|--------------|--------------|-------------|-------------|------------|
|              | Inlet        | Outlet       |             |             |            |
| <b>SHBNV</b> | <b>- M8N</b> | <b>- F8N</b> | <b>- AH</b> | <b>- GR</b> | <b>- C</b> |
| <b>1</b>     | <b>2</b>     | <b>3</b>     | <b>2</b>    | <b>3</b>    | <b>4</b>   |
|              | <b>5</b>     | <b>6</b>     |             |             |            |

### 1. Valve Series

- SHBNV** = Straight Flow Pattern
- SHBNVA** = Angle Flow Pattern

### 2. Port Type

- M** = Male Pipe Thread
- F** = Female Pipe Thread

### 3. Port Size

| Size (inch)  | 1/4 | 3/8 | 1/2 |
|--------------|-----|-----|-----|
| Screwed BSPT | 4R  | 6R  | 8R  |
| Screwed NPT  | 4N  | 6N  | 8N  |

### 4. Handle

- (Blank)** = Stainless Steel Bar Handle (Standard)
- AH** = Anodized black aluminum bar handle

### 5. Packing Material

- (Blank)** = PTFE (Standard)
- GR** = Grafoil

### 6. Body Material

- (Blank)** = 316 Stainless Steel
- C** = Carbon Steel

※ For special sizes and configurations, please consult BMT (SUPERLOK) sales representative.