

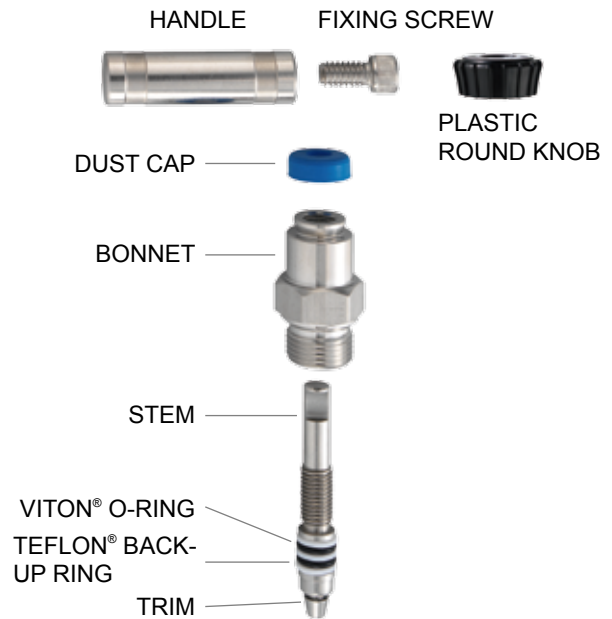
## Square Bar Stock Needle Valve BNV Series



### Features

- Maximum working pressure:  
6000 psi (414bar) at 100°F (38°C)
- Working temperature:  
-22°F (-30°C) to 392°F (200°C)
- Compact design provides economical and long service life.
- Non rotating stem design to reduce the galling and provide excellent seal on seat.
- Stem threads are rolled and lubricated to prevent galling and reduce operating torque.
- Sealing are below the threads protects from the contaminant by process and prevents lubricant washout.
- Safety back seating seal in fully open position to perform a secondary stem seal.
- Body to bonnet seal is metal to metal in constant compression, creating a reliable seal point to eliminate possible tensile breakage of bonnet and isolate bonnet threads from process fluid corrosion.
- Bonnet lock pin prevents accidental removal while in service.
- Hydro test performed with pure water at 1.5 times of working pressure
- 100% factory test
- Material traceability

### Material of Construction



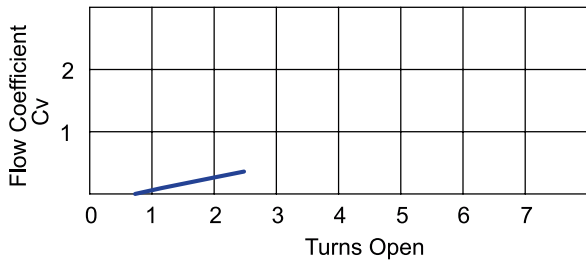
| Component    | Valve Body Material |                     |
|--------------|---------------------|---------------------|
|              | 316 S.S.            | Carbon Steel        |
| Body         | 316 S.S./A479       | Carbon Steel/A108   |
| Bonnet       | 316 S.S./A479       | Carbon Steel/A108   |
| Stem         | 316 S.S./A276       | 304 S.S./A276       |
| Handle       | 303 S.S./A276       | Carbon Steel/A108   |
| Fixing Screw | 302 S.S./A276       | Zinc plated steel   |
| Lock Pin     | 303 S.S./A276       | 303 S.S./A276       |
| O-Ring       | Viton <sup>®</sup>  | Viton <sup>®</sup>  |
| Back-Up Ring | Teflon <sup>®</sup> | Teflon <sup>®</sup> |
| Dust Cap     | NBR                 | NBR                 |

#### Note:

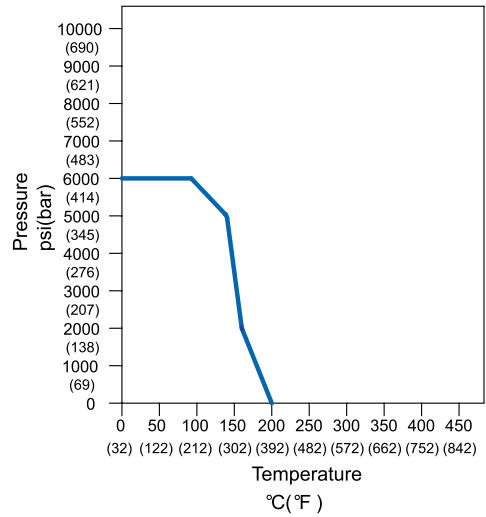
#### Optional with

1. VEE-LOK twin ferrule tube end
2. panel mountable nuts
3. bleeding screw
4. black plastic round knob

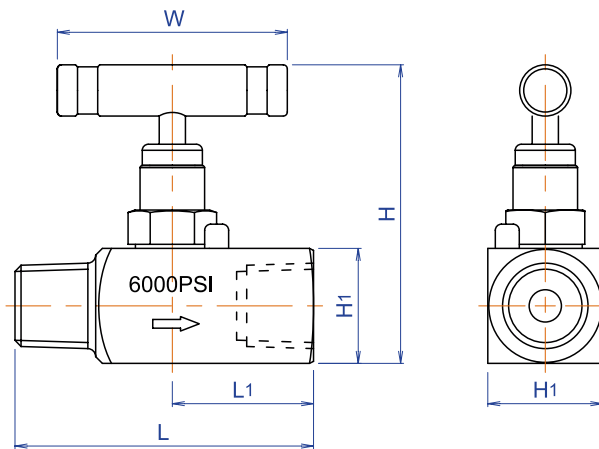
### Flow Characteristics



### Pressure Vs. Temperature



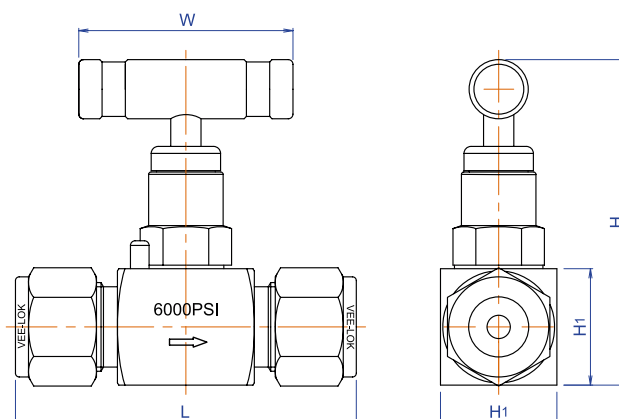
### Dimensions



| Ordering No. | End Connection |                | Orifice (bore) | Dimensions (mm) |      |      |      |    |
|--------------|----------------|----------------|----------------|-----------------|------|------|------|----|
|              | Inlet          | Outlet         |                | L               | L1   | H    | H1   | W  |
| BNV□2MF      | 1/8"NPT male   | 1/8"NPT female | 4.8            | 57              | 27   | 64   | 19   | 46 |
| BNV□2FF      | 1/8"NPT female | 1/8"NPT female |                | 57              | 28.5 | 64   | 19   | 46 |
| BNV□4MF      | 1/4"NPT male   | 1/4"NPT female |                | 57              | 27   | 64   | 19   | 46 |
| BNV□4FF      | 1/4"NPT female | 1/4"NPT female |                | 57              | 28.5 | 64   | 19   | 46 |
| BNV□6MF      | 3/8"NPT male   | 3/8"NPT female |                | 65              | 31   | 70.5 | 25.4 | 57 |
| BNV□6FF      | 3/8"NPT female | 3/8"NPT female |                | 62              | 31   | 70.5 | 25.4 | 57 |
| BNV□8MF      | 1/2"NPT male   | 1/2"NPT female |                | 74              | 35   | 74   | 29   | 57 |
| BNV□8FF      | 1/2"NPT female | 1/2"NPT female |                | 70              | 35   | 74   | 29   | 57 |

All dimensions shown are for reference and subject to change without prior notice.

Sizes listed are standard. Other sizes and end types are available upon request. Refer to ordering information.



| Ordering No. | End Connection |           | Orifice (bore) | Dimensions (mm) |    |      |    |
|--------------|----------------|-----------|----------------|-----------------|----|------|----|
|              | Inlet          | Outlet    |                | L               | H  | H1   | W  |
| TBNV□2OD     | 1/8" O.D.      | 1/8" O.D. | 4.8            | 63.6            | 46 | 19   | 46 |
| TBNV□4OD     | 1/4" O.D.      | 1/4" O.D. |                | 65              | 46 | 19   | 46 |
| TBNV□6OD     | 3/8" O.D.      | 3/8" O.D. |                | 68              | 57 | 25.4 | 57 |
| TBNV□8OD     | 1/2" O.D.      | 1/2" O.D. |                | 73.2            | 57 | 25.4 | 57 |
| TBNV□M6OD    | 6mm O.D.       | 6mm O.D.  |                | 65              | 46 | 19   | 46 |
| TBNV□M12OD   | 12mm O.D.      | 12mm O.D. |                | 73.2            | 57 | 25.4 | 57 |

Dimensions shown are Vee-Lok twin ferrule tube nuts finger-tightened and subject to change without prior notice. Sizes listed are standard. Other sizes and end types are available upon request. Refer to ordering information.

### Standard Material

| Valve        | Body     | Bonnet   | Stem     | Packing            | Trim     |
|--------------|----------|----------|----------|--------------------|----------|
| 316 SS       | 316-A479 | 316-A479 | 316-A276 | Viton <sup>®</sup> | 316-A276 |
| Carbon Steel | A108     | A108     | 304-A276 | Viton <sup>®</sup> | 304-A276 |

### Ordering Information

| BNV    |               | S            |     | 4              |    | MF                                 |      |                    |  |
|--------|---------------|--------------|-----|----------------|----|------------------------------------|------|--------------------|--|
| Series | Body Material | Size         |     | End Connection |    | Optional                           |      |                    |  |
| BNV    | S             | 316 S.S.     | 2   | 1/8"           | M  | Male                               | PN   | Panel mountable    |  |
| TBNV   | C             | Carbon Steel | 4   | 1/4"           | F  | Female                             | B    | M6 bleeding screw  |  |
|        |               |              | 6   | 3/8"           | OD | VEE-LOK twin ferrule tube fittings | R    | Plastic round knob |  |
|        |               |              | 8   | 1/2"           |    |                                    | BSPT | BSP Taper          |  |
|        |               |              | M6  | 6mm            |    |                                    | BSPP | BSP parallel       |  |
|        |               |              | M12 | 12mm           |    |                                    |      |                    |  |

#### Note:

1. Viton<sup>®</sup>, Teflon<sup>®</sup> and Delrin<sup>®</sup> are all registered trademarks of DuPont. Refer to chemical resistance guide and choose suitable elastomer for your application.
2. Carbon steel valves are yellow zinc plated to resist corrosion.