



# Cost Effective and Reliable Source For Instrumentation Needle Valves

SERIES - BS05



[www.sealexcel.com](http://www.sealexcel.com)

*Advanced Technology in design, development and production of world class quality Fittings and Valves for Instrumentation, Process Tubing etc. ensure  
A TOTAL CUSTOMER SATISFACTIONS*

Unit-II, Gujarat (Plant-1)



Unit-II, Gujarat (Plant-2)



SEALEXCEL (INDIA) PVT. LTD. A fast growing manufacturing company having over 35 years of experience and expertise with advanced technology in Design, Development and Manufacturing World Class consistent and reliable quality Tube Fitting and Valves used in Fluid/Gas Control System in Industries like Automobile, Chemicals, Petrochemicals, Oil & Gas, Marine, Food, Biotechnology, Pharmaceutical, Packaging and Printing Industries etc.

We have two well-equipped modern manufacturing plant including in-house product performance testing facilities to check and verify the maximum safety and consistent reliable performance under adverse, harsh, stressful environments like vibrations, high pressure, deep vacuum and thermal shock etc.

## RESEARCH & DEVELOPMENT

By continuous Research & Development with advanced technology and high tech cutting edge machineries. SEALEXCEL produce best quality products for its customers.

## QUALITY

SEALEXCEL's total quality system and control from incoming raw material inspection through ongoing quality assurance during production, final inspection, assembly, testing, packing and dispatch ensure high standard quality products which has earned us various quality certifications such as

- ISO 9001:2015
- PED 2014/68/EU
- ATEX
- OHSAS 18001 (Safety)
- ISO 14001 (Environment)

SEALEXCEL products are validated by type testing in accordance with

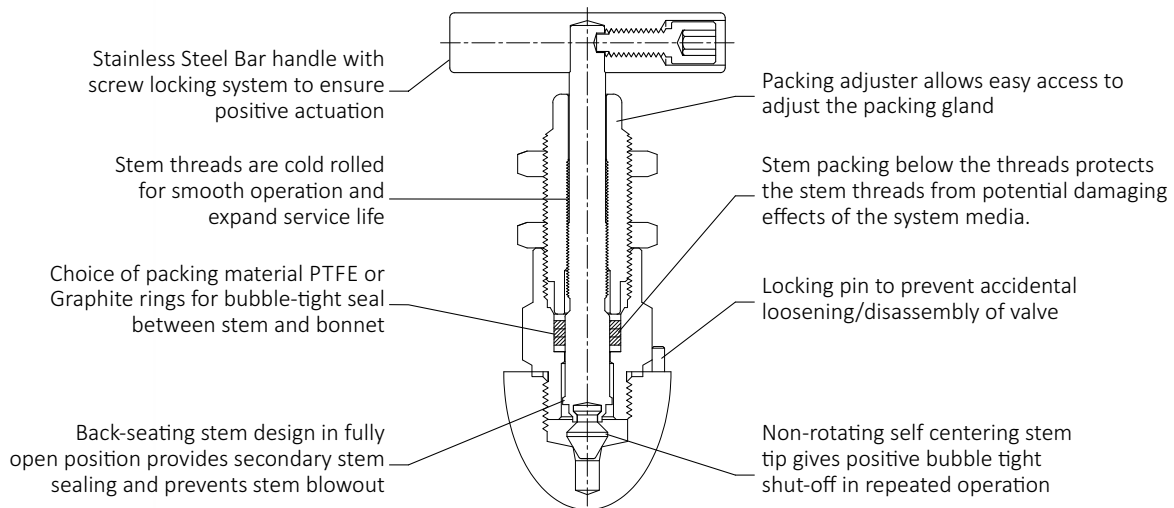
- ASTM F 1387-99(2012)
- ECE R110, ISO 15500
- BS4368:4:1984
- MSS SP-99-2016a
- Helium Leak Test
- ARAI Test Report

## CUSTOMER SATISFACTION

We strive for Total Customer Satisfaction and continuously work to set of goals to provide the best quality and delivery of products and services in the best interest of our customers.

## FEATURES / BENEFITS

- Available in material SS316, Inconel, Monel, Duplex etc. all wetted parts in accordance with NACE MR01-75
- Heat Code Traceable to certified material test report
- Bar Stock Body Straight pattern, Panel Mountable
- Variety of end configurations includes SEALEXCEL<sup>®</sup> Well-Lok<sup>®</sup> Tube Fittings, Male/Female NPT, BSPT, BSPP pipe and tube socket weld connections
- Flow coefficients (Cv) from 0.35 to 2.2
- Orifice size : 0.156" (4mm), 0.250" (6.4mm) and 0.437" (11mm)
- Every valve is factory tested.



## OPERATING PARAMETERS

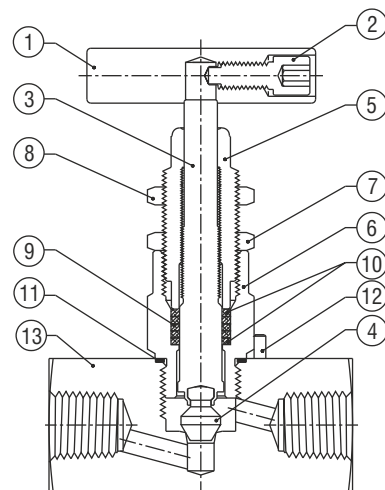
Pressure Rating : upto 6000 psig (413 bar) at CWP  
 Temperature Rating : -54°C to 232°C with standard PTFE packing  
 : upto 426°C with optional Graphite packing

## APPLICATIONS

- General Plant Service
- Instrument Isolation
- Hydraulic and Pneumatic
- Pressure measurement devices
- Venting

## MATERIAL OF CONSTRUCTIONS

| Sr. No. | Part Description  | Material      |
|---------|-------------------|---------------|
| 1.      | Bar Handle        | SS316         |
| 2.      | Set Screw         | SS316         |
| 3.      | Stem              | SS316         |
| 4.      | Stem Tip          | SS316         |
| 5.      | Packing Adjuster  | SS316         |
| 6.      | Bonnet            | SS316         |
| 7.      | Lock Nut          | SS316         |
| 8.      | Panel Nut         | SS316         |
| 9.      | Packing           | PTFE/Graphite |
| 10.     | Packing Washer    | SS316         |
| 11.     | Washer            | SS316         |
| 12.     | Bonnet Safety Pin | SS316         |
| 13.     | Valve Body        | SS316         |



## STEM TYPE :

SEALEXCEL<sup>®</sup> Needle Valves are available with choice of optional stem to provide greater flexibility.

NON-ROTATING (NR) : It is Standard self centering non rotating stem tip typically used in high cycle application to extend the valve life.

V-STEM (VS) : It is used for general purpose liquid and gases.

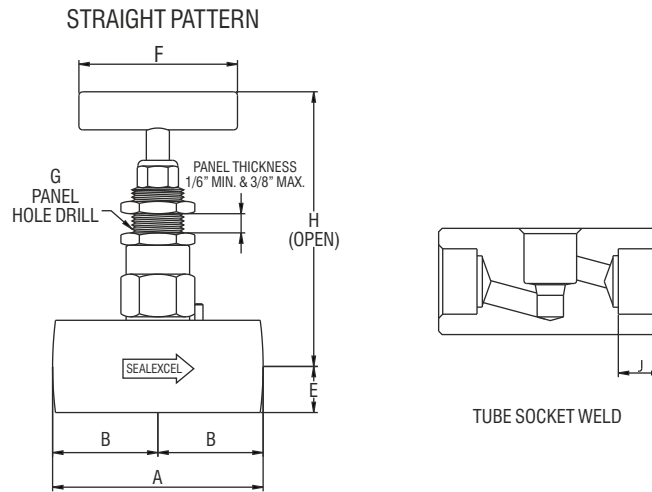
REGULATING STEM (RS) : It is used where some degree of flow control required.

**TECHNICAL DATA :** The Temperature and Pressure rating for a standard valve with PTFE packing

| Temperature    | Pressure |     |
|----------------|----------|-----|
|                | psig     | bar |
| -54°C to 38°C  | 6000     | 413 |
| -54°C to 93°C  | 5160     | 351 |
| -54°C to 148°C | 4660     | 317 |
| -54°C to 204°C | 4280     | 291 |
| -54°C to 232°C | 4130     | 289 |

## TESTING

- Standard Test : Each valve is factory tested with nitrogen gas at 1000 psig (69 bar) for leakage at the seat and packing.
- Optional Hydrostatic test : This test is performed with de-ionised water at 1.5 time the working pressure.



## STANDARD CONFIGURATION DIMENSIONS

| End Connections |                 | Orifice | Cv   | Dimensions (mm) |      |      |      |      |       |      | Ordering Number |
|-----------------|-----------------|---------|------|-----------------|------|------|------|------|-------|------|-----------------|
| Inlet           | Outlet          |         |      | A               | B    | E    | F    | G    | H     | J    |                 |
| 1/4" Well-Lok   | 1/4" Well-Lok   | 4.3     | 0.37 | 73.0            | 36.5 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-TT4        |
| 3/8" Well-Lok   | 3/8" Well-Lok   | 6.4     | 0.86 | 73.0            | 36.5 | 14.3 | 57.0 | 19.9 | 93.7  | -    | BS05-TT6        |
| 1/2" Well-Lok   | 1/2" Well-Lok   | 6.4     | 0.86 | 77.8            | 38.9 | 14.3 | 57.0 | 19.9 | 93.7  | -    | BS05-TT8        |
| 3/4" Well-Lok   | 3/4" Well-Lok   | 9.5     | 1.8  | 85.2            | 42.6 | 15.9 | 63.5 | 26.2 | 121.5 | -    | BS05-TT12       |
| 6mm Well-Lok    | 6mm Well-Lok    | 4.3     | 0.37 | 73.0            | 36.5 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-TT6M       |
| 8mm Well-Lok    | 8mm Well-Lok    | 4.3     | 0.37 | 73.0            | 36.5 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-TT8M       |
| 10mm Well-Lok   | 10mm Well-Lok   | 6.4     | 0.86 | 73.0            | 36.5 | 14.3 | 57.0 | 19.9 | 93.7  | -    | BS05-TT10M      |
| 12mm Well-Lok   | 12mm Well-Lok   | 6.4     | 0.86 | 77.8            | 38.9 | 14.3 | 57.0 | 19.9 | 93.7  | -    | BS05-TT12M      |
| 1/8" Female NPT | 1/8" Female NPT | 4.3     | 0.37 | 57.2            | 28.6 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-FF2N       |
| 1/4" Female NPT | 1/4" Female NPT | 4.3     | 0.37 | 57.2            | 28.6 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-FF4N       |
| 3/8" Female NPT | 3/8" Female NPT | 6.4     | 0.86 | 60.4            | 30.2 | 14.3 | 57.0 | 19.9 | 93.7  | -    | BS05-FF6N       |
| 1/2" Female NPT | 1/2" Female NPT | 6.4     | 0.86 | 66.6            | 33.3 | 15.9 | 57.0 | 26.2 | 121.5 | -    | BS05-FF8N       |
| 3/4" Female NPT | 3/4" Female NPT | 9.5     | 1.8  | 69.8            | 34.9 | 17.5 | 63.5 | 26.2 | 123.9 | -    | BS05-FF12N      |
| 1" Female NPT   | 1" Female NPT   | 9.5     | 1.8  | 92.0            | 39.6 | 22.5 | 63.5 | 26.2 | 129.4 | -    | BS05-FF16N      |
| 1/4" Male NPT   | 1/4" Male NPT   | 4.3     | 0.37 | 57.2            | 28.6 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-MM4N       |
| 1/4" Male NPT   | 1/4" Female NPT | 4.3     | 0.37 | 57.2            | 28.6 | 12.7 | 52.5 | 15.1 | 77.8  | -    | BS05-MF4N       |
| 1/2" Male NPT   | 1/2" Female NPT | 6.4     | 0.86 | 69.8            | 34.9 | 15.9 | 57.0 | 26.2 | 121.5 | -    | BS05-MF8N       |
| 3/4" Male NPT   | 3/4" Female NPT | 9.5     | 1.8  | 82.6            | 41.3 | 17.5 | 63.5 | 26.2 | 123.9 | -    | BS05-MF12N      |
| 1" Male NPT     | 1" Female NPT   | 9.5     | 1.8  | 85.8            | 42.9 | 22.5 | 63.5 | 26.2 | 129.4 | -    | BS05-MF16N      |
| 1/4" TSW        | 1/4" TSW        | 4.3     | 0.37 | 57.2            | 28.6 | 12.7 | 52.5 | 15.1 | 77.8  | 7.2  | BS05-TSW4       |
| 3/8" TSW        | 3/8" TSW        | 6.4     | 0.86 | 57.2            | 28.6 | 14.3 | 57.0 | 19.9 | 93.7  | 8.0  | BS05-TSW6       |
| 1/2" TSW        | 1/2" TSW        | 6.4     | 0.86 | 66.6            | 33.3 | 14.3 | 57.0 | 19.9 | 93.7  | 9.6  | BS05-TSW8       |
| 3/4" TSW        | 3/4" TSW        | 9.5     | 1.8  | 69.8            | 34.9 | 15.9 | 63.5 | 26.2 | 121.5 | 11.1 | BS05-TSW12      |

Dimensions shown with SEALEXCEL<sup>®</sup> Well-Lok<sup>®</sup> Nut are finger tight  
Dimensions are for reference only and subject to change

| VALVE DESCRIPTION | ORDERING NUMBER<br>FOR TUBE CONNECTIONS                      | ORDERING NUMBER<br>FOR PIPE END CONNECTIONS                              |
|-------------------|--|--|
| NEEDLE VALVES     | $\frac{BS05-TT}{1} \frac{8-E}{2} \frac{T-NR}{3 \ 5 \ 6 \ 7}$ | $\frac{BS05-FF}{1} \frac{8}{2} \frac{N-E}{3 \ 4} \frac{T-NR}{5 \ 6 \ 7}$ |

## 1. VALVE SERIES CODE DESCRIPTION

NEEDLE VALVES : STRAIGHT PATTERNS - BS05

## 2. END CONNECTION TYPE CODE DESCRIPTION

TT - SEALEXCEL<sup>®</sup> Well-Lok<sup>®</sup> Tube Fittings  
MM - Male pipe thread  
FF - Female pipe thread<sub>a</sub>  
MT - Male pipe thread to SEALEXCEL Well-Lok<sup>®</sup> Tube Fittings  
MF - Male pipe thread to Female pipe thread  
TSW - Tube Socket Weld Pipe

## 3. END CONNECTION SIZE CODE DESCRIPTION TUBE OD SIZE

| FRACTIONAL |      | METRIC   |      |
|------------|------|----------|------|
| SIZE       | CODE | SIZE     | CODE |
| 1/4" ODT   | 4    | 6mm ODT  | 6M   |
| 3/8" ODT   | 6    | 8mm ODT  | 8M   |
| 1/2" ODT   | 8    | 10mm ODT | 10M  |
| 3/4" ODT   | 12   | 12m ODT  | 12M  |
| 1" ODT     | 16   | 16mm ODT | 16M  |

## PIPE THREAD SIZE

| SIZE | CODE | SIZE | CODE |
|------|------|------|------|
| 1/8" | 2    | 1/2" | 8    |
| 1/4" | 4    | 3/4" | 12   |
| 3/8" | 6    | 1"   | 16   |

## 4. PIPE THREAD TYPE CODE DESCRIPTION

N - Male / Female NPT  
RT - Male / Female BSPT  
RG - Female BSP  
SE - SAE Straight Thread

## 5. MATERIAL OF CONSTRUCTIONS

E - SS316  
EL - SS316 to NACE MR01-75  
C - Carbon Steel

## 6. PACKING / SEAT MATERIAL

T - PTFE  
G - Graphite

## 7. STEM TYPE

NR - Non Rotating  
VS - 'V' Stem  
RS - Regulating Stem  
SS - Soft Seat

*SEALEXCEL's commitment to upgrading it's product range  
by way of continuous research and development programme  
with advance technology and cutting edge solutions to ensure  
best quality products at competitive price and also  
best delivery schedule for it's customer with objective of*

***A TOTAL CUSTOMER  
SATISFACTIONS***



# PRODUCT RANGE



|   |   |  |  |   |
|---|---|--|--|---|
|    |    |     |    |    |
| Twin/Single Ferrule<br>Tube Fittings  | 37° Flare Tube Fittings<br>To SAE J514  | Instrument Threaded &<br>Welded Pipe Fittings  | Tube Fittings With<br>Integral Flange  | Low /Medium<br>PressureBall Valves  |
|    |    |     |    |    |
| High Pressure<br>Ball Valve   | High Pressure<br>2/3 Way Ball Valve   | Needle Valve   | Needle Valves<br>(Panel Mountable)   | High Pressure<br>Needle Valve   |
|   |   |    |   |    |
| Rising Stem Plug Valves   | Gauge/Root Valves   | Instrument 2/3/5<br>Manifold Valves  | Monoflange Valves  | Single / Double<br>Block & Bleed Valves   |
|  |  |   |  |  |
| Purge Valves  | Bleed Valves  | Toggle Valves  | Relief Valves  | Check Valves  |
|  |  |  |  |   |
| Micron In-line Filters  | Quick Connect Couplings   | Stainless Steel Pneumatics Fittings & Valves   |  |   |



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