



CATALOGUE NO.
IV-21

INSTRUMENTATION / CNG NEEDLE & BLEED VALVES

THE COMPANY :

DAWSONS-TECH® is an ISO 9001:2015 certified manufacturing company offers wide range of **Consistent, Reliable and Superior Quality** High Pressure Instrumentation / CNG / Hydrogen Products used in Vehicles, Fueling Equipments like CNG Cascades, CNG Dispensers, Booster Compressors, Online Compressors, Decompression Skid, LCV Filling Post, Meter Regulation Skids, Pressure Regulation Skids, etc.




dedicated team of employees in place. This facilitate us to design and manufacture our product range under stringent quality checks and measurements that ensures **"A TOTAL CUSTOMER SATISFACTIONS"**.

QUALITY :

DAWSONS-TECH® pursues not only performance of its products but also ensures **"TOTAL QUALITY CONTROL MANAGEMENT SYSTEMS IN ACCORDANCE WITH ISO 9001:2015"** which is achieved by alerting and educating each and every employee, the importance of quality and by implementing the quality control procedures at every stage of production to final inspection from incoming raw material to finish products.

MANUFACTURING :

DAWSONS-TECH® established its comprehensive state of art manufacturing and testing facility installing various CNC Turning Centre and CNC Turnmill Centre, Vertical Machining Centre, etc. with the highly motivated and

|  OUR CAPABILITIES |  CERTIFICATIONS |  BENEFITS |
|--|--|---|
| <ul style="list-style-type: none"> • Over 35 Years of Experience • Excellent Technical Knowledge • Latest Design Equipment's & Software • Modern Manufacturing Facilities • Highly Motivated Team of Employees • Excellent Inspection Facilities • Product Performance Testing Facilities | <ul style="list-style-type: none"> • ISO 9001-2015 • ISO 14001-2015 • ISO 45001-2018 • PED 2014/68/EU • ASTM F1387-19 • MSS SP-99-2016a • Helium Leak Test • Hydro Static Proof Test • Pneumatic Proof Test | <ul style="list-style-type: none"> • High Quality • Proven Design for Leak Free Connections • Effective Operations • High Efficiency • Prompt Reply • Maximum Flexibility • Maximum Safety in Operation • Substantial Cost Saving |









RESEARCH & DEVELOPMENT :

With our extensive experience, expertise and continues Research & Development with incorporation of advanced technology and high-tech cutting-edge machineries, **DAWSONS-TECH®** is committed to constant upgradation and expand its product range to meet the requirements of its customer to their entire satisfaction at every time.

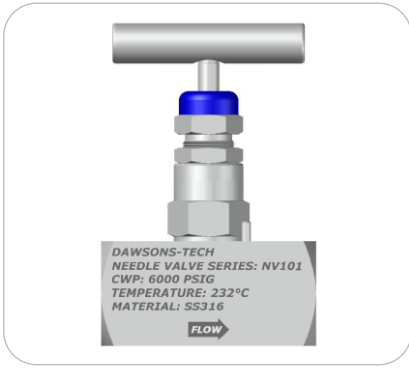
CUSTOMER SATISFACTION :

We strive to achieve total customer satisfaction and continuously work to set higher goals to provide the reliable quality, timely delivery of our products and prompt services in the best interest of our customers with **Very Competitive Price**.

OUR MISSION

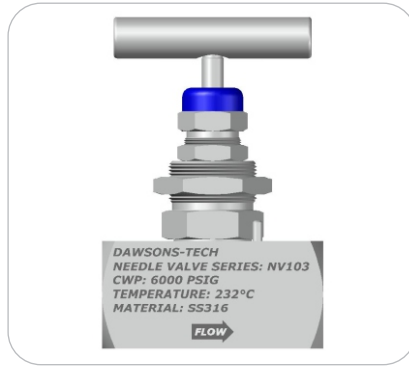
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|---|---|---|---|---|--|--|---|
|  RESPONSIBILITY |  RELIABILITY |  ENVIRONMENTAL AWARENESS |  TECHNICAL EXPERTISE |  INNOVATIVE TECHNOLOGY |  DEVELOPMENT |  CUTTING EDGE SOLUTIONS |  TOTAL CUSTOMER SATISFACTION |
|---|---|---|---|---|--|--|---|

Needle Valve
Series : NV101



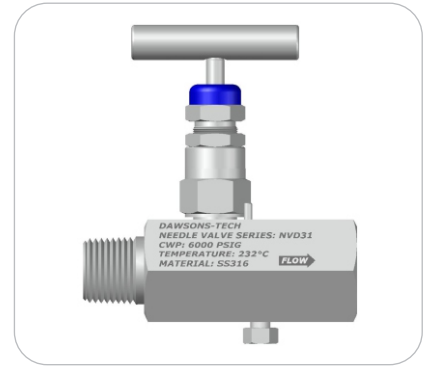
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Needle Valve Series : NV103
(Panel Mountable)



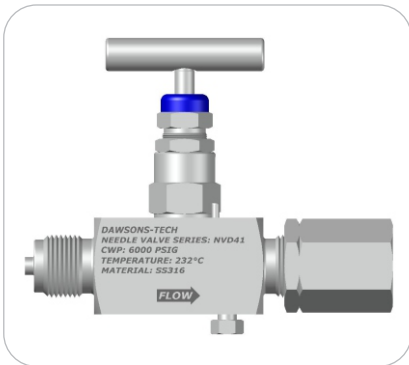
Page No. 8

Bleeder Screw Gauge Valve
Series : NVD31



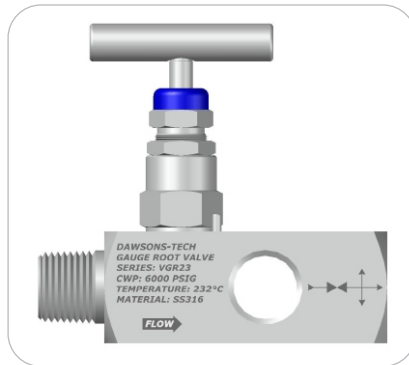
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Bleeder Screw Gauge Valve
Series : NVD41



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Gauge / Root Valve
Series : VGR23



Page No. 12

Needle Valve Series : NV107
(With Live Load System)



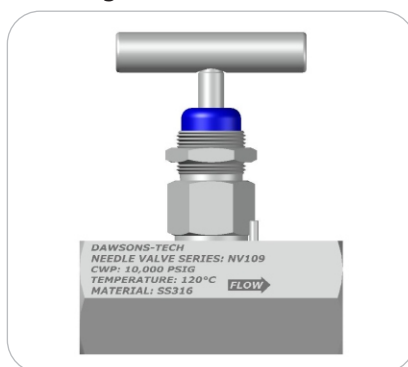
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Angle Needle Valve Series : NV107A
(With Live Load System)



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Needle Valve Series : NV109
(For High Pressure 10,000 PSIG)



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Bleed Valve Series : VBL03



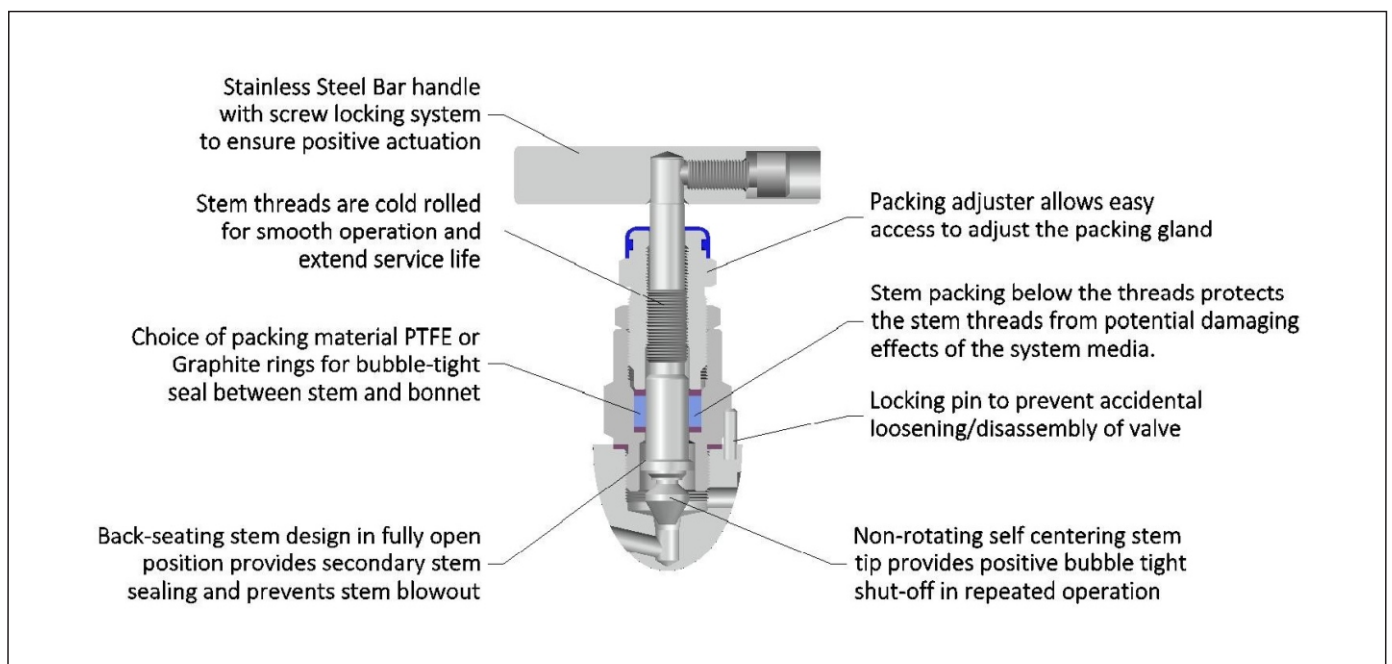
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General Information :

DAWSONS-TECH® offers most Cost-Effective Needle Valves, Gauge Valves, Block and Bleed Gauge Valves and Bleed Valves which have been design very carefully and manufactured to close tolerances to provide leak free performance for mounting on Pressure Gauges, Pressure Transmitters, Pressure Switches, etc.

Features / Benefits :

- Compact and Rugged Design.
- Bar stock body in straight patterns.
- Low operating torque.
- Anti blow-out stem.
- Flow Coefficient (Cv) from 0.25 to 1.8.
- Orifice size : 4.3mm, 6.3mm and 9.5mm.
- Available in Material SS316, all wetted parts in accordance with NACE MR01-75.
- Available with Male, Female NPT, BSP, BSPT Pipe Thread, Socket Weld and Tube O.D. end connections.
- Every Valve is pressure tested.



Product Range & Operating Parameters :

- Pressure Rating : UPTO 6000 PSIG (413 Bar at CWP).
- Temperature Rating : -54° C to 232° C with PTFE Packing.
: -96° C to 426° C with Graphite Packing.

Applications :

- General Plant Services
- Hydraulic & Pneumatic
- Instrumentation Isolations
- Pressure Measurement Devices
- Venting

General Information :

Stem Type : **DAWSONS-TECH®** 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 Valves life.
- 'V' Stem (VS) : It is used for general purpose liquid and gases.
- Soft Seat (SF) : A soft seat stem requires a lower sealing torque.
: It is replaceable and suitable for temperature UPTO 120°C.
- 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 |

Type Test Approvals :

The design of **DAWSONS-TECH®** Valves Series : NV101, NV103, NVD31, VGR23, BBGV1 & VBL03 have been tested for Hydrostatic Proof and Burst Test in accordance with MSS SP-99-2016a Clause 5.5 & 5.6.

Testing :

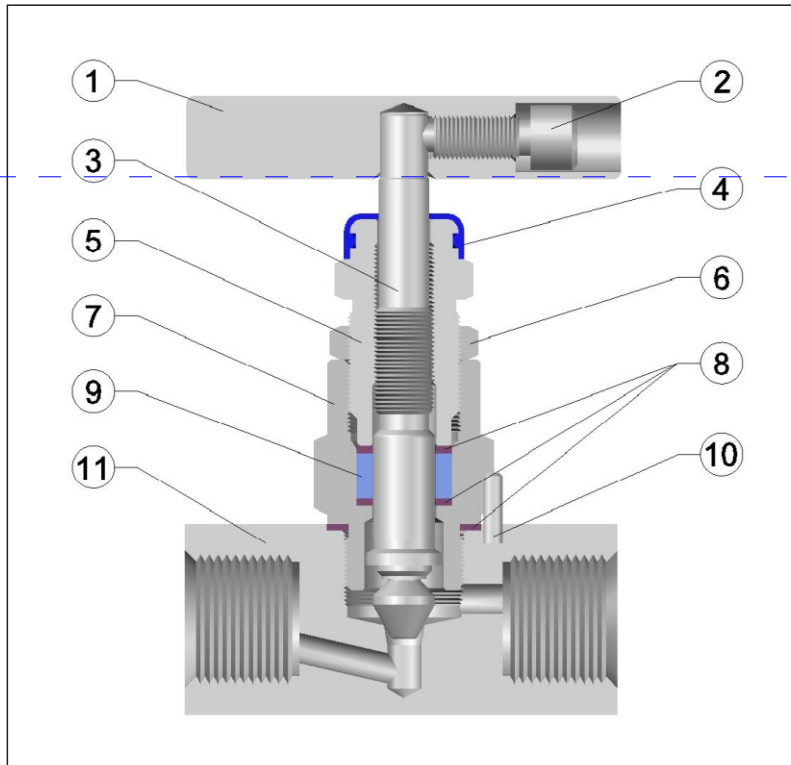
- Standard Test : Each Valve is pressure tested with Nitrogen at 2000 PSIG (138 Bar) for leakage at the seat and packing.
- Optional Hydrostatic Test : This test is performed with De-ionized water at 1.5 times the working pressure.

Certification :

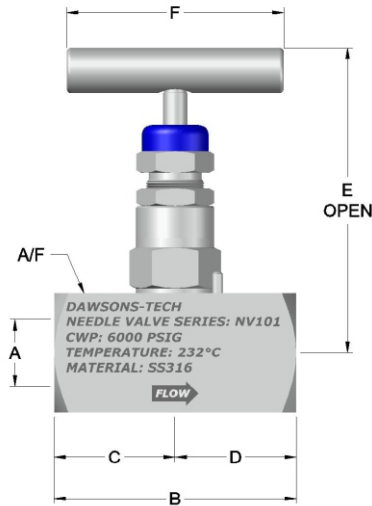
The certificate to 3.1 acc. to EN10204 for Valves Body Material and pressure test will be provided on request.

DAWSONS-TECH® most cost effective Needle Valves Series : NV101 is having compact and rugged Bar Stock Square Body design and construction. This Valve is most suitable for a variety of applications including Instrumentation, Hydraulic and Pneumatic systems.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|--------------------------|-----------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Dust Cap | PVC |
| 5 | Packing Adjustment Screw | SS316 |
| 6 | Lock Nut | SS316 |
| 7 | Bonnet | SS316 |
| 8 | Washer | SS316 |
| 9 | Packing | PTFE / Graphite |
| 10 | Safety Pin | SS316 |
| 11 | Valve Body | SS316 |



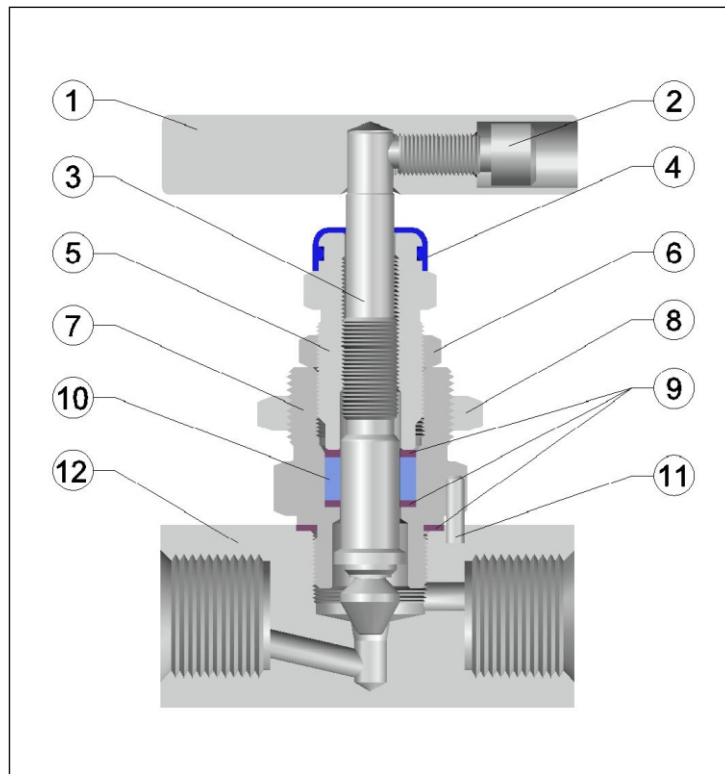
STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | | | Dawsons-Tech Part No. |
|---------------------------------|----------|--------------|------|------------------|------|------|------|------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | C | D | E | F | A/F | |
| Tube OD to Tube OD (Fractional) | 1/4" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 25.40 | NV101-TT4 |
| | 3/8" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 25.40 | NV101-TT6 |
| | 1/2" | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 80.0 | 58.0 | 28.57 | NV101-TT8 |
| | 3/4" | 9.5 | 1.80 | 85.4 | 42.7 | 42.7 | 84.0 | 63.0 | 31.75 | NV101-TT12 |
| Tube OD to Tube OD (Metric) | 6mm | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 25.40 | NV101-TT6M |
| | 8mm | 4.3 | 0.37 | 73.0 | 36.5 | 36.5 | 79.0 | 54.0 | 25.40 | NV101-TT8M |
| | 10mm | 6.3 | 0.73 | 73.2 | 36.6 | 36.6 | 80.0 | 54.0 | 28.57 | NV101-TT10M |
| | 12mm | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 80.0 | 54.0 | 28.57 | NV101-TT12M |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 25.40 | NV101-FF4N |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 80.0 | 54.0 | 28.57 | NV101-FF6N |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 84.0 | 58.0 | 31.75 | NV101-FF8N |
| | 3/4" | 9.5 | 1.80 | 70.0 | 35.0 | 35.0 | 87.0 | 63.0 | 34.92 | NV101-FF12N |
| | 1" | 9.5 | 1.80 | 80.0 | 40.0 | 40.0 | 98.0 | 68.0 | 44.40 | NV101-FF16N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 60.0 | 31.0 | 29.0 | 79.0 | 54.0 | 25.40 | NV101-MF4N |
| | 3/8" | 4.3 | 0.37 | 62.0 | 32.0 | 30.0 | 80.0 | 54.0 | 28.57 | NV101-MF6N |
| | 1/2" | 6.3 | 0.73 | 70.0 | 37.5 | 32.5 | 84.0 | 58.0 | 31.75 | NV101-MF8N |
| | 3/4" | 9.5 | 1.80 | 75.0 | 40.0 | 35.0 | 87.0 | 63.0 | 34.92 | NV101-MF12N |
| | 1" | 9.5 | 1.80 | 85.0 | 45.0 | 40.0 | 98.0 | 68.0 | 44.40 | NV101-MF16N |
| Female to Female BSP | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 25.40 | NV101-FF4RG |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 80.0 | 54.0 | 28.57 | NV101-FF6RG |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 84.0 | 58.0 | 31.75 | NV101-FF8RG |
| | 3/4" | 9.5 | 1.80 | 70.0 | 35.0 | 35.0 | 87.0 | 63.0 | 34.92 | NV101-FF12RG |
| | 1" | 9.5 | 1.80 | 80.0 | 40.0 | 40.0 | 98.0 | 68.0 | 44.40 | NV101-FF16RG |
| Socket Weld to Socket Weld | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 25.40 | NV101-SW4 |
| | 3/8" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 25.40 | NV101-SW6 |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 80.0 | 54.0 | 28.57 | NV101-SW8 |
| | 3/4" | 6.3 | 0.73 | 70.0 | 35.0 | 35.0 | 84.0 | 58.0 | 31.75 | NV101-SW12 |

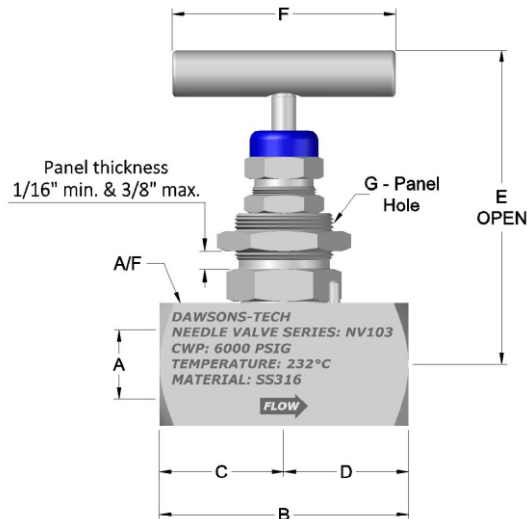
Dimensions are for reference only and subject to change.

DAWSONS-TECH® offers most cost effective Panel Mountable Needle Valve Series : NV103 is having compact and rugged Bar Stock Square Body design and construction. This Valve is typically used in Severe Environments, Sampling Systems, High Pressure Shutdown Systems and Test Stands.

Material of Construction :



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



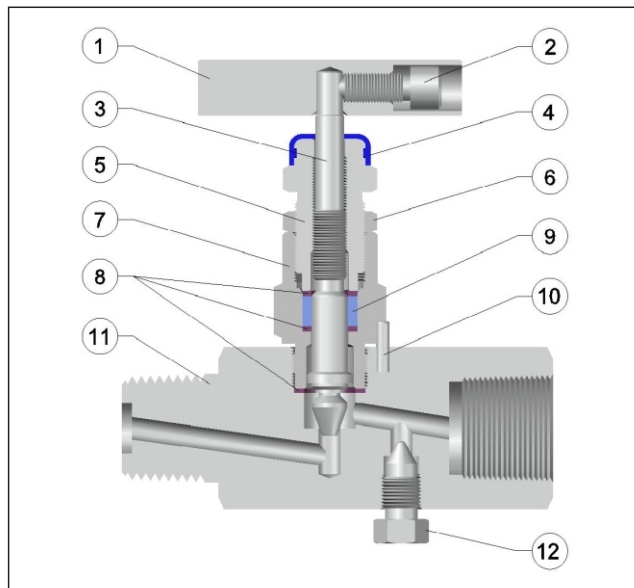
STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | | | | Dawsons-Tech Part No. |
|---------------------------------|----------|--------------|------|------------------|------|------|------|------|------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | C | D | E | F | G | A/F | |
| Tube OD to Tube OD (Fractional) | 1/4" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-TT4 |
| | 3/8" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-TT6 |
| | 1/2" | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 80.0 | 58.0 | 22.5 | 28.57 | NV103-TT8 |
| | 3/4" | 9.5 | 1.80 | 85.4 | 42.7 | 42.7 | 84.0 | 63.0 | 22.5 | 31.75 | NV103-TT12 |
| Tube OD to Tube OD (Metric) | 6mm | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-TT4M |
| | 8mm | 4.3 | 0.37 | 73.0 | 36.5 | 36.5 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-TT6M |
| | 10mm | 6.3 | 0.73 | 73.2 | 36.6 | 36.6 | 80.0 | 54.0 | 22.5 | 28.57 | NV103-TT8M |
| | 12mm | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 80.0 | 54.0 | 22.5 | 28.57 | NV103-TT12M |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-FF4N |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 80.0 | 54.0 | 19.8 | 28.57 | NV103-FF6N |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 84.0 | 58.0 | 26.0 | 31.75 | NV103-FF8N |
| | 3/4" | 9.5 | 1.80 | 70.0 | 35.0 | 35.0 | 87.0 | 63.0 | 26.0 | 34.92 | NV103-FF12N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 60.0 | 31.0 | 29.0 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-MF4N |
| | 3/8" | 4.3 | 0.37 | 62.0 | 32.0 | 30.0 | 80.0 | 54.0 | 19.8 | 28.57 | NV103-MF6N |
| | 1/2" | 6.3 | 0.73 | 70.0 | 37.5 | 32.5 | 84.0 | 58.0 | 26.0 | 31.75 | NV103-MF8N |
| | 3/4" | 9.5 | 1.80 | 75.0 | 40.0 | 35.0 | 87.0 | 63.0 | 26.0 | 34.92 | NV103-MF12N |
| Female to Female BSP | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-FF4RG |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 80.0 | 54.0 | 19.8 | 28.57 | NV103-FF6RG |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 84.0 | 58.0 | 26.0 | 31.75 | NV103-FF8RG |
| | 3/4" | 9.5 | 1.80 | 70.0 | 35.0 | 35.0 | 87.0 | 63.0 | 26.0 | 34.92 | NV103-FF12RG |
| Socket Weld to Socket Weld | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-SW4 |
| | 3/8" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 79.0 | 54.0 | 19.8 | 25.40 | NV103-SW6 |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 80.0 | 54.0 | 26.0 | 28.57 | NV103-SW8 |
| | 3/4" | 6.3 | 0.73 | 70.0 | 35.0 | 35.0 | 84.0 | 58.0 | 26.0 | 31.75 | NV103-SW12 |

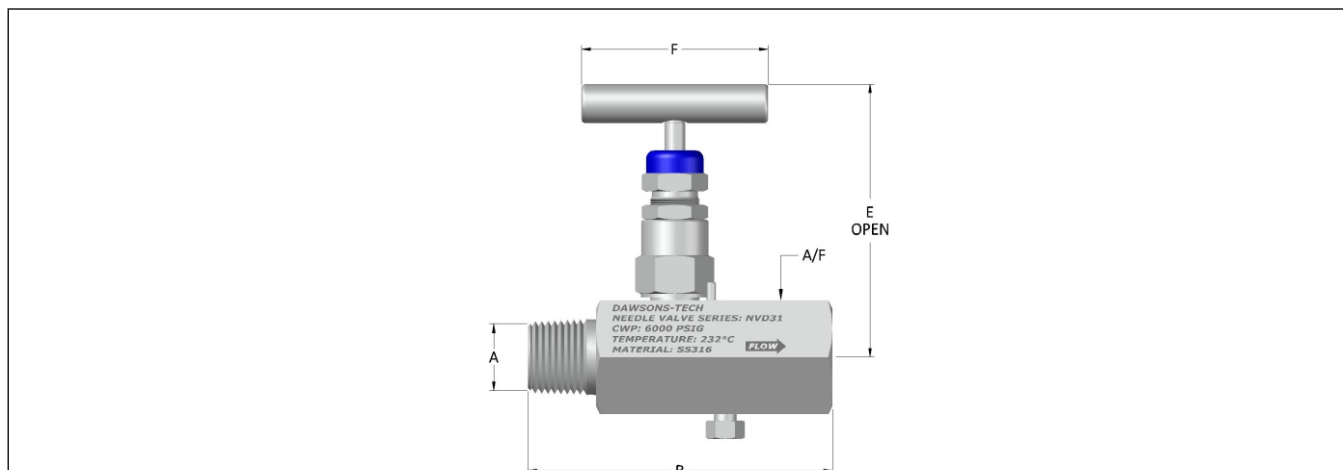
Dimensions are for reference only and subject to change.

DAWSONS-TECH® most cost effective Bleeder Screw Gauge Valve Series : NVD31 is having compact and rugged Bar Stock Hex Body equipped with a Bleed Screw design and construction. This Valve is most suitable for a variety of applications including Instrumentation, Hydraulic and Pneumatic systems.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|--------------------------|---------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Dust Cap | PVC |
| 5 | Packing Adjustment Screw | SS316 |
| 6 | Lock Nut | SS316 |
| 7 | Bonnet | SS316 |
| 8 | Washer | SS316 |
| 9 | Packing | PTFE/Graphite |
| 10 | Safety Pin | SS316 |
| 11 | Valve Body | SS316 |
| 12 | Drain Plug | SS316 |



STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | Dawsons-Tech Part No. |
|----------------------|----------|--------------|------|------------------|------|------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | E | F | A/F | |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 66.0 | 80.0 | 54.0 | 28.57 | NVD31-FF4N |
| | 3/8" | 4.3 | 0.37 | 66.0 | 80.0 | 54.0 | 28.57 | NVD31-FF6N |
| | 1/2" | 4.3 | 0.37 | 69.0 | 84.0 | 58.0 | 31.75 | NVD31-FF8N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 73.0 | 80.0 | 54.0 | 28.57 | NVD31-MF4N |
| | 3/8" | 4.3 | 0.37 | 73.0 | 80.0 | 54.0 | 28.57 | NVD31-MF6N |
| | 1/2" | 4.3 | 0.37 | 85.0 | 84.0 | 58.0 | 31.75 | NVD31-MF8N |
| Female to Female BSP | 1/4" | 4.3 | 0.37 | 69.0 | 80.0 | 54.0 | 28.57 | NVD31-FF4RG |
| | 3/8" | 4.3 | 0.37 | 69.0 | 80.0 | 54.0 | 28.57 | NVD31-FF6RG |
| | 1/2" | 4.3 | 0.37 | 88.0 | 84.0 | 58.0 | 31.75 | NVD31-FF8RG |
| Male to Female BSP | 1/4" | 4.3 | 0.37 | 69.0 | 80.0 | 54.0 | 28.57 | NVD31-MF4G |
| | 3/8" | 4.3 | 0.37 | 69.0 | 80.0 | 54.0 | 28.57 | NVD31-MF6G |
| | 1/2" | 4.3 | 0.37 | 88.0 | 84.0 | 58.0 | 31.75 | NVD31-MF8G |

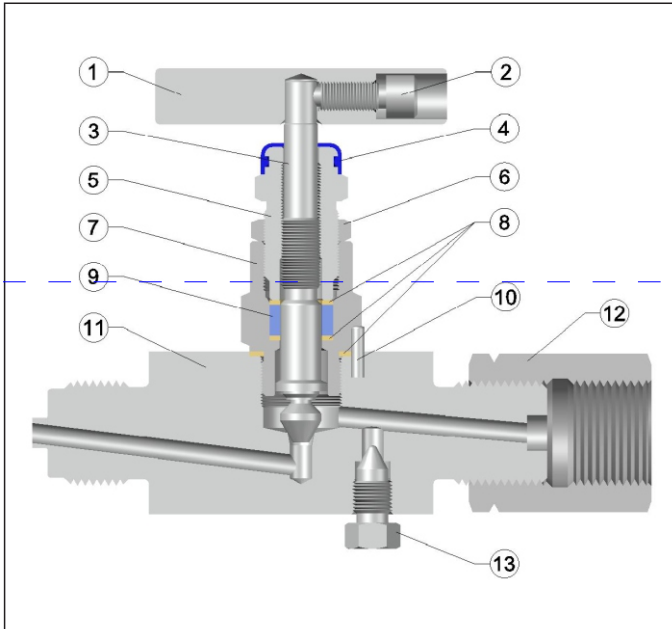
Dimensions are for reference only and subject to change.

Bleeder Screw Gauge Valves Series : NVD41 (With Swivel Nut)

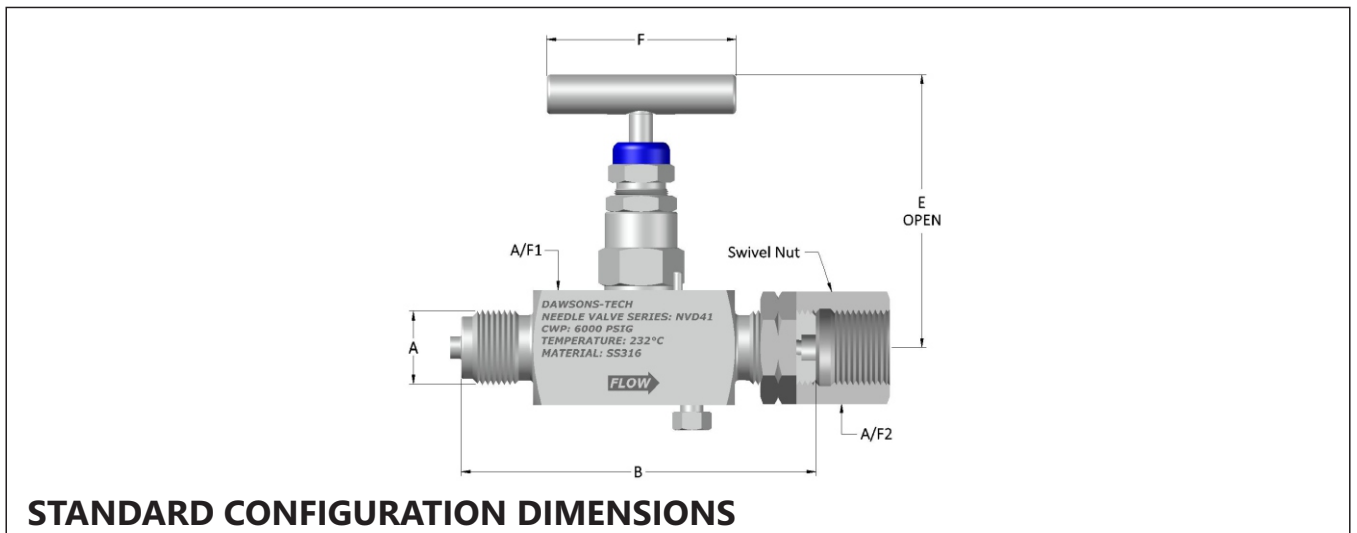


DAWSONS-TECH® most cost effective Bleeder Screw Gauge Valve Series : NVD41 is having compact and rugged Bar Stock Square Body equipped with a Bleed Screw and Swivel Nut design and construction for a variety of applications including Instrumentation, Hydraulic and Pneumatic applications.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|--------------------------|----------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Dust Cap | PVC |
| 5 | Packing Adjustment Screw | SS316 |
| 6 | Lock Nut | SS316 |
| 7 | Bonnet | SS316 |
| 8 | Washer | SS316 |
| 9 | Packing | PTFE |
| 10 | Safety Pin | SS316 |
| 11 | Valve Body | SS316 |
| 12 | Swivel Nut | SS316 |
| 13 | Drain Plug | SS316 |



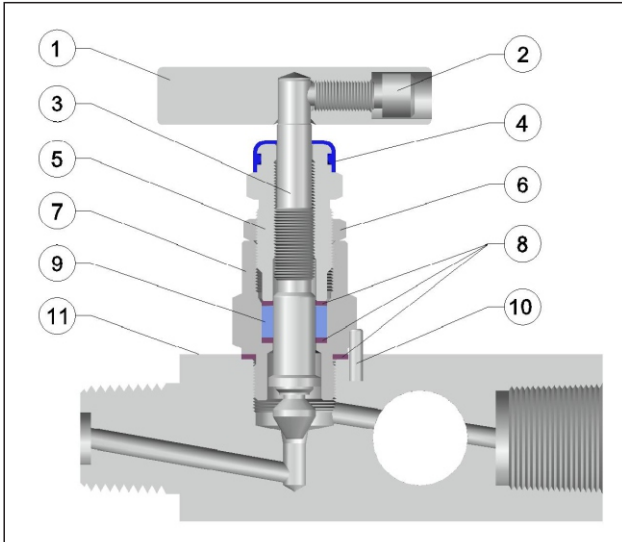
STANDARD CONFIGURATION DIMENSIONS

| End Connection Size - A | Flow Data | | Dimensions in mm | | | | | Dawsons-Tech Part No. |
|--|--------------|------|------------------|------|------|-------|------|-----------------------|
| | Orifice (mm) | Cv | B | E | F | A/F1 | A/F2 | |
| 1/4" BSP (Male x Swivel Nut) | 3.2 | 0.25 | 80.0 | 79.0 | 54.0 | 25.40 | 19.0 | NVD41-MF4G |
| 1/2" BSP (Male x Swivel Nut) | 4.3 | 0.37 | 100.0 | 84.0 | 58.0 | 31.75 | 27.0 | NVD41-MF8G |
| M20 x 1.5 (Male x Swivel Nut) | 4.3 | 0.37 | 100.0 | 84.0 | 58.0 | 31.75 | 27.0 | NVD41-MF20M |
| 1/2" BSP x M22 x 1.5 (Male x Swivel Nut) | 4.3 | 0.37 | 100.0 | 84.0 | 58.0 | 31.75 | 27.0 | NVD41-M8G-22M |

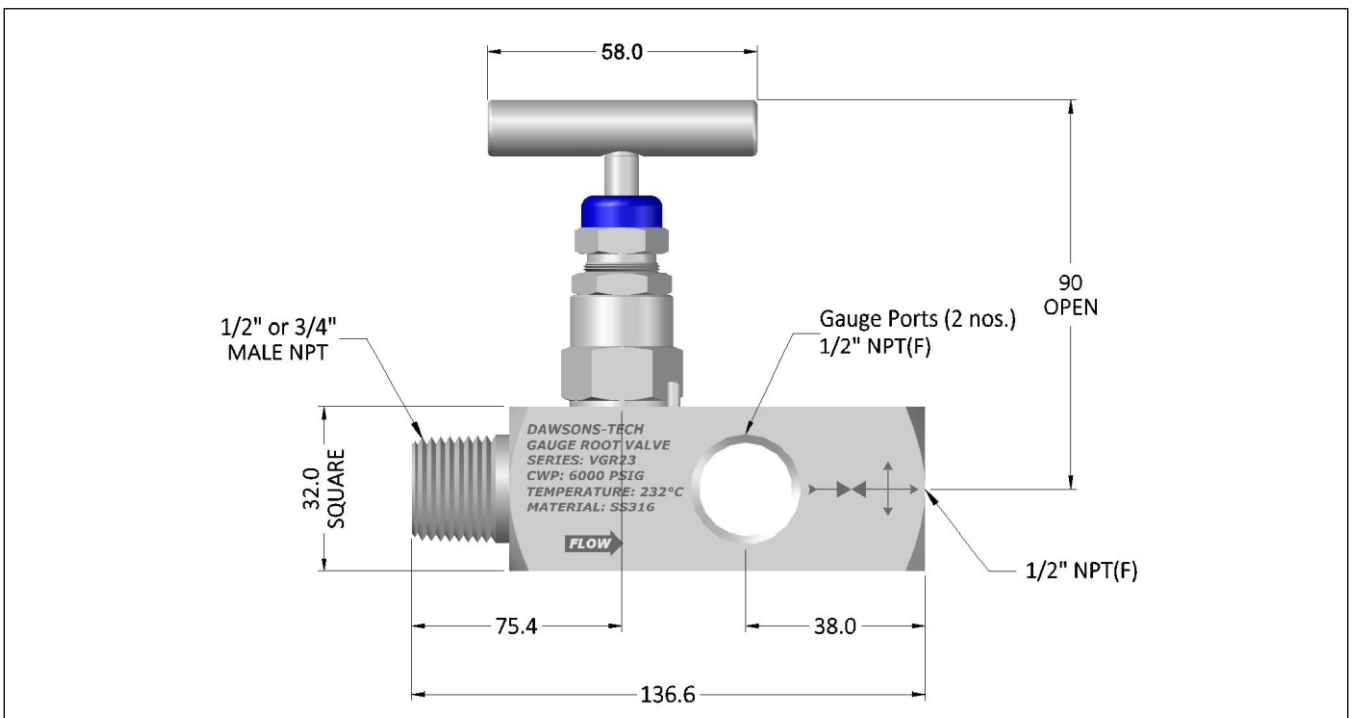
Dimensions are for reference only and subject to change.

DAWSONS-TECH® most cost effective Gauge / Root Valve Series : VGR23 is having compact and rugged Bar Stock Square Body design and construction. This Valve can accommodate a variety of Gauge positions and handle orientations. They are suitable for Block & Bleed assemblies when a Purge Valve, Sampling line or test pressure source is required.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|--------------------------|---------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Dust Cap | PVC |
| 5 | Packing Adjustment Screw | SS316 |
| 6 | Lock Nut | SS316 |
| 7 | Bonnet | SS316 |
| 8 | Washer | SS316 |
| 9 | Packing | PTFE/Graphite |
| 10 | Safety Pin | SS316 |
| 11 | Valve Body | SS316 |



STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Dawsons-Tech Part No. |
|-----------------|-------------------|-----------------------|
| Inlet | Outlet | |
| 1/2" NPT (Male) | 1/2" NPT (Female) | VGR23-MF8N/SSTNR |
| 3/4" NPT (Male) | 1/2" NPT (Female) | VGR23-M12N-F8N/SSTNR |

Dimensions are for reference only and subject to change.

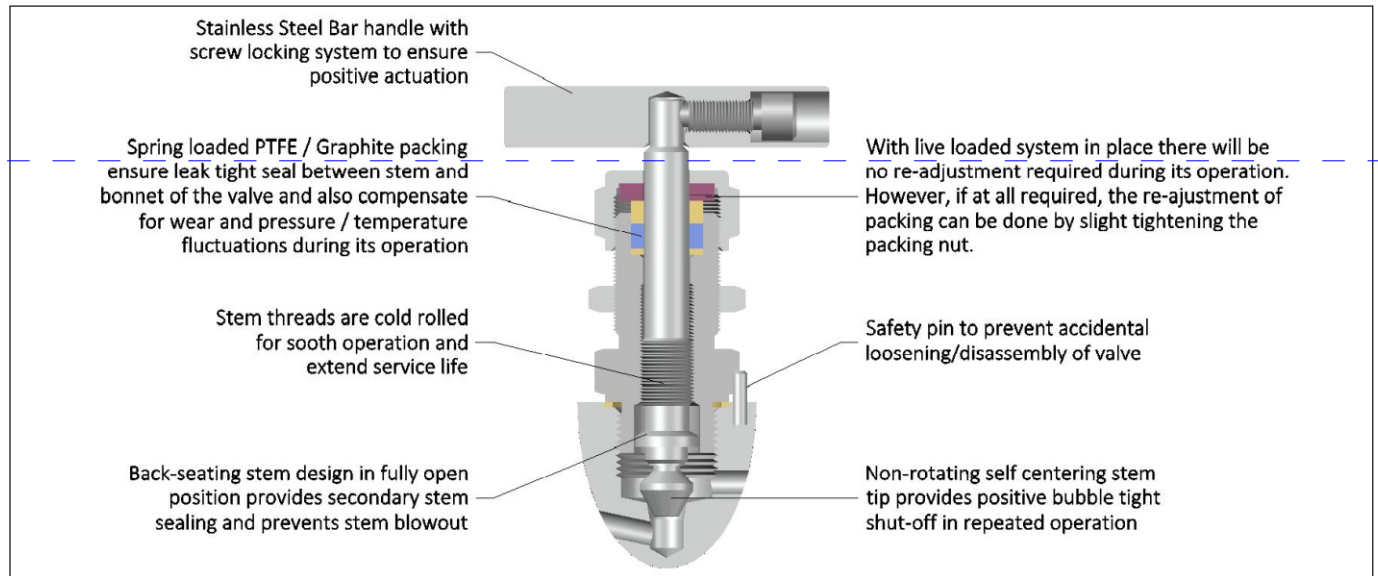
Needle Valves Series : NV107

(With Live Load System)

DAWSONS-TECH® Needle Valve Series : NV107 design very carefully with live loaded PTFE/Graphite packing to provide repeated leak tight seal between Stem and Bonnet of the Valve and also compensate for wear and pressure / temperature fluctuations during its operations.

Features / Benefits :

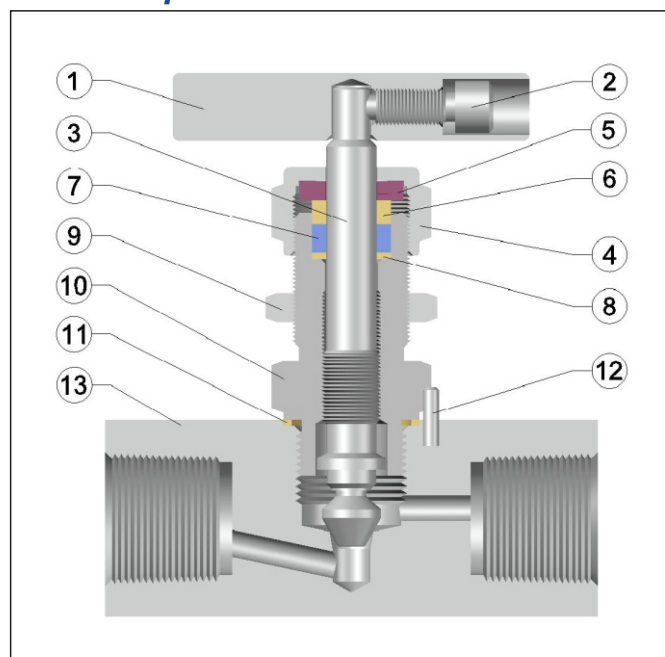
- Compact and Rugged Design.
- Bar stock body in straight & angle pattern.
- Low operating torque.
- Anti blow-out stem.
- Flow Coefficient (Cv) from 0.25 to 0.73.
- Every Valve is pressure tested.
- Orifice size : 4.3mm and 6.3mm.
- Available in Material SS316, all wetted parts in accordance with NACE MR01-75.
- Available with Male, Female NPT, BSP, BSPT Pipe Threads.
- Available with self centering non-rotations stem tip.



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 |

Material of Construction :



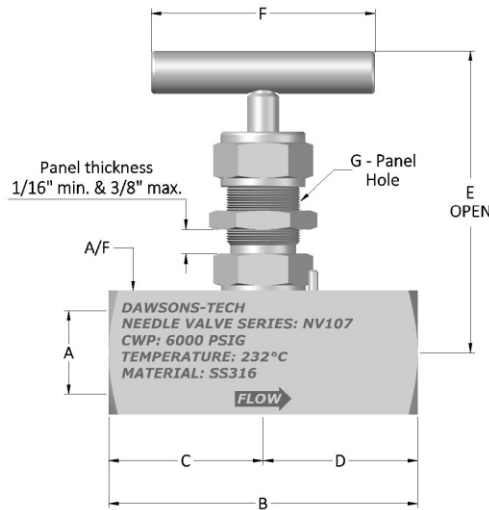
| Sr. No. | Part Description | Material |
|---------|-------------------|-----------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Packing Nut | SS316 |
| 5 | Belleville Washer | Stainless Steel |
| 6 | Upper Gland | SS316 |
| 7 | Packing | PTFE / Graphite |
| 8 | Lower Gland | SS316 |
| 9 | Panel Nut | SS316 |
| 10 | Bonnet | SS316 |
| 11 | Washer | SS316 |
| 12 | Safety Pin | SS316 |
| 13 | Valve Body | SS316 |

Testing :

- Standard Test : Each Valve is pressure tested with Nitrogen at 2000 PSIG (138 Bar) for leakage at the seat and packing.
- Optional Hydrostatic Test : This test is performed with De-ionized water at 1.5 times the working pressure.

Certification :

The certificate to 3.1 acc. to EN10204 for Valves Body Material and pressure test will be provided on request.



STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | | | | Dawsons-Tech Part No. |
|---------------------------------|----------|--------------|------|------------------|------|------|------|------|-------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | C | D | E | F | G | A/F | |
| Tube OD to Tube OD (Fractional) | 1/4" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-TT4 |
| | 3/8" | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 75.0 | 54.0 | 19.6? | 25.40 | NV107-TT6 |
| | 1/2" | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 79.0 | 58.0 | 19.6 | 28.57 | NV107-TT8 |
| Tube OD to Tube OD (Metric) | 6mm | 4.3 | 0.37 | 72.8 | 36.4 | 36.4 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-TT4M |
| | 8mm | 4.3 | 0.37 | 73.0 | 36.5 | 36.5 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-TT6M |
| | 10mm | 6.3 | 0.73 | 73.2 | 36.6 | 36.6 | 79.0 | 54.0 | 19.6 | 28.57 | NV107-TT8M |
| | 12mm | 6.3 | 0.73 | 80.0 | 40.0 | 40.0 | 79.0 | 54.0 | 19.6 | 28.57 | NV107-TT12M |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-FF4N |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 79.0 | 54.0 | 19.6 | 28.57 | NV107-FF6N |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 80.5 | 58.0 | 19.6 | 31.75 | NV107-FF8N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 60.0 | 31.0 | 29.0 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-MF4N |
| | 3/8" | 4.3 | 0.37 | 62.0 | 32.0 | 30.0 | 75.0 | 54.0 | 19.6 | 28.57 | NV107-MF6N |
| | 1/2" | 6.3 | 0.73 | 70.0 | 37.5 | 32.5 | 80.5 | 58.0 | 19.6 | 31.75 | NV107-MF8N |
| Female to Female BSP | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-FF4RG |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 79.0 | 54.0 | 19.6 | 28.57 | NV107-FF6RG |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 80.5 | 58.0 | 19.6 | 31.75 | NV107-FF8RG |
| Socket Weld to Socket Weld | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-SW4 |
| | 3/8" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 75.0 | 54.0 | 19.6 | 25.40 | NV107-SW6 |
| | 1/2" | 6.3 | 0.73 | 65.0 | 32.5 | 32.5 | 79.0 | 54.0 | 19.6 | 28.57 | NV107-SW8 |
| | 3/4" | 6.3 | 0.73 | 70.0 | 35.0 | 35.0 | 80.5 | 58.0 | 19.6 | 31.75 | NV107-SW12 |

Dimensions are for reference only and subject to change.

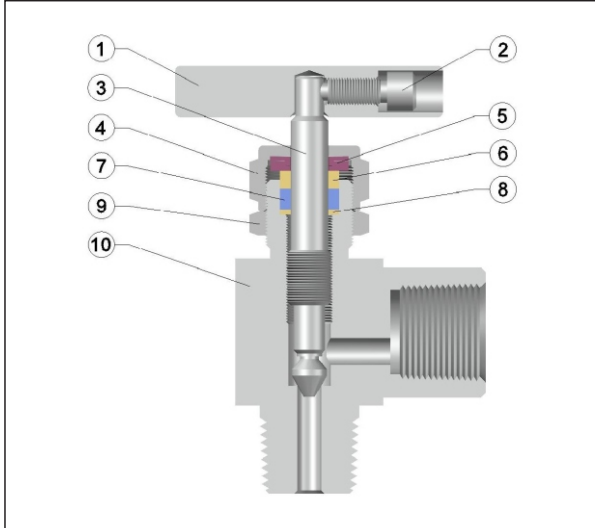
Angle Needle Valves Series : NV107A

(With Live Load System)

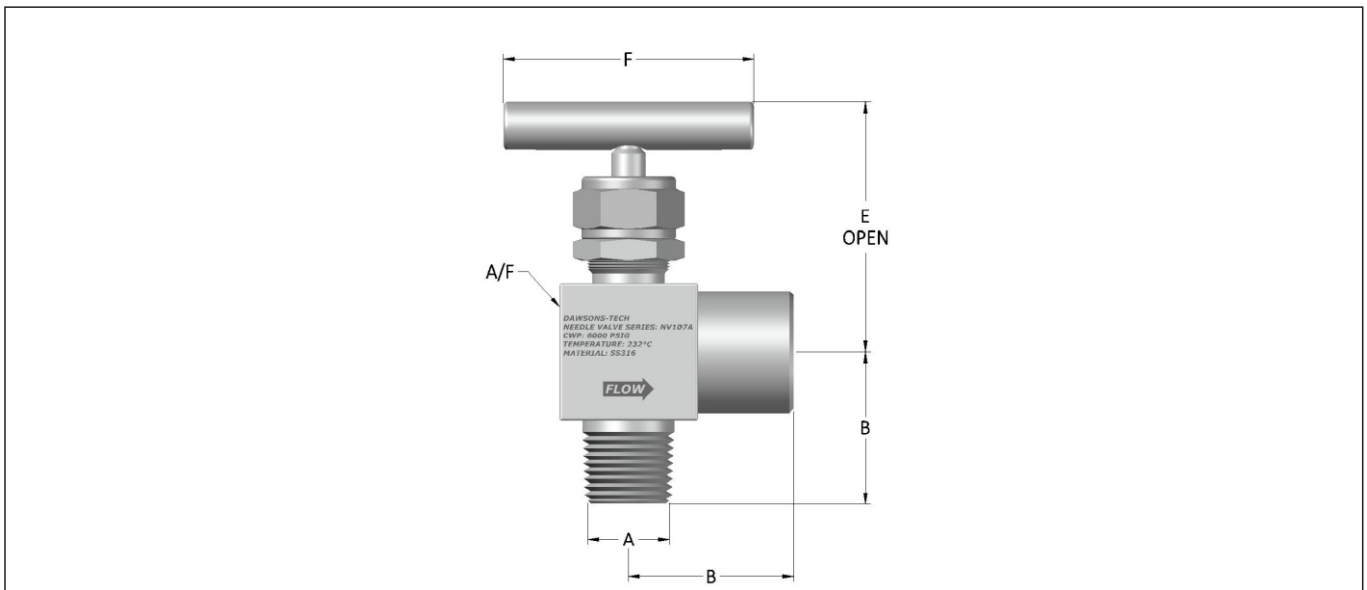


DAWSONS-TECH® Needle Valve Series : NV107A (Angle Pattern) design very carefully with live loaded PTFE/Graphite packing to provide repeated leak tight seal between stem and bonnet of the valve and also compensate for wear and pressure / temperature fluctuations during its operations.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|-------------------|-----------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Packing Nut | SS316 |
| 5 | Belleville Washer | Stainless Steel |
| 6 | Upper Gland | SS316 |
| 7 | Packing | PTFE / Graphite |
| 8 | Lower Gland | SS316 |
| 9 | Lock Nut | SS316 |
| 10 | Valve Body | SS316 |



STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | Dawsons-Tech Part No. |
|----------------------|----------|--------------|------|------------------|------|------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | E | F | A/F | |
| Tube OD to Tube OD | 1/4" | 4.3 | 0.37 | 29.5 | 46.0 | 54.0 | 25.40 | NV107A-TT4 |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 25.4 | 46.0 | 54.0 | 25.40 | NV107A-FF4N |
| | 1/2" | 6.3 | 0.73 | 35.8 | 62.5 | 58.0 | 31.75 | NV107A-FF8N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 25.4 | 46.0 | 54.0 | 25.40 | NV107A-MF4N |
| | 3/8" | 4.3 | 0.37 | 35.8 | 62.5 | 54.0 | 28.57 | NV107A-MF6N |
| | 1/2" | 6.3 | 0.73 | 35.8 | 62.5 | 58.0 | 31.75 | NV107A-MF8N |
| Male to Tube OD | 1/4" | 4.3 | 0.37 | 28.7 | 46.0 | 54.0 | 25.40 | NV107A-FF4RG |

Dimensions are for reference only and subject to change.

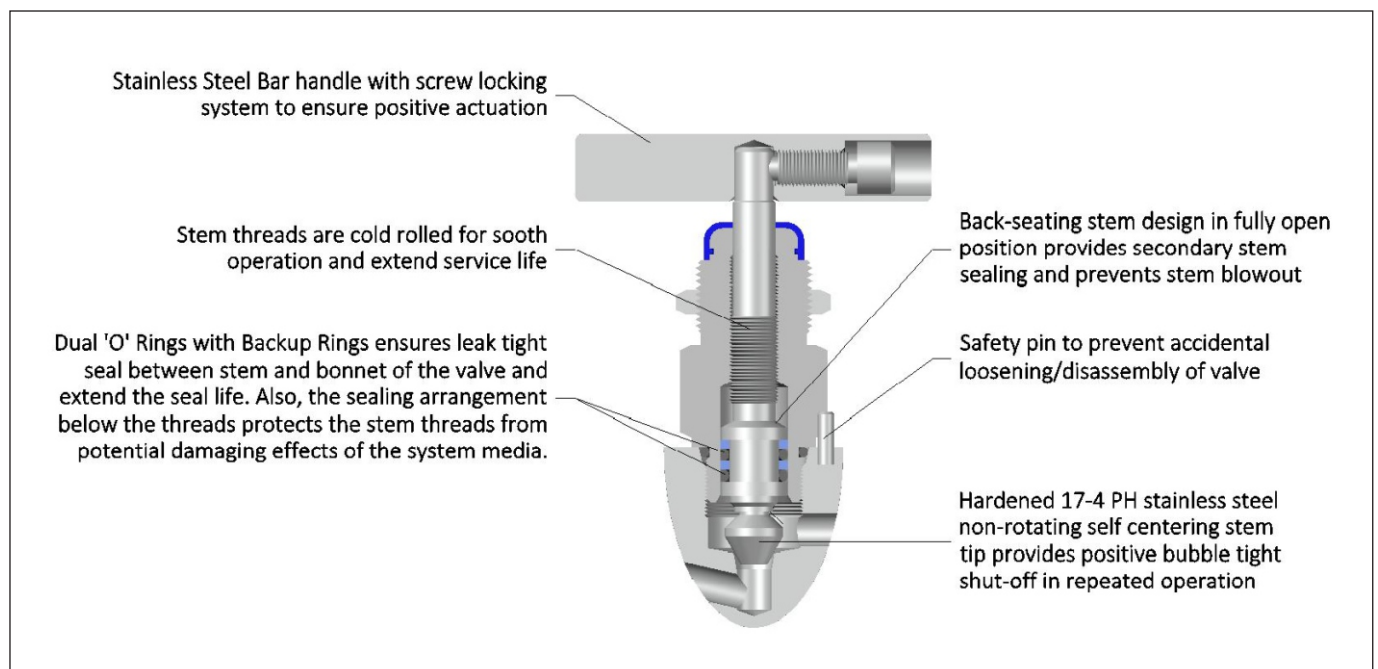
Needle Valves Series : NV109

(For High Pressure 10,000 PSIG)

DAWSONS-TECH[®] Needle Valve Series : NV109 design very carefully with dual 'O' Ring Sealing Arrangement between stem & bonnet of the Valve to provide reliable leak-tight performance under high pressure upto 10,000 PSIG (690 Bar) applications.

Features / Benefits :

- Compact and Rugged Design.
- Bar stock body in straight pattern.
- Panel mountable.
- Low operating torque.
- Anti blow-out stem.
- Flow Coefficient (Cv) from 0.37 to 0.73.
- Orifice size : 4.3mm and 6.3mm.
- Available in Material SS316 & Carbon Steel.
- Available with 1/4" to 1/2" Male / Female NPT, BSP, BSPT Pipe Threads and Metric / Inch Tube end connections.
- Every Valve is pressure tested.



Operating Parameters :

- Pressure Rating : UPTO 10,000 PSIG (690 Bar at CWP).
- Temperature Rating : UPTO 120° C

Applications :

- General Plant Services
- Hydraulic & Pneumatic
- Instrumentation Isolations
- Venting

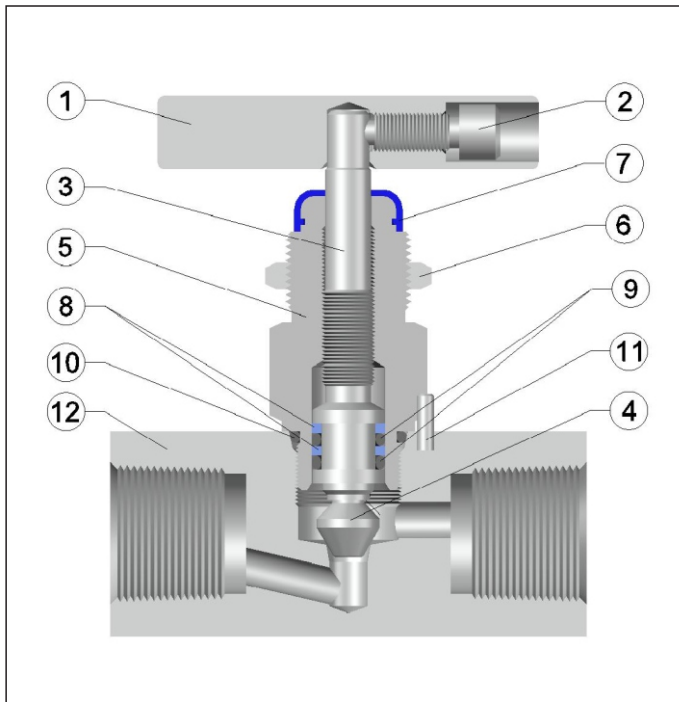
Testing :

- Standard Test : Each Valve is pressure tested with Nitrogen at 2000 PSIG (138 Bar) for leakage at the seat and packing.
- Optional Hydrostatic Test : This test is performed with De-ionized water at 1.5 times the working pressure.

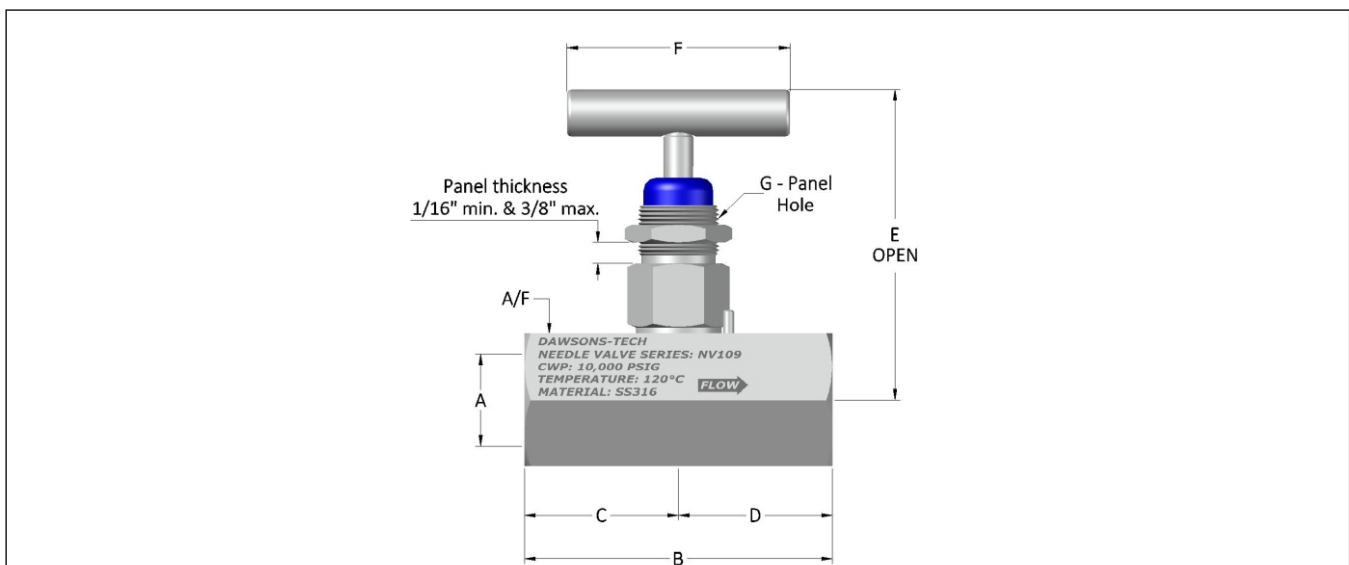
Certification :

The certificate to 3.1 acc. to EN10204 for Valves Body Material and pressure test will be provided on request.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|------------------|--------------|
| 1 | Handle | SS316 |
| 2 | Screw | SS316 |
| 3 | Valve Stem | SS316 |
| 4 | Stem Tip | 17-4 PH |
| 5 | Bonnet | SS316 |
| 6 | Panel Nut | SS316 |
| 7 | Dust Cap | PVC |
| 8 | Back-up Ring | PTFE |
| 9 | 'O' Rings | Fluorocarbon |
| 10 | 'O' Ring | Fluorocarbon |
| 11 | Safety Pin | SS316 |
| 12 | Valve Body | SS316 |



STANDARD CONFIGURATION DIMENSIONS

| End Connection | | Flow Data | | Dimensions in mm | | | | | | Dawsons-Tech Part No. |
|----------------------|----------|--------------|------|------------------|------|------|------|------|-------|-----------------------|
| Type | Size - A | Orifice (mm) | Cv | B | C | D | E | F | A/F | |
| Female to Female NPT | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 63.5 | 54.0 | 28.57 | NV109-FF4N |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 63.5 | 54.0 | 28.57 | NV109-FF6N |
| | 1/2" | 6.3 | 0.73 | 68.0 | 32.5 | 32.5 | 65.0 | 58.0 | 31.75 | NV109-FF8N |
| Male to Female NPT | 1/4" | 4.3 | 0.37 | 60.0 | 31.0 | 29.0 | 63.5 | 54.0 | 28.57 | NV109-MF4N |
| | 3/8" | 4.3 | 0.37 | 62.0 | 32.0 | 30.0 | 63.5 | 54.0 | 28.57 | NV109-MF6N |
| | 1/2" | 6.3 | 0.73 | 70.0 | 37.5 | 32.5 | 65.0 | 58.0 | 31.75 | NV109-MF8N |
| Female to Female BSP | 1/4" | 4.3 | 0.37 | 58.0 | 29.0 | 29.0 | 63.5 | 54.0 | 28.57 | NV109-FF4RG |
| | 3/8" | 4.3 | 0.37 | 60.0 | 30.0 | 30.0 | 63.5 | 54.0 | 28.57 | NV109-FF6RG |
| | 1/2" | 6.3 | 0.73 | 68.0 | 32.5 | 32.5 | 65.0 | 58.0 | 31.75 | NV109-FF8RG |

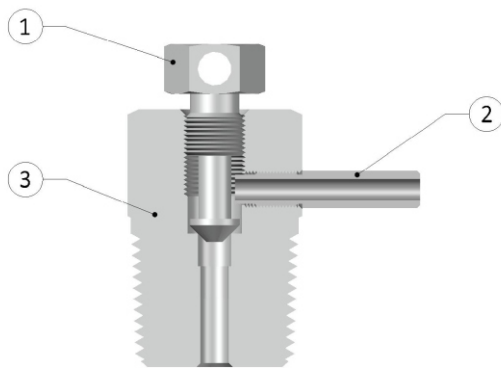
Dimensions are for reference only and subject to change.

DAWSONS-TECH® most cost effective Bleed Valves Series : VBL03 is having compact and rugged Bar Stock Hex Body design and construction for a variety of applications including Instrumentation, Hydraulic and Pneumatic systems.

Features / Benefits :

- Compact and Convenient installation.
- Vent Tube prevents accidental removal of Stem.
- Vent Tube directs excess liquid / Gas from system line.
- Flow Coefficient (Cv) 0.25.
- Available with Male / Female NPT, BSPT Pipe Thread and Tube Fittings end connections.
- Available in material SS316.
- Every Valve is pressure tested.

Material of Construction :



| Sr. No. | Part Description | Material |
|---------|------------------|----------|
| 1 | Stem | SS316 |
| 2 | Vent Tube | SS316 |
| 3 | Body | SS316 |

| End Connection | | | Flow Data | | Dimensions In mm | | | Dawsons-Tech Part No. |
|----------------|-------|--------------------|--------------|------|------------------|------|-------|-----------------------|
| Type | Inlet | Outlet | Orifice (mm) | Cv | A | B | A/F | |
| Male (NPT) | 1/8" | 3/16" OD Tube Stub | 3.20 | 0.25 | 23.9 | 19.1 | 15.87 | VBL03-M2N |
| | 1/4" | 3/16" OD Tube Stub | 3.20 | 0.25 | 23.9 | 19.1 | 15.87 | VBL03-M4N |
| | 3/8" | 3/16" OD Tube Stub | 3.20 | 0.25 | 26.3 | 22.3 | 22.22 | VBL03-M6N |
| | 1/2" | 3/16" OD Tube Stub | 3.20 | 0.25 | 26.3 | 22.3 | 22.22 | VBL03-M8N |
| Male (BSPT) | 1/8" | 3/16" OD Tube Stub | 3.20 | 0.25 | 23.9 | 19.1 | 15.87 | VBL03-M2RT |
| | 1/4" | 3/16" OD Tube Stub | 3.20 | 0.25 | 23.9 | 19.1 | 15.87 | VBL03-M4RT |
| | 3/8" | 3/16" OD Tube Stub | 3.20 | 0.25 | 26.3 | 22.3 | 22.22 | VBL03-M6RT |
| | 1/2" | 3/16" OD Tube Stub | 3.20 | 0.25 | 26.3 | 22.3 | 22.22 | VBL03-M8RT |

Dimensions are for reference only and subject to change.

Ordering Information :

For Example : PART NO. NV101-FF8N-SSTNR (NEEDLE VALVES)

| Valve Series | End Connection Type | End Connection Size | Pipe Thread Type | Material of Construction | Packing Material | Stem Type |
|--------------|---------------------|---------------------|------------------|--------------------------|------------------|-----------|
| NV101 | FF | 8 | N | SS | T | NR |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

For Example : PART NO. NVD31-FF8N-SSTNR (BLEEDER SCREW GAUGE VALVES)

| Valve Series | End Connection Type | End Connection Size | Pipe Thread Type | Material of Construction | Packing Material | Stem Type |
|--------------|---------------------|---------------------|------------------|--------------------------|------------------|-----------|
| NVD31 | FF | 8 | N | SS | T | NR |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

For Example : PART NO. VGR23-FF8N-SSTNR (GAUGE / ROOT VALVES)

| Valve Series | End Connection Type | End Connection Size | Pipe Thread Type | Material of Construction | Packing Material | Stem Type |
|--------------|---------------------|---------------------|------------------|--------------------------|------------------|-----------|
| VGR23 | FF | 8 | N | SS | T | NR |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

For Example : PART NO. VBL03-M8N-SS (BLEED VALVES)

| Valve Series | End Connection Type | End Connection Size | Pipe Thread Type | Material of Construction |
|--------------|---------------------|---------------------|------------------|--------------------------|
| VBL03 | M | 8 | N | SS |
| 1 | 2 | 3 | 4 | 5 |

Ordering Information :

| Valves Type | | Series |
|----------------------------------|---------------|---------------|
| 1) | Needle Valves | NV101 |
| | | NV103 |
| | | NV107 |
| | | NV107A |
| | | NV109 |
| Needle Valves with a Bleed Screw | NVD31 | |
| | NVD41 | |
| Gauge / Root Valve | VGR23 | |
| Bleed Valve | VBL03 | |

| | | |
|----|---------------------|-------------------------------|
| 2) | End Connection Type | TT : Tube OD x Tube OD |
| | | FF : Female x Female |
| | | MM : Male x Male |
| | | MF : Male x Female |
| | | FM : Female x Male |
| | | SW : Socket Weld |

| End Connection Size Tube Fittings | | | | |
|-----------------------------------|--------------------------|-------------|------------|------|
| Fractional Tube | | Metric Tube | | |
| 4 | 1/4" | 6M | 6MM | |
| 6 | 3/8" | 8M | 8MM | |
| 8 | 1/2" | 10M | 10MM | |
| 12 | 3/4" | 12M | 12MM | |
| 16 | 1" | 22M | 22MM | |
| 3) | | | 25M | 25MM |
| | Pipe End Connection Size | | | |
| | 4 | 1/4" | | |
| | 6 | 3/8" | | |
| | 8 | 1/2" | | |
| | 12 | 3/4" | | |
| 16 | 1" | | | |

| | | |
|----|----------------------------|----------------------------------|
| 4) | End Connection Thread Type | N : NPT (Male / Female) |
| | | RT : BSPT (Male / Female) |
| | | G : BSP (Male) |
| | | RG : BSP (Female) |

| | | |
|----|----------|--------------------------|
| 5) | Material | SS : SS316 |
| | | SSL : SS316L |
| | | DX : Duplex |
| | | CS : Carbon Steel |

| | | |
|----|------------------|-------------------------|
| 6) | Packing Material | T : PTFE |
| | | G : Graphite |
| | | V : Fluorocarbon |

| | | |
|----|-----------|-----------------------------|
| 7) | Stem Type | NR : Non-Rotating |
| | | VS : 'V' Stem |
| | | SF : Soft Seat Stem |
| | | RS : Regulating Stem |



Fueling Products



Twin Ferrule Compression Tube Fittings



Tube Fittings for Pressure Rating 15000 PSIG



Precision Thread Pipe Fittings & Adapters



37° Flare Fittings



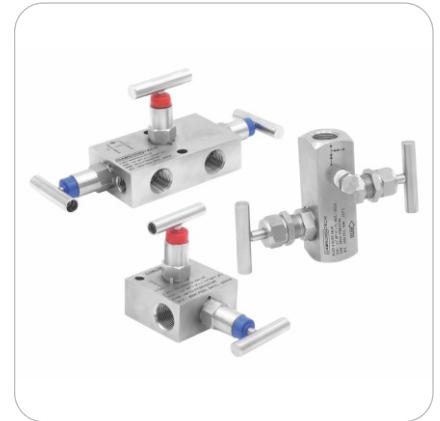
2 Way Ball Valves



3 Way Trunnion Ball Valves



Check Valves



2 / 3 Way Manifold / Block & Bleed Valves



Relief Valves



CNG Receptacles
Series : DTLR01 & DTLR03





CNG Receptacles
Series : DTSR05 & DTSR07



Registered Office and Manufacturing Plant :

DAWSONS-TECH COMPONENTS LLP

 Unit No. DD - 6 & 7, Khan Real Industrial Estate,
N. H. 08, Pelhar, Vasai Phata, Vasai (East),
Dist. Palghar - 401 208, Maharashtra, India.
LLPIN: AAN-0434

 Mobile : +91-9833355596

 Email : info@dawsonstech.com

 Website: www.dawsonstech.com