



2100 Series

Bar Stock, Screwed Bonnet Needle Valves

This panel mountable, two-piece design is available in globe and angle patterns for flexibility of installation. Dyna-Pak® packing provides leak-tight sealing with low operating torque. Optional Graph-Lock® packing is available for high-temperature applications. The safety back-seating prevents accidental removal of the stem.



Typical Applications

- Hydraulic systems
- High temperature service to +600° F (+316° C)
- Gas sampling
- Test stands

Technical Data

| | |
|------------------------------------|--|
| BODY* | 316 stainless steel, carbon steel, brass |
| MAXIMUM OPERATING PRESSURE | <i>Stainless steel</i> 6000 psig @ 70° F (414 Bar @ 21° C) <i>Carbon steel</i> 5000 psig @ 70° F (345 Bar @ 21° C) <i>Brass</i> 3000 psig @ 70° F (207 Bar @ 21° C) |
| OPERATING TEMPERATURE RANGE | <i>Dyna-Pak®/Metal stem tip</i> -65° to +450° F (-54° to +232° C) <i>Dyna-Pak®/PCTFE stem tip</i> -20° to +250° F (-29° to +121° C) <i>Graph-Lock®/Metal stem tip</i> -60° to 600° F (-51° to 316° C) |
| ORIFICE SIZES | 0.188" (4.8mm), 0.250" (6.4mm), 0.313" (8.0mm) |
| Cv FACTORS | 0.40 to 1.20 |

* Consult factory for other materials

Features & Benefits

Safety

- Back seating provides added sealing protection
- Lock pin prevents accidental bonnet disengagement

High pressure capability

- 316 stainless steel valve maximum working pressure is 6000 psig (414 Bar)

Extended temperature range

- Choice of Dyna-Pak® packing or high temperature Graph-Lock® packing

Versatile

- Choice of regulating stem tip or metal stem with nonrotating replaceable PCTFE stem tip, with a variety of end connections

Reliability

- All valves are tested for bubble-tight leakage at both seat and packing

Panel mounting

- Panel mounting is standard on all models
- Special High Tolerance NPT Thread

needle valves

HOKE Incorporated

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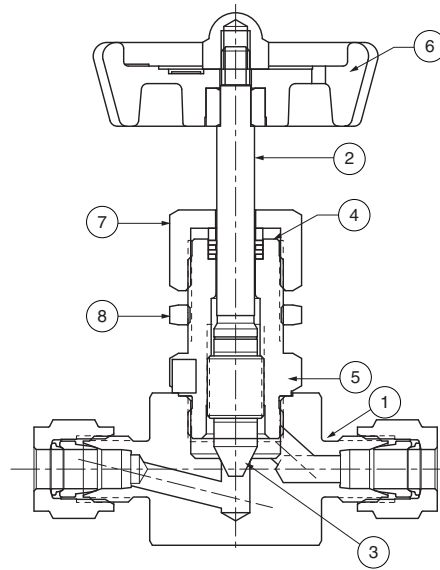
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2100 Series

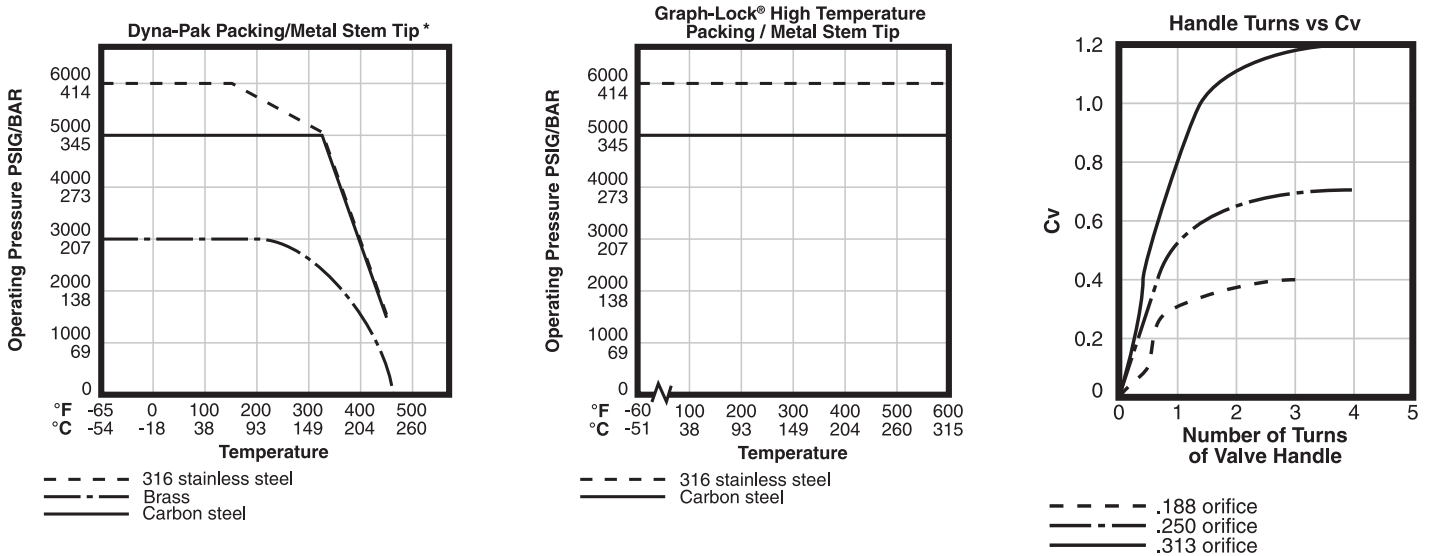
Materials of Construction

| DESCRIPTION | BRASS | 316 STAINLESS STEEL | CARBON STEEL |
|---|---------------------------------|--|--|
| 1 Body | Brass | 316 stainless steel | Carbon steel |
| 2 Stem | 316 stainless steel | 316 stainless steel | Carbon steel |
| 3 Stem tip soft hard | PCTFE 17-4PH stainless steel | PCTFE 17-4PH stainless steel | PCTFE 17-4PH stainless steel |
| 4 Stem packing Dyna-Pak® packing High temperature packing | TFE/brass wafers — | TFE/316 stainless steel wafers Graph-Lock® TFE wafers | TFE/316 stainless steel wafers Graph-Lock® TFE wafers |
| 5 Bonnet | Brass | 316 stainless steel | Carbon steel |
| 6 Handle | ABS wheel, black | ABS wheel, black Aluminum cross, red | ABS wheel, black Aluminum cross, red |
| 7 Valve w/Dyna-Pak® packing Valve w/high temperature packing | Brass | 316 stainless steel | Carbon steel |
| 8 Packing nut | Brass | 316 stainless steel | Carbon steel |
| Panel mounting nut | Nickel-plated brass | Nickel-plated brass | Nickel-plated brass |



Regulating stem tip shown

Pressure vs. Temperature Curves



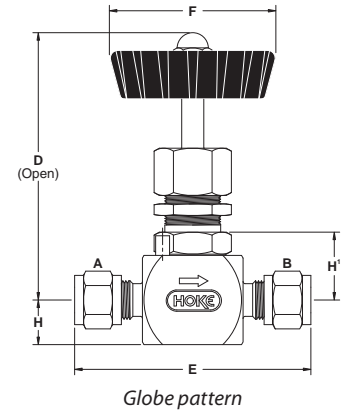
*Curves for PCTFE stem tip are the same as above but limited to -20° to +250°F (-29° to +121 °C)

2100 Series

Dimensions

2100 Series: Globe Pattern

| INLET A | OUTLET B | | D | E | F | | | H | H ¹ |
|---------------|---------------|------|----|----|-----------|-----------|--------------|----|----------------|
| | | | | | HARD SEAT | SOFT SEAT | METAL HANDLE | | |
| ¼" Gyrolok® | ¼" Gyrolok® | inch | 3¼ | 2½ | 1½ | — | — | ½ | 2½ |
| | | mm | 83 | 68 | 48 | — | — | 13 | 20 |
| ¼" female NPT | ¼" female NPT | inch | 3¼ | 2 | 1½ | 1¾ | 2¾ | ½ | ¾ |
| | | mm | 83 | 51 | 48 | 35 | 60 | 13 | 19 |
| ⅜" Gyrolok® | ⅜" Gyrolok® | inch | 3⅝ | 2½ | 1½ | 1½ | — | ½ | ¾ |
| | | mm | 84 | 68 | 48 | 48 | — | 13 | 19 |
| ½" Gyrolok® | ½" Gyrolok® | inch | 3⅝ | 2¾ | 1½ | — | — | ½ | ¾ |
| | | mm | 84 | 75 | 48 | — | — | 13 | 19 |
| ½" male NPT | ½" female NPT | inch | 3¾ | 2¾ | 1½ | — | — | ⅝ | 3½ |
| | | mm | 95 | 70 | 48 | — | — | 16 | 25 |
| ½" female NPT | ½" female NPT | inch | 3¾ | 2½ | 2¾ | 1½ | 2¾ | ⅝ | 1½ |
| | | mm | 95 | 64 | 60 | 48 | 60 | 16 | 24 |



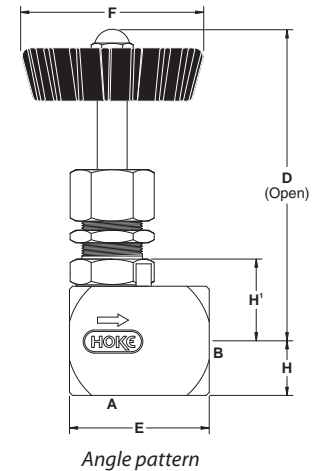
Dimensions for reference only, subject to change.

* Use metal handle dimensions for high temperature, 2118 Series valves.

2100 Series: Angle Pattern

| INLET A | OUTLET B | | D | E | F | | H | H ¹ |
|---------------|---------------|------|----|----|-----------|-----------|----|----------------|
| | | | | | HARD SEAT | SOFT SEAT | | |
| ¼" female NPT | ¼" female NPT | inch | 3⅝ | 1½ | 1½ | 1¾ | ⅝ | 1¾ |
| | | mm | 84 | 37 | 48 | 35 | 14 | 21 |
| ⅜" female NPT | ⅜" female NPT | inch | 3¾ | 1½ | 1½ | — | ⅝ | ¾ |
| | | mm | 86 | 38 | 48 | — | 16 | 22 |

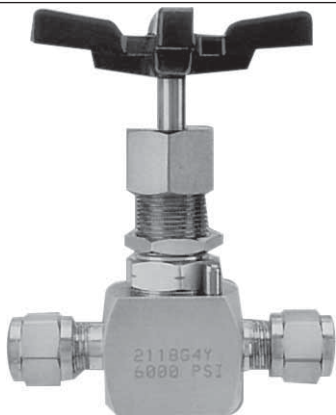
Dimensions for reference only, subject to change.



Panel mounting dimensions

Panel hole for ½" models = 4¼" (19.4 mm) diameter
 for all other models = 4¼" (16.2 mm) diameter
 Panel thickness = ⅜" (4.7 mm) maximum

How to Order: Standard Valves



2118G4Y: Globe pattern

2100 Series: Globe Pattern

Metal stem tip; Dyna-Pak® packing for service to +450° F (+232° C)

| END CONNECTIONS | | ORDER BY PART NUMBER | | | ORIFICE (IN INCHES) | Cv |
|-----------------|---------------|----------------------|---------------------|--------------|---------------------|------|
| INLET | OUTLET | BRASS | 316 STAINLESS STEEL | CARBON STEEL | | |
| ¼" Gyrolok® | ¼" Gyrolok® | 2112G4B | 2112G4Y | — | 0.188 | 0.40 |
| ¼" female NPT | ¼" female NPT | 2112F4B | 2112F4Y | 2112F4E | 0.188 | 0.40 |
| ⅜" Gyrolok® | ⅜" Gyrolok® | — | 2112G6Y | — | 0.250 | 0.70 |
| ⅜" female NPT | ⅜" female NPT | 2112F6B | 2112F6Y | — | 0.250 | 0.70 |
| ½" Gyrolok® | ½" Gyrolok® | — | 2112G8Y | — | 0.313 | 1.20 |
| ½" male NPT | ½" female NPT | — | 2112L8Y | — | 0.313 | 1.20 |
| ½" female NPT | ½" female NPT | 2112F8B | 2112F8Y | 2112F8E | 0.313 | 1.20 |

2100 Series: Globe Pattern

Metal stem tip; Graph-Lock® high temperature packing for service to +600° F (+316° C)

| END CONNECTIONS | | ORDER BY PART NUMBER | | ORIFICE (IN INCHES) | Cv |
|-----------------|---------------|----------------------|--------------|---------------------|------|
| INLET | OUTLET | 316 STAINLESS STEEL | CARBON STEEL | | |
| ¼" Gyrolok® | ¼" Gyrolok® | 2118G4Y | — | 0.188 | 0.40 |
| ¼" female NPT | ¼" female NPT | 2118F4Y | 2118F4E | 0.188 | 0.40 |
| ⅜" female NPT | ⅜" female NPT | 2118F6Y | — | 0.250 | 0.70 |
| ½" female NPT | ½" female NPT | 2118F8Y | 2118F8E | 0.313 | 1.20 |

2100 Series



2122F4Y: Angle pattern

2100 Series: Globe Pattern

PCTFE stem tip; Dyna-Pak® packing for service to +250° F (+121° C)

| END CONNECTIONS | | ORDER BY PART NUMBER | | ORIFICE (IN INCHES) | Cv |
|-----------------|---------------|----------------------|---------------------|------------------------|------|
| INLET | OUTLET | BRASS | 316 STAINLESS STEEL | | |
| ¼" female NPT | ¼" female NPT | — | 2152F4Y | 0.188 | 0.40 |
| ½" female NPT | ½" female NPT | 2152F8B | 2152F8Y | 0.313 | 1.20 |

2100 Series: Angle Pattern

Metal stem tip; Dyna-Pak® packing for service to +450° F (+232° C)

| END CONNECTIONS | | ORDER BY PART NUMBER | | ORIFICE (IN INCHES) | Cv |
|-----------------|---------------|----------------------|---------------------|------------------------|------|
| INLET | OUTLET | BRASS | 316 STAINLESS STEEL | | |
| ¼" female NPT | ¼" female NPT | — | 2122F4Y | 0.188 | 0.40 |
| ⅜" female NPT | ⅜" female NPT | 2122F6B | — | 0.250 | 0.70 |

Ordering Options

Spare Parts

Spare parts and repair kits are available for all needle valves. Please contact your distributor for specific information.

Cleaning and Testing

When ordering, please specify if oxygen cleaning or helium leak testing is required.

Additional Sizes

Additional sizes and options are available upon special request. Please consult your local HOKE distributor.