



## 2219 Series

Severe Service Needle Valves



*needle valve*

### **HOKE Incorporated**

405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303  
Phone (864) 574-7966 Fax (864) 587-5608  
[www.hoke.com](http://www.hoke.com) • [sales@hoke.com](mailto:sales@hoke.com)



## 2219 Series

### Severe Service Needle Valves

The new Hoke 2219 Needle Valve is an excellent choice for many steam- and severe service applications. Grafoil® packing below the stem threads provides exceptional service at temperatures up to +1000° F (+538° C). The non-rotating 316 stainless steel stem tip prevents galling.



### Typical Applications

- Steam service in power plants
- Hot condensates

### Technical Data

|                                     |                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------|
| <b>BODY MATERIAL</b>                | 316 stainless steel, carbon steel, Hastelloy® C-276 and Monel®              |
| <b>MAXIMUM OPERATING PRESSURE</b>   | 6000 psig @ 70° F (414 bar @ 21° C)                                         |
| <b>PROOF PRESSURE SAFETY FACTOR</b> | 2:1                                                                         |
| <b>BURST PRESSURE</b>               | 4:1                                                                         |
| <b>TEMPERATURE RANGE</b>            | -100° F to + 1000° F @ 1750 psig max.<br>-75° C to + 538° C @ 120 bar max.  |
| <b>ORIFICE SIZES</b>                | 0.170", 0.250", 0.312", and 0.437"<br>(4.3 mm, 6.4 mm, 7.9 mm, and 11.1 mm) |
| <b>C<sub>v</sub> FACTORS*</b>       | 0.47, 1.09, and 1.20                                                        |

\* C<sub>v</sub> factor for 0.437" orifice not available at time of publication

### Features & Benefits

- Meets ANSI 900# specifications
- Grafoil® packing below threads isolates threads from media.
- Non-rotating stem tip prevents galling
- High pressure / high temperature use
- All standard components are 316 stainless steel
- Standard 316 stainless steel cast handle
- Fractional end connections available up to 1"; metric end connections up to 25mm
- Gyrolok®, female NPT, pipe, or tube socket weld end connections
- Bubble-tight leak testing at both seat and packing
- Special High Tolerance NPT Thread

needle valves

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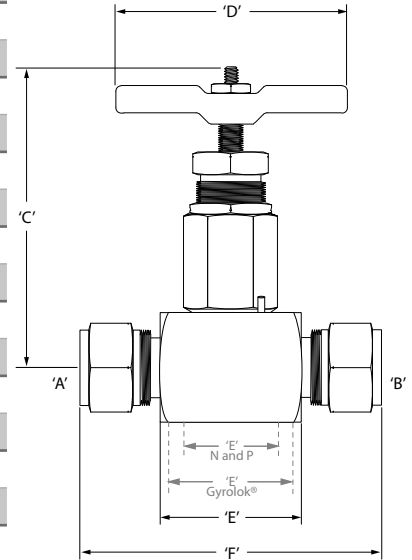
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# 2219 Series Severe Service Needle Valve

## Dimensions

| INLET A             | OUTLET B            | ORIFICE SIZE        |      | C    | D    | E     | F     |
|---------------------|---------------------|---------------------|------|------|------|-------|-------|
| ¼" female NPT       | ¼" female NPT       | 0.250"<br>(6.4 mm)  | inch | 3.4  | 2.63 | 2.25  | N/A   |
|                     |                     |                     | mm   | 86.4 | 66.8 | 57.2  | N/A   |
| ½" female NPT       | ½" female NPT       | 0.312"<br>(7.9 mm)  | inch | 3.4  | 2.63 | 2.51  | N/A   |
|                     |                     |                     | mm   | 86.4 | 66.8 | 63.8  | N/A   |
| ¾" female NPT       | ¾" female NPT       | 0.437"<br>(11.1 mm) | inch | 3.55 | 2.63 | 3.50  | N/A   |
|                     |                     |                     | mm   | 89.6 | 66.8 | 88.9  | N/A   |
| 1" female NPT       | 1" female NPT       | 0.437"<br>(11.1 mm) | inch | 3.59 | 2.63 | 4.25  | N/A   |
|                     |                     |                     | mm   | 91.3 | 66.8 | 108.0 | N/A   |
| ¼" Gyrolok®         | ¼" Gyrolok®         | 0.170"<br>(4.3 mm)  | inch | 3.4  | 2.63 | 1.87  | 3.15  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 47.4  | 80.1  |
| ½" Gyrolok®         | ½" Gyrolok®         | 0.250"<br>(6.4 mm)  | inch | 3.4  | 2.63 | 1.50  | 3.43  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 38.1  | 87.1  |
| ¾" Gyrolok®         | ¾" Gyrolok®         | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.88  | 4.87  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 73.2  | 123.8 |
| 1" Gyrolok®         | 1" Gyrolok®         | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.51  | 5.00  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 63.8  | 120.9 |
| 12 mm Gyrolok®      | 12 mm Gyrolok®      | 0.250"<br>(6.4 mm)  | inch | 3.40 | 2.63 | 1.51  | 3.36  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 38.5  | 85.4  |
| 22 mm Gyrolok®      | 22 mm Gyrolok®      | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.76  | 4.86  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 70.1  | 123.3 |
| 25 mm Gyrolok®      | 25 mm Gyrolok®      | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.51  | 5.11  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 63.8  | 129.7 |
| ⅜" tube socket weld | ⅜" tube socket weld | 0.250"<br>(6.4 mm)  | inch | 3.4  | 2.63 | 1.94  | 2.44  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 49.3  | 62.0  |
| ½" tube socket weld | ½" tube socket weld | 0.250"<br>(6.4 mm)  | inch | 3.40 | 2.63 | 1.94  | 2.44  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 49.3  | 62.0  |
| ¾" tube socket weld | ¾" tube socket weld | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.50  | 3.50  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 63.5  | 88.9  |
| 1" tube socket weld | 1" tube socket weld | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.50  | 3.50  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 63.5  | 88.9  |
| ⅜" NPS socket weld  | ⅜" NPS socket weld  | 0.250"<br>(6.4 mm)  | inch | 3.4  | 2.63 | 2.01  | 2.51  |
|                     |                     |                     | mm   | 56.4 | 66.8 | 51.05 | 63.8  |
| ½" NPS socket weld  | ½" NPS socket weld  | 0.312"<br>(7.9 mm)  | inch | 3.4  | 2.63 | 1.75  | 2.51  |
|                     |                     |                     | mm   | 86.4 | 66.8 | 44.45 | 63.8  |
| ¾" NPS socket weld  | ¾" NPS socket weld  | 0.437"<br>(11.1 mm) | inch | 3.53 | 2.63 | 2.50  | 3.50  |
|                     |                     |                     | mm   | 89.7 | 66.8 | 63.5  | 88.9  |
| 1" NPS socket weld  | 1" NPS socket weld  | 0.437"<br>(11.1 mm) | inch | 3.59 | 2.63 | 2.50  | 3.50  |
|                     |                     |                     | mm   | 91.3 | 66.8 | 63.5  | 88.9  |

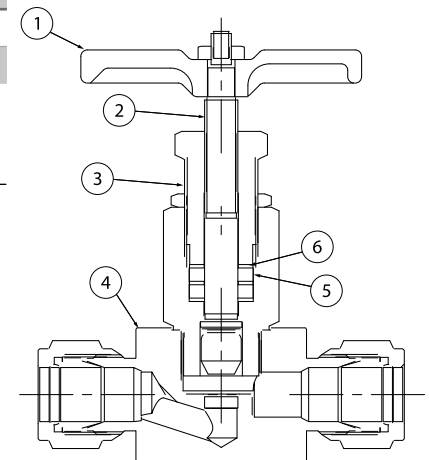


Dimensions for reference only, subject to change.

## Materials of Construction\*

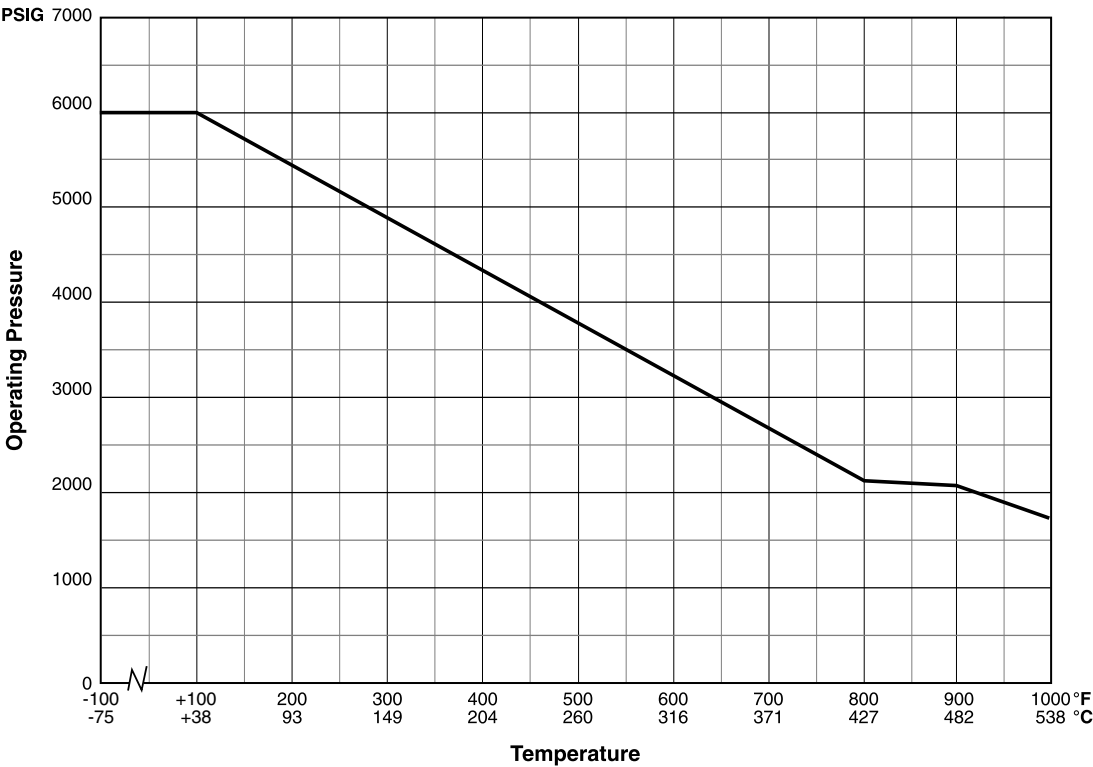
| DESCRIPTION      | MATERIAL            |
|------------------|---------------------|
| 1 Handle         | 316 stainless steel |
| 2 Stem assembly  | 316 stainless steel |
| 3 Packing nut    | 316 stainless steel |
| 4 Body           | 316 stainless steel |
| 5 Packing        | Grafoil®            |
| 6 Packing washer | 316 stainless steel |

\* This listing contains standard valve information only. See page 4 for a complete list of options.



# 2219 Series Severe Service Needle Valve

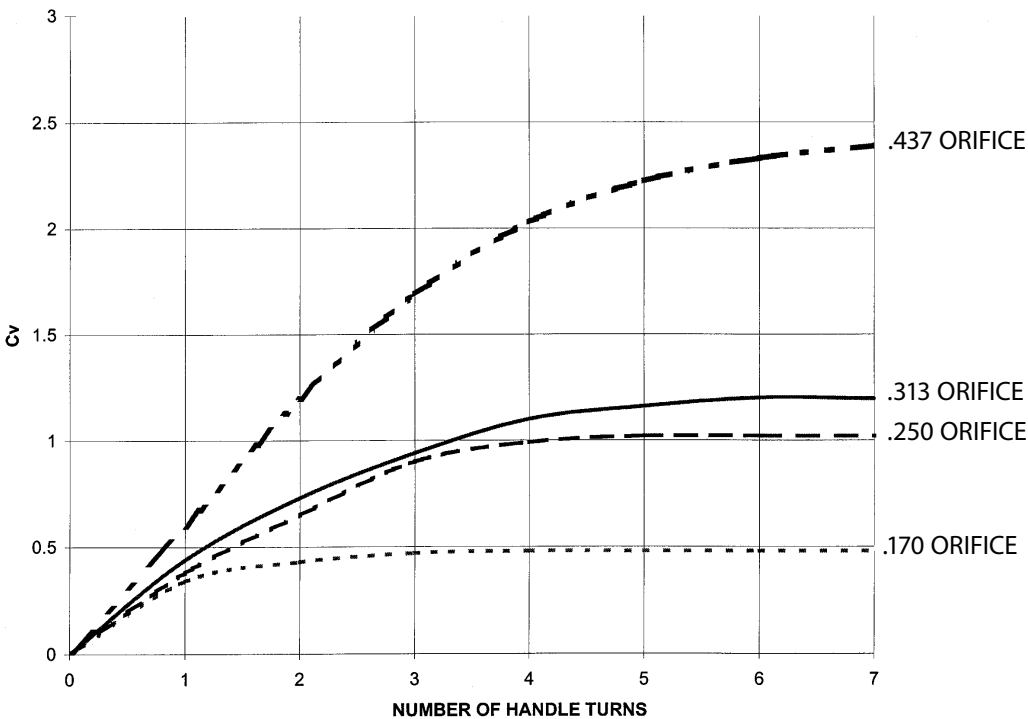
## Pressure vs. Temperature Curve



## Flow Curve

Handle Turns vs.  $C_v$

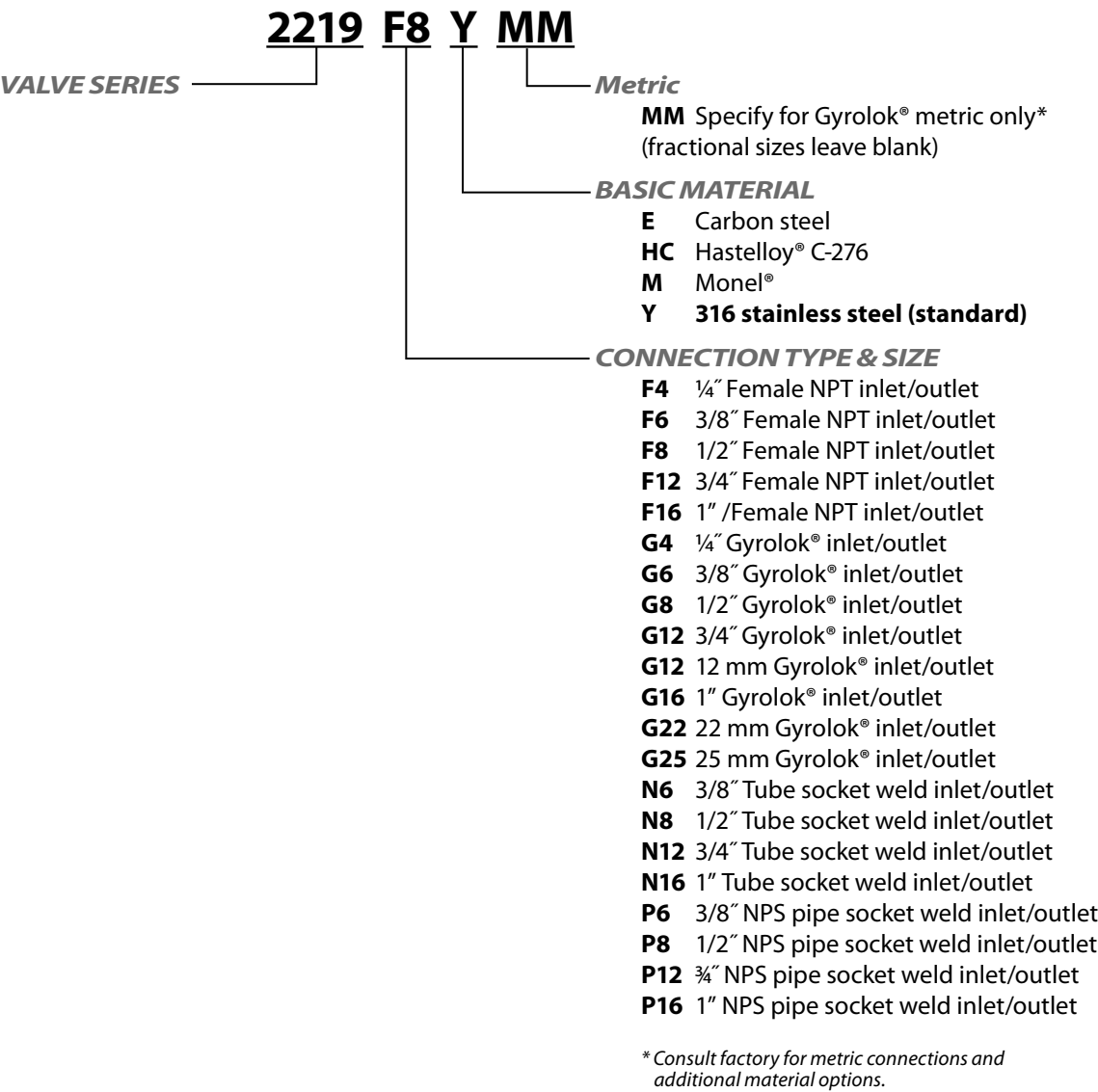
2219 SERIES FLOW CURVES



\* Data for 0.437" orifice not available at time of publication

# 2219 Series Severe Service Needle Valve

## How to Order: Build-to-Order

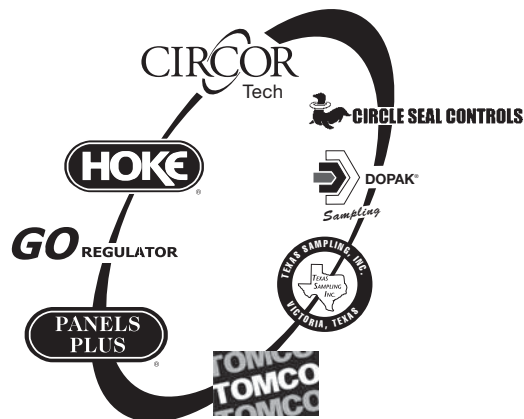


## For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

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## **Hoke • GO Regulator • Tomco • CIRCOR Tech**

405 Centura Court • PO Box 4866 (29305)

Spartanburg, SC 29303

Tel (864) 574-7966 • Fax (864) 587-5608

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

### **Hoke Controls / Panels Plus**

2054 Francis St.

Ontario, CA 91761

Tel (909) 923-3770

Fax (909) 923-2550

[www.circor-panelsplus.com](http://www.circor-panelsplus.com)

### **Dopak Inc.**

9572 Kempwood

Houston, Texas 77080

Tel (713) 460-8311

Fax (713) 460-8578

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

### **Texas Sampling, Inc**

3706 Rio Grande

Victoria, Texas 77901

Tel (361) 575-8087

Fax (361) 575-8157

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

### **Circle Seal Controls**

2301 Wardlow Circle

Corona, CA 92880

Tel (951) 270-6200

Fax (951) 270-6201

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

### **CIRCOR Instrumentation**

#### **Technologies**

#### **Central Europe**

Leeuwenhoekweg 24

2661 CZ Bergschenhoek

The Netherlands

Tel +31 10 4206011 • Fax +31 10 4566774

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

### **Hoke GmbH**

Weitzesweg 11

Postfach 1541

D-61118 Bad Vilbel-Dortelweil

Germany

Tel +49 6101 82 56 0

Fax +49 6101 82 56 40

[www.hoke.de](http://www.hoke.de)

## **CIRCOR Instrumentation Technologies**

CIRCOR Instrumentation Technologies (CIT) is a product group of CIRCOR International (NYSE: CIR), specializing in fluid process control solutions with orifice sizes typically up to 1". Our main product lines include ball, needle, packless, diaphragm, solenoid, and metering valves, pressure regulators, quick couplers, Gyrolok® compression tube fittings, and fully integrated sampling systems.

CIT markets primarily to the petrochemical, refining, power generation, food and beverage, semiconductor, and pharmaceutical industries, and to OEM's. CIT separates itself from the competition by offering highly engineered components manufactured to exacting standards and a variety of custom options.