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	*Stainless steel* 6000 psig @ 70° F (414 Bar @ 21° C) *Carbon steel* 5000 psig @ 70° F (345 Bar @ 21° C) *Brass* 3000 psig @ 70° F (207 Bar @ 21° C)
OPERATING TEMPERATURE RANGE	*Dyna-Pak®/Metal stem tip* -65° to +450° F (-54° to +232° C) *Dyna-Pak®/PCTFE stem tip* -20° to +250° F (-29° to +121° C) *Graph-Lock®/Metal stem tip* -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

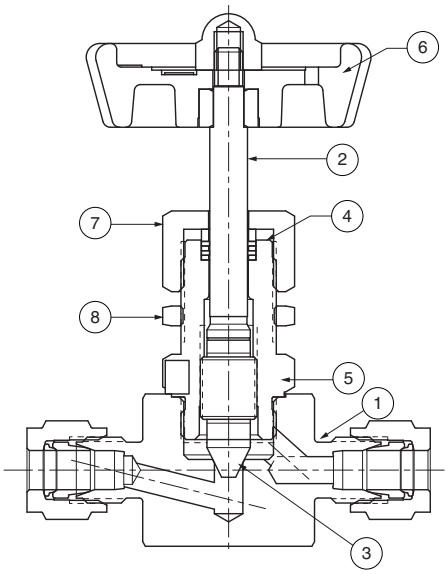
needle valves

HOKE Incorporated
405 Centura Court • PO Box 4866 • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 587-5608
www.hoke.com • sales@hoke.com

2100 Series

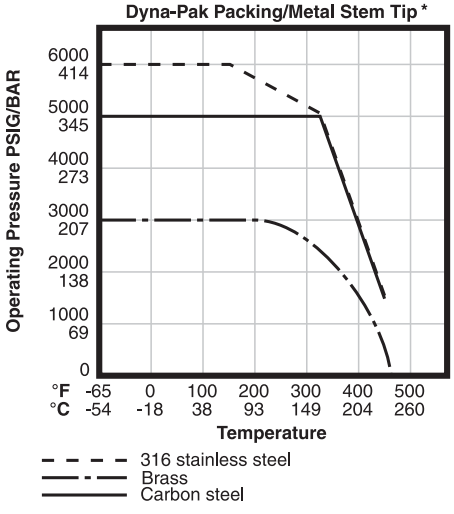
Materials of Construction

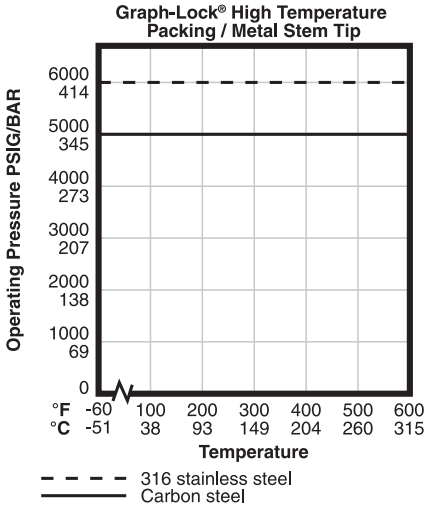
	DESCRIPTION	BRASS	316 STAINLESS STEEL	CARBON STEEL
1	Body	Brass	316 stainless steel	Carbon steel
2	Stem	316 stainless steel	316 stainless steel	Carbon steel
3	*Stem tip* soft hard	 PCTFE 17-4PH stainless steel	 PCTFE 17-4PH stainless steel	 PCTFE 17-4PH stainless steel
4	*Stem packing* Dyna-Pak® packing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

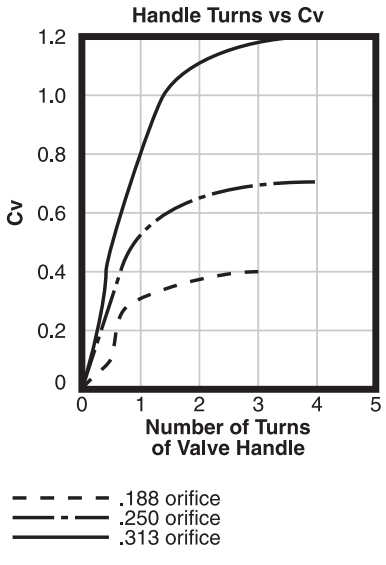


Regulating stem tip shown

Pressure vs. Temperature Curves







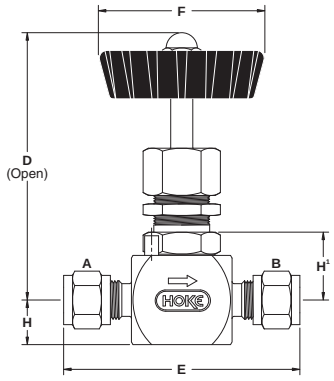
**Curves for PCTFE stem tip are the same as above but limited to -20° to +250°F (-29° to +121 °C)*

2100 Series

Dimensions

2100 Series: Globe Pattern

INLET A	OUTLET B		D	E	F HARD SEAT	F SOFT SEAT	F METAL HANDLE	H	H[1]
¼″ Gyrolok®	¼″ Gyrolok®	inch	3¼	2¹¹⁄₁₆	1⅞	—	—	½	²⁵⁄₃₂
		mm	83	68	48	—	—	13	20
¼″ female NPT	¼″ female NPT	inch	3¼	2	1⅞	1⅜	2⅜	½	¾
		mm	83	51	48	35	60	13	19
⅜″ Gyrolok®	⅜″ Gyrolok®	inch	3⁵⁄₁₆	2¹¹⁄₁₆	1⅞	1⅞	—	½	¾
		mm	84	68	48	48	—	13	19
½″ Gyrolok®	½″ Gyrolok®	inch	3⁵⁄₁₆	2⁵⁄₁₆	1⅞	—	—	½	¾
		mm	84	75	48	—	—	13	19
½″ male NPT	½″ female NPT	inch	3¾	2¾	1⅞	—	—	⅝	³¹⁄₃₂
		mm	95	70	48	—	—	16	25
½″ female NPT	½″ female NPT	inch	3¾	2½	2⅜	1⅞	2⅜	⅝	¹⁵⁄₁₆
		mm	95	64	60	48	60	16	24



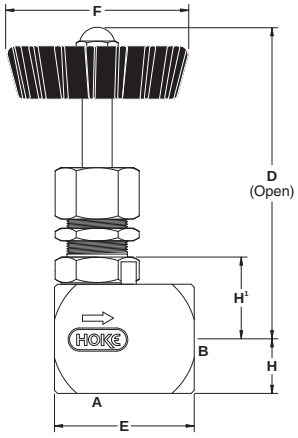
Globe pattern

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 HARD SEAT	F SOFT SEAT	H	H[1]
¼″ female NPT	¼″ female NPT	inch	3⁵⁄₁₆	1⁷⁄₁₆	1⅞	1⅜	⁹⁄₁₆	¹³⁄₁₆
		mm	84	37	48	35	14	21
⅜″ female NPT	⅜″ female NPT	inch	3⅜	1½	1⅞	—	⅝	⅞
		mm	86	38	48	—	16	22

Dimensions for reference only, subject to change.

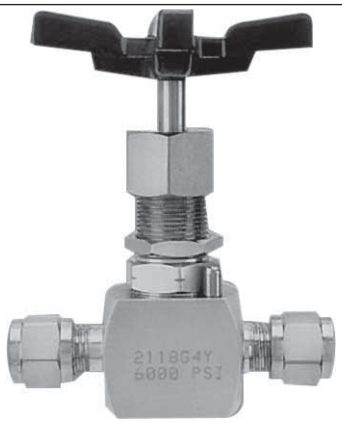


Angle pattern

Panel mounting dimensions

Panel hole for ½″ models = ⁴⁹⁄₆₄″ (19.4 mm) diameter
for all other models = ⁴¹⁄₆₄″ (16.2 mm) diameter
Panel thickness = ³⁄₁₆″ (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 INLET	END CONNECTIONS OUTLET	ORDER BY PART NUMBER BRASS	ORDER BY PART NUMBER 316 STAINLESS STEEL	ORDER BY PART NUMBER CARBON STEEL	ORIFICE (IN INCHES)	Cv
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 INLET	END CONNECTIONS OUTLET	ORDER BY PART NUMBER 316 STAINLESS STEEL	ORDER BY PART NUMBER CARBON STEEL	ORIFICE (IN INCHES)	Cv
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	
INLET	OUTLET	BRASS	316 STAINLESS STEEL	(IN INCHES)	Cv
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	
INLET	OUTLET	BRASS	316 STAINLESS STEEL	(IN INCHES)	Cv
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.

2200 Series

Bar Stock, Screwed Bonnet Needle Valves

Dyna-Pak® packing below the stem threads, a hardened thread gland and a Hastelloy® C-276 stem tip keep valves leak-tight while providing long cycle life. A choice of two flow capabilities enables use in a variety of severe service applications.

Typical Applications

- Corrosive handling
- Sampling systems
- Metering service

Technical Data

BODY*	316 stainless steel
MAXIMUM OPERATING PRESSURE	5000 psig @ 70° F (345 Bar @ 21° C)
OPERATING TEMPERATURE RANGE	-65° to +450° F (-54° to +232° C)
ORIFICE SIZES	0.086″ to 0.313″ (2.2 mm to 8.0 mm)
Cv FACTORS	0.12 to 1.40

** Consult factory for other materials*

Features & Benefits

Safety

- Lock pin prevents accidental bonnet disengagement

Durability

- Hastelloy® C-276 stem tip provides long service life

Extended temperature range

- Dyna-Pak® packing

Reliability

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

Extended cycle life

- Dyna-Pak® packing below stem threads prevents washing away of thread lubricant and contamination of process fluid

Installation variety

- Choose from a broad selection of male NPT, female NPT and HOKE Gyrolok® tube fitting connections in globe or angle patterns

Panel mounting

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

needle valves

HOKE Incorporated
405 Centura Court • PO Box 4866 • Spartanburg, SC 29303
Phone (864) 574-7966 Fax (864) 587-5608
www.hoke.com • sales@hoke.com