

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

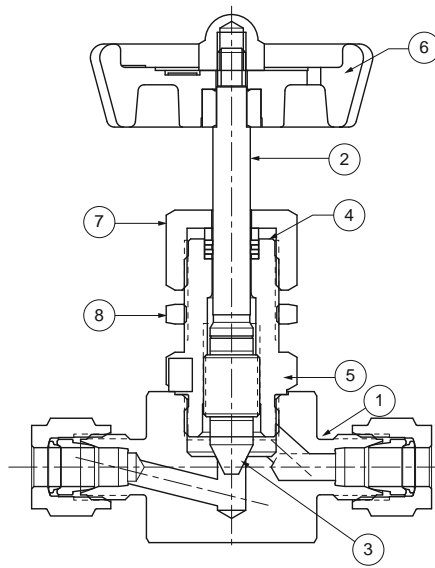
- Panel mounting is standard on all models
- Special High Tolerance NPT Thread

needle valves

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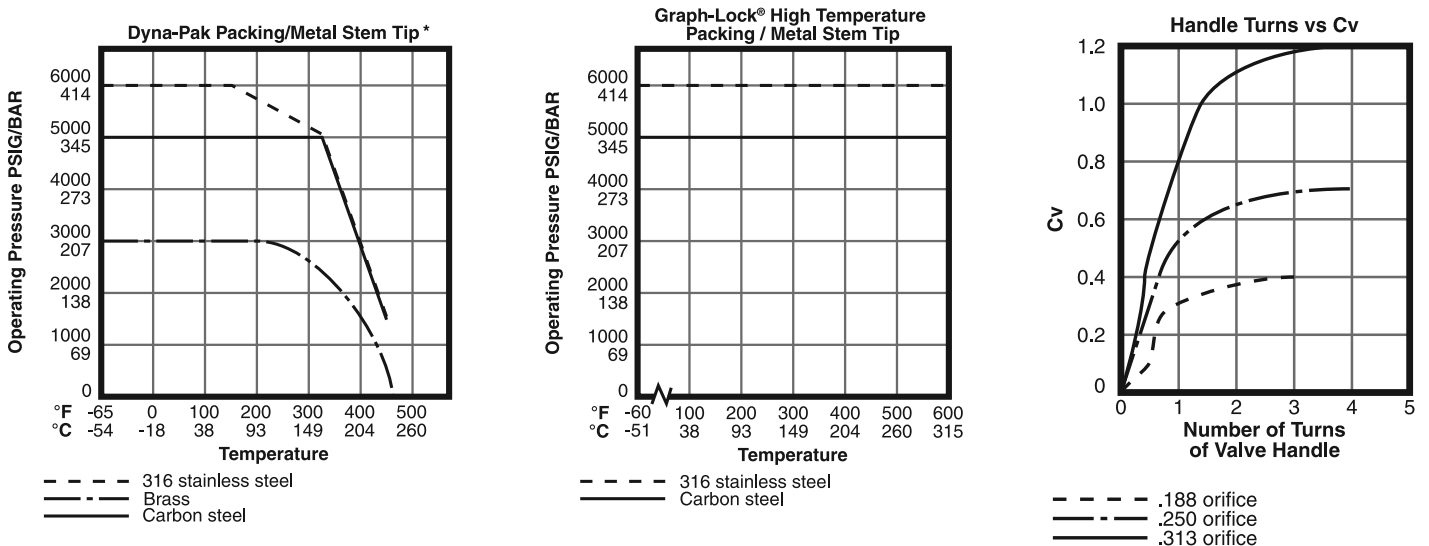
Materials of Construction

DESCRIPTION	BRASS	316 STAINLESS STEEL	CARBON STEEL
1 Body	Brass	316 stainless steel	Carbon steel
2 Stem	316 stainless steel	316 stainless steel	316 stainless steel
3 Stem tip soft hard	PCTFE 316 stainless steel	PCTFE 316 stainless steel	PCTFE 316 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	ABS wheel, black
7 Valve w/Dyna-Pak® packing Valve w/high temperature packing	—	Aluminum cross, red	Aluminum cross, red
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)

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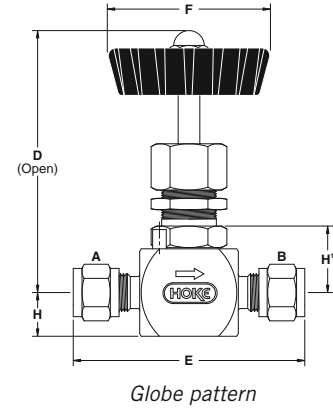
Dimensions

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	2 ¹¹ / ₁₆	1½	—	—	½	2 ⁹ / ₁₆
		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
¾" GYROLOK®	¾" GYROLOK®	inch	3 ⁵ / ₁₆	2 ¹¹ / ₁₆	1½	1½	—	½	¾
		mm	84	68	48	48	—	13	19
½" GYROLOK®	½" GYROLOK®	inch	3¾	3 ³ / ₈	1½	—	—	¾	1 ⁵ / ₁₆
		mm	84	75	48	—	—	13	19
½" male NPT	½" female NPT	inch	3¾	2¾	1½	—	—	¾	3 ¹ / ₂
		mm	95	70	48	—	—	16	25
½" female NPT	½" female NPT	inch	3¾	2½	2¾	1½	2¾	¾	1 ⁵ / ₁₆
		mm	95	64	60	48	60	16	24

Dimensions for reference only, subject to change.

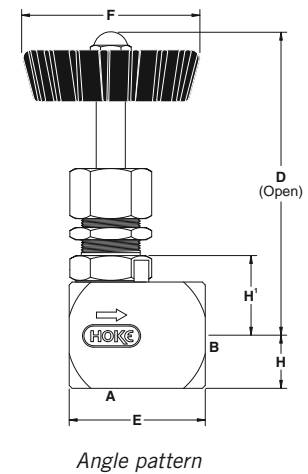
* Use metal handle dimensions for high temperature, 2118 Series valves.



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	3 ⁵ / ₁₆	1 ¹ / ₁₆	1½	1¾	9 ¹ / ₁₆	1¾
		mm	84	37	48	35	14	21
¾" female NPT	¾" female NPT	inch	3¾	1½	1½	—	¾	¾
		mm	86	38	48	—	16	22

Dimensions for reference only, subject to change.



Panel mounting dimensions

Panel hole for ½" models = 4⁹/₄" (19.4 mm) diameter

for all other models = 4¹/₄" (16.2 mm) diameter

Panel thickness = 3¹/₁₆" (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		ORDER BY PART NUMBER			ORIFICE (IN INCHES)	
INLET	OUTLET	BRASS	316 STAINLESS STEEL	CARBON STEEL		Cv
¼" GYROLOK®	¼" GYROLOK®	2112G4B	2112G4Y	—	0.188	0.40
¼" female NPT	¼" female NPT	2112F4B	2112F4Y	2112F4E	0.188	0.40
¾" GYROLOK®	¾" GYROLOK®	—	2112G6Y	—	0.250	0.70
¾" female NPT	¾" 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
¾" female NPT	¾" female NPT	2118F6Y	—	0.250	0.70
½" female NPT	½" female NPT	2118F8Y	2118F8E	0.313	1.20

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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
¾" female NPT	¾" 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.