

# 100 SERIES



- Compact size valve built for maximum durability and robust performance in the toughest applications
- 100% helium leak tested to  $1 \times 10^{-4}$  ml/s for performance and reliability
- Available in Zinc-Nickel plated Steel, electropolished Stainless Steel, and Brass
- FKM o-ring seal and PTFE back-up ring below the stem threads to protect from corrosion and galling; PTFE or Graphite packing optional
- All stem threads are rolled for strength and ease of operation
- Patented body-to-bonnet, metal-to-metal seal is designed to significantly increase the pressure range of the valve (**U.S. Patent 7,758,014**)

## SPECIFICATIONS

<b>Materials</b>	Zinc-Nickel plated Steel, electropolished 316 Stainless Steel*, 360 Brass
<b>Connections</b>	1/8" NPT, 1/4" NPT, 7/16"-20 UNF-2B, 9/16"-18 UNF-2B Male-male, Male-female, Female-female, in-line and angled configurations
<b>Pressure ratings** †</b>	Brass: 6,000 psi @ 200 °F Steel: 10,000 psi @ 200 °F Stainless Steel: 10,000 psi @ 200 °F
<b>Orifice size</b>	0.172"
<b>Flow coefficient</b>	$C_v$ 0.42
<b>Stem seal &amp; type</b>	All 316 Stainless Steel stems with FKM o-ring and PTFE back-up ring below the threads, PTFE or Graphite packing optional
<b>Options</b>	Panel mountings, o-ring materials, handles, packings, regulating stem and stem tips
<b>Weight</b>	Approximately 0.5 lb.

\* All 316SS products meet the requirements of NACE MR0175/ISO 15156-3.

\*\* If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

† These pressure ratings apply to all 100 series Mini Valves except the following which have pressure ratings as shown:

Stainless Steel 7/16"- 20 UNF-2B connection: 9,000 psi @ 200 °F

Steel 7/16"- 20 UNF-2B connection: 8,000 psi @ 200 °F

Brass 7/16"- 20 UNF-2B connection: 5,000 psi @ 200 °F

Stainless Steel 9/16"- 18 UNF-2B connection: 5,000 psi @ 200 °F

Steel 9/16"- 18 UNF-2B connection: 4,000 psi @ 200 °F

Brass 9/16"- 18 UNF-2B connection: 2,000 psi

**WARNING:** This product can expose you to chemicals including Lead and Nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

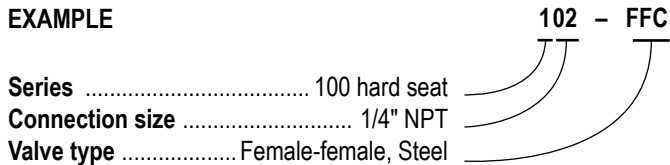
**NOTE:** All NOSHOK valve products conform to the MSS SP-99 instrument valves standards, and valves supplied with packing also conform to MSS SP-132 compression packing systems for instrument valves standard.

<b>SERIES</b>	1 100 Series, hard seat		
<b>CONNECTION SIZES</b>	01 1/8" NPT	42 7/16"- 20 UNF-2B*	
	02 1/4" NPT	43 9/16"- 18 UNF-2B*	
<b>VALVE TYPES</b>	<b>MMB</b> Male-Male, Brass	<b>MFC</b> Male-Female, Steel	<b>MFS</b> Male-Female, Stainless Steel
	<b>MFB</b> Male-Female, Brass	<b>EMFC</b> Extended Male-Female, Steel	<b>EMFS</b> Extended Male-Female, Stainless Steel
	<b>FFB</b> Female-Female, Brass	<b>FFC</b> Female-Female, Steel	<b>FFS</b> Female-Female, Stainless Steel
	<b>EFFB</b> Extended Female-Female, Brass	<b>EFFC</b> Extended Female-Female, Steel	<b>EFFS</b> Extended Female-Female, Stainless Steel
	<b>MMAB</b> Male-Male Angle, Brass	<b>MMAC</b> Male-Male Angle, Steel	<b>MMAS</b> Male-Male Angle, Stainless Steel
	<b>MFAB</b> Male-Female Angle, Brass	<b>MFAC</b> Male-Female Angle, Steel	<b>MFAS</b> Male-Female Angle, Stainless Steel
	<b>FFAB</b> Female-Female Angle, Brass	<b>FFAC</b> Female-Female Angle, Steel	<b>FFAS</b> Female-Female Angle, Stainless Steel
	<b>MMC</b> Male-Male, Steel	<b>MMS</b> Male-Male, Stainless Steel	

Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

\* Available only on EFFB, EFFC and EFFS valve types.

**EXAMPLE**



To meet all of your specific application requirements, the following **additional options** are available for these needle valves. To order all or any of these options, simply add them to the part number as shown in the diagram below.

**NOTE 1:** The example shown includes **ALL possible additional options**. Please include **ONLY** the options required for your application when building your part number. (EXAMPLE: 102-MFC-HL3)

**NOTE 2:** When a packing option is selected, an o-ring option is NOT available.

ORDERING INFORMATION - ADDITIONAL OPTIONS			
<b>PACKINGS*</b>	P1 PTFE	P2 Graphite	
<b>STEM TIPS</b>	T1 Non-rotating (316 Stainless standard)	T6 Ball (carbide)	T8 Ball (Monel)
	T5 Ball (440C Stainless)	T7 Ball (ceramic)	T9 Non-rotating regulating (316 Stainless)
<b>O-RINGS**</b>	EM1 EPDM	KZ1 FFKM (Perfluoroelastomer)	NB1 NBR
<b>PANEL MOUNTINGS</b>	PM1 Panel mount (1 nut)	PM2 Panel mount (2 nuts)	
<b>HANDLES</b>	HL2 2-1/2" "T"	HL4 1-3/8" Phenolic	
	HL3 1" Round knurled	HL5 1-3/4" Phenolic	

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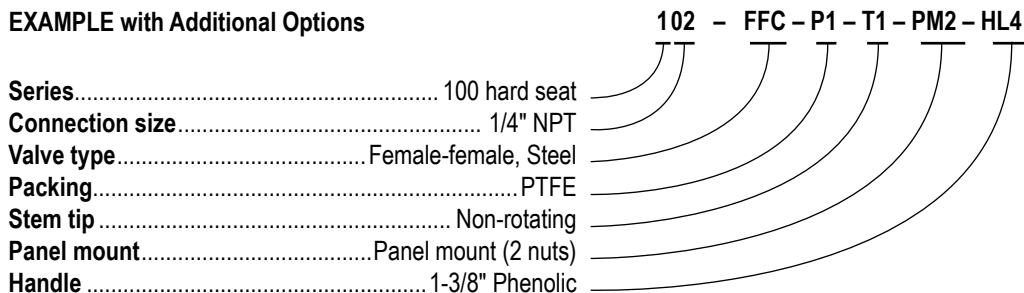
\* If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

\*\* Other o-ring materials available on request.

Please note that the standard o-ring in all the NOSHOK mini valves is FKM and the standard handles are Brass round knurled (HL3) handles, Steel mini "T" handles (HL1), and 316SS mini "T" handles (HL1).

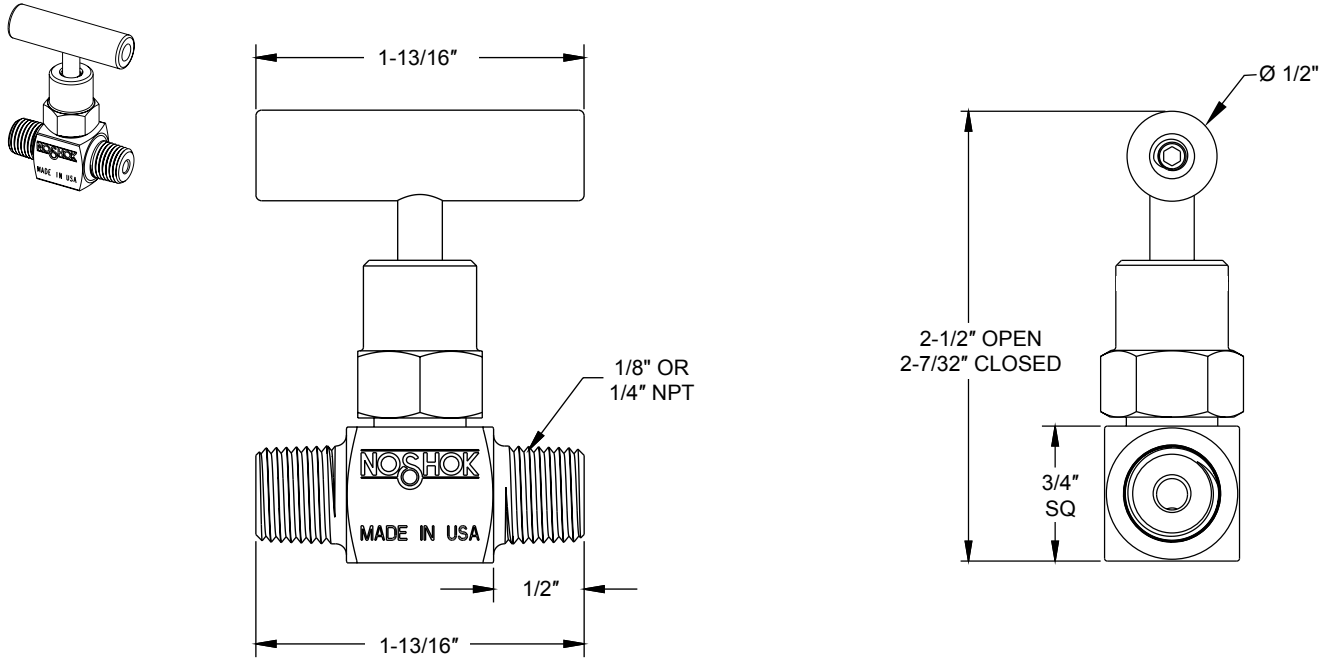
The handle material will always match the material of the valve, unless otherwise specified. For example, the round knurled (HL3) on a 102-FFB will be Brass. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

**EXAMPLE with Additional Options**

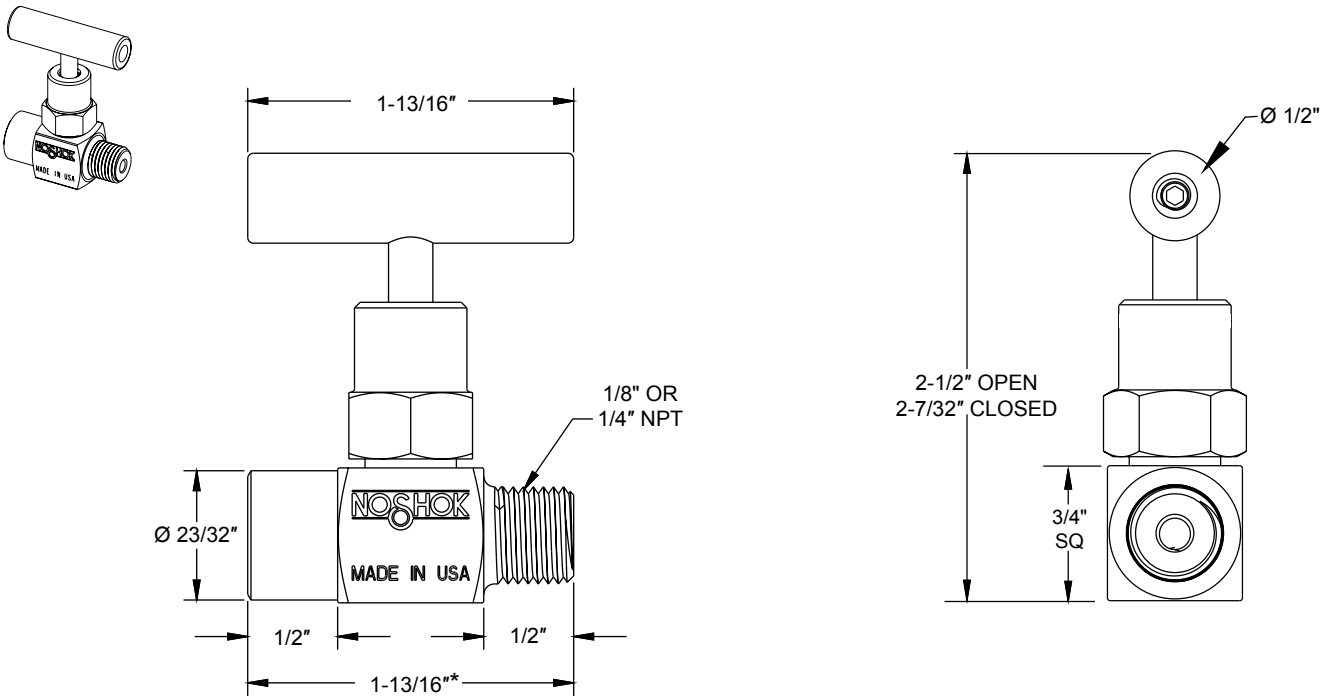


# Dimensions

## Male-Male

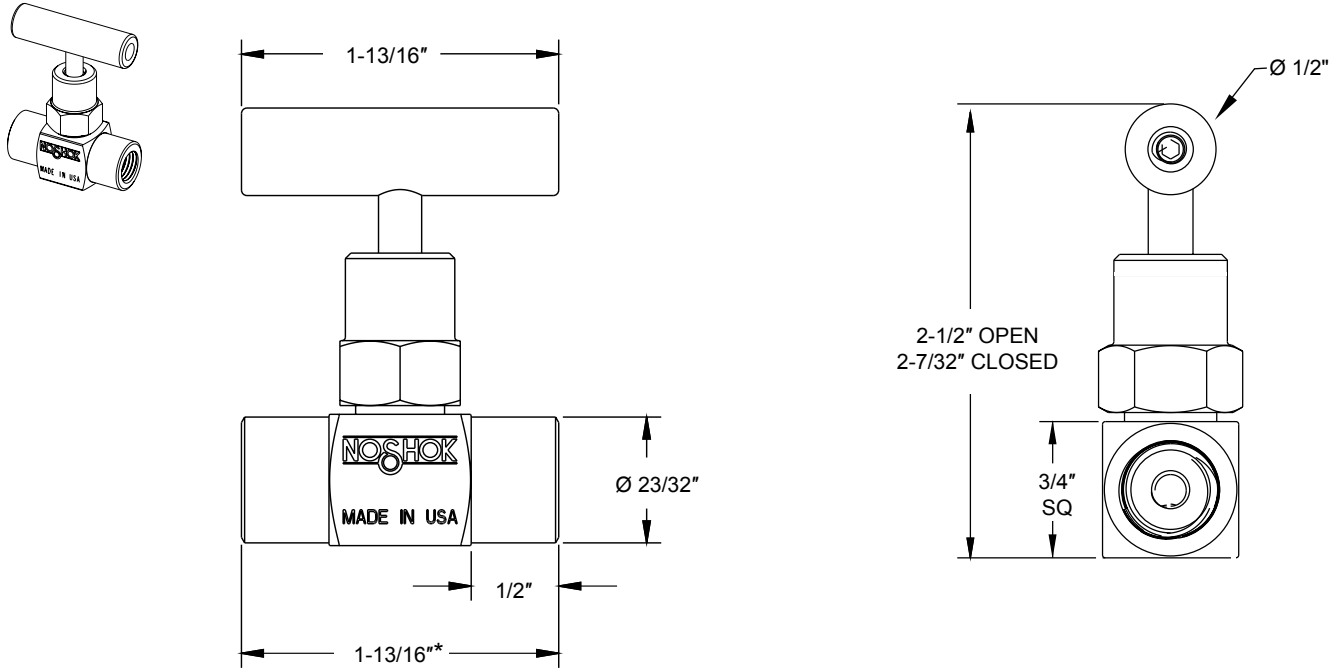


## Male-Female



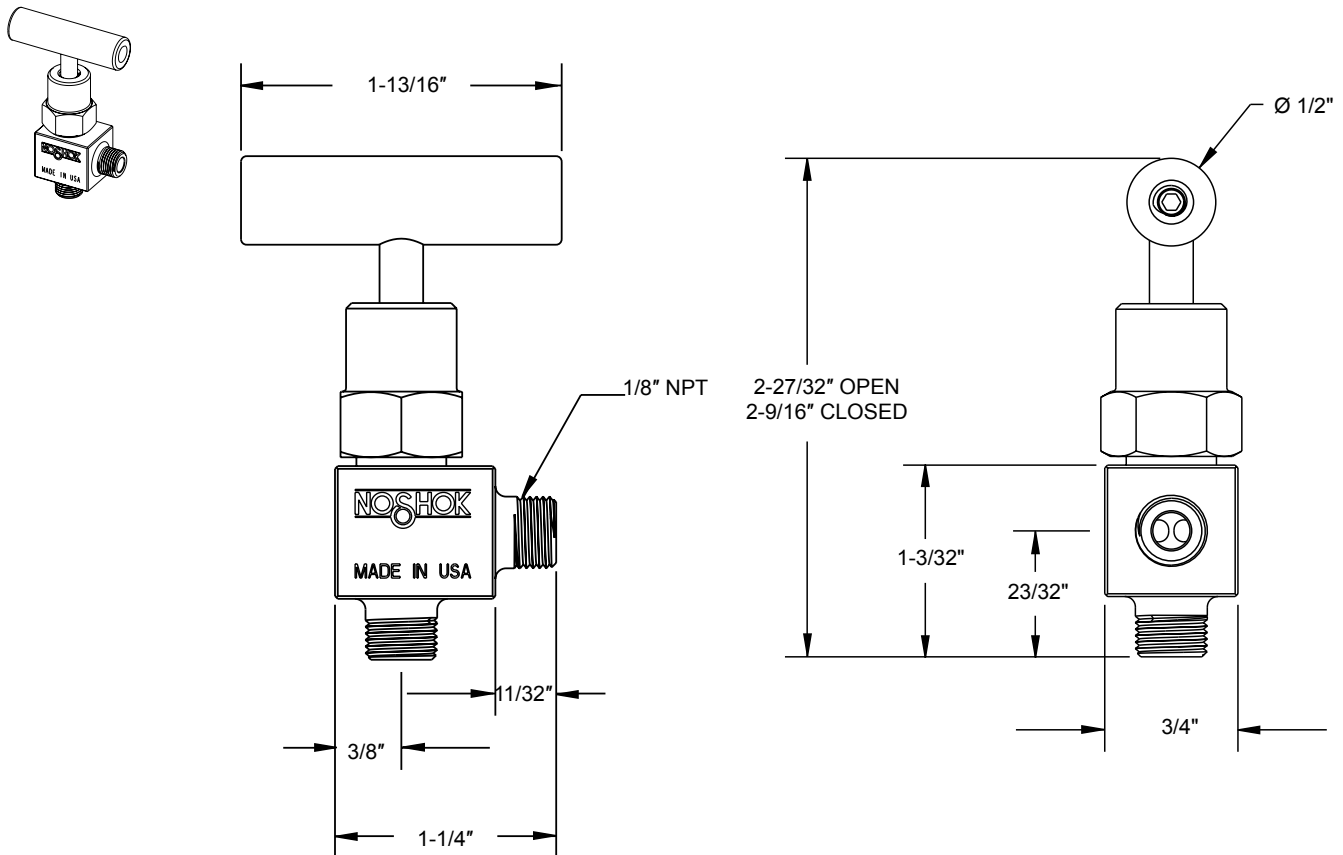
\*Dimension on extended version is  $2-1/4"$

**Female-Female**



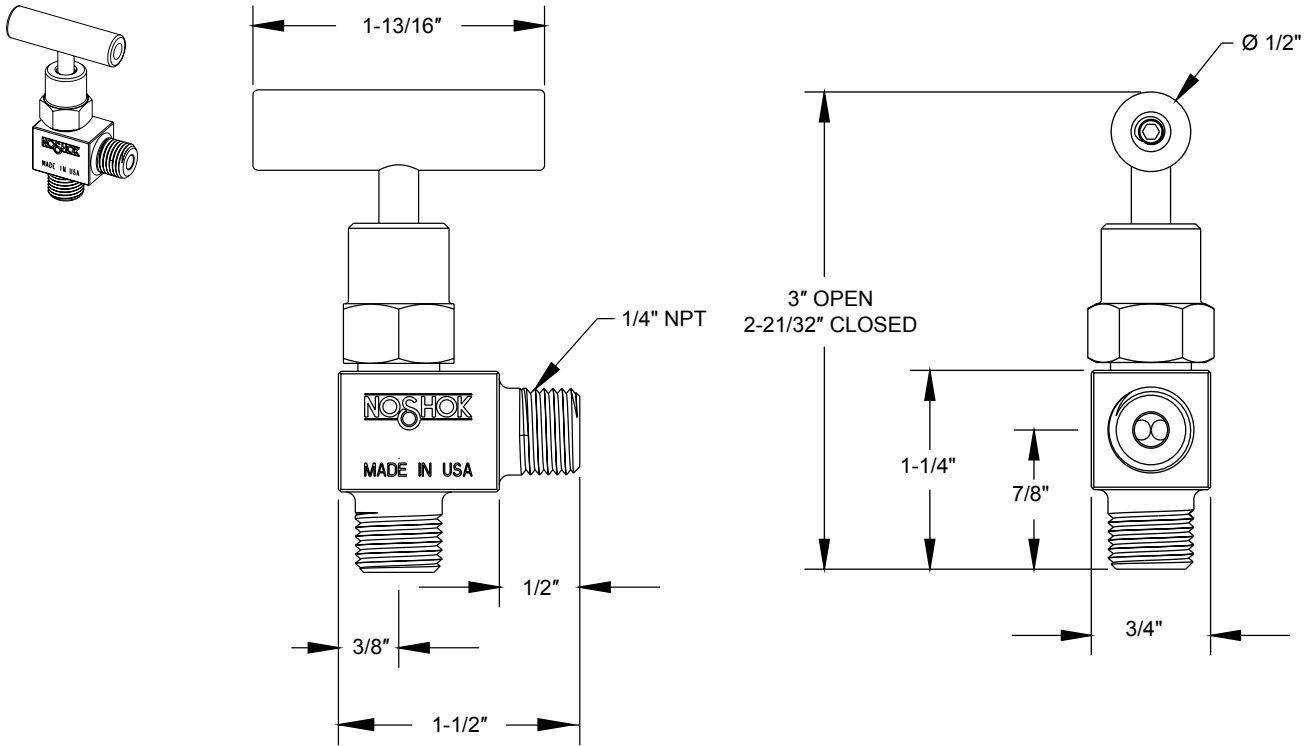
\*Dimension on extended version is 2-1/4"

**1/8" Male-Male Angle**

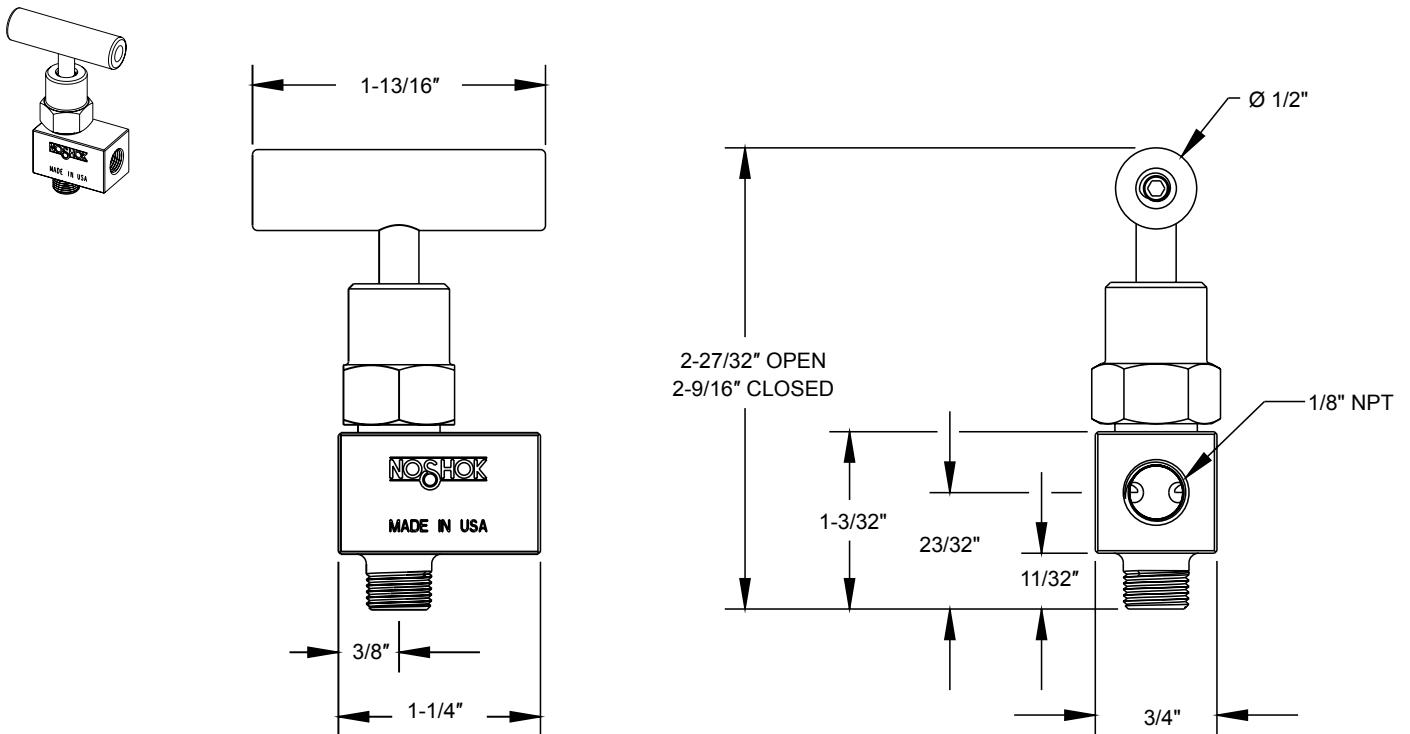


# Dimensions

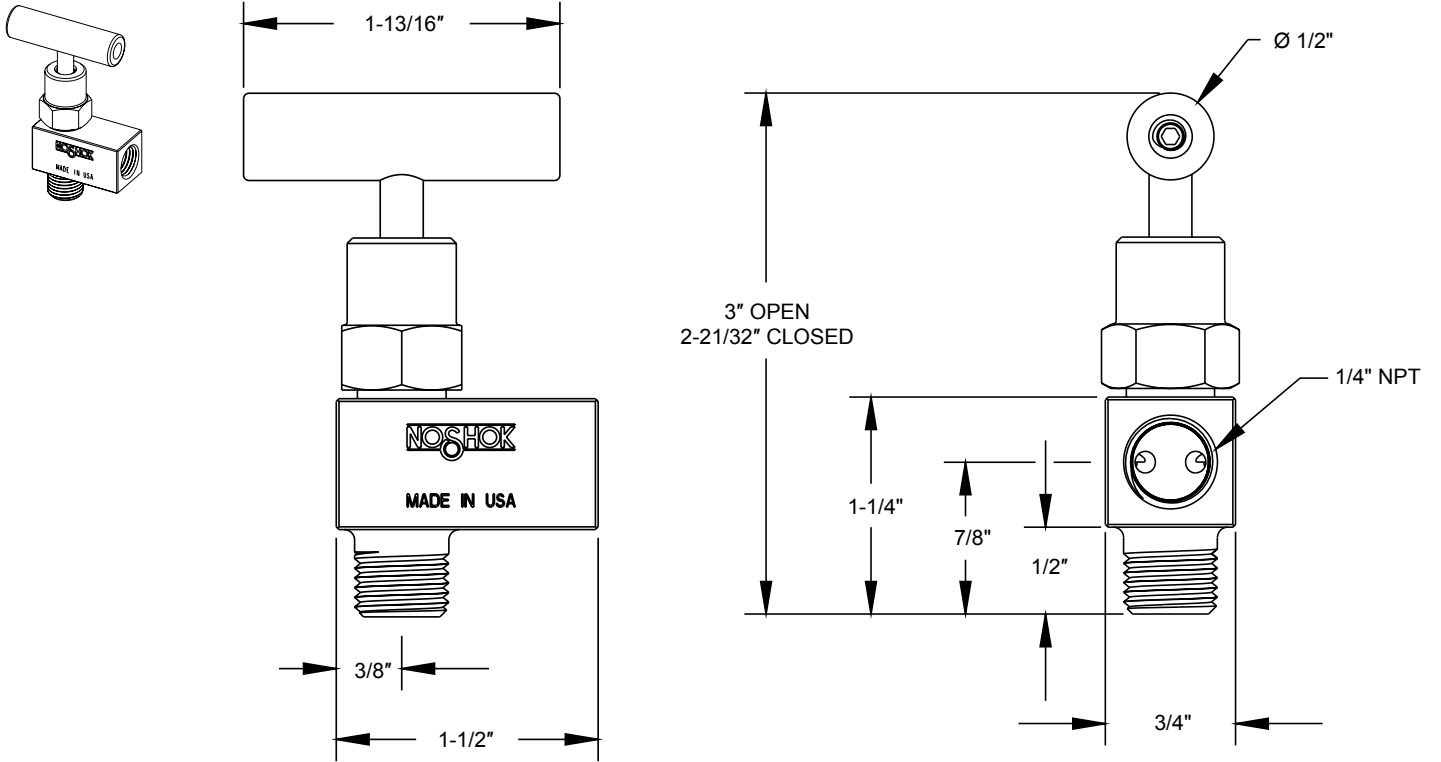
## 1/4" Male-Male Angle



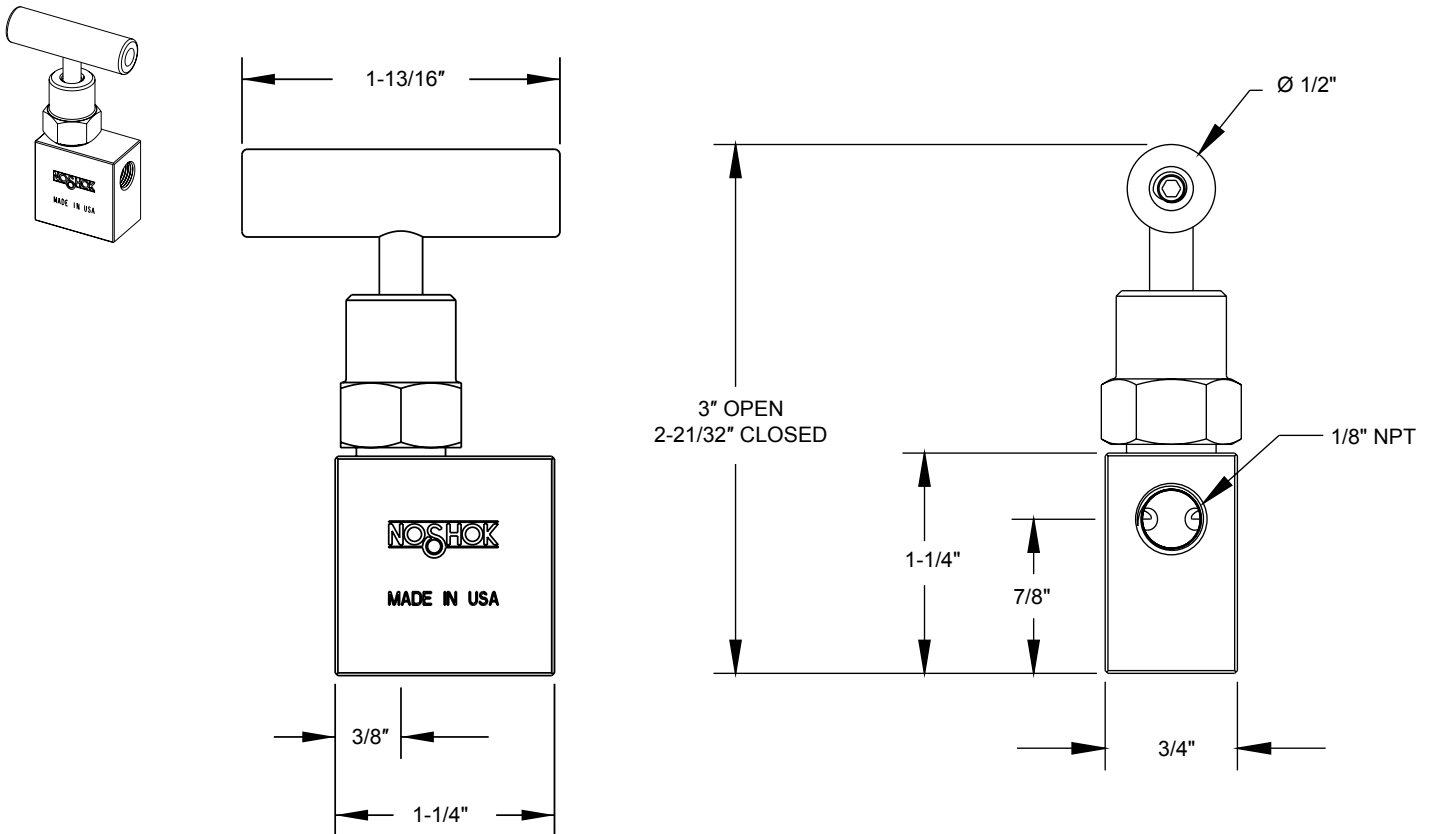
## 1/8" Male-Female Angle



**1/4" Male-Female Angle**

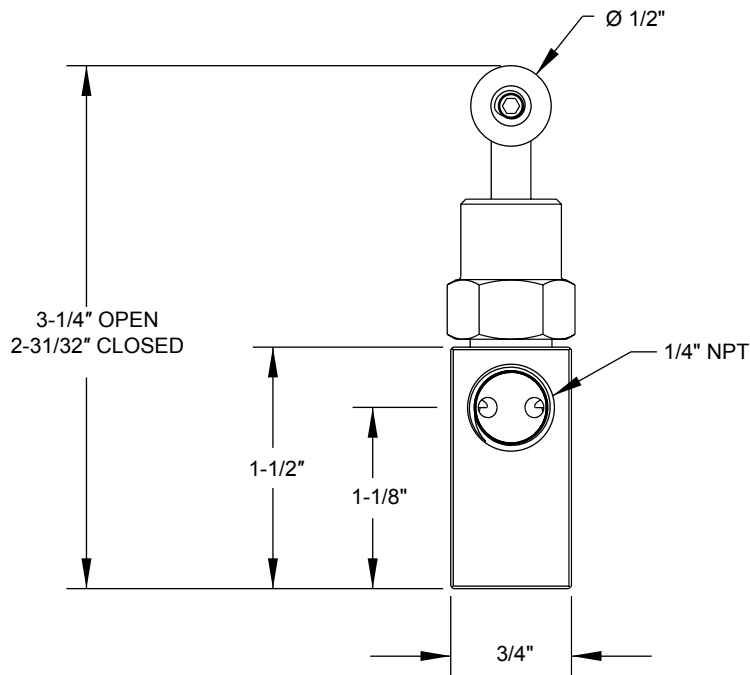
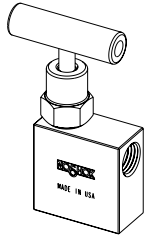


**1/8" Female-Female Angle**



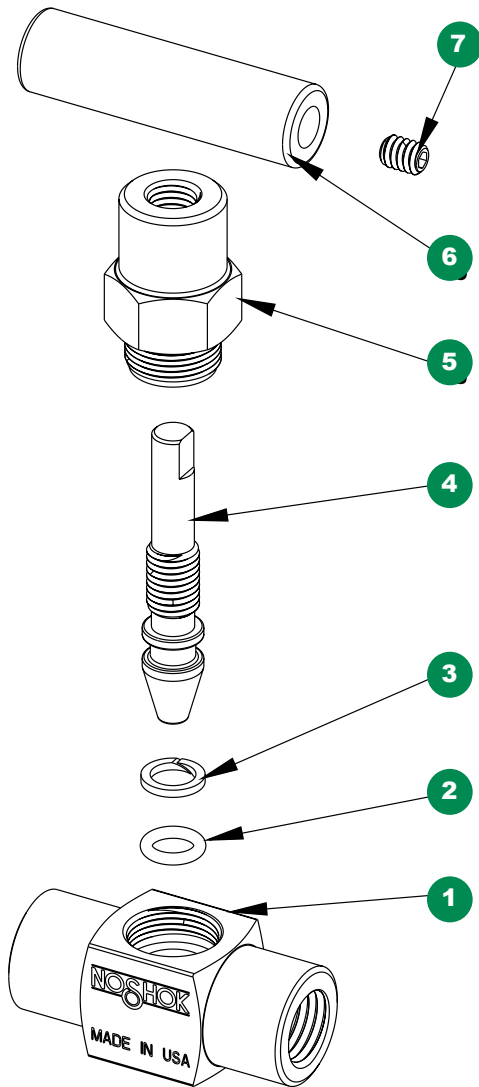
# Dimensions

## 1/4" Female-Female Angle

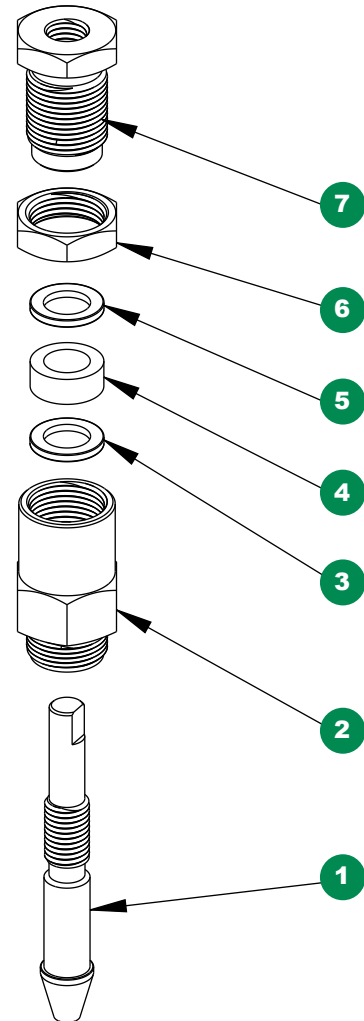


**Mini, Hard Seat**

**Option With Packing**



- 1 Mini valve body
- 2 FKM o-ring
- 3 PTFE back-up ring
- 4 Mini valve stem
- 5 Mini valve bonnet
- 6 Mini valve "T" handle
- 7 Set screw



- 1 Mini valve packing stem
- 2 Mini valve packing bonnet
- 3 Packing washer
- 4 Packing
- 5 Packing washer
- 6 Jam nut
- 7 Packing adjustment screw