

# Block & Bleed, Hard Seat & Soft Seat

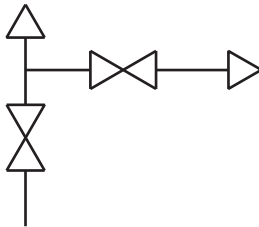
## 2000/2100 SERIES



Note: Packing option shown.

- Combines isolating and venting in a single valve, eliminating the need for tubing and fittings
- Block valve isolates the downstream process fluids and the bleed valve exhausts upstream fluids enabling static pressure transmitters, switches or gauges to be removed without disturbing the permanent piping installation
- Block valve is located on the left side and the bleed valve is located on top in a 90° orientation, venting is to the right
- 100% helium leak tested to  $1 \times 10^{-4}$  ml/s for performance and reliability
- 2100 Series valve also features a replaceable Delrin® seat, and straight through porting for bidirectional, high capacity flow and easy roddable cleaning
- Blow-out proof stem provides a secondary stem seal in the full open position
- FKM o-ring seal and PTFE back-up ring below the stem threads to protect from corrosion and galling; PTFE or Graphite packing optional
- Stem and bonnet threads are rolled for strength and ease of operation
- One-piece bonnet with a metal-to-metal seal to the valve body below the bonnet threads
- Slotted spring pin to prevent accidental loosening
- Color coded vinyl dust caps for bonnets and stems (non-packing)
- Zinc-Nickel plated high tensile strength 4140 Steel mounting bolts included for flanged connections

### Flow Schematic



### SPECIFICATIONS

<b>Materials</b>	Zinc-Nickel plated Steel, electropolished 316 Stainless Steel*
<b>Connection</b>	1/2" NPT, 1/4" NPT, NPT-flange, Flange-flange, NPT-NPT configurations available
<b>Pressure ratings**</b>	Hard seat: 10,000 psi @ 200 °F Soft seat: 6,000 psi @ 200 °F
<b>Orifice size</b>	0.187"
<b>Flow coefficient</b>	Hard seat: $C_v$ 0.44 Soft seat: $C_v$ 0.76
<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 2.2 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.

For NOSHOK Valves with Steel valve types:



**WARNING:** This product can expose you to chemicals including Lead, which is 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)

For NOSHOK Valves with Stainless Steel valve types:



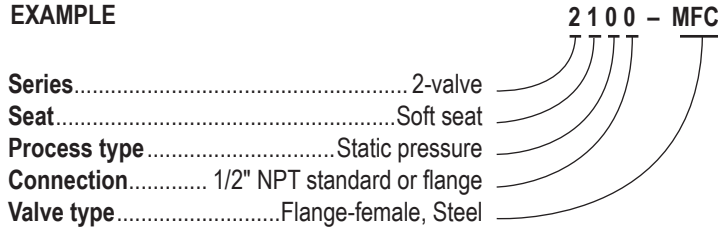
**WARNING:** This product can expose you to chemicals including Chromium (VI) and Nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**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>	2 2-valve		
<b>SEATS</b>	0 Hard seat	1 Soft seat	
<b>PROCESS TYPE</b>	0 Static pressure		
<b>CONNECTIONS</b>	0 1/2" NPT standard or flange	2 1/4" NPT	
<b>VALVE TYPES</b>	MFC Flange-Female, Steel	MFS Flange-Female, Stainless Steel	MMC Flange-Flange, Steel
	FFC Female-Female, Steel	FFS Female-Female, Stainless Steel	MMS Flange-Flange, Stainless Steel

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

**EXAMPLE**



To meet all of your specific application requirements, the following **additional options** are available for these manifold 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: 2100-MFC-P1)

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

**NOTE 3:** T1 Hard non-rotating (316 SS standard) stem tip is the only option available on the 2100 Series soft seat version.

ORDERING INFORMATION - ADDITIONAL OPTIONS			
<b>SOFT SEATS</b>	PK1 PEEK	KF1 PCTFE	
<b>PACKINGS†</b>	P1 PTFE	P2 Graphite**	
<b>STEM TIPS</b>	T1 Non-rotating (316 Stainless)	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 (Kalrez® 3018 or equivalent)	NB1 NBR
<b>HANDLES</b>	HL1 1-13/16" Mini "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.

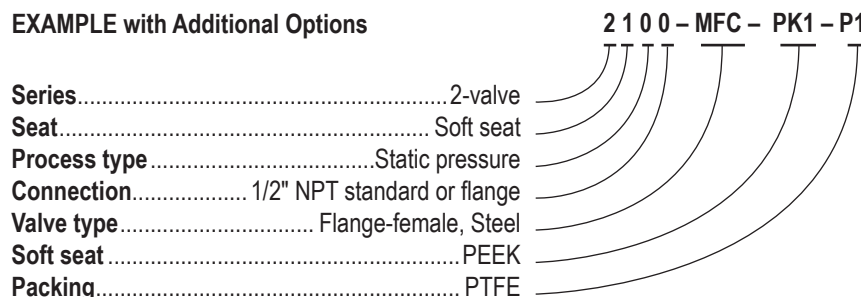
\* Other o-ring materials available on request.

\*\* For 2000 Series only.

Please note that the standard o-ring in all the NOSHOK valves is FKM and the standard handles are block "T" handles (HL2) and bleed 1-3/8" mini "T" handle (HL7).

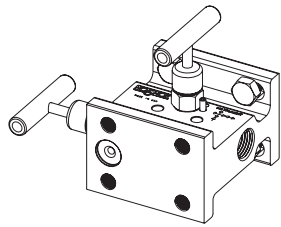
The handle material will always match the material of the valve, unless otherwise specified. For example, the "T" handle (HL2) on the 2100-MFC will be Steel. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

**EXAMPLE with Additional Options**

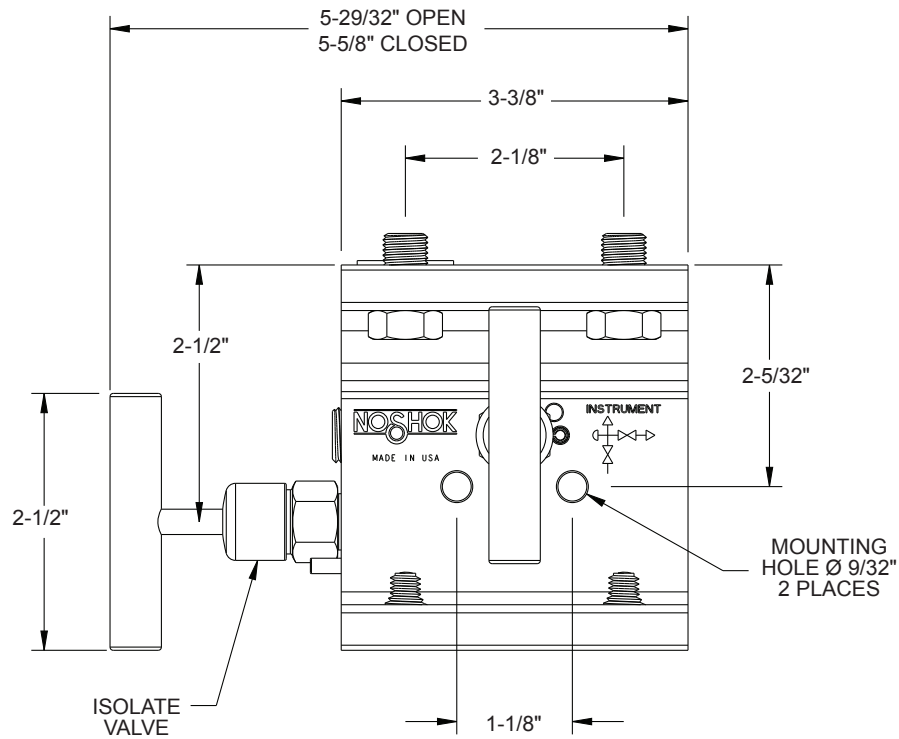


# Dimensions

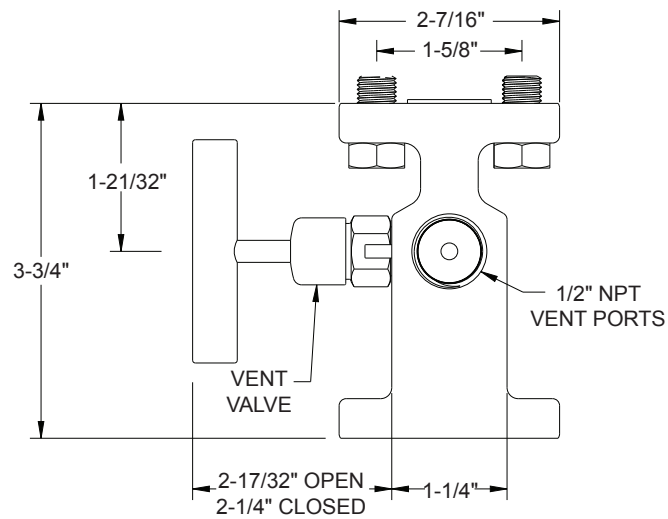
## Flange-Flange



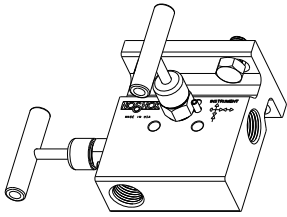
Top View



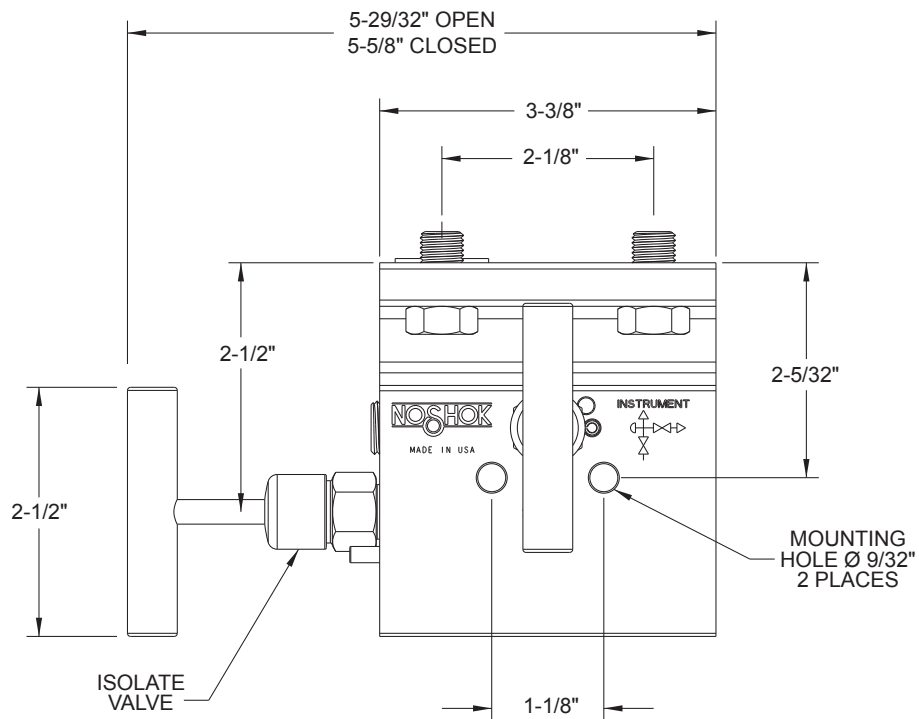
Side View



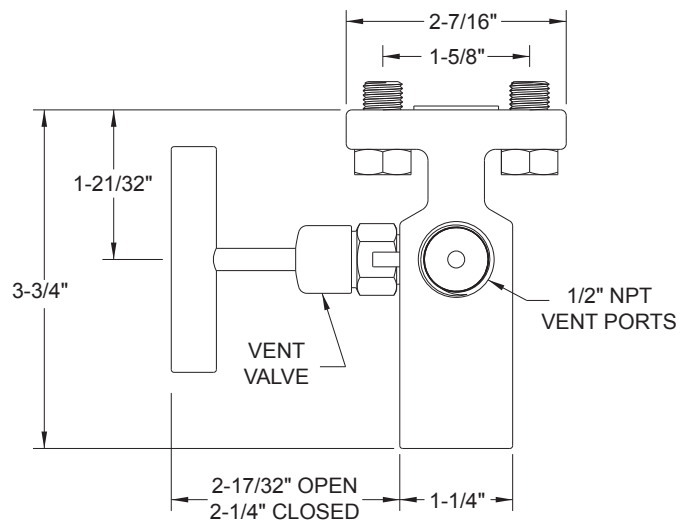
## Flange-Female



Top View

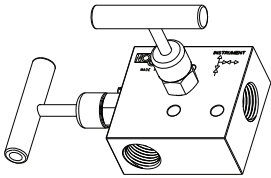


Side View

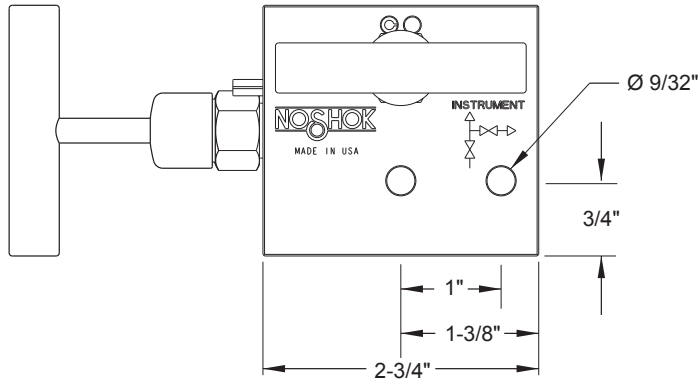


# Dimensions

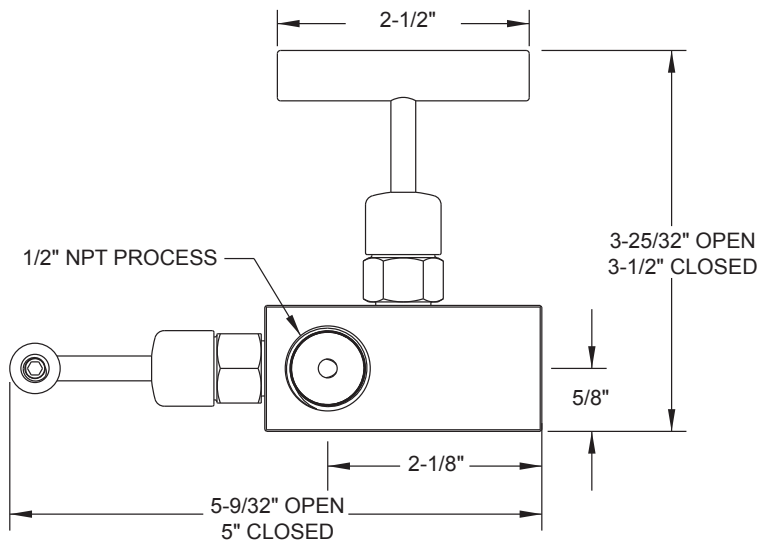
## Female-Female



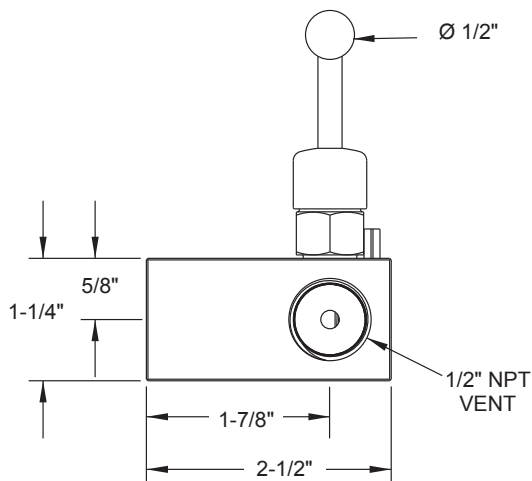
Top View



Front View



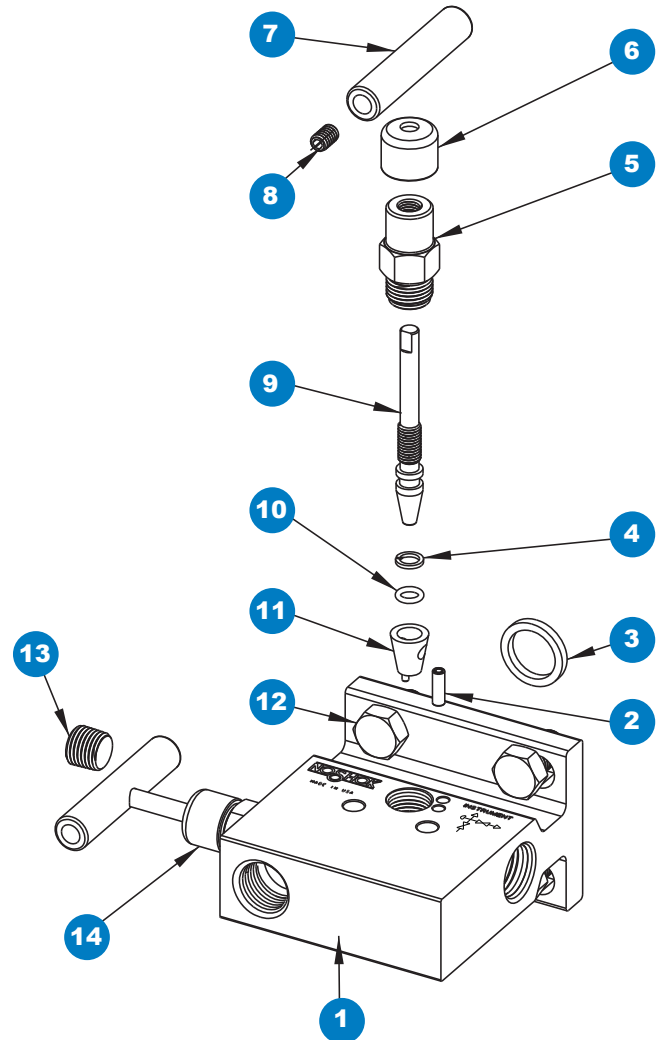
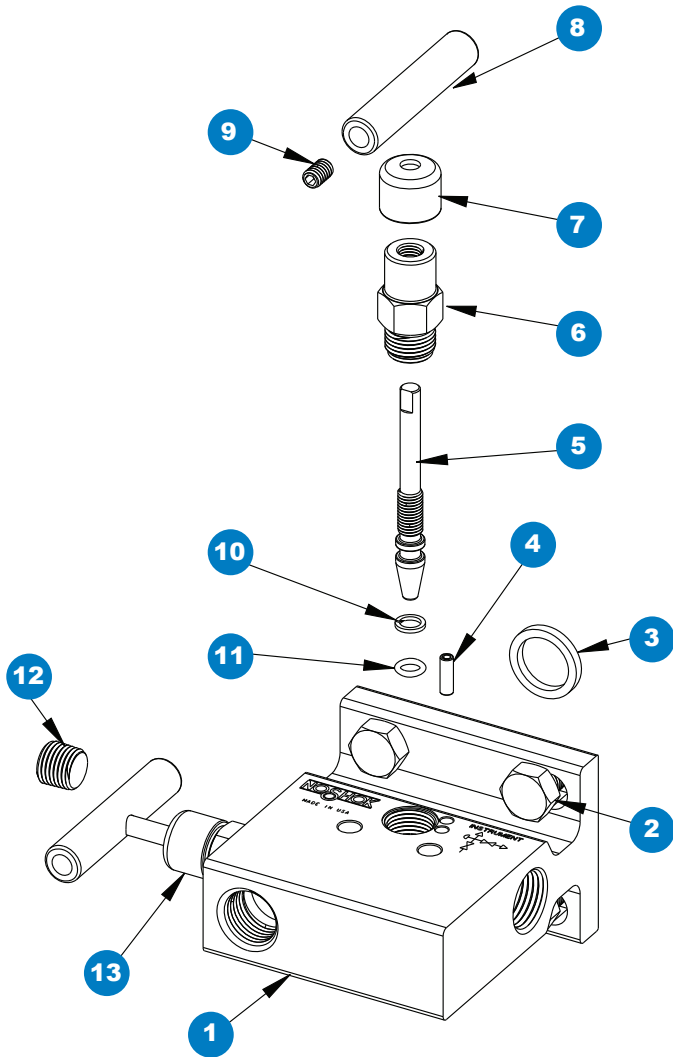
Side View



For panel mount or packing dimensions, see pg. 66.

## Hard Seat

## Soft Seat



- 1 Valve body
- 2 Head bolt
- 3 Gasket ring
- 4 Slotted spring pin
- 5 Valve stem
- 6 Valve bonnet
- 7 Red dust cap
- 8 Valve "T" handle
- 9 Set screw
- 10 PTFE back-up ring
- 11 FKM o-ring
- 12 Plug
- 13 Blue dust cap

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- 2 Slotted spring pin
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- 8 Set screw
- 9 Valve stem
- 10 FKM o-ring
- 11 Delrin® seat
- 12 Head bolt
- 13 Plug
- 14 Blue dust cap