

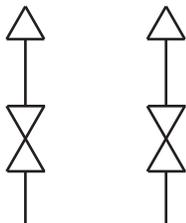
# Hard & Soft Seat

## 2020/2120 SERIES



- Designed for use with differential pressure transmitters in liquid level applications
- Available in either single flange or double flange connection for direct installation
- 100% helium leak tested to  $1 \times 10^{-4}$  ml/s for guaranteed performance and reliability
- 2020 Series hard seat valves have 10,000 psi pressure rating @ 200 °F
- 2120 Series soft seat valves have 6,000 psi pressure rating @ 200 °F
- 2120 Series valves also feature 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 Grafoil® packing optional
- All stems are 316 stainless steel
- All stem 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
- Vinyl dust caps for bonnets and stems (non-packing)

### Flow Schematic



### SPECIFICATIONS

Materials	Zinc-nickel plated steel, electropolished 316 stainless steel
Connections	Flange-flange, 1/2" NPT-flange
Pressure ratings*	Hard seat: 10,000 psi @ 200 °F Soft seat: 6,000 psi @ 200 °F
Orifice size	0.187"
Flow coefficient	Hard seat: $C_v$ 0.44 Soft seat: $C_v$ 0.76
Stem seal & type	All 316 stainless steel stems with FKM o-ring and PTFE back-up ring below the threads, PTFE or Grafoil® packing optional
Options	Panel mountings, o-ring materials, handles, packings, regulating stem and stem tips
Weight	Approximately 5.5 lb.

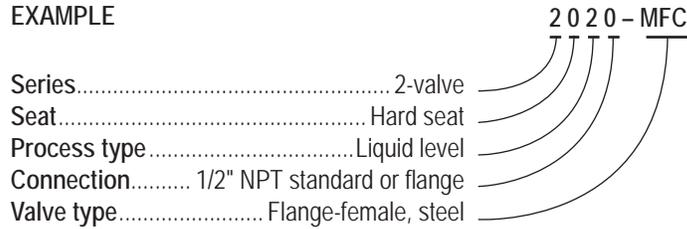
\* If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

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.

ORDERING INFORMATION			
SERIES	2 2-valve		
SEATS	0 Hard seat	1 Soft seat	
PROCESS TYPE	2 Liquid level		
CONNECTIONS	0 1/2" NPT standard or flange		
VALVE TYPES	MFC Flange-Female, Steel	MFS Flange-Female, Stainless Steel	
	MMC Flange-Flange, 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: 2020-MFC-P1)

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

**NOTE 3:** The standard o-ring in all the NOSHOK manifold valves is FKM and T1 hard non-rotating (316SS) stem tip is the only option available on the 2120 Series soft seat version.

ORDERING INFORMATION - ADDITIONAL OPTIONS			
SOFT SEATS	PK1 PEEK***	KF1 PCTFE***	
PACKINGS†	P1 PTFE	P2 Grafoil***	
STEM TIPS	T1 Non-rotating (316 stainless)	T6 Ball (carbide)**	T8 Ball (Monel)**
	T5 Ball (440C stainless)**	T7 Ball (ceramic)**	T9 Regulating hard**
O-RINGS*	EM1 EPDM	KZ1 FFKM (Kalrez® 3018 or equivalent)	NB1 NBR
HANDLES	HL1 1-13/16" Mini "T"	HL4 1-3/8" Phenolic	
	HL3 1" Round knurled	HL5 1-3/4" Phenolic	

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

† 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.

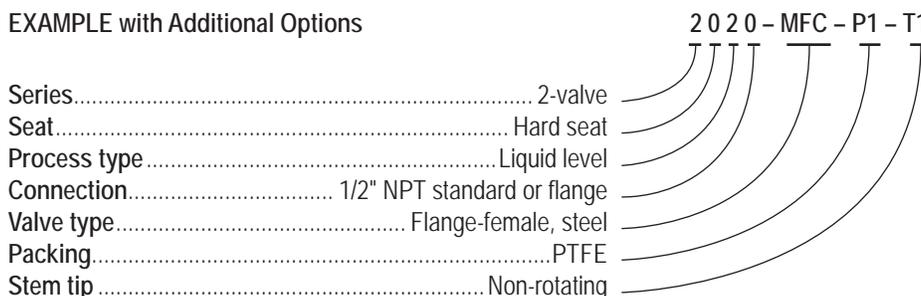
\*\* For 2020 Series only.

\*\*\* For 2120 Series only.

Please note that the standard o-ring in all the NOSHOK valves is FKM and the standard handles are "T" handles (HL2).

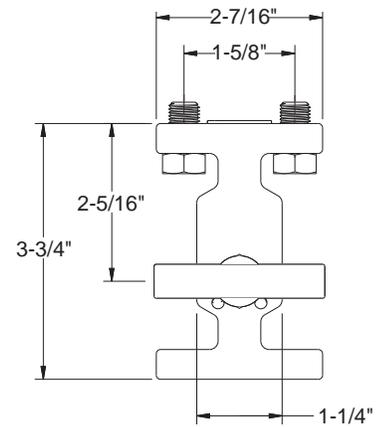
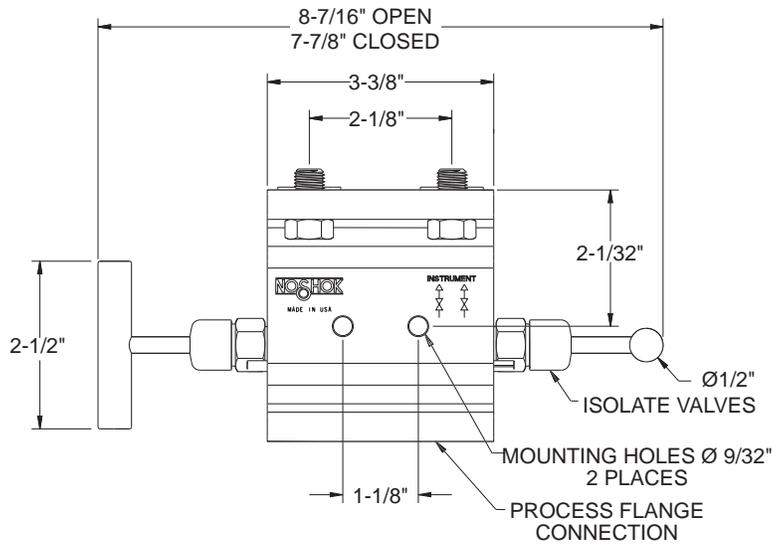
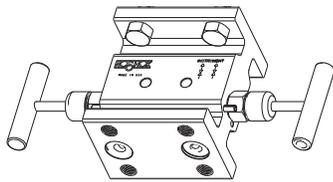
The handle material will always match the material of the valve, unless otherwise specified. For example, the "T" handle (HL2) on the 2020-MFC will be steel. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

**EXAMPLE with Additional Options**

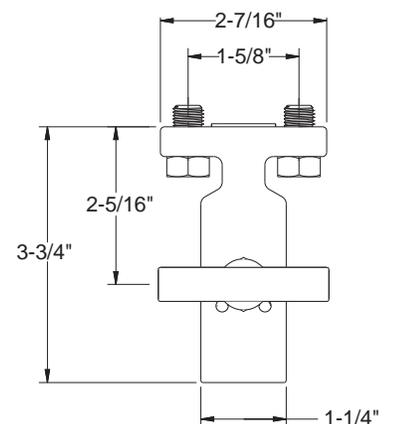
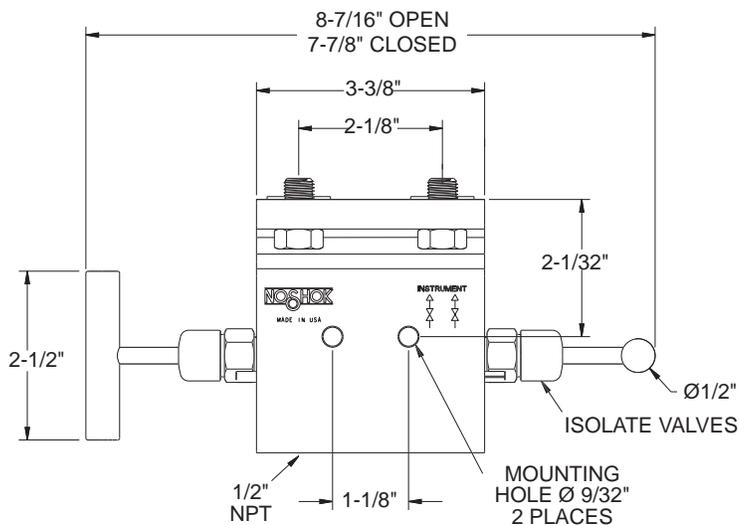
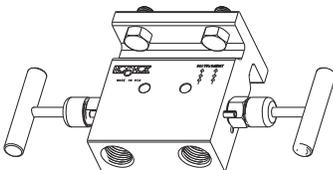


# Dimensions

## Flange-Flange

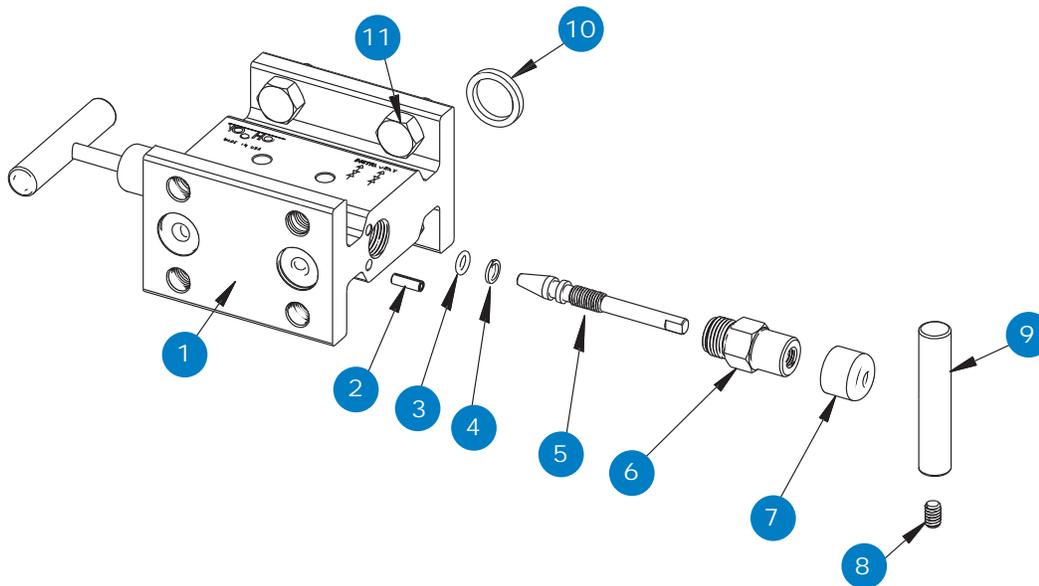


## Flange-Female



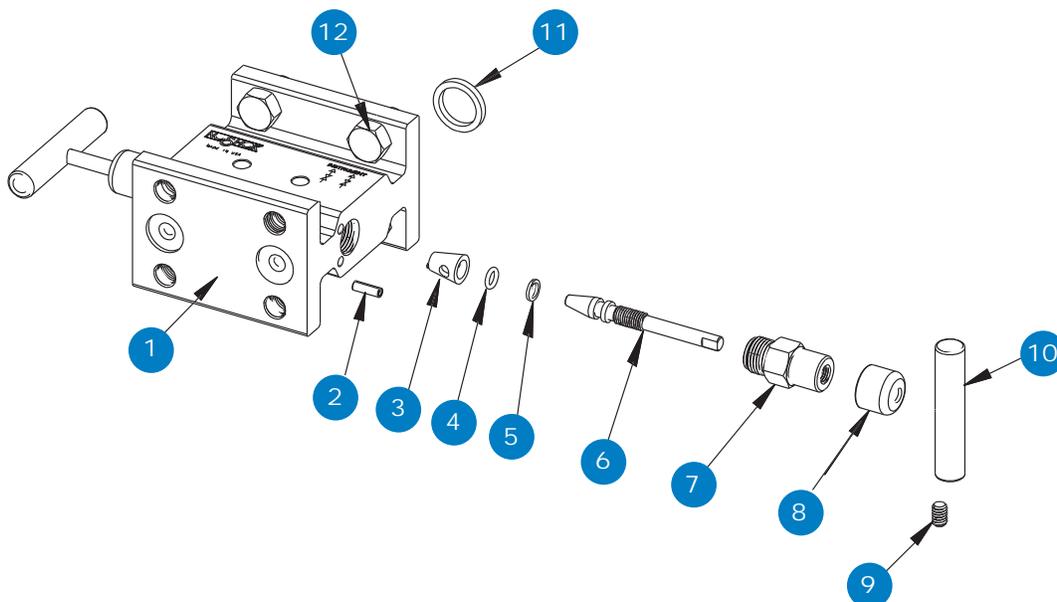
For panel mount and packing dimensions, see pgs. 64-65.

## Hard Seat



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

## Soft Seat



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