

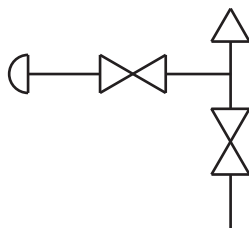
## Block &amp; Bleed, Hard Seat

## 2070 SERIES



- 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 instruments to be removed without disturbing the permanent piping installation
- The 1/4" NPT vent plug is located 90° to the left and may be removed and replaced with exhaust piping to direct the fluids to a safe location
- 100% helium leak tested to  $1 \times 10^{-4}$  ml/s for guaranteed performance and reliability
- 10,000 psi hard seat pressure rating @ 200 °F
- 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 cap for bonnet and stem (non-packing)

## Flow Schematic



## SPECIFICATIONS

Materials	Zinc-nickel plated steel, electropolished 316 stainless steel*
Connection	1/2" & 1/4" NPT Male-female & Female-female configurations available, right venting optional
Pressure rating**	10,000 psi @ 200 °F
Orifice size	0.187"
Flow coefficient	$C_v$ 0.44
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
Length	4" standard and 5-3/8" extended length available
Options	Panel mountings, o-ring materials, handles, packings, regulating stem and stem tips
Weight	Approximately 2.0 lb., extended model 2.7 lb.

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

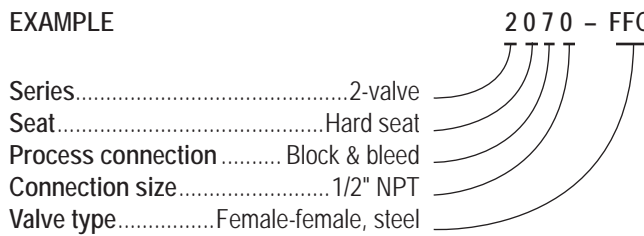
\*\* If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

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					
SEAT	0 Hard seat					
PROCESS TYPE	7 Block & bleed					
CONNECTION SIZES	0 1/2" NPT	2 1/4" NPT	0604 3/4" NPT male - 1/2" NPT male or female			
VALVE TYPES	MFC	Male-Female, Steel	FMC	Female-Male, Steel	FFCR	Female-Female, Steel, Right Vent
	MFCR	Male-Female, Steel, Right Vent	EFMC	Extended Female-Male, Steel	EFFC	Extended Female-Female, Steel
	EMFC	Extended Male-Female, Steel	FMS	Female-Male, Stainless Steel	FFS	Female-Female, Stainless Steel
	MFS	Male-Female, Stainless Steel	EFMS	Extended Female-Male, Stainless Steel	FFSR	Female-Female, Stainless Steel, Right Vent
	MFSR	Male-Female, Stainless Steel, Right Vent	FFC	Female-Female, Steel	EFFS	Extended Female-Female, Stainless Steel
	EMFS	Extended Male-Female, 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 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: 2070-FFC-HL5)

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

PACKINGS <sup>†</sup>	P1 PTFE	P2 Grafoil <sup>®</sup>	
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 <sup>®</sup> 3018 or equivalent)	NB1 NBR
HANDLES	HL1 1-13/16" Mini "T"	HL3 1" Round knurled	HL5 1-3/4" Phenolic
	HL2 2-1/2" "T"	HL4 1-3/8" Phenolic	

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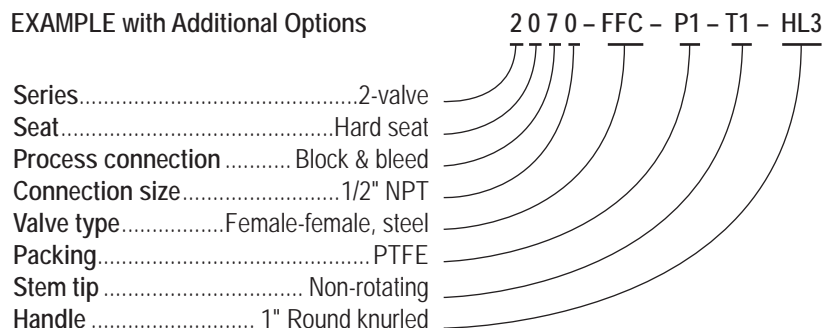
<sup>†</sup> If a packing option is chosen, maximum pressure rating is 6,000 psi. Refer to the "Pressure vs. Temperature: Packing Style with Compatible Fluid" chart at the back of this catalog.

\* Other o-ring materials available on request.

Please note that the standard o-ring in all the NOSHOK valves is FKM and the standard handles are block "T" handles (HL2) and bleed mini "T" handles (HL1).

The handle material will always match the material of the valve, unless otherwise specified. For example, the "T" handle (HL2) on the 2070-FFC will be steel. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

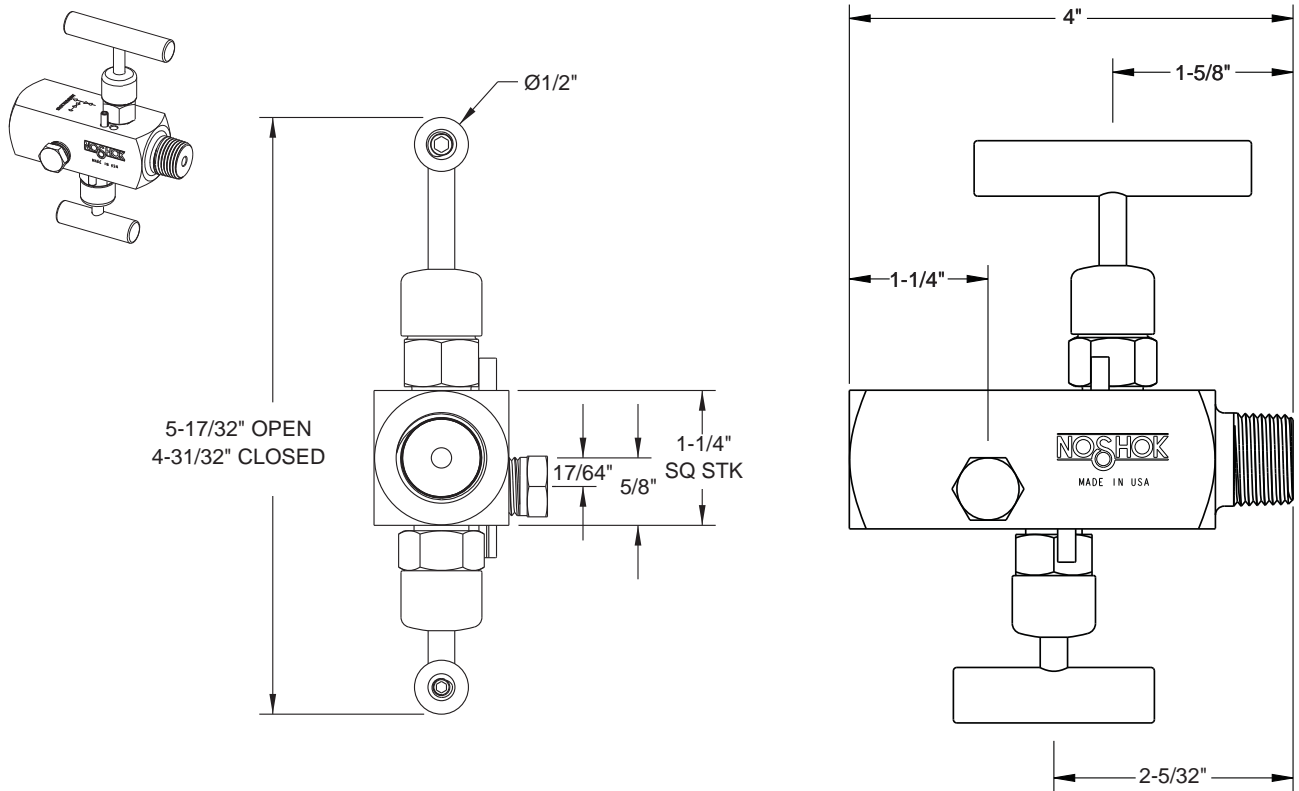
### EXAMPLE with Additional Options



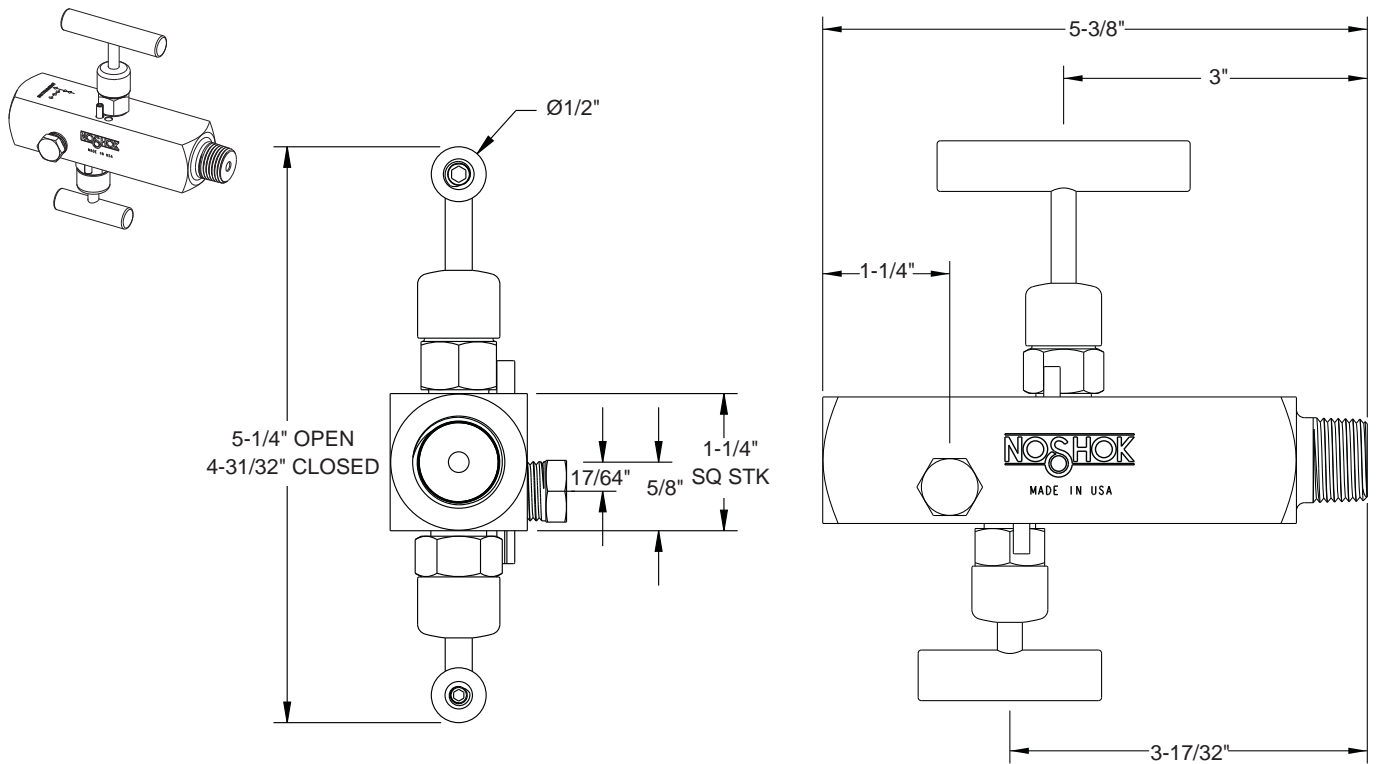
# Needle Valves

## Dimensions

### Male-Female



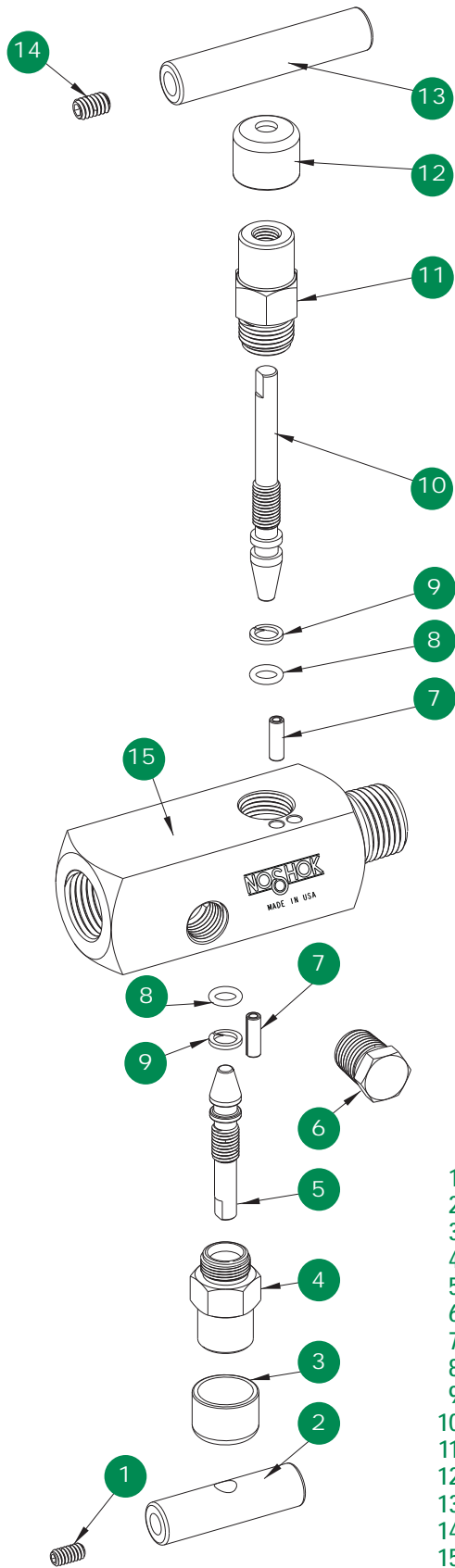
### Extended Male-Female



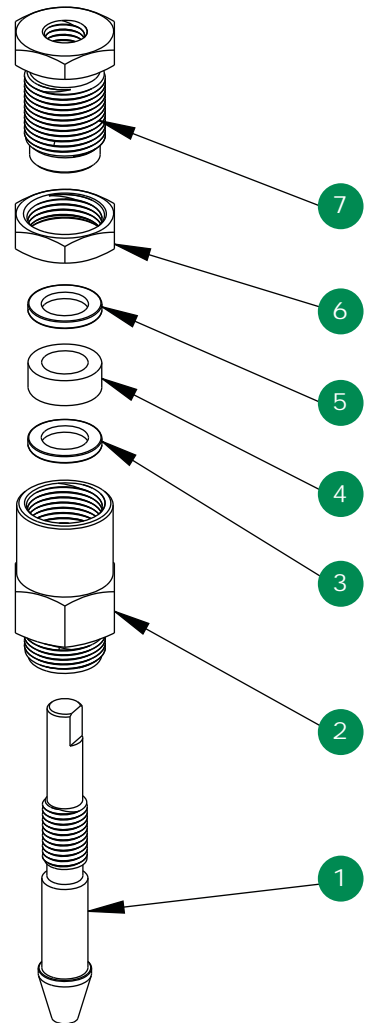
For panel mount, packing, & stem tip dimensions, see pgs. 64-67.

## Block & Bleed, Hard Seat

## Option With Packing



- 1 Set screw
- 2 Mini valve "T" handle
- 3 Red dust cap
- 4 Mini valve bonnet
- 5 Mini valve stem
- 6 Plug
- 7 Slotted spring pin
- 8 FKM o-ring
- 9 PTFE back-up ring
- 10 Valve stem
- 11 Valve bonnet
- 12 Blue dust cap
- 13 Valve "T" handle
- 14 Set screw
- 15 Block and bleed valve body



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