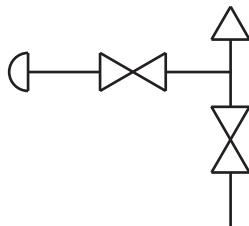


## 2170 SERIES



- 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
- 6,000 psi pressure rating @ 200 °F
- Replaceable Delrin® seat, and straight through porting for bidirectional, high capacity flow and easy roddable cleaning
- PCTFE or PEEK soft seat optional
- 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 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

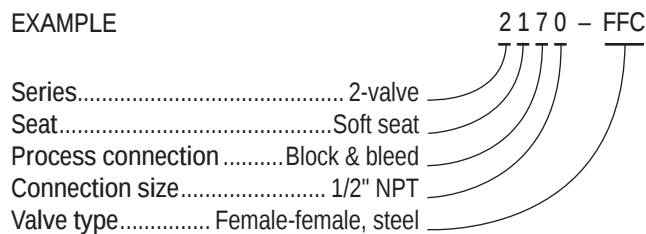
|                  |                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------|
| Materials        | Zinc-nickel plated steel, electropolished 316 stainless steel                                                |
| Connection       | 1/2" & 1/4" NPT<br>Male-female & Female-female configurations available, right venting optional              |
| Pressure rating  | 6,000 psi @ 200 °F                                                                                           |
| Orifice size     | 0.187"                                                                                                       |
| Flow coefficient | C <sub>v</sub> 0.76                                                                                          |
| Stem seal & type | All 316 stainless steel stems with FKM o-ring and PTFE back-up ring below the threads, PTFE 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.                                                                |

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                 | 1 Soft seat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
| PROCESS CONNECTION   | 7 Block & bleed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |
| CONNECTION SIZES     | 0 1/2" NPT                      2 1/4" NPT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |
| VALVE TYPES          | <div> <div>MFC Male-Female, Steel</div> <div>FMC Female-Male, Steel</div> <div>FFCR Female-Female, Steel, Right Vent</div> <div>MFCR Male-Female, Steel, Right Vent</div> <div>EFMC Extended Female-Male, Steel</div> <div>EFFC Extended Female-Female, Steel</div> <div>EMFC Extended Male-Female, Steel</div> <div>FMS Female-Male, Stainless Steel</div> <div>FFS Female-Female, Stainless Steel</div> <div>MFS Male-Female, Stainless Steel</div> <div>EFMS Extended Female-Male, Stainless Steel</div> <div>FFSR Female-Female, Stainless Steel, Right Vent</div> <div>MFSR Male-Female, Stainless Steel, Right Vent</div> <div>FFC Female-Female, Steel</div> <div>EFFS Extended Female-Female, Stainless Steel</div> <div>EMFS Extended Male-Female, Stainless Steel</div> </div> |  |  |

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: 2170-FFC-PK1)

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

| ORDERING INFORMATION - ADDITIONAL OPTIONS |                                 |                                       |                     |
|-------------------------------------------|---------------------------------|---------------------------------------|---------------------|
| SOFT SEATS                                | PK1 PEEK                        | KF1 PCTFE                             |                     |
| PACKING                                   | P1 PTFE                         |                                       |                     |
| STEM TIP                                  | T1 Non-rotating (316 stainless) |                                       |                     |
| O-RINGS*                                  | EM1 EPDM                        | KZ1 FFKM (Kalrez® 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                   |                     |

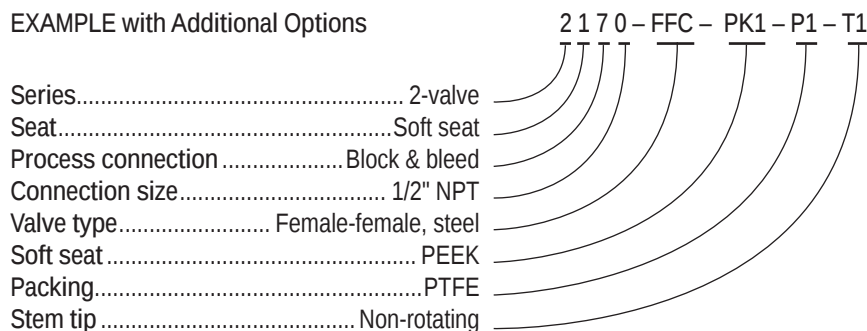
Please consult your local NOSHOK Distributor or NOSHOK, Inc. for availability and delivery information.

\* 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 1-3/8" mini "T" handle (HL7).

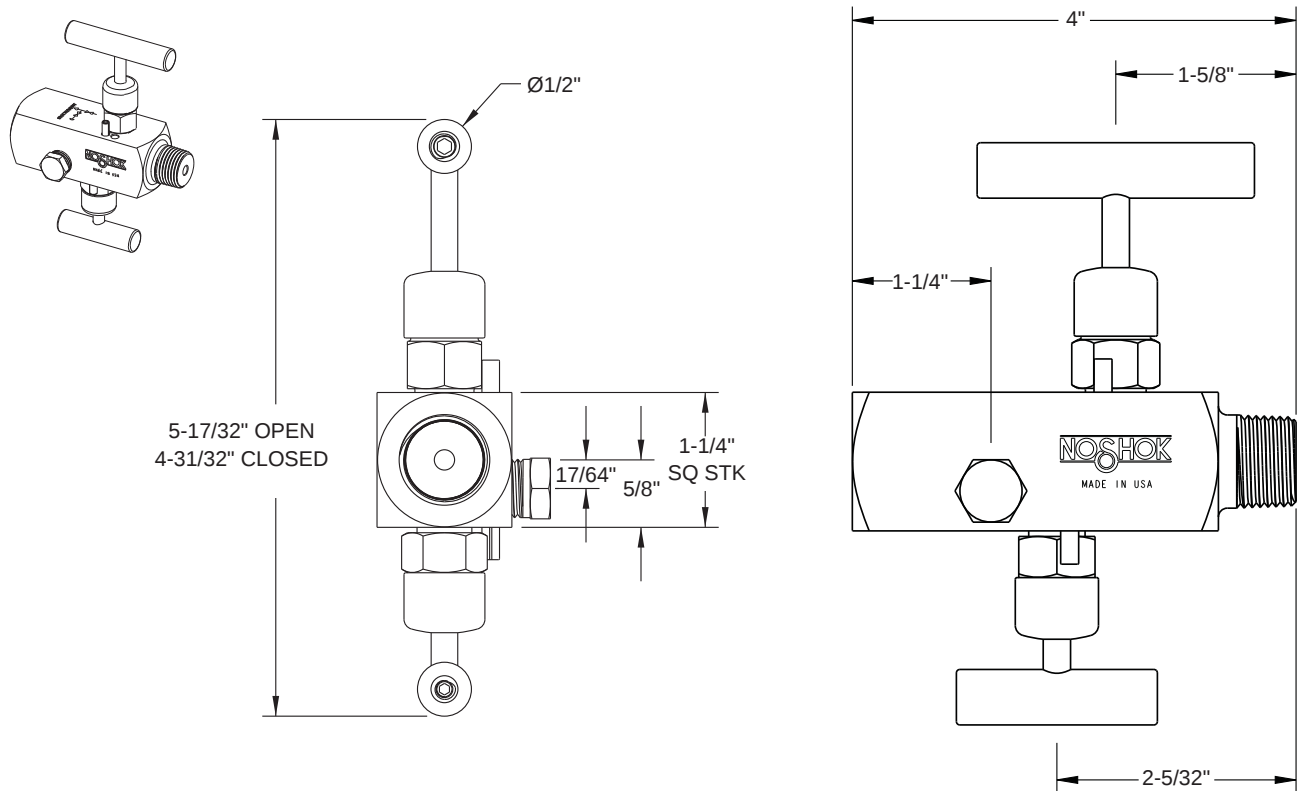
The handle material will always match the material of the valve, unless otherwise specified. For example, the "T" handle (HL2) on the 2170-FFC will be steel. When only the standard configuration is needed, no additional designations are necessary. Please consult the factory for special application requests.

## EXAMPLE with Additional Options

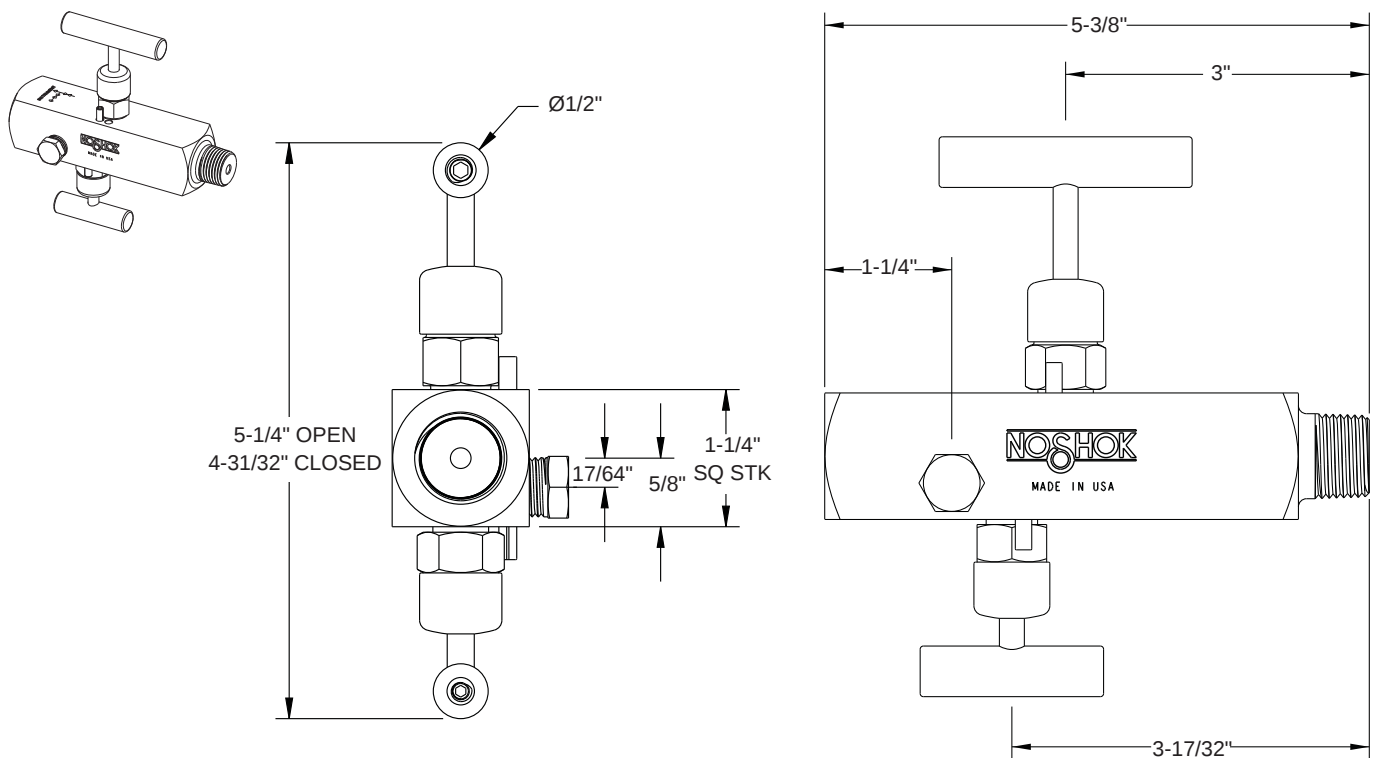


# Dimensions

## Male-Female



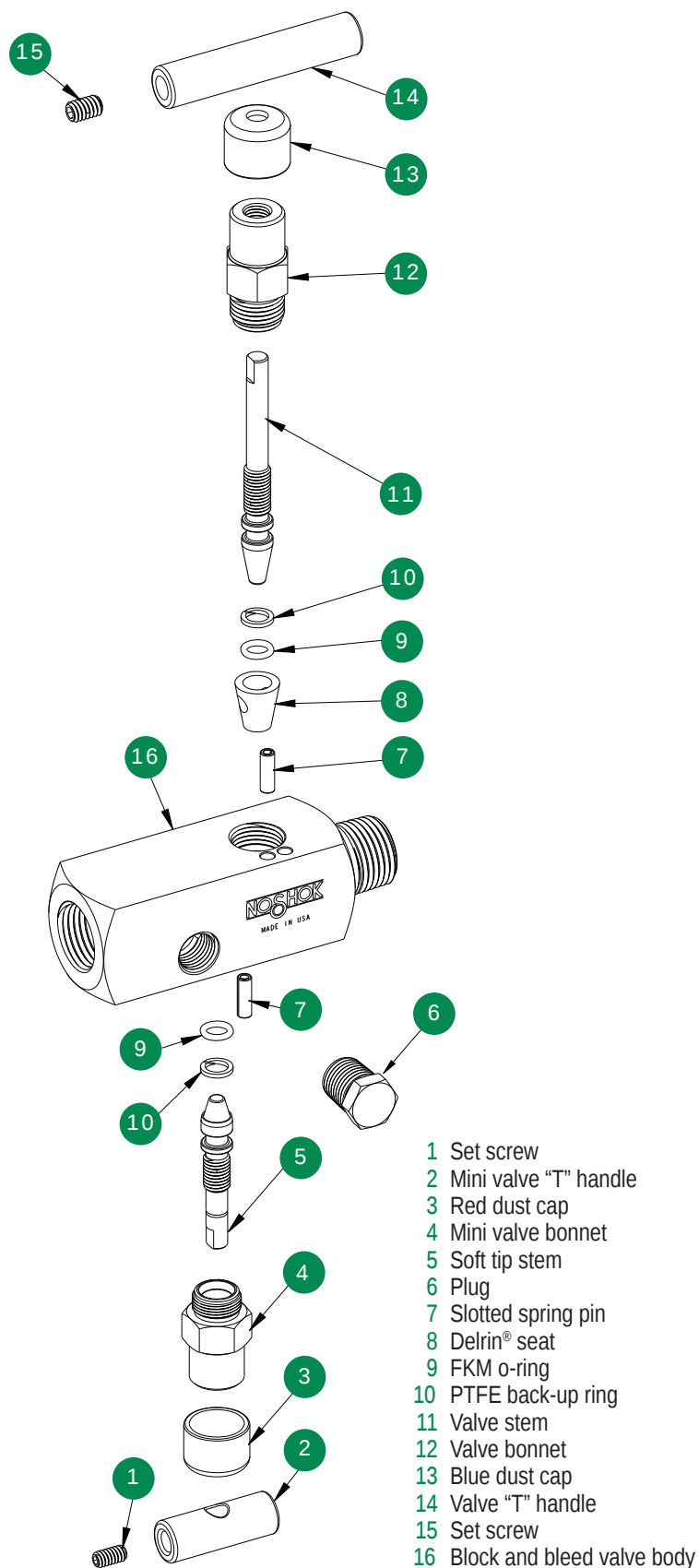
## Extended Male-Female



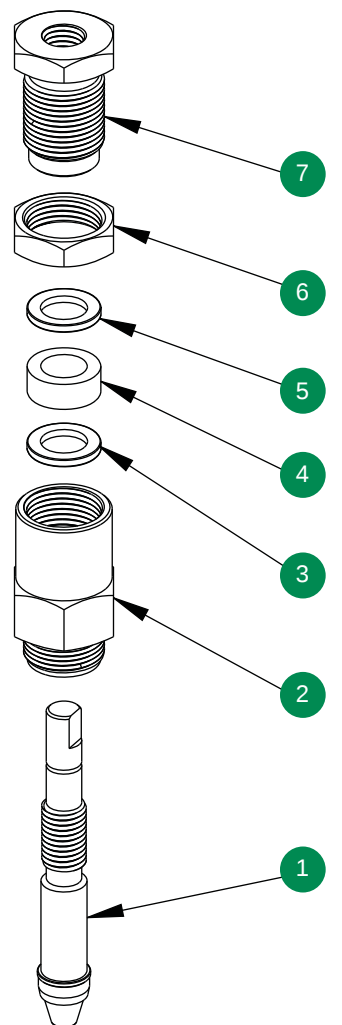
For panel mount, packing,  
& stem tip dimensions,  
see page 61-67

## Block & Bleed, Soft Seat

## Option With Packing



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



- 1 Soft tip 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