

Gauge Valves and Instrumentation Manifolds

GV, GVH, GR Series

2D, 2R, 2DH, 2RH Series 2-valve Manifolds

3D, 3R, 3DH, 3RH Series 3-valve Manifolds

5D, 5R, 5DH, 5RH Series 5-valve Manifolds



Contents

Gauge Valves

Features	C-04
Standard Materials of Construction	C-04
Pressure vs. Temperature	C-05
Types and Dimensions	C-06

Instrumentation Manifolds

Features	C-08
Standard Materials of Construction	C-08
Pressure vs. Temperature	C-09
Design Standards	C-09
Manifolds Mount Application	C-10
Types and Dimensions	C-11
Remote Mount Manifolds	C-11
Direct Mount Manifolds (transmitter with coplanar traditional flange)	C-17
Direct Mount Manifolds (transmitter with normal traditional flange)	C-18
Direct Mount Manifolds (transmitter without flange)	C-23

Accessories

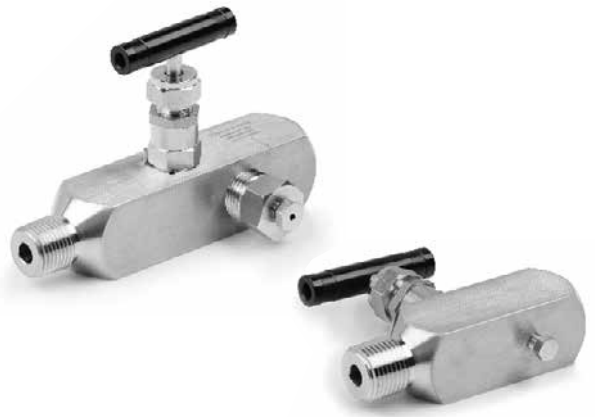
Manifold Bracket Supports	C-24
Kidney Flange/Eccentric Flange	C-25
Bleed Valves	C-26
Calibration Fittings	C-26

Gauge Valves

GV Series, GVH Series and GR Series

Features

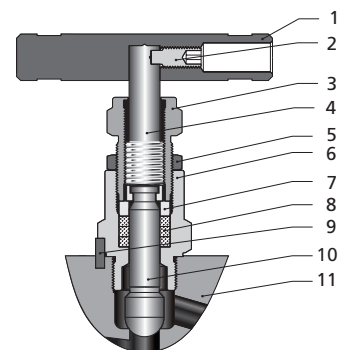
- ⦿ Working pressure up to:
 - Stainless steel: GV, GR series up to 6000 psig (414 bar)
 - GVH series up to 10000 psig (690 bar)
- ⦿ GV Series and GVH Series working temperature:
 - PTFE packing: -65°F to 450°F (-54°C to 232°C)
 - Graphite packing: -65°F to 1200°F (-54°C to 649°C)
- ⦿ GR Series working temperature:
 - Acetal seat: -20°F to 250°F (-28°C to 121°C)
 - PEEK seat: -20°F to 400°F (-28°C to 204°C)
- ⦿ Non-rotating lower stem, ball tip and plug tip designs
- ⦿ Variety of materials for seat and packing
- ⦿ Safety back seating seals in fully open position
- ⦿ Rolled spindle operating threads
- ⦿ Lubricant for stem thread isolated from the media
- ⦿ Externally adjustable gland
- ⦿ Bonnet locking pin fitted as standard
- ⦿ Low torque operating T bar handle
- ⦿ Option for different colored handles
- ⦿ Steady and durable fastening of the handle by handle set screw
- ⦿ Each GV/GR Series gauge valve leak tested with Nitrogen or compressed air at the maximum working pressure, each GVH Series gauge valve leak tested with water at 1.1 times the maximum working pressure



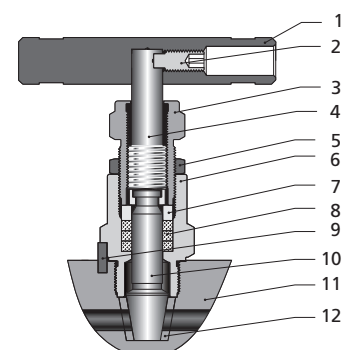
Standard Materials of Construction

Item	Component	Material Grade/ASTM Specification
1	Handle	6061/B211
2	Set Screw	Zinc-plated carbon steel
3	Packing Bolt	304 SS/A479
4	Upper Stem	316 SS/A479
5	Lock Nut	Stainless steel
6	Bonnet	316 SS/A479
7	Gland	316 SS/A479
8	Packing	PTFE or graphite
9	Lock Pin	Stainless steel
10	Lower Stem	Hardened 316 SS/A479
11	Body	316 SS/A479 316 SS/A182
12	Seat	Acetal or PEEK
	Lubricant	Molybdenum disulfide-based

Ball Tip Design Valves (GV, GVH)



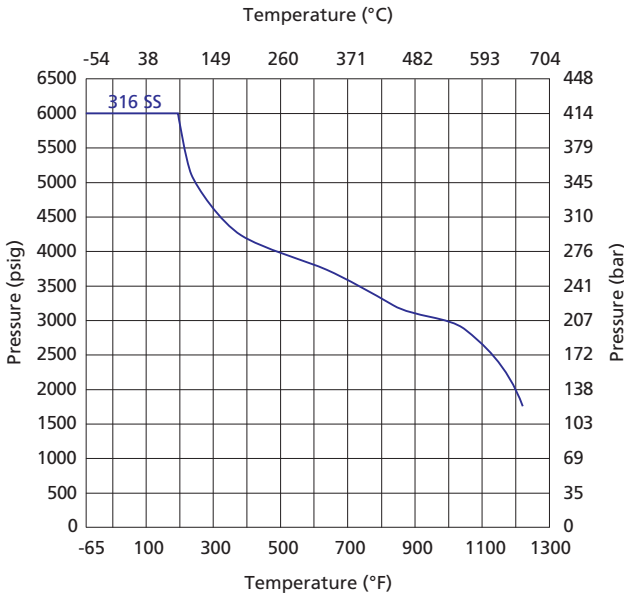
Plug Tip Design Valves (GR)



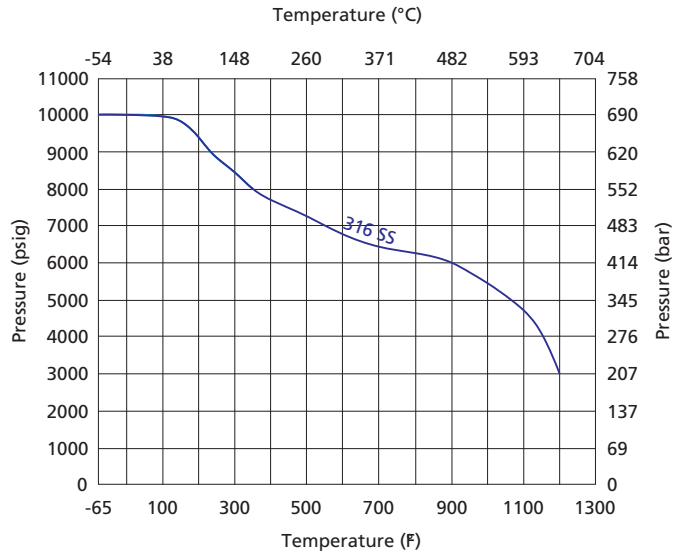
Materials are selected in accordance with NACE MR0175/ISO 15156 for valves in sour gas service. Contact FITOK Group or our authorized distributors for more information.

Pressure vs. Temperature

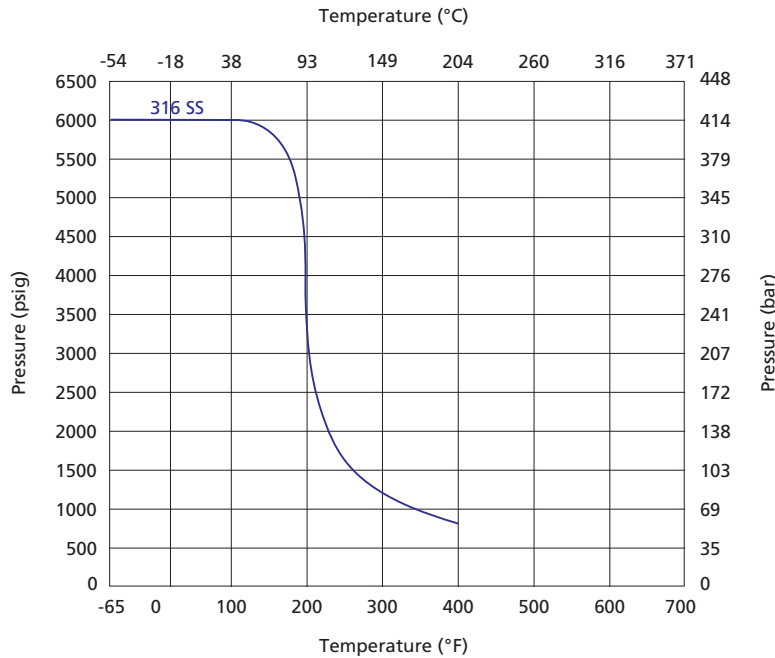
GV Series



GVH Series



GR Series

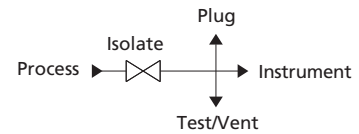
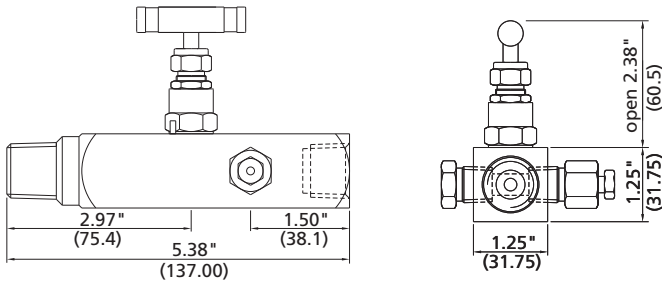


1. GV, GVH series are based on graphite packing.
2. GR series are based on PEEK seat and PTFE packing.
3. Contact FITOK Group or our authorized distributors for curve graph of GR series with Acetal seat.

Types and Dimensions

Standard Type

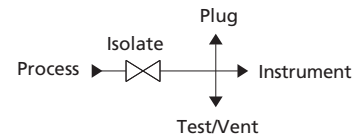
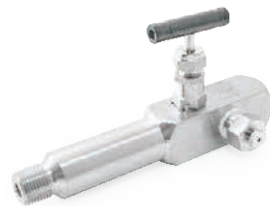
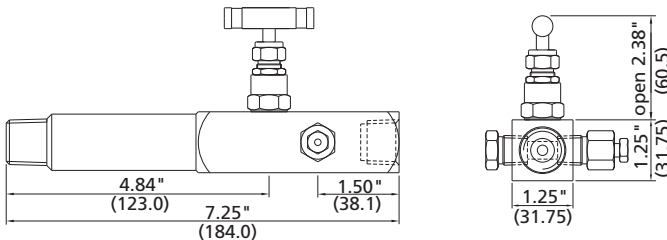
Basic Ordering Number	Inlet/Process	Outlet/Instrument	Test/Vent/Plug
GV□□-NS8-FNS8	1/2 Male NPT	1/2 Female NPT	1/2 Female NPT
GVH□□-NS8-FNS8			
GR□□-NS8-FNS8			
GV□□-NS12-FNS8	3/4 Male NPT	1/2 Female NPT	1/2 Female NPT
GVH□□-NS12-FNS8			
GR□□-NS12-FNS8			



The dimensions shown are for GV series gauge valves. If you need the dimensions of GVH, GR series, please contact FITOK Group or our authorized distributors.

Lagging Extension Body Type

Basic Ordering Number	Inlet/Process	Outlet/Instrument	Test/Vent/Plug
GV□□-NS8-FNS8-E	1/2 Male NPT	1/2 Female NPT	1/2 Female NPT
GVH□□-NS8-FNS8-E			
GR□□-NS8-FNS8-E			

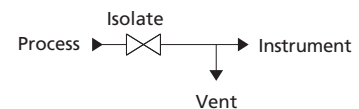
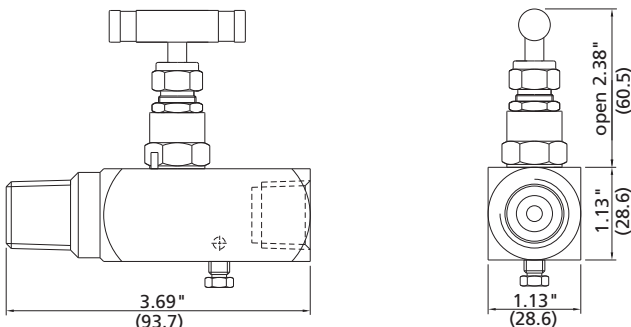


Lagging extension body is inserted through pipe insulation.

The dimensions shown are for GV series gauge valves. If you need the dimensions of GVH, GR series, please contact FITOK Group or our authorized distributors.

Miniature Type

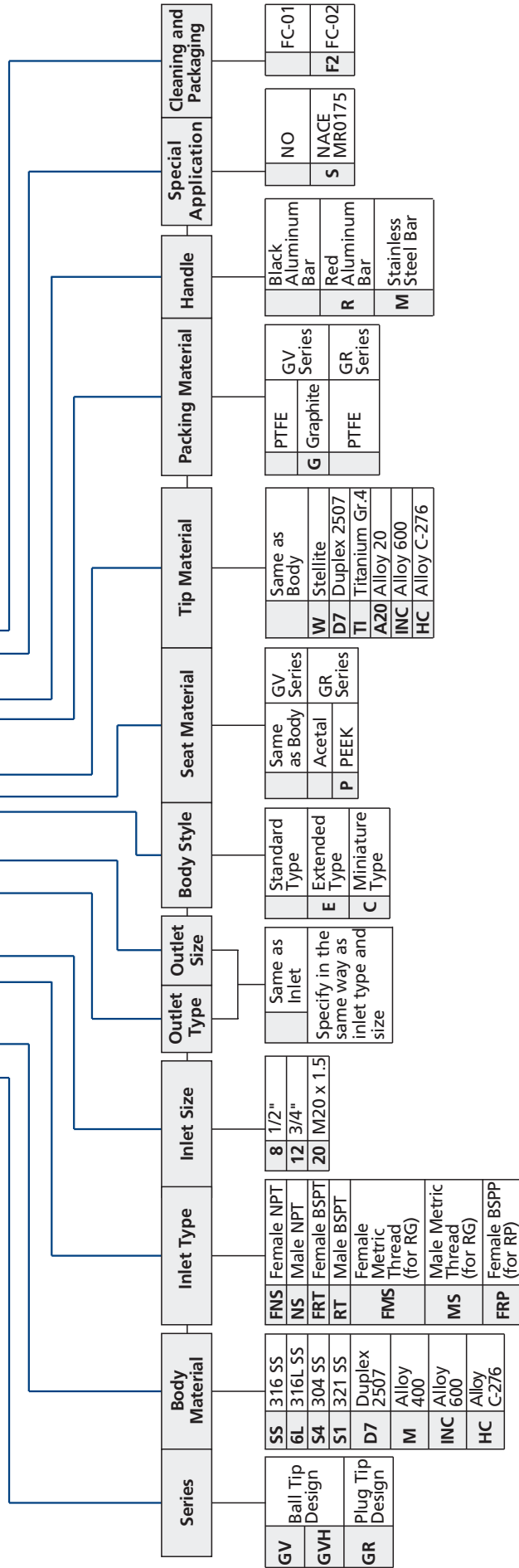
Basic Ordering Number	Inlet/Process	Outlet/Instrument	Vent
GV□□-NS8-FNS8-C	1/2 Male NPT	1/2 Female NPT	Vent stem
GVH□□-NS8-FNS8-C			
GR□□-NS8-FNS8-C			



The dimensions shown are for GV series gauge valves. If you need the dimensions of GVH, GR series, please contact FITOK Group or our authorized distributors.

Ordering Number Description

GRSS – NS8 – FNS8 – CPW – GR – SF2



Note:

- Cleaning and Packaging:
 FC-01: Standard cleaning and packaging for general industrial procedures.
 FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.
- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available. If you have any questions, please contact FITOK Group or our authorized distributors.

Instrumentation Manifolds

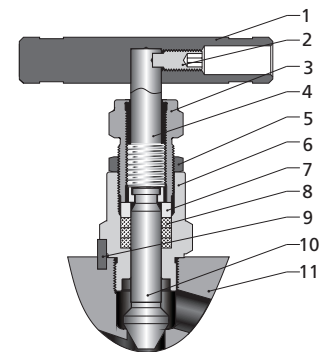
Features

- ⦿ Working pressure up to:
 - Stainless steel: 2D, 2R, 3D, 3R, 5D, 5R up to 6000 psig (414 bar)
 - 2DH, 2RH, 3DH, 3RH, 5DH, 5RH up to 10000 psig (690 bar)
 - Alloy C-276: 2D, 2R, 3D, 3R, 5D, 5R up to 6000 psig (414 bar)
- ⦿ Working temperature:
 - PTFE packing: -65°F to 450°F (-54°C to 232°C)
 - Graphite packing: -65°F to 1200°F (-54°C to 649°C)
- ⦿ Orifice: 0.157" (4.0 mm)
- ⦿ Two-piece stem design: Upper stem threads cold rolled and lower stem hardened for high strength and smooth operation
- ⦿ Upper stem thread lubricant isolated from system media
- ⦿ Linear instead of rotary motion of the rising, non-rotating stem minimizes packing abrasion and reduces the friction between the seat and the tip
- ⦿ Safety back seating seals in fully open position
- ⦿ Steady and durable fastening of the handle by handle set screw
- ⦿ Each 2D/2R/3D/3R/5D/5R Series manifold leak tested with Nitrogen or compressed air at the maximum working pressure, each 2DH/2RH/3DH/3RH/5DH/5RH Series manifold leak tested with water at 1.1 times the maximum working pressure



Standard Materials of Construction

Item	Component	Valve Body Material	
		316 SS	Alloy C-276
Material Grade/ASTM Specification			
1	Handle	6061/B211	
2	Set Screw	Stainless steel	
3	Packing Bolt	304 SS/A479	
4	Upper Stem	316 SS/A479	
5	Lock Nut	Stainless steel	
6	Bonnet	316 SS/A479	Alloy C-276/B574
7	Gland	316 SS/A479	
8	Packing	PTFE or Graphite	
9	Lock Pin	Stainless steel	
10	Lower Stem	Hardened 316 SS/A479	Alloy C-276/B574
11	Body	316 SS/A479 316 SS/A182	Alloy C-276/B564
Lubricant		Molybdenum disulfide-based	

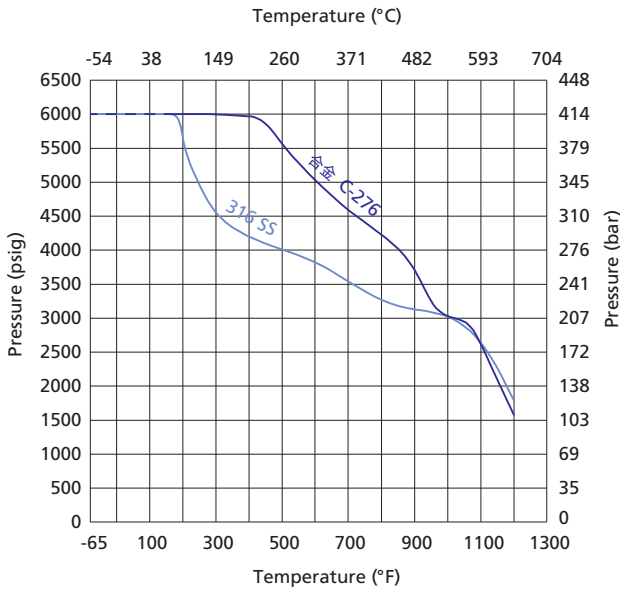


Handle colors indicate function:
 BLACK=Isolate/block
 RED=Test/vent
 GREEN=Equalize

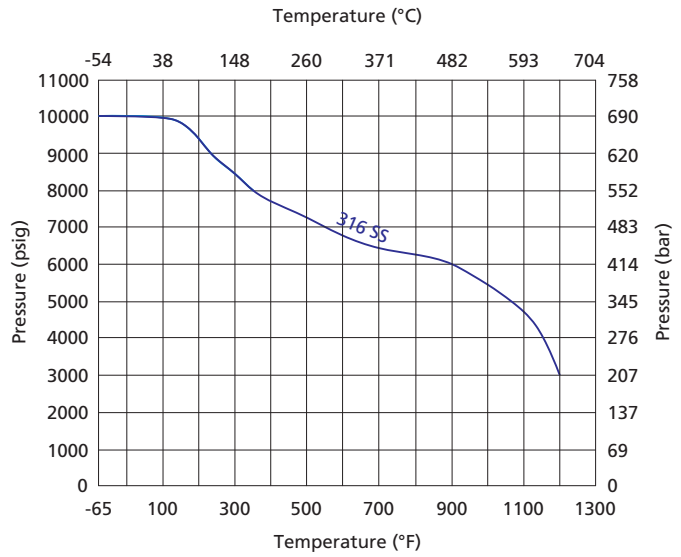
Materials are selected in accordance with NACE MR0175/ISO 15156 for valves in sour gas service. Contact FITOK Group or our authorized distributors for more information.

Pressure vs. Temperature

2D, 2R, 3D, 3R, 5D, 5R Series



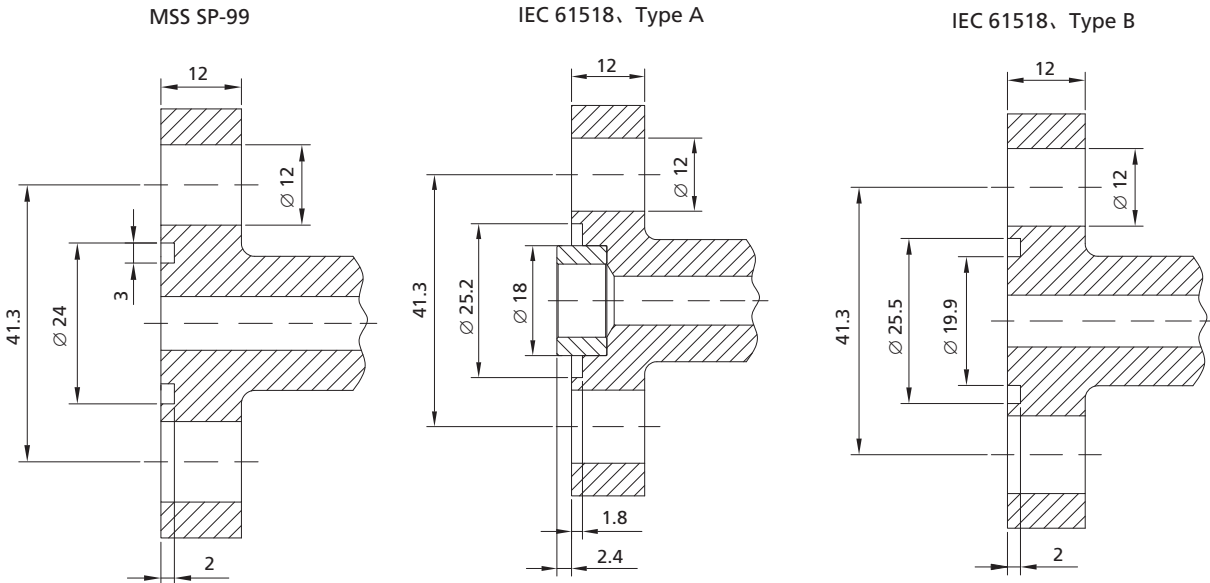
2DH, 2RH, 3DH, 3RH, 5DH, 5RH Series



1. Based on graphite packing.
2. Contact FITOK Group or our authorized distributors for curve graph of other materials.

Design Standards

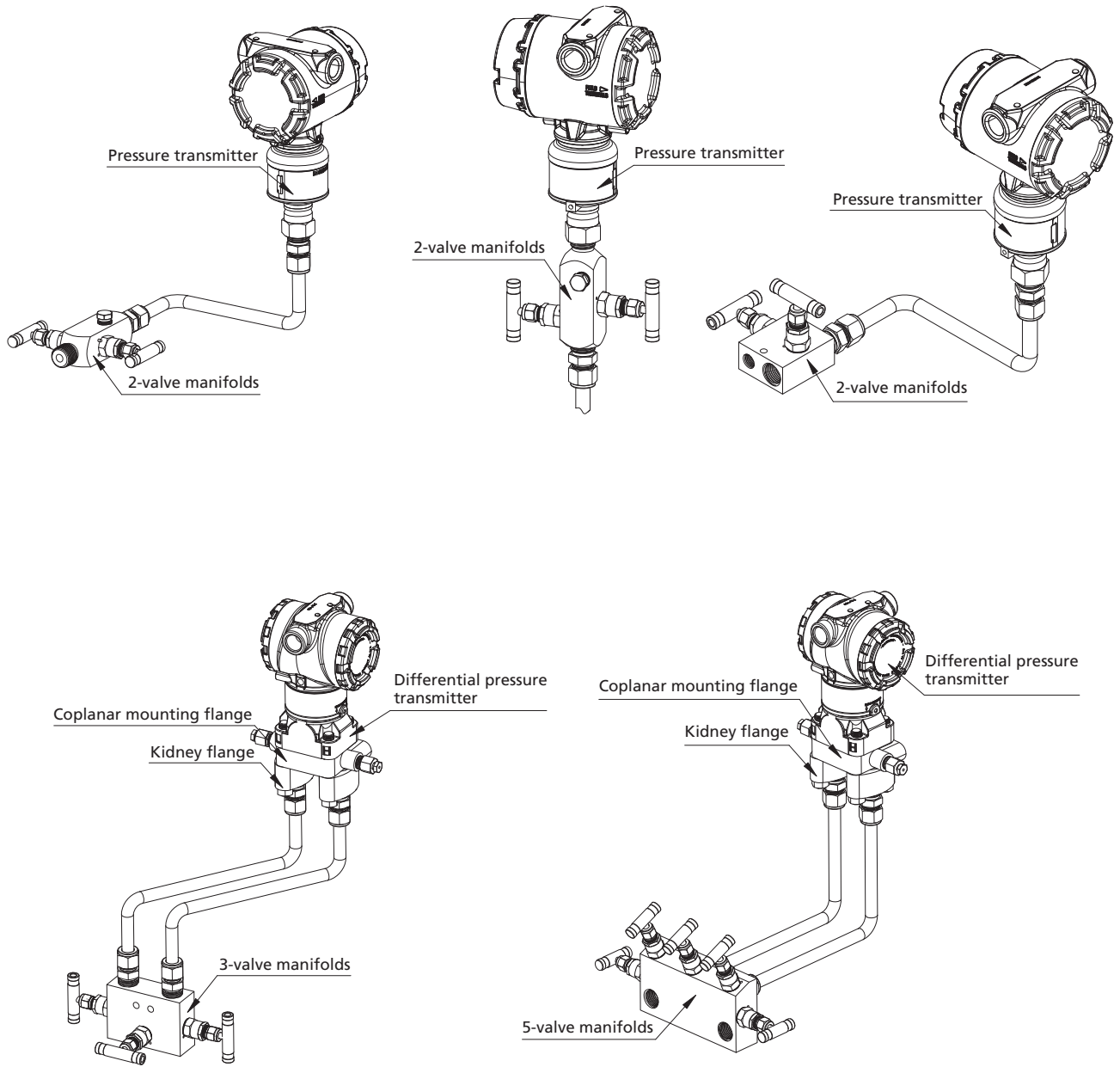
- ⦿ Instrumentation manifolds are designed in accordance with ASME B31.3 and MSS-SP-105.
- ⦿ Flanges in compliance with MSS SP-99 or IEC 61518 are available. Dimensions are as follows.



Manifolds

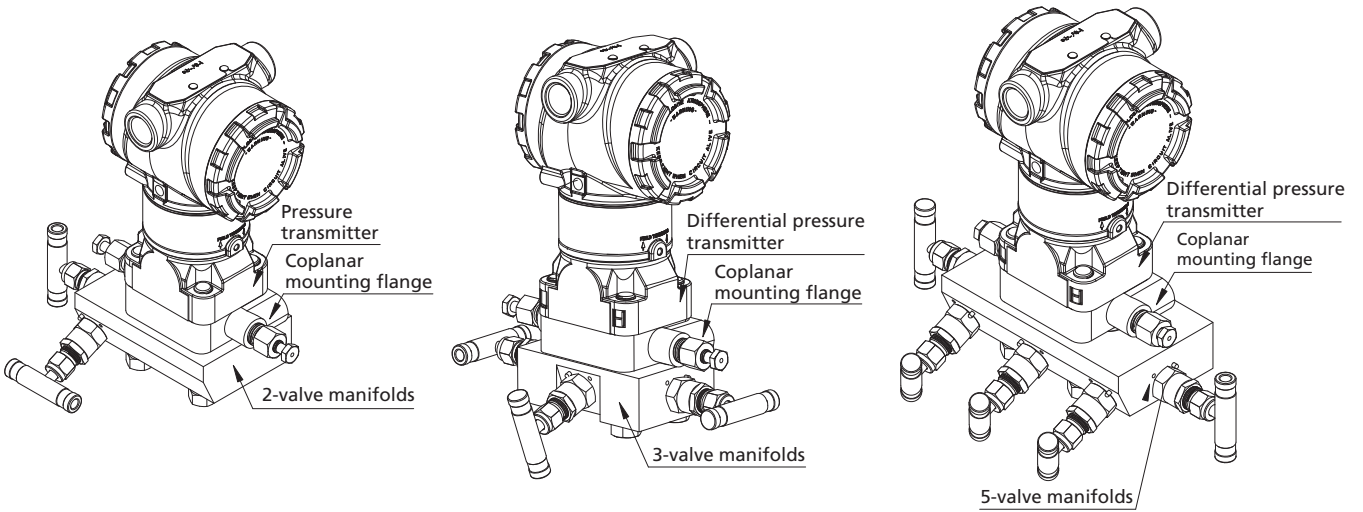
Manifolds Mounting Application

◎ Remote Mount Manifolds (with transmitter)

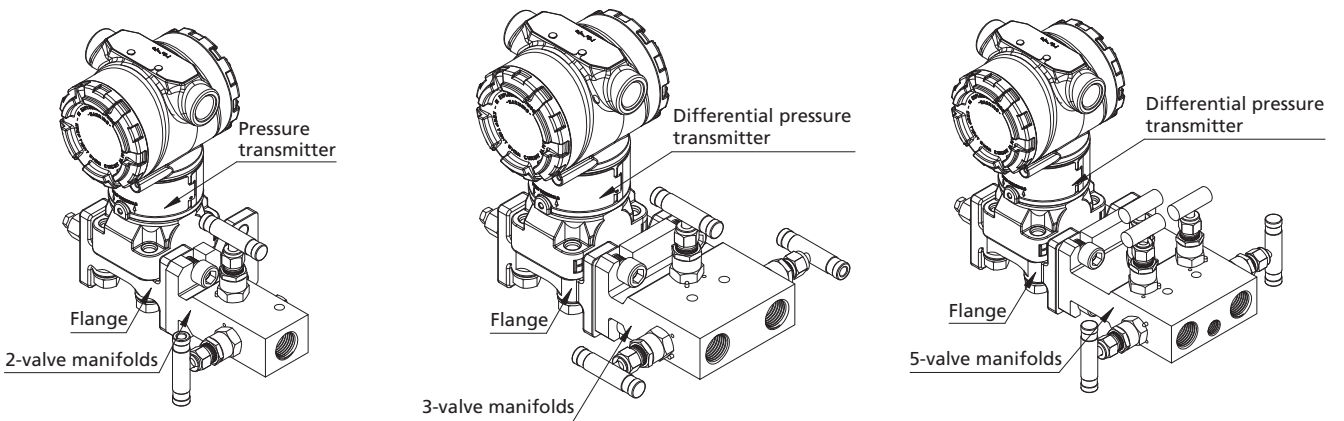


Manifolds

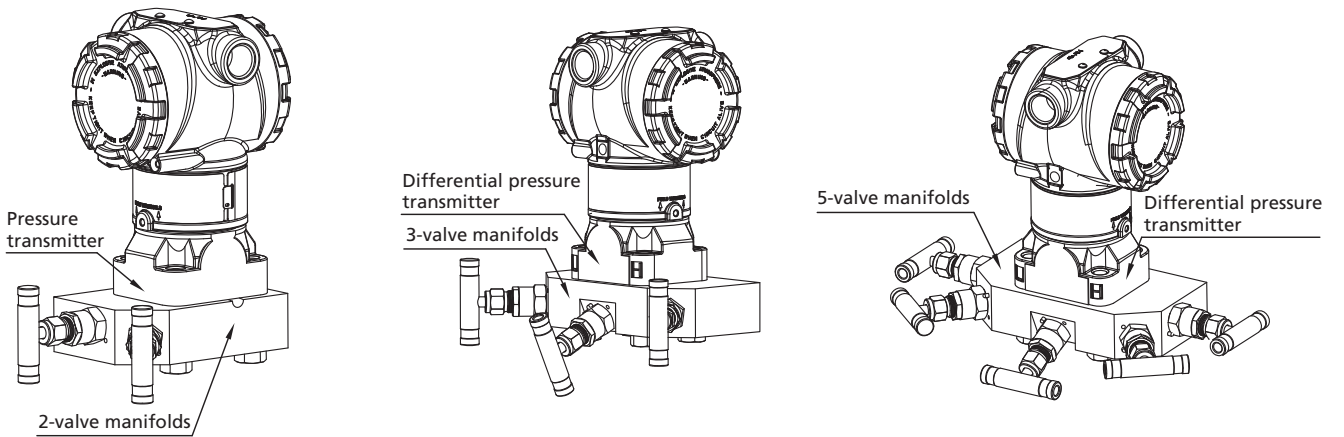
Direct Mount Manifolds (transmitter with coplanar mounting flange)



Direct Mount Manifolds (transmitter with traditional flange)



Direct Mount Manifolds (transmitter without flange)



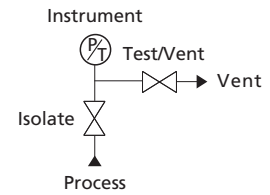
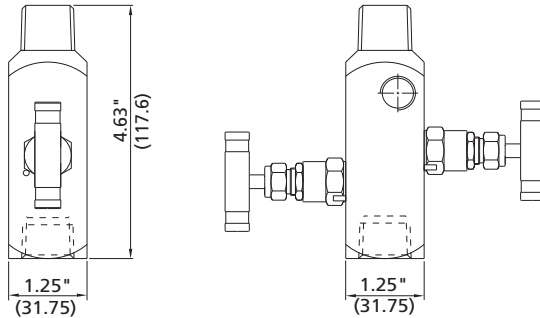
Manifolds

Types and Dimensions

Remote Mount Manifolds

2-valve manifolds

Basic Ordering Number	Process	Instrument	Vent
2R□□-FNS8-NS8-H	1/2 Female NPT	1/2 Male NPT	1/4 Female NPT
2RH□□-FNS8-NS8-H			
2R□□-NS8-H	1/2 Male NPT		
2RH□□-NS8-H			

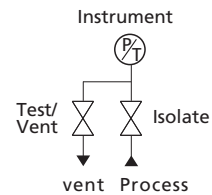
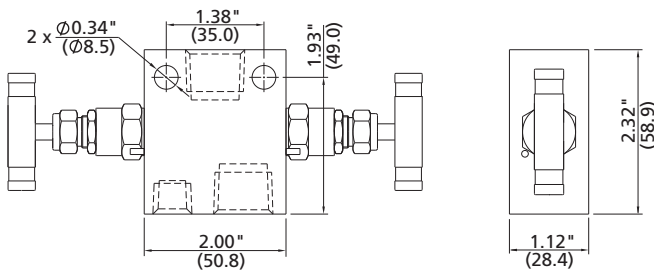


The dimensions shown are for 2R series manifolds. If you need the dimensions of 2RH series, please contact FITOK Group or our authorized distributors.

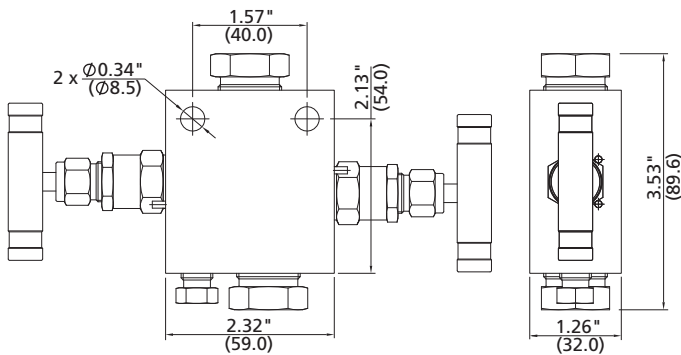
Basic Ordering Number	Process	Instrument	Vent
2R□□-FNS8-L	1/2 Female NPT	1/2 Female NPT	1/4 Female NPT
2R□□-FL8-L	1/2" FITOK	1/2" FITOK	1/4" FITOK



2R□□-FNS8-L



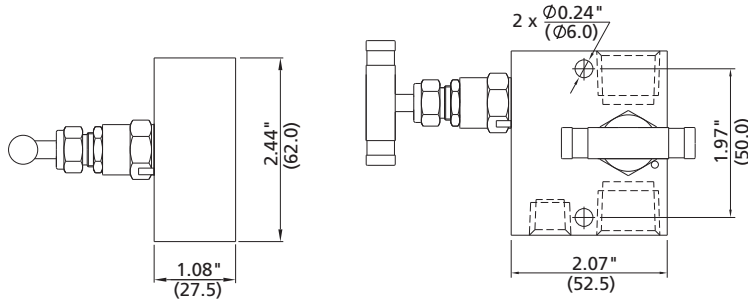
2R□□-FL8-L



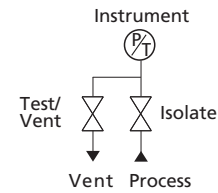
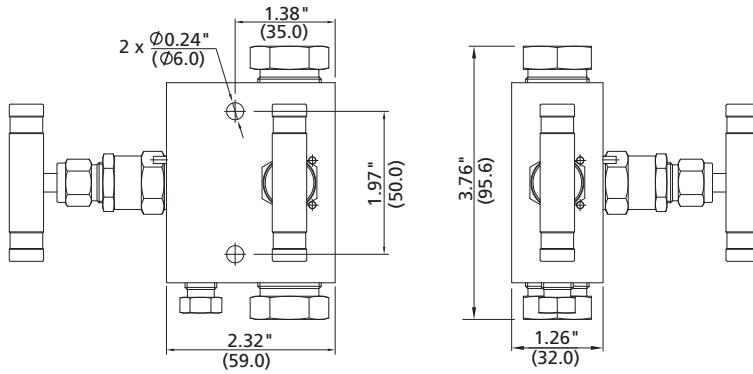
Basic Ordering Number	Process	Instrument	Vent
2R□□-FNS8-V	1/2 Female NPT	1/2 Female NPT	1/4 Female NPT
2R□□-FL8-V	1/2" FITOK	1/2" FITOK	1/4" FITOK



2R□□-FNS8-V



2R□□-FL8-V

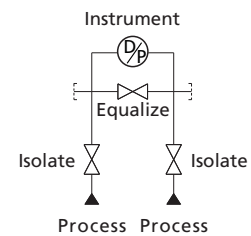
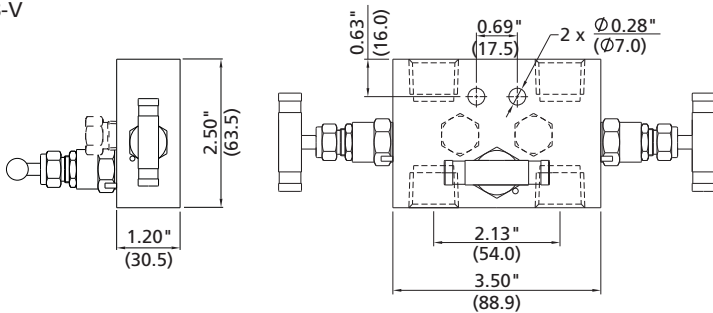


3-valve manifolds

Basic Ordering Number	Process	Instrument	Vent
3R□□-FNS8-V	1/2 Female NPT	1/2 Female NPT	optional
3RH□□-FNS8-V			
3R□□-FL8-V	1/2" FITOK	1/2" FITOK	optional



3R□□-FNS8-V

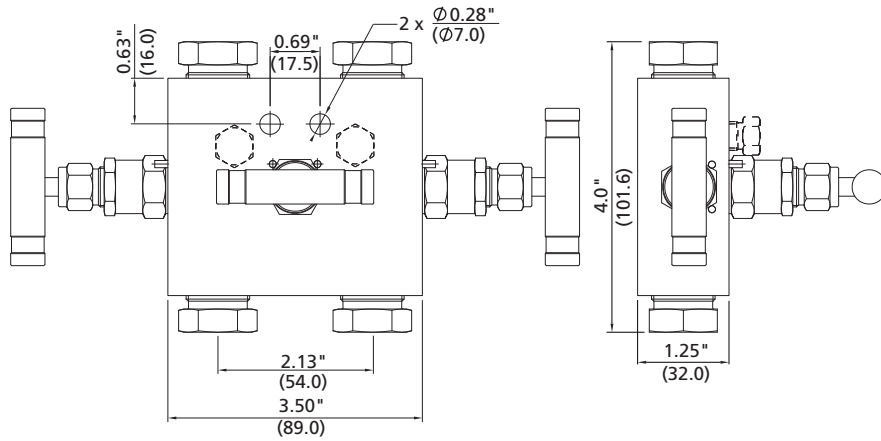


The dimensions shown are for 3R series manifolds. If you need the dimensions of 3RH series, please contact FITOK Group or our authorized distributors.

Manifolds

C-14 Gauge Valves and Instrumentation Manifolds

3R□□-FL8-V

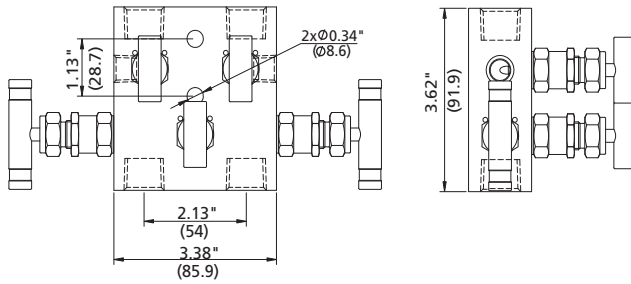


☉ 5-valve manifolds

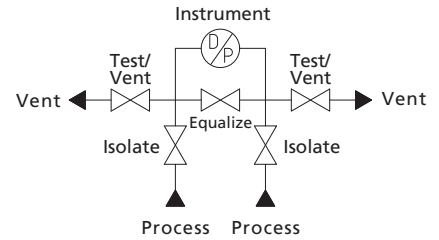
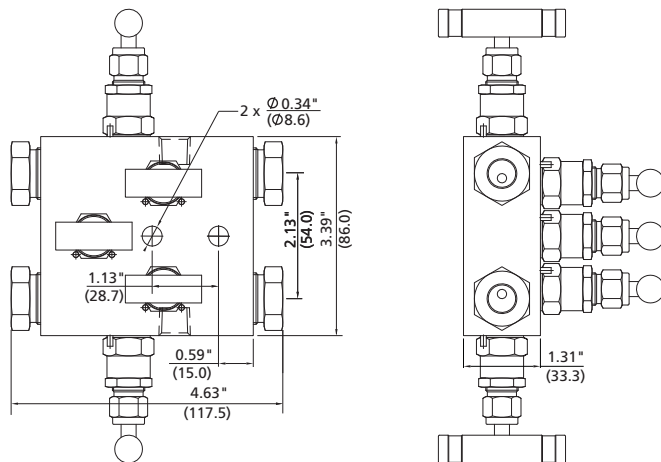
Basic Ordering Number	Process	Instrument	Vent
5R□□-FNS8-V	1/2 Female NPT	1/2 Female NPT	1/4 Female NPT
5R□□-FL8-V	1/2" FITOK	1/2" FITOK	1/4 Female NPT



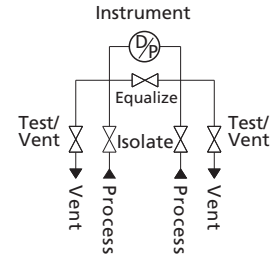
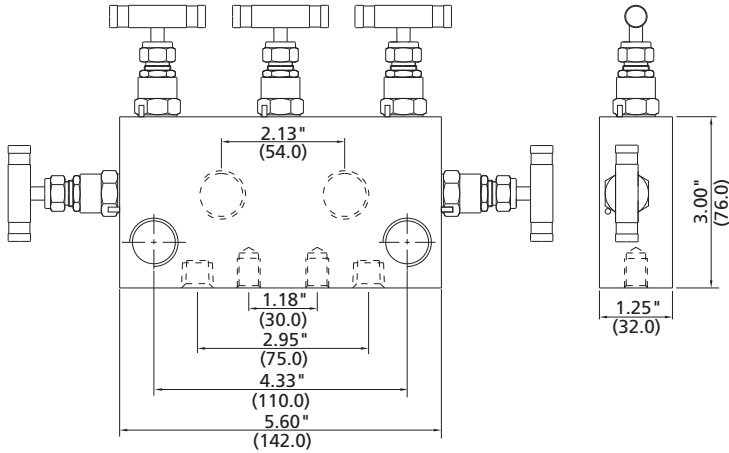
5R□□-FNS8-V



5R□□-FL8-V

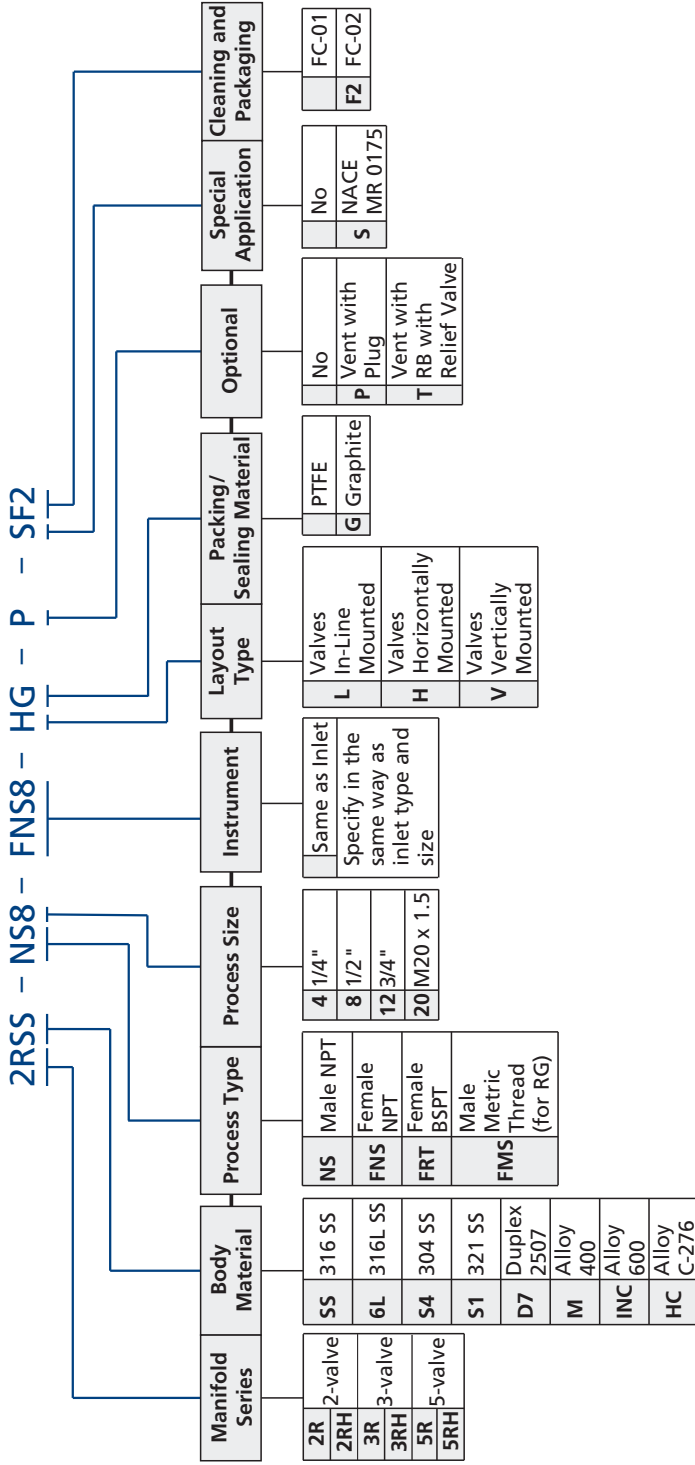


Basic Ordering Number	Process	Instrument	Vent
5R□□-FNS8-L	1/2 Female NPT	1/2 Female NPT	1/4 Female NPT
5RH□□-FNS8-L			



The dimensions shown are for 5R series manifolds. If you need the dimensions of 5RH series, please contact FITOK Group or our authorized distributors.

Ordering Number Description



Notes:

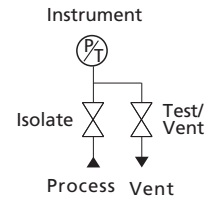
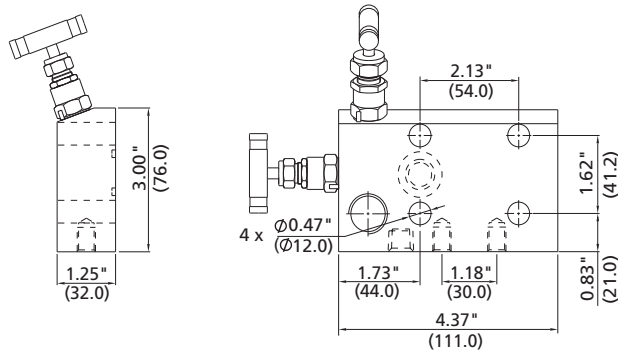
- The vent in the optional is 1/4 Female NPT
- Cleaning and Packaging:
 - FC-01: Standard cleaning and packaging for general industrial procedures.
 - FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.
- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available, if you have any questions, please contact FITOK Group or our authorised distributors.

Direct Mount Manifolds (transmitter with coplanar mounting flange)

This type of manifolds is designed for Rosemount® coplanar™ pressure transmitter. Manifolds for other companies' transmitters, please contact FITOK Group or our authorized distributors.

2-valve Manifolds

Basic Ordering Number	Process	Instrument	Vent
2D□□-FNS8-A	1/2 Female NPT	Flange	1/4 Female NPT
2DH□□-FNS8-A			



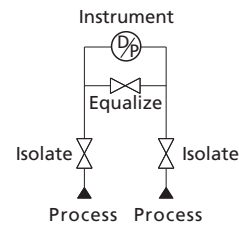
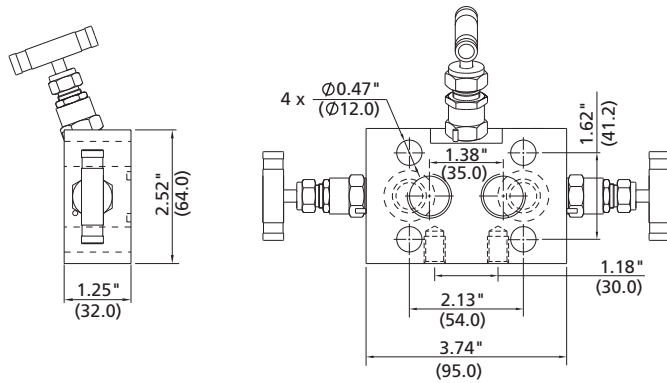
Every manifold is supplied with one PTFE sealing ring for manifold-to-instrument and four 7/16" UNF x 1.75" high tensile bolts. Dimensions shown are for 2D Series manifolds. For dimensions of 2DH Series manifolds, please contact FITOK Group or our authorized distributors.

3-valve Manifolds

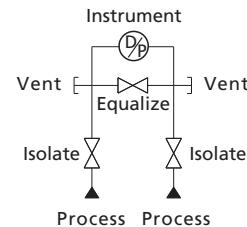
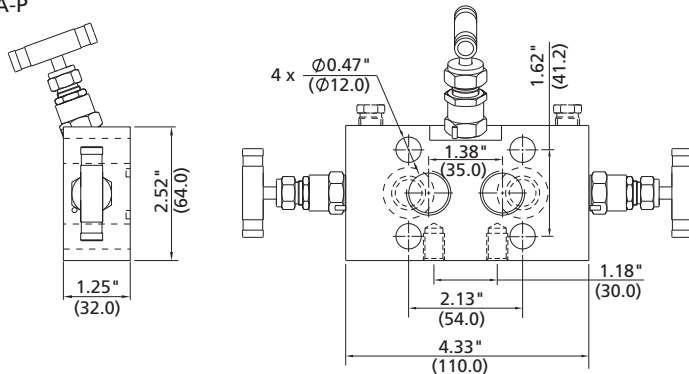
Basic Ordering Number	Process	Instrument	Vent
3D□□-FNS8-A	1/2 Female NPT	Flange	No
3DH□□-FNS8-A			
3D□□-FNS8-A-P	1/2 Female NPT	Flange	1/4 Female NPT



3D□□-FNS8-A



3D□□-FNS8-A-P



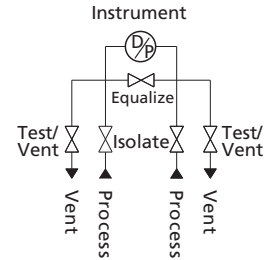
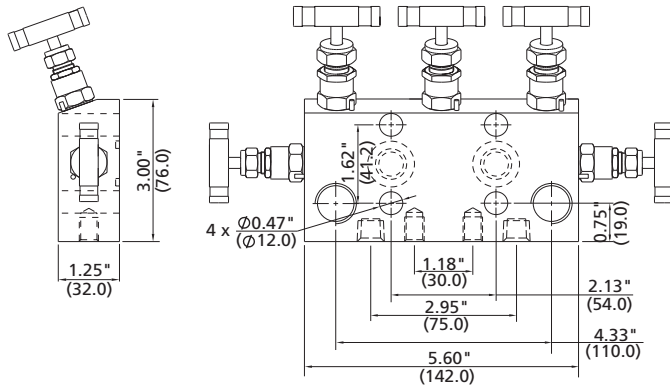
Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 1.75" high tensile bolts. Dimensions shown are for 3D Series manifolds. For dimensions of 3DH Series manifolds, please contact FITOK Group or our authorized distributors.

Manifolds

C-18 Gauge Valves and Instrumentation Manifolds

5-valve Manifolds

Basic Ordering Number	Process	Instrument	Vent
5D□□-FNS8-A	1/2 Female NPT	Flange	1/4 Female NPT
5DH□□-FNS8-A			

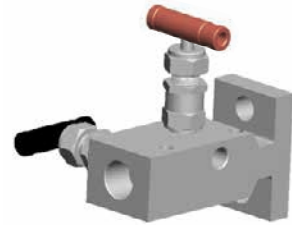


Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 1.75" high tensile bolts. Dimensions shown are for 5D Series manifolds. For dimensions of 5DH Series manifolds, please contact FITOK Group or our authorized distributors.

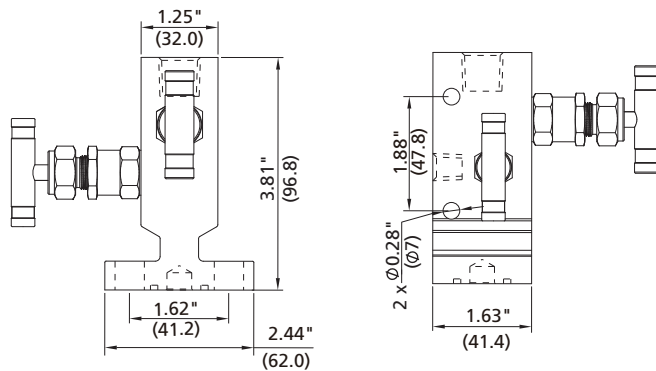
Direct Mount Manifolds (transmitter with traditional flange)

2-valve Manifolds

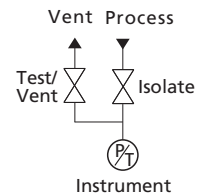
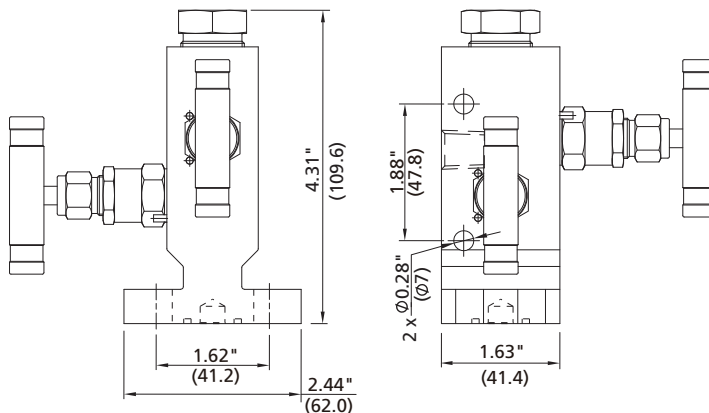
Basic Ordering Number	Process	Instrument	Vent
2D□□-FNS8-V	1/2 Female NPT	Flange	1/4 Female NPT
2D□□-FL8-V	1/2" FITOK	Flange	1/4 Female NPT



2D□□-FNS8-V



2D□□-FL8-V



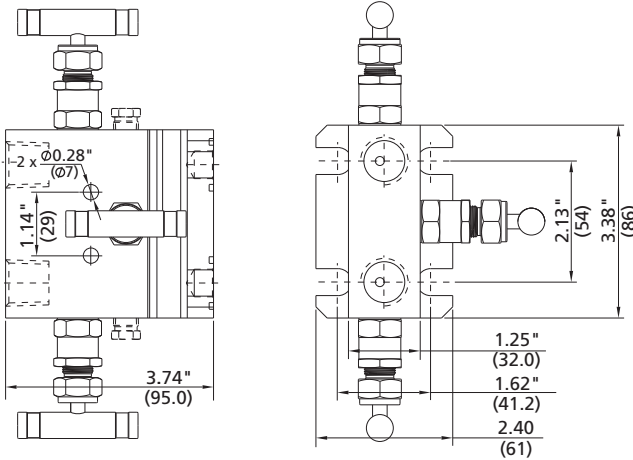
Every manifold is supplied with one PTFE sealing ring for manifold-to-instrument and two 7/16" UNF x 24mm high tensile bolts.

3-valve Manifolds

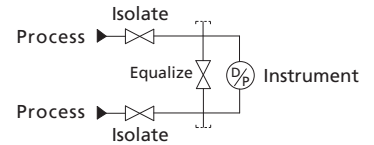
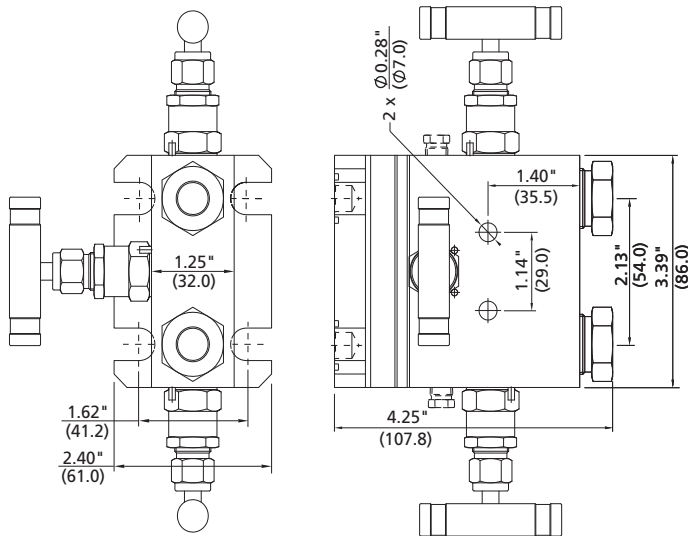
Basic Ordering Number	Process	Instrument	Vent
3D□□-FNS8-V	1/2 Female NPT	Flange	Optional
3D□□-FL8-V	1/2"FITOK	Flange	Optional



3D□□-FNS8-V

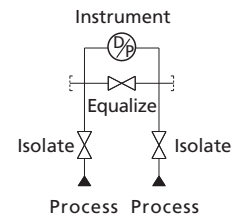
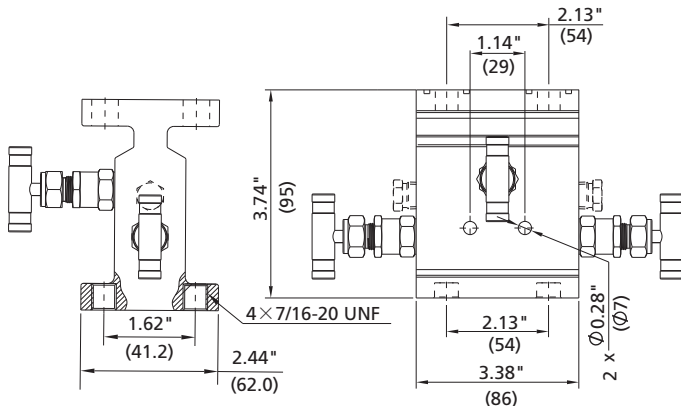


3D□□-FL8-V



Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 24mm high tensile bolts.

Basic Ordering Number	Process	Instrument	Vent
3D□□-F-V	Flange	Flange	Optional



Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 24mm high tensile bolts.

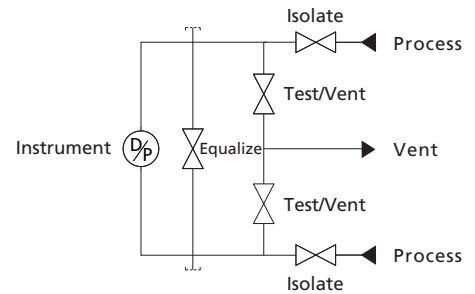
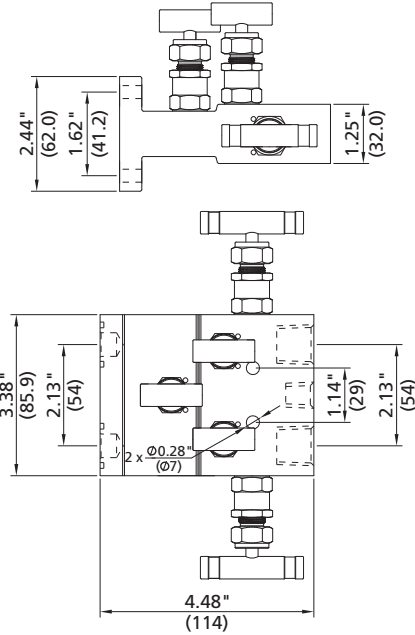
C-20 Gauge Valves and Instrumentation Manifolds

5-valve Manifolds

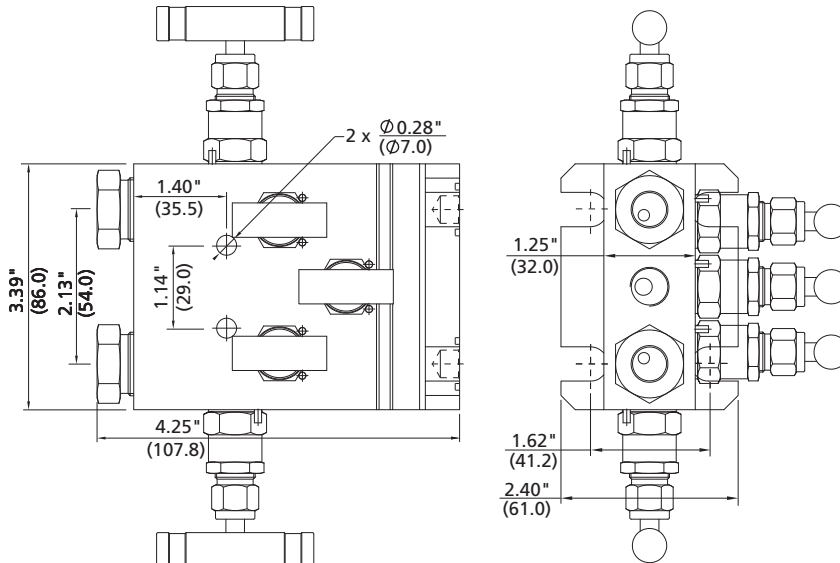
Basic Ordering Number	Process	Instrument	Vent	Test
5D□□-FNS8-V	1/2 Female NPT	Flange	1/4 Female NPT	Optional
5D□□-FL8-V	1/2" FITOK	Flange	1/4 Female NPT	Optional



5D□□-FNS8-V

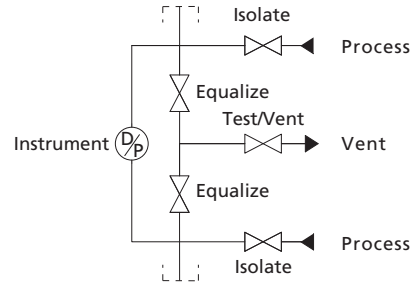
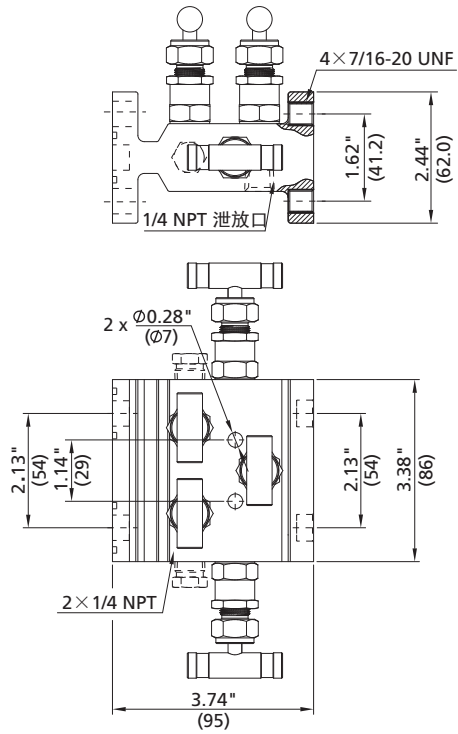
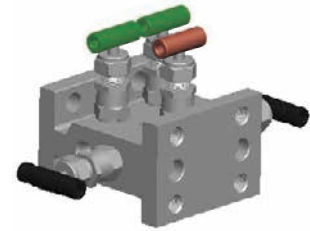


5D□□-FL8-V



Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 24mm high tensile bolts.

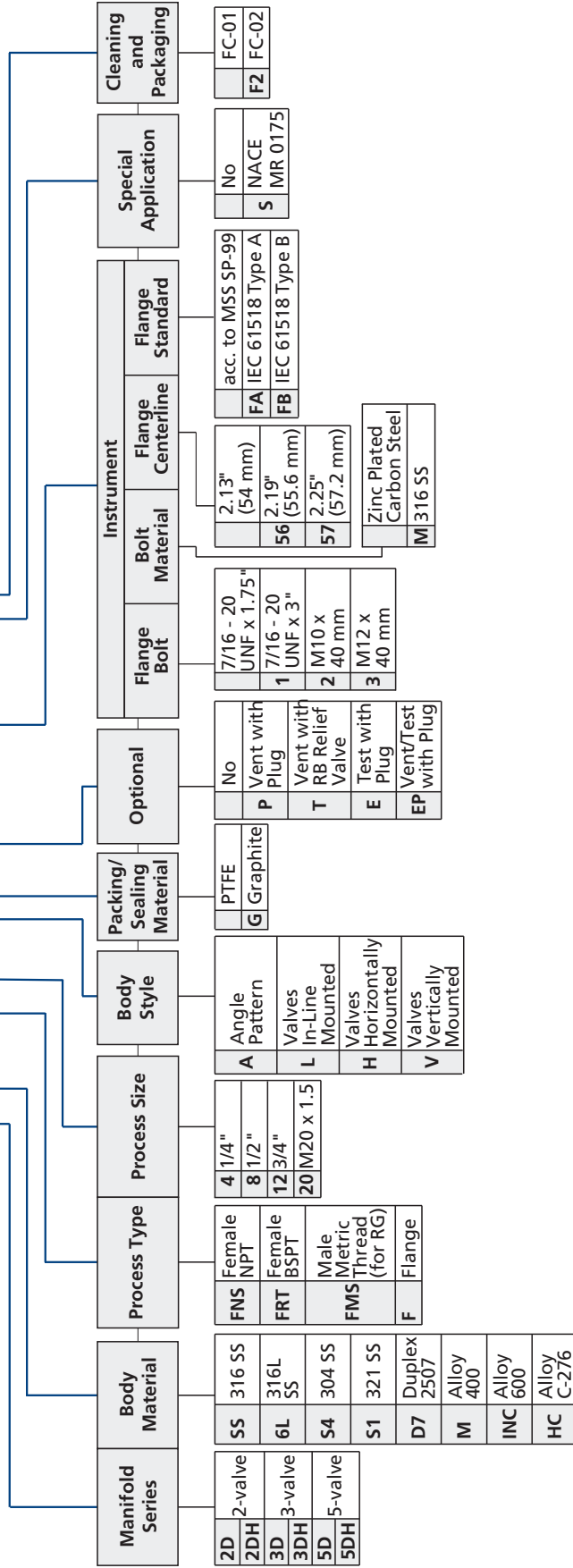
Basic Ordering Number	Process	Instrument	Vent	Test
5D□□-F-VB	Flange	Flange	1/4 Female NPT	Optional



Every manifold is supplied with two PTFE sealing rings for manifold-to-instrument and four 7/16" UNF x 24mm high tensile bolts.

Ordering Number Description

3DSS - FNS8 - AG - P - 1M56FA - SF2



Notes:

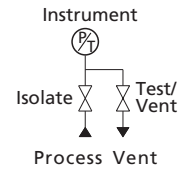
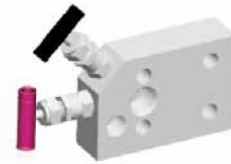
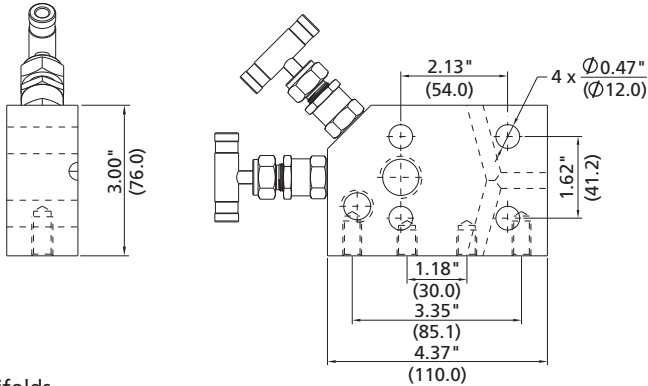
- To order 5-valve manifolds with double-equalize function, insert a letter "B" behind the Body Style designator within the manifold ordering number. Example: 5DSS-FNS8-VB;
- 1/4 Female NPT Test/Vent Port;
- Standard manifold instrument is flange (according to MSS SP-99), flange distance (center-to-center) is 2.13" (54 mm).
Distance of 2.19" (55.6 mm) suitable for transmitters of range 6, 7 and 1151.
Distance of 2.25" (57.2 mm) transmitters of range 8 and 1151.
- Flange seal ring and high tensile bolts are included with each direct-mount manifold as standard, for assembly to transmitters of main brands, such as EJA, Honeywell, Foxboro 843 d/p, and Rosemount® 1511, 2024, 3051H series.
- 7/16-20 UNF x 3" high tensile bolts can be supplied for mounting the manifold to the Rosemount® 3051C transmitter with coplanar flange.
- Cleaning and Packaging:
FC-01: Standard cleaning and packaging for general industrial procedures.
FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.
- "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available. If you have any questions, please contact FITOK Group or our authorised distributors.

Direct Mount Manifolds(transmitter without flange)

Specifically designed for assembly to Rosemount® coplanar™ pressure transmitters (including 3051C, 3051S, 2024 and 3095 models). Each manifold is included with: 4 pcs 7/16" UNF x 2" high tensile bolts. Assembles directly to transmitter, eliminating the need for flange.

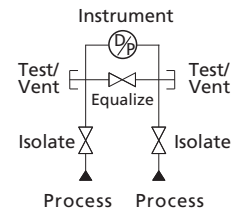
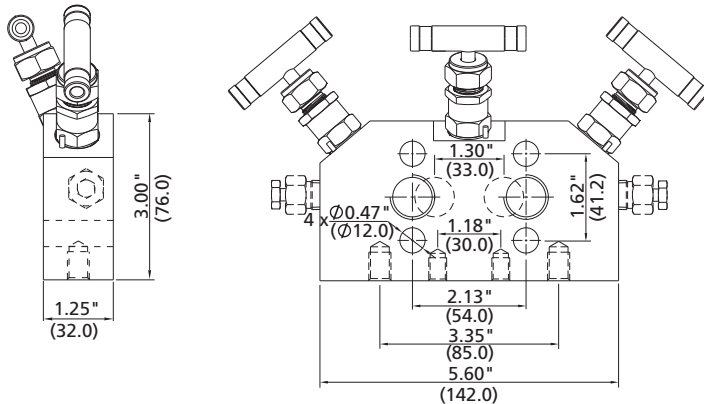
◎ 2-valve manifolds

Basic Ordering Number	Process	Instrument	Vent
2D□□-FNS8-C	1/2 Female NPT	Flange	1/4 Female NPT
2DH□□-FNS8-C			



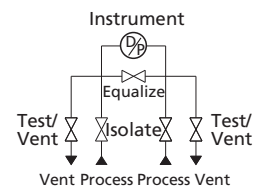
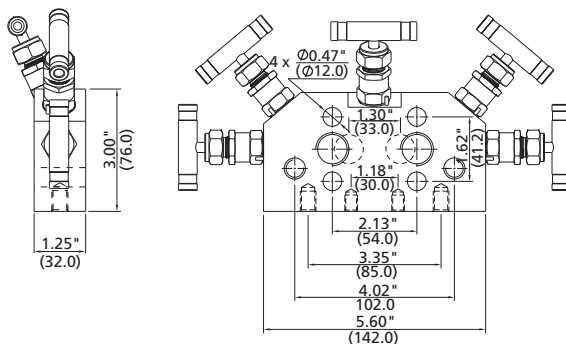
◎ 3-valve manifolds

Basic Ordering Number	Process	Instrument	Vent
3D□□-FNS8-C-T	1/2 Female NPT	Flange	1/4 Female NPT with RB Relief Valve
3DH□□-FNS8-C-T			



◎ 5-valve manifolds

Basic Ordering Number	Process	Instrument	Vent
5D□□-FNS8-C	1/2 Female NPT	Flange	1/4 Female NPT
5DH□□-FNS8-C			



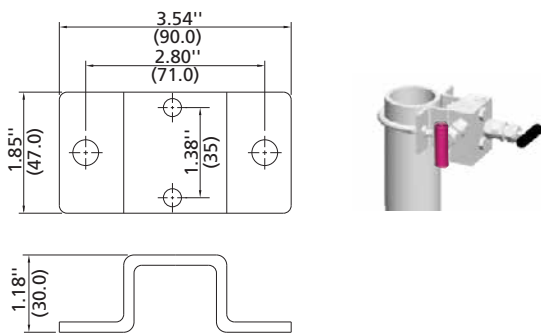
Dimensions shown are for 2D/3D/5D Series manifolds. For dimensions of 2DH/3DH/5DH Series manifolds, please contact FITOK Group or our authorized distributors.

Accessories

Manifold Mounting Bracket Kit

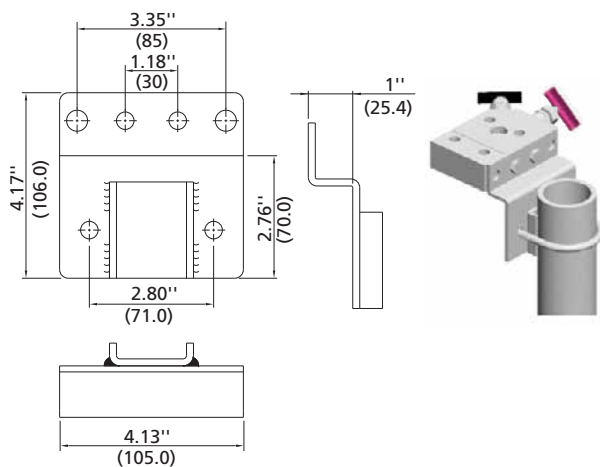
The integral assembly includes: bracket, U-bolts, bolts, gaskets, nuts

Basic Ordering Number	Mounting Manifold
SS-M2P-2BK	2R□□-XX-A, 2R□□-XX-L, 2RH□□-XX-A
SS-M2P-2BK-50	2R□□-XX-V
SS-M2P-2BK-17.5	3R□□-XX-V
SS-M2P-2BK-28.7	5R□□-XX-VB, 5R□□-XX-V

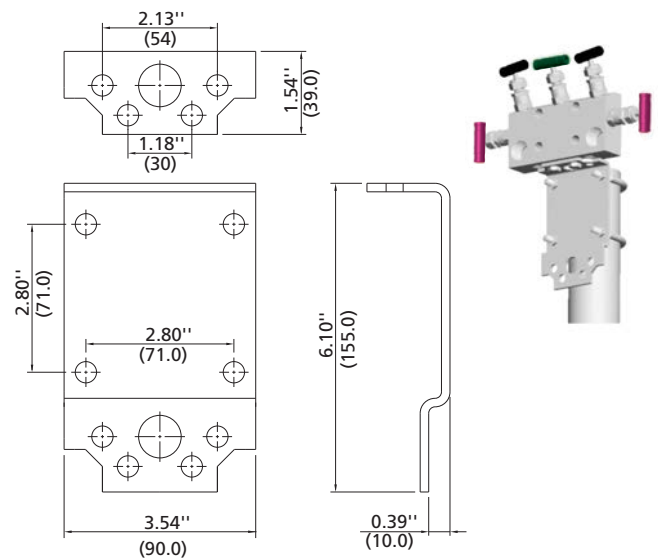


Dimensions shown are for manifold SS-M2P-2BK. For dimensions of other manifolds, please contact FITOK Group or our authorized distributors.

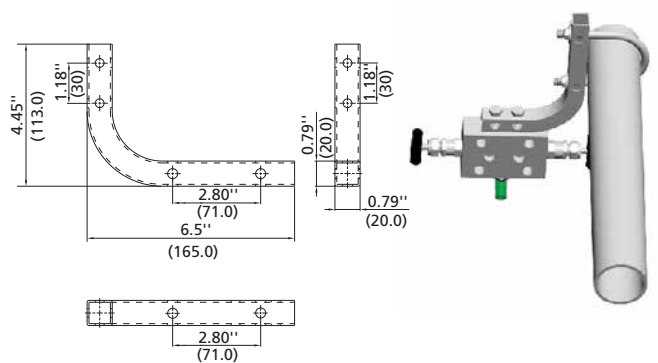
Basic Ordering Number	Mounting Manifold
SS-M2P-6BK	2D□□-XX-C, 3D□□-XX-C, 5D□□-XX-C, 2DH□□-XX-C, 3DH□□-XX-C, 5DH□□-XX-C



Basic Ordering Number	Mounting Manifold
SS-M2P-4BK	2D□□-XX-A, 2D□□-XX-L, 3D□□-XX-A, 3D□□-XX-L, 5D□□-XX-A, 5D□□-XX-AB, 5R□□-XX-L, 5R□□-XX-AB, 2DH□□-XX-A, 3DH□□-XX-A, 5DH□□-XX-A, 5RH□□-XX-AB



Basic Ordering Number	Mounting Manifold
SS-M2P-8BK	2D□□-XX-A, 3D□□-XX-A, 3D□□-XX-L, 2D□□-XX-C, 3D□□-XX-C, 5D□□-XX-C



For more installation information regarding other manifolds, please contact FITOK Group or our authorized distributors.

Kidney Flanges and Eccentric Flanges

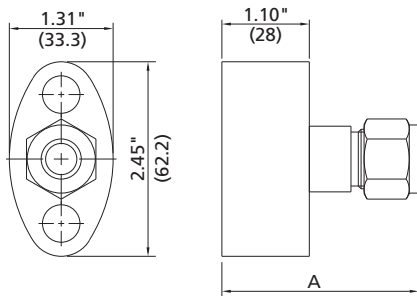
Features

- ⦿ Working temperature:
PTFE: -65°F to 450°F (-54°C to 232°C)
Graphite: -65°F to 1200°F (-54°C to 649°C)
- ⦿ integrally forged body
- ⦿ Standard material: A182 F316
- ⦿ The process connection of transmitter can be changed to other connection types

Types and Dimensions

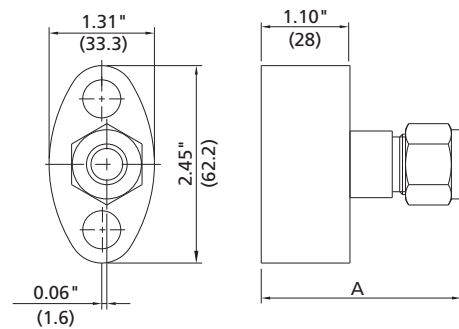
KF Series

Basic Ordering Number	Connection Type and Size	Dimension in. (mm)
		A
SS-KF-FNS4	1/4 Female FITOK	1.10 (28)
SS-KF-FNS8	1/2 Female FITOK	1.10 (28)
SS-KF-FL8	1/2 FITOK	2.48 (63)
SS-KF-PB8	1/2 PB	2.10 (53.3)

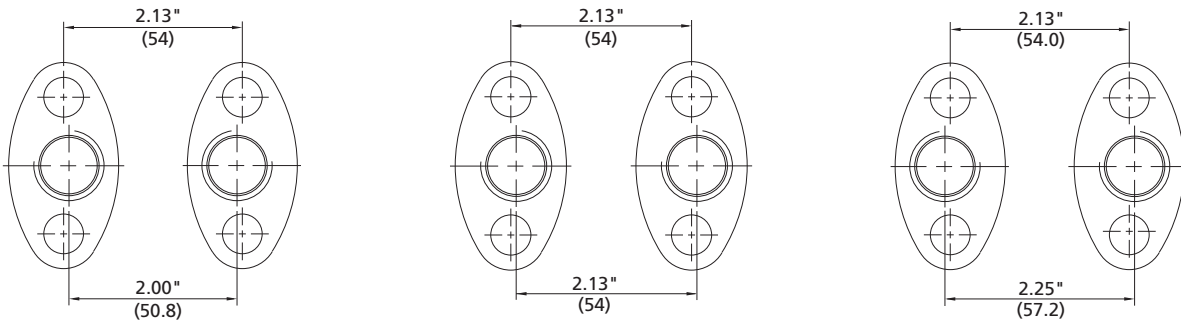


EF Series (Eccentric)

Basic Ordering Number	Connection Type and Size	Dimension in. (mm)
		A
SS-EF-FNS4	1/4 Female FITOK	1.10 (28)
SS-EF-FNS8	1/2 Female FITOK	1.10 (28)
SS-EF-FL8	1/2 FITOK	2.48 (63)
SS-EF-PB8	1/2 PB	2.10 (53.3)

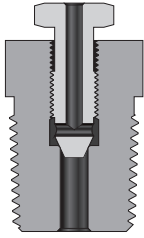


1. A kidney flange set contains a kidney flange, a PTFE flange seal ring and two 7/16 - 20 UNF high tensile bolts.
2. A whole eccentric flange set contains two eccentric flanges, two PTFE flange seal rings and four 7/16 - 20 UNF high tensile bolts.
3. The standard flange seal material is PTFE, graphite is an option. To order graphite flange seal material, add "- G" as a suffix.
4. A variety of center line distances can be obtained by using various combinations of kidney flanges sets: 2.0" (50.8 mm), 2.125" (54 mm) and 2.25" (57 mm).



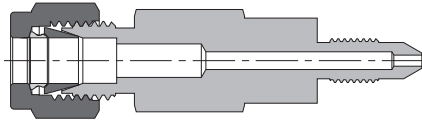
Bleed Valves

RB Series Bleed Valve RBSS-NS4 is used as standard test/vent valve.
For more information, refer to FITOK Bleed Valve RB Series.



Calibration Fittings

The calibration fittings allow rapid access to the cell for calibration.
Access to the port of DP transmitter requires removal of the vent port tap.
For more information, refer to FITOK Calibration Fittings catalog.



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FK-IC-GV-12-EN-210414