

# Rosemount™ Manifolds



- Factory assembled, leak-tested, and calibrated
- Full breadth of offering including integral, conventional, and in-line designs
- Integral design enables “flangeless” valve integration
- 2-, 3-, and 5-valve configurations
- Compact, lightweight design
- Easy in-process calibration
- Direct-mount capability

# Selection Guide

## Rosemount 305 Integral Manifold

See “Options” on page 28.

- Assembles directly to transmitter, eliminating need for flange
- 2-, 3-, and 5-valve configuration
- Available in coplanar and traditional styles
- Compact, lightweight assembly
- Factory assembled, seal-tested, and calibrated
- 50% fewer leak points than conventional transmitter/flange/manifold interface



Rosemount 305 Integral Manifold - Coplanar™ Style

## Rosemount 306 In-line Manifold

See “Options” on page 28.

- Assembled directly to in-line pressure transmitters
- Block-and-bleed and 2-valve configurations
- Male or female threaded NPT process connection



Rosemount 306 In-line Manifold

## Rosemount 304 Conventional Manifold

See “Options” on page 28.

- Attaches to transmitter flange
- 2-, 3-, and 5-valve configurations
- Traditional (Flange × Flange, Flange × NPT) and wafer styles
- Factory assembled, seal-tested, and calibrated



Rosemount 304 Conventional Manifold - Traditional Style



Rosemount 304 Conventional Manifold - Wafer Style

## Contents

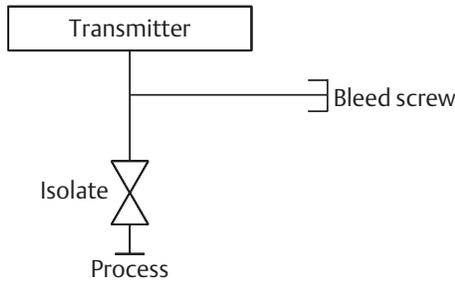
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# Valve Configuration

## Block-and-bleed

The block-and-bleed configuration is available on the Rosemount 306 Manifold for use with in-line gage and absolute pressure transmitters. A single block valve provides instrument isolation and a plug provides drain/vent capabilities.

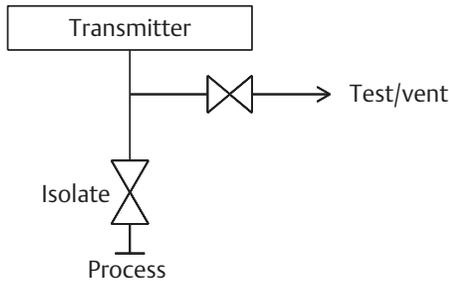
### 306 Manifold



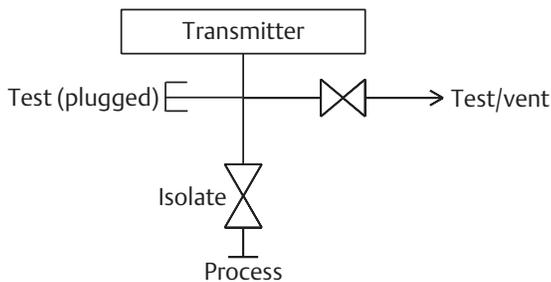
## Two-valve

The 2-valve configuration is available on Rosemount 305, 306, and 304 Manifolds for use with absolute and gage pressure transmitters. A block valve provides instrument isolation and a drain/vent valve allows venting, draining, or calibration.

### 305 and 306 Manifolds



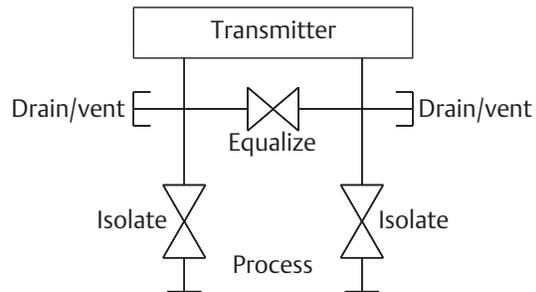
### 304 Manifold



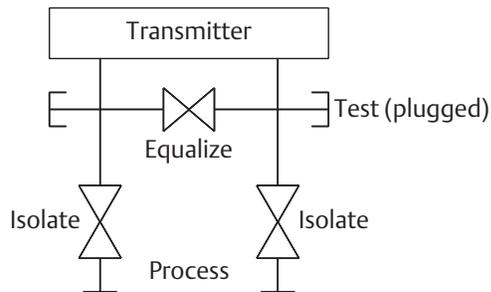
## Three-valve

The 3-valve configuration is available on Rosemount 305 and 304 Manifolds for use with differential pressure and multi-variable transmitters. Two block valves provide instrument isolation, and one equalize valve is positioned between the high and low transmitter process connections.

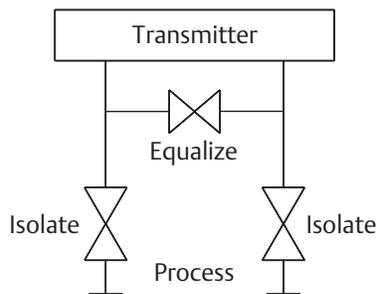
### 305 Manifold



### 304 (Traditional) Manifold



### 304 (Wafer) Manifold



**Note**

Test/vents receive plastic caps to protect threaded connections unless otherwise noted.

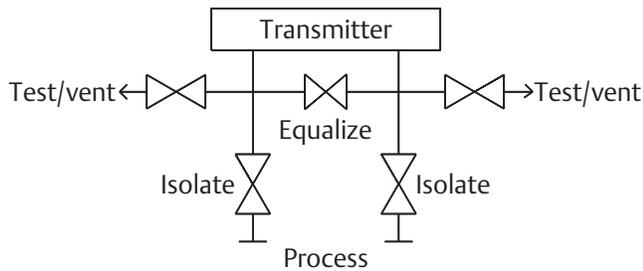
**Note**

Test (plugged) connections receive 1/4-in. NPT plugs unless otherwise noted.

### Five-valve

The 5-valve configuration is available on Rosemount 305 and 304 Manifolds for use with differential pressure and multivariable transmitters. Two block valves provide instrument isolation and one equalize valve is positioned between the high and low transmitter process connections. In addition, two drain/vent valves allow for controlled venting, 100% capture of vented or drained process, and simplified in-process calibration capability.

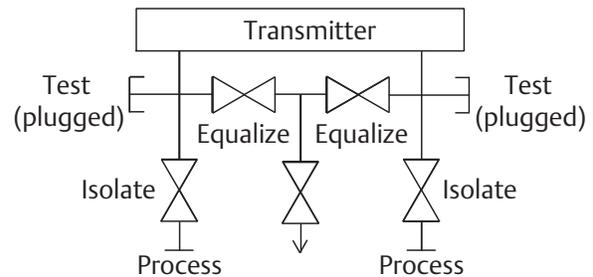
#### 305 Manifolds and 304 (Wafer)



### Five-valve natural gas

The 5-valve natural gas configuration is available on the Rosemount 305 and 304 Manifolds for use with differential pressure and multivariable transmitters. Two block valves provide instrument isolation and a single drain/vent valve allows for controlled venting, 100% capture of vented or drained process, and simplified in-process calibration capability. In addition, two equalize valves provide extra protection from leaking to ensure DP signal integrity.

#### 305 Manifolds and 304 (Traditional)




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**Note**

Test/vents receive plastic caps to protect threaded connections unless otherwise noted.

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**Note**

Test (plugged) connections receive 1/4-in. NPT plugs unless otherwise noted.

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## Ordering Information

Rosemount Manifolds can be ordered as a stand-alone product or as an integrated assembly attached to a transmitter.

### Stand-alone manifold

1. Reference the “[Selection Guide](#)” on [page 2](#) for assistance on choosing the type of manifold.
2. Specify a completed model number by referencing the applicable ordering table for the selected manifold type:
  - Rosemount 305 Integral Manifold, see [page 6](#).
  - Rosemount 306 In-line Manifold, see [page 8](#).
  - Rosemount 304 Conventional Manifold, see [page 10](#).

### Transmitter/manifold assembly

1. Specify a completed Rosemount transmitter model number by referencing the applicable product data sheet.
2. Specify a completed manifold model number by referencing the applicable ordering table for the selected manifold type:
  - Rosemount 305 Integral Manifold, see [page 6](#).
  - Rosemount 306 In-line Manifold, see [page 8](#)
  - Rosemount 304 Conventional Manifold, see [page 10](#).
3. Verify the transmitter model number contains the correct “Process Connection” code or “Manifold Option” code for the desired transmitter manifold assembly (see [Table 1](#)).

**Table 1. Ordering Codes for a Transmitter/Manifold Assembly**

Transmitter	Manifold	Process connection code	“Manifold” option code
3051S	305	A11	N/A
	306	A11	N/A
	304	A12	N/A
3051/2051	305	N/A	S5
	306	N/A	S5
	304	N/A	S6
2088	305	N/A	N/A
	306	N/A	S5
	304	N/A	N/A

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 12 for more information on material selection.

**Table 2. Rosemount 305 Integral Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	Product description			
0305	Integral Manifold			
<b>Manufacturer</b>				
R	Rosemount			★
<b>Manifold style</b>				
C	Coplanar			★
T	Traditional			★
M	Traditional (DIN-compliant flange)			★
<b>Manifold type</b>				
2	2-valve			★
3	3-valve			★
5 <sup>(1)</sup>	5-valve			★
6 <sup>(2)</sup>	5-valve natural gas metering pattern			★
7 <sup>(2)(3)</sup>	2-valve (per ASME B31.1 [ANSI] power and piping code)			
8 <sup>(2)(3)</sup>	3-valve (per ASME B31.1 [ANSI] power and piping code)			
9 <sup>(2)(3)</sup>	5-valve (per ASME B31.1 [ANSI] power and piping code)			
<b>Body</b>		<b>Bonnet</b>	<b>Stem and tip/ball</b>	
2	316 SST/316L SST	316 SST	316 SST	
3 <sup>(4)</sup>	Alloy C-276	Alloy C-276	Alloy C-276	
4	Alloy 400	Alloy 400	Alloy 400/K-500	
<b>Process connection style</b>				
A <sup>(5)</sup>	1/4–18 NPT female			★
B <sup>(5)</sup>	1/2–14 NPT female			★
<b>Packing material</b>				
1 <sup>(7)</sup>	PTFE			★
2 <sup>(8)</sup>	Graphite-based			
<b>Valve seat</b>				
1	Integral			★
5	Soft delrin (only available with natural gas metering pattern)			★

**Options**

Extended product warranty			
WR3	3-year limited warranty		★
WR5	5-year limited warranty		★

**Table 2. Rosemount 305 Integral Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

<b>Mounting brackets</b>		
B1	Bracket for 2-in. pipe mounting, CS bolts	★
B3 <sup>(9)</sup>	Flat bracket for 2-in. pipe mounting, CS bolts	★
B4	SST mounting bracket for 2-in. pipe mounting, 300 SST bolts	★
B7	B1 bracket with 316 SST bolts	★
B9 <sup>(9)</sup>	B3 bracket with 316 SST bolts	★
BA	316 SST B1 bracket with 316 SST bolts	★
BC <sup>(9)</sup>	316 SST B3 bracket with 316 SST bolts	★
BE	316 SST B4 bracket with 316 SST bolts	★
<b>Bolt materials</b>		
L4 <sup>(10)</sup>	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★
<b>Cleanings<sup>(11)</sup></b>		
P2	Cleaning for special services	★
<b>Material recommendations for NACE<sup>®(4)(12)</sup></b>		
SG	Sour gas (meets NACE MR 0175/ISO 15156, MR 0103)	★
<b>Adapters<sup>(13)</sup></b>		
DF	1/2–14 NPT female flange adapter	★
DQ	12 mm ferrule tube flange adapter	
<b>Process flange bolting connection<sup>(14)</sup></b>		
HK	10 mm (M10) process flange bolting connection	★
HL	12 mm (M12) process flange bolting connection	★
<b>Typical coplanar integral manifold model number: 305 R C 3 2 B 1 1 B4</b>		

1. Not available with traditional manifold style T.
2. Only available with coplanar manifold style code C.
3. Only available with 316 SST materials of construction code 2 and Graphite-based backing code 2.
4. Materials of construction comply with recommendations per NACE MR 0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
5. Only available with traditional manifold style codes T and M.
6. Not available with traditional manifold style code M.
7. Includes PTFE tape on drain/vent valves and plugs.
8. Includes graphite tape on drain/vent valves and plugs.
9. Not compatible with the Rosemount 3095 Transmitter.
10. Not available with ASME B31.1 manifold type codes 7, 8, and 9.
11. Not available with graphite-based packing material code 2.
12. Only allowed with material of construction code 2.
13. Only allowed with traditional manifold style codes T and M. Not allowed with graphite-based packing code 2.
14. Only available with traditional manifold style code M.

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 12 for more information on material selection.

**Table 3. Rosemount 306 Pressure Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	Product description			
0306	Pressure Manifold			
<b>Manufacturer</b>				
R	Rosemount			★
<b>Manifold style</b>				
T	Threaded			★
<b>Manifold type</b>				
1	Block-and-bleed			★
2	2-valve			★
3 <sup>(1)</sup>	2-valve (per ASME B31.1 power piping code)			
<b>Body</b>		<b>Bonnet</b>	<b>Stem and tip/ball</b>	
2	316 SST/316L SST	316 SST	316 SST	
3 <sup>(2)(3)</sup>	Alloy C-276	Alloy C-276	Alloy C-276	
<b>Process connection</b>				
AA	1/2–14 male NPT process connection for In-line transmitter			★
AW	1/2–14 male NPT process connection for Wireless Pressure Gauge			★
BA <sup>(2)</sup>	1/2–14 female NPT process connection for In-line transmitter			★
BW <sup>(2)</sup>	1/2–14 female NPT process connection for Wireless Pressure Gauge			★
<b>Packing material</b>				
1 <sup>(4)</sup>	PTFE			★
2 <sup>(5)</sup>	Graphite-based			
<b>Valve seat</b>				
1	Integral			★

**Options**

<b>Extended product warranty</b>				
WR3	3-year limited warranty			★
WR5	5-year limited warranty			★
<b>Cleanings<sup>(6)</sup></b>				
P2	Cleaning for special services			

**Table 3. Rosemount 306 Pressure Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Material recommendations for NACE <sup>(3)(7)</sup>		
SG	Sour gas (meets NACE MR 0175/ISO 15156, MR 0103)	★
<b>Typical integral manifold model number: 306 R T 2 2 BA 1 1</b>		

1. Only available with 316 SST materials of construction and graphite-based packing.
2. Not available with block-and-bleed manifold type
3. Materials of Construction comply with recommendations per NACE MR0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.
4. Includes PTFE tape on drain/vent valves and plugs.
5. Includes graphite tape on plugs.
6. Not available with graphite-based packing material code 2.
7. Only allowed with material of construction code 2.

Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See page 12 for more information on material selection.

**Table 4. Rosemount 304 Conventional Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

Model	Product description				
0304	Conventional Manifold				
<b>Manufacturer</b>					
R	Rosemount				★
<b>Manifold style</b>					
T	Traditional (Flange × Flange or Flange × NPT)				★
W <sup>(1)</sup>	Wafer				
<b>Manifold type</b>					
2 <sup>(2)</sup>	2-valve				★
3	3-valve				★
5 <sup>(3)</sup>	5-valve				★
6 <sup>(2)</sup>	5-valve natural gas metering pattern				★
7 <sup>(2)(4)</sup>	2-valve (per ASME B31.1 [ANSI] power and piping code)				
8 <sup>(2)(4)</sup>	3-valve (per ASME B31.1 [ANSI] power and piping code)				
<b>Body</b>	<b>Bonnet</b>	<b>Stem</b>	<b>Tip</b>		
2	316 SST/316L SST	316 SST	316 SST	316 SST	★
5	CS	316 SST	316 SST	316 SST	★
<b>Process connection style</b>					
B	1/2–14 NPT				★
F <sup>(2)</sup>	Flanged				★
<b>Packing material</b>					
1 <sup>(5)</sup>	PTFE				★
2 <sup>(1)</sup>	Graphite-based				
<b>Bolts</b>					
1	For assembly to 2051/3051 traditional flange				★
2	For assembly to 2051/3051 DIN compliant traditional flange				★
3	For assembly to 2051/3051 coplanar flange				★

**Table 4. Rosemount 304 Conventional Manifold Ordering Information**

★ The Standard offering represents the most common options. The starred options (★) should be selected for best delivery. The Expanded offering is subject to additional delivery lead time.

**Options**

<b>Extended product warranty</b>		
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★
<b>Mounting brackets</b>		
VC <sup>(2)</sup>	Manifold heavy duty mounting bracket, CS for traditional style	★
VS <sup>(2)</sup>	Manifold heavy duty mounting bracket, 316 SST for traditional style	★
B4 <sup>(3)</sup>	Manifold SST mounting bracket for 2-in. pipe mount with series 300 SST bolts for wafer style	★
<b>Adapters<sup>(6)</sup></b>		
DF	1/2–14 NPT Female Flange Adapter	★
DT	1/2-in. ferrule tube flange adapter	★
DQ	12 mm ferrule tube flange adapter	★
<b>Bolt material</b>		
L4 <sup>(7)</sup>	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★
<b>Material recommendations for NACE<sup>(1)(8)</sup></b>		
SG	Sour gas (meets NACE MR 0175/ISO 15156, MR 0103)	★
<b>Cleanings<sup>(9)</sup></b>		
P2	Cleaning for special service	
<b>Heater block kits<sup>(10)</sup></b>		
SB	Steam block kit, 1/4-in. NPT connection	★
<b>Typical model number: 0304 RT 3 2 B 1 1 VS</b>		

1. Only allowed with material of construction code 2.
2. Not available with wafer manifold style code W.
3. Not available with traditional manifold style code T.
4. Only available with 316 SST materials of construction code 2 and graphite-based packing code 2.
5. Includes PTFE tape on drain/vent valves and plugs.
6. Only allowed with both manifold style code T and process connection code F. Not allowed with Graphite-based packing code 2.
7. Not available with manifold type codes 7, 8.
8. Materials of construction comply with recommendations per NACE MR 0175/ISO 1516 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR 0103 for sour refining environments.
9. Not available with Graphite-based packing material code 2.
10. Not available with manifold type code 6.

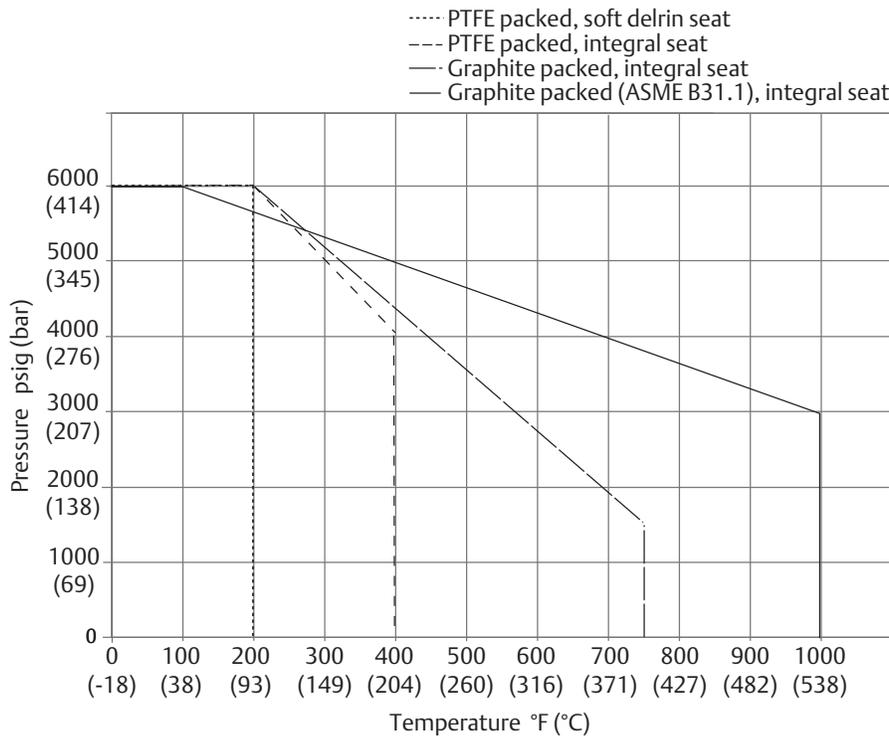
# Specifications

## Material selection

Emerson™ Process Management provides a variety of Rosemount product with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser’s sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

## Pressure and temperature ratings

**Figure 1. Rosemount 305 Integral Manifolds**

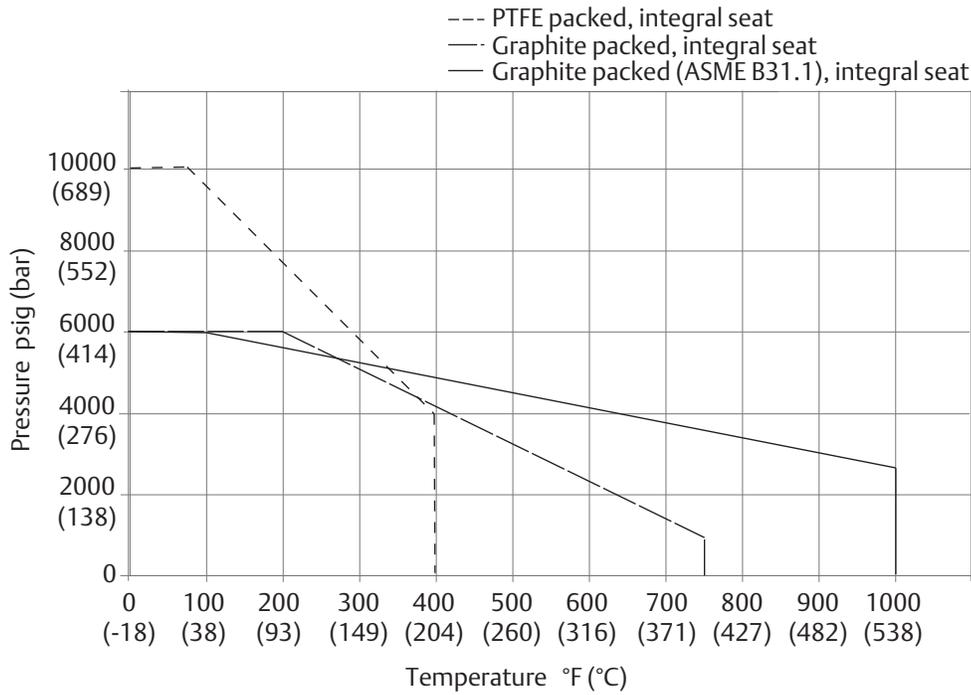


**Table 5. Rosemount 305 Integral Manifolds<sup>(1)</sup>**

Packing	Seat	Pressure and temperature ratings
PTFE	Integral	6092 psi @ 200 °F (420 bar @ 93 °C) 4000 psi @ 400 °F (276 bar @ 204 °C)
PTFE	Soft delrin	6092 psi @ 200 °F (420 bar @ 38 °C)
Graphite	Integral	6092 psi @ 200 °F (420 bar @ 93 °C) 1500 psi @ 750 °F (103 bar @ 399 °C)
Graphite (ASME B31.1)	Integral	6092 psi @ 100 °F (420 bar @ 38 °C) 2915 psi @ 1000 °F (201 bar @ 538 °C)

1. Except option HK:  
 PTFE, integral seat: 2324 psi @ 200 °F (160 bar @ 93 °C), 1680 psi @ 400 °F (116 bar @ 204 °C)  
 Graphite, integral seat: 2324 psi @ 200 °F (160 bar @ 93 °C), 1125 psi @ 750 °F (78 bar @ 399 °C)

**Figure 2. Rosemount 306 In-line Manifolds**



**Table 6. Rosemount 306 In-line Manifolds**

Packing	Seat	Pressure and temperature ratings
PTFE	Integral	10000 psi @ 85 °F (689 bar @ 29 °C) 4000 psi @ 400 °F (276 bar @ 204 °C)
Graphite	Integral	6000 psi @ 200 °F (414 bar @ 93 °C) 1500 psi @ 750 °F (103 bar @ 399 °C)
Graphite (ASME B31.1)	Integral	6000 psi @ 100 °F (414 bar @ 38 °C) 2915 psi @ 1000 °F (201 bar @ 538 °C)

Figure 3. Rosemount 304 Conventional Manifolds

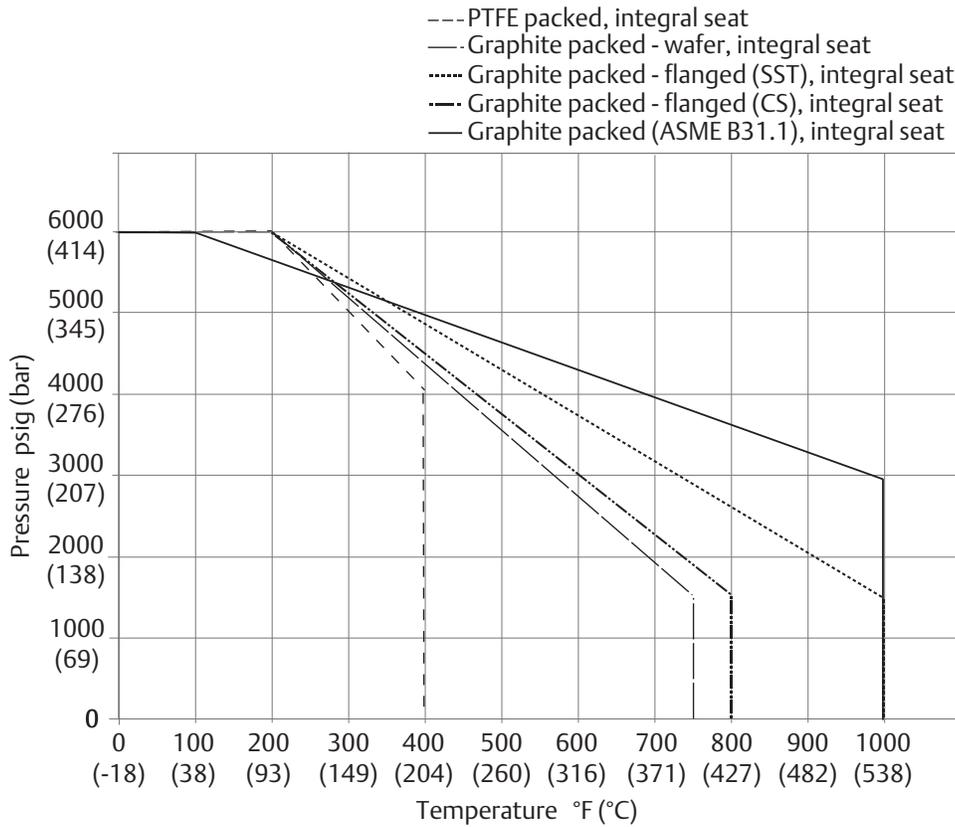


Table 7. 304 Conventional Manifolds

Packing	Seat	Pressure and temperature ratings
PTFE	Integral	6000 psi @ 200 °F (414 bar @ 93 °C) 4000 psi @ 400 °F (276 bar @ 204 °C)
Graphite - wafer	Integral	6000 psi @ 200 °F (414 bar @ 93 °C) 1500 psi @ 750 °F (103 bar @ 399 °C)
Graphite - flanged (SST)	Integral	6000 psi @ 200 °F (414 bar @ 93 °C) 1500 psi @ 1000 °F (103 bar @ 538 °C)
Graphite - flanged (CS)	Integral	6000 psi @ 200 °F (414 bar @ 93 °C) 1500 psi @ 800 °F (103 bar @ 427 °C)
Graphite (ASME B31.1)	Integral	6000 psi @ 100 °F (414 bar @ 38 °C) 2915 psi @ 1000 °F (201 bar @ 538 °C)

## Process connections

**Table 8. Rosemount 305 Integral Manifold**

Style	Connection
Coplanar	1/2-14 female NPT
Traditional	1/4-18 female NPT (process adapters optional)
<b>Optional process adapters</b>	
1/2-14 female NPT flange adapter	
12 mm ferrule tube flange adapter	

**Table 9. Rosemount 306 In-line Manifold**

Style	Connection
Block-and-bleed	1/2-14 male NPT
2-valve	1/2-14 NPT (male or female)

**Table 10. Rosemount 304 Conventional Manifold**

Style	Connection
Flange by pipe	1/2-14 female NPT
Flange by flange	2 1/8-in. (54 mm) center-to-center connection (process adapters required)
Wafer	1/2-14 female NPT
<b>Process adapters</b>	
1/2-14 female NPT flange adapter	
1/2-in. ferrule tube flange adapter	
12 mm ferrule tube flange adapter	

## Instrument connections

**Table 11. Manifold - Transmitter Interface**

Model	Connection
Rosemount 305 Integral Manifold	Mounted directly to coplanar sensor module of transmitter, 1.3-in. (287 mm) center-to-center process isolators
Rosemount 306 In-line Manifold	1/2-14 male NPT
Rosemount 304 Conventional Manifold	Mounted to traditional transmitter flange, 2 1/8-in. (54 mm) center-to-center connection per IEC 61518, Type B shut-off device (without spigot)

## Test/vent connections

1/4-18 female NPT

## Manifold bolts

Standard material is plated Carbon Steel per ASTM A449, Type 1

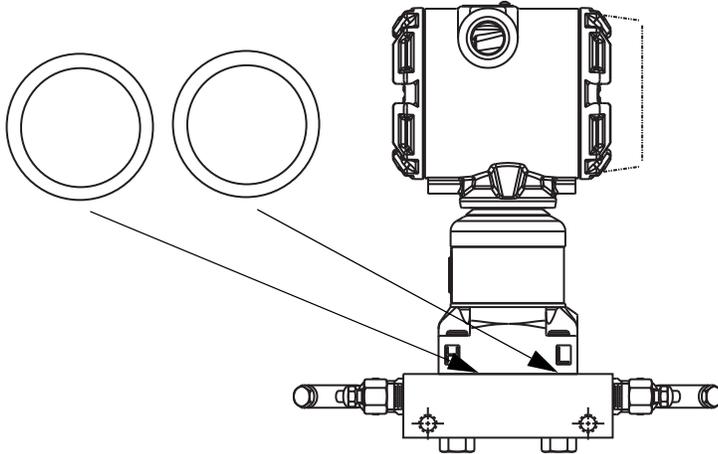
Alternative bolt materials offered through option codes:

- L4 for Austenitic 316 Stainless Steel bolts
- L5 for ASTM A193, Grade B7M Bolts
- L8 for ASTM A193, Class 2, Grade B8M bolts

## O-rings

**Figure 4. Rosemount 305 Integral Manifold**

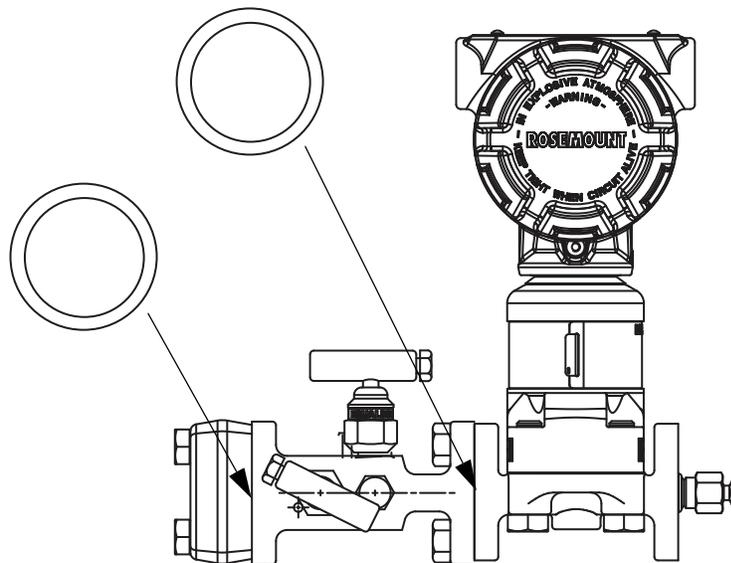
Sensor module-to-manifold O-rings  
Specified in the transmitter model number.



**Figure 5. Rosemount 304 Conventional Manifold**

Manifold-to-flange O-rings  
Same material as specified by manifold "Packing Material" selection.<sup>(1)</sup>

Flange adapter O-rings  
Glass-filled PTFE



1. Available in packing material code 1 (PTFE) or code 2 (Graphite).

## Materials of construction

### Process wetted

**Table 12. Rosemount 305 Integral Manifold**

Component	SST	Alloy C-276	SST with SG option
Body	316 SST/ 316L SST	Alloy C-276	316 SST/ 316L SST
Ball/tip	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276
Stem	316 SST	Alloy C-276	Alloy C-276
Packing	PTFE/ Graphite	PTFE/ Graphite	PTFE/ Graphite
Bonnet	316 SST	Alloy C-276	316 SST
Pipe plug	316 SST	Alloy C-276	316 SST
Drain/ vent valve	316 SST	Alloy C-276	Alloy C-276

**Table 13. Rosemount 306 In-line Manifold**

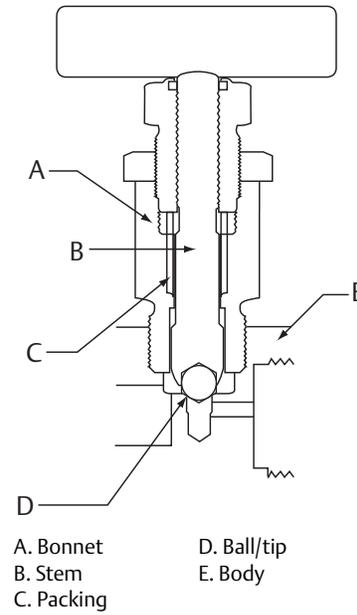
Component	SST	Alloy C-276	SST with SG option
Body	316 SST/ 316L SST	Alloy C-276	316 SST/ 316L SST
Ball/tip	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276
Stem	316 SST	Alloy C-276	Alloy C-276
Packing	PTFE/ Graphite	PTFE/ Graphite	PTFE/ Graphite
Bonnet	316 SST	Alloy C-276	316 SST
Pipe plug	316 SST	Alloy C-276	316 SST
Bleed screw	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276

**Table 14. Rosemount 304 Conventional Manifold**

Component	SST	CS	SST with SG option
Body	316 SST/ 316L SST	CS	316 SST/ 316L SST
Ball/tip	316 SST/ 316Ti SST	316 SST	Alloy C-276
Stem	316 SST	316 SST	Alloy C-276
Packing	PTFE/ Graphite	PTFE	PTFE/ Graphite
Bonnet	316 SST	316 SST	316 SST
Pipe plug	316 SST	CS	316 SST

### Typical

**Figure 6. Typical Rosemount Manifold Valve**



## Estimated weight

**Table 15. Rosemount 305 Integral Manifold**

Description	Weight
2-valve coplanar	4.5 lbs (2.0 kg)
2-valve traditional	6.0 lbs (2.7 kg)
3-valve coplanar	4.7 lbs (2.1 kg)
3-valve traditional	6.0 lbs (2.7 kg)
5-valve coplanar	6.5 lbs (3.0 kg)

**Table 16. Rosemount 306 In-line Manifold**

Description	Weight
Block-and-bleed	1.1 lbs (0.5 kg)
2-valve	2.5 lbs (1.1 kg)

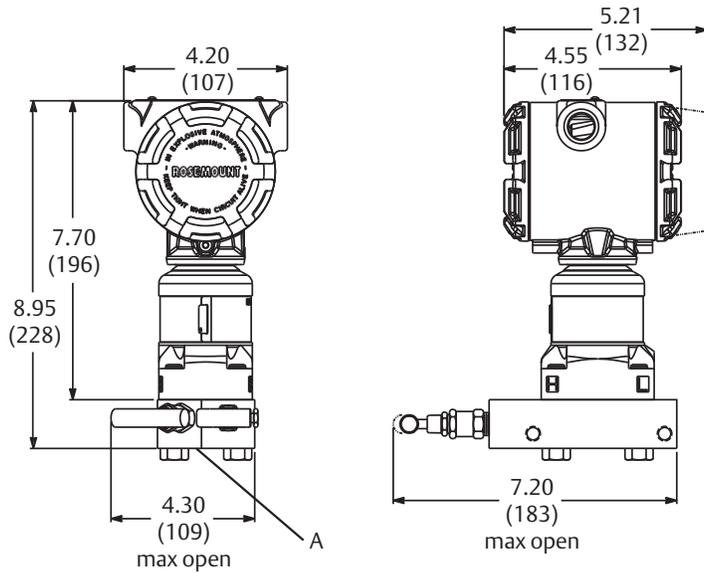
**Table 17. Rosemount 304 Conventional Manifold**

Description	Weight
2-valve traditional flange × NPT	5.0 lbs (2.3 kg)
2-valve traditional flange × flange	5.5 lbs (2.5 kg)
3-valve traditional flange × NPT	5.2 lbs (2.4 kg)
3-valve traditional flange × flange	5.7 lbs (2.6 kg)
3-valve wafer flange × NPT	4.0 lbs (1.8 kg)
5-valve wafer flange × NPT	5.7 lbs (2.6 kg)
5-valve traditional flange × NPT	5.7 lbs (2.6 kg)
5-valve traditional flange × flange	5.7 lbs (2.6 kg)

# Dimensional Drawings

## Rosemount 305 Manifold

**Figure 7. Rosemount 305R 2-Valve Coplanar Style Manifold**

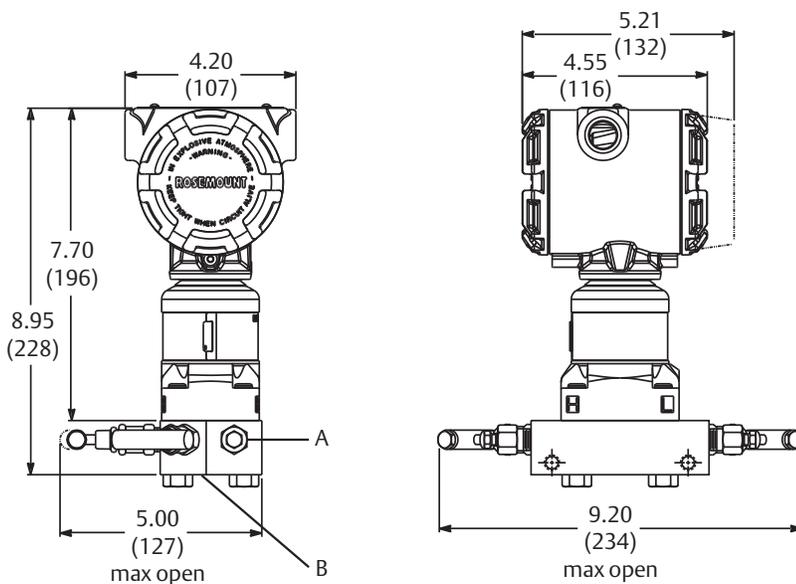


A. 1/2–14 NPT on manifold for process connection, 1/4–18 NPT for test/vent connection

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 8. Rosemount 305R 3-Valve Coplanar Style Manifolds**



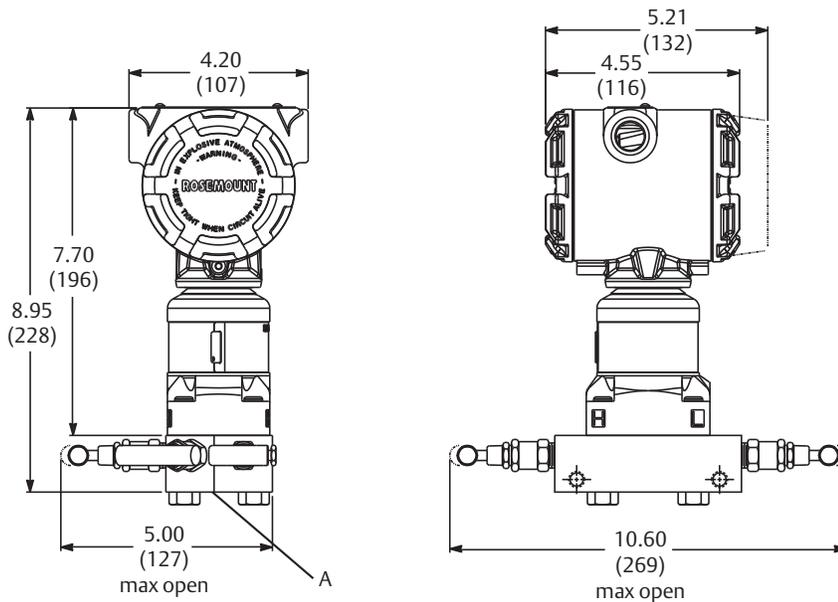
A. Drain/vent valve

B. 1/2–14 NPT on manifold for process connections, 2 1/8-in. center-to-center

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 9. Rosemount 305R 5-Valve Coplanar Style Manifold**

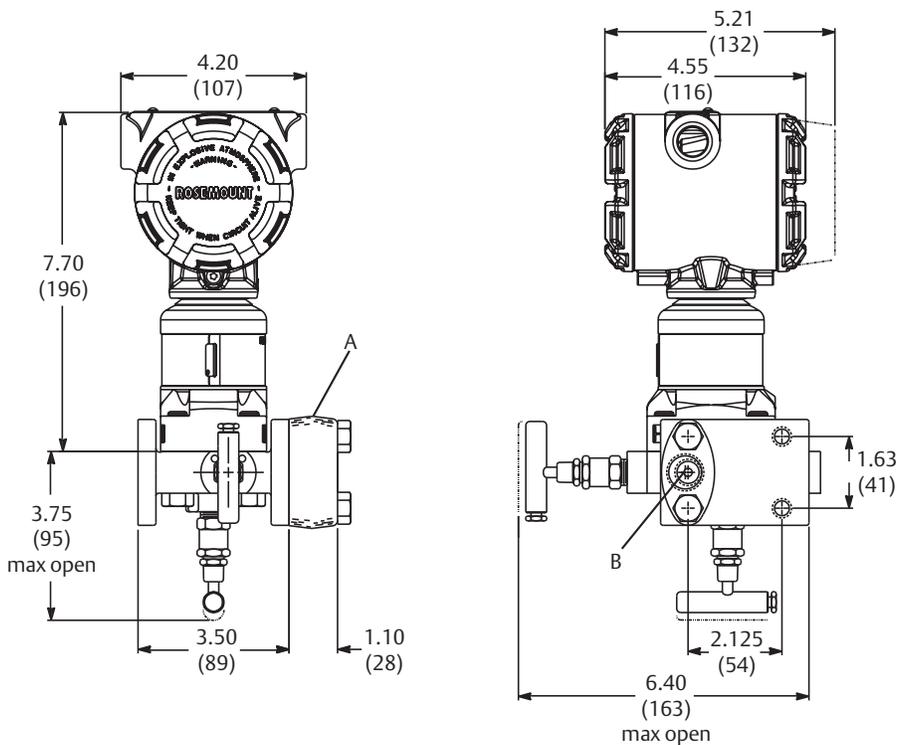


A. 1/2-14 NPT on manifold for process connections, 2 1/8-in. center-to-center, 1/4-18 NPT for test/vent connection

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 10. Rosemount 305RT 2-Valve Traditional Style Manifold**



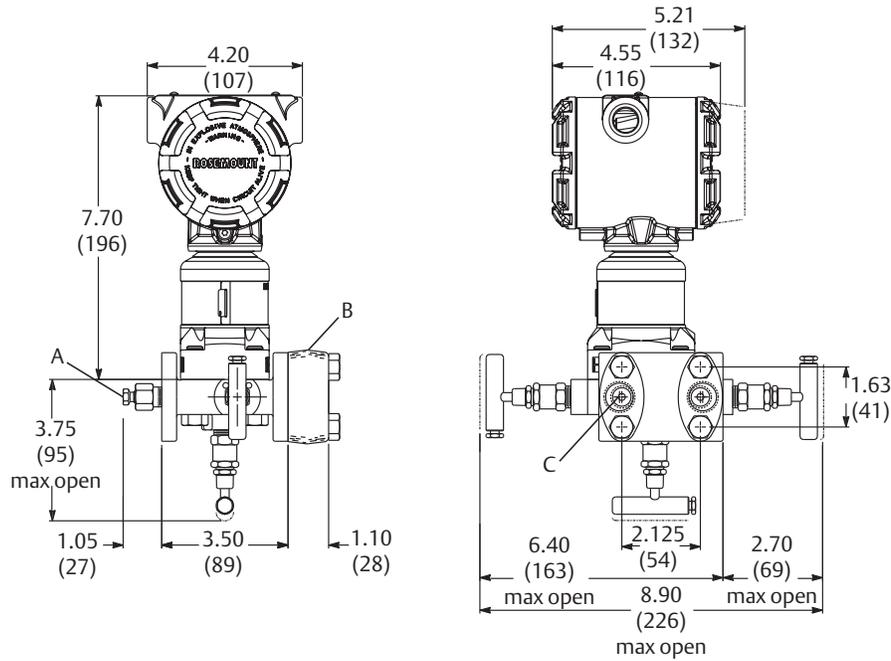
A. 1/2-14 NPT on optional process adapter

B. 1/4-18 NPT on traditional manifold for process connection without the use of a process adapter

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 11. Rosemount 305RT 3-Valve Traditional Style Manifold**

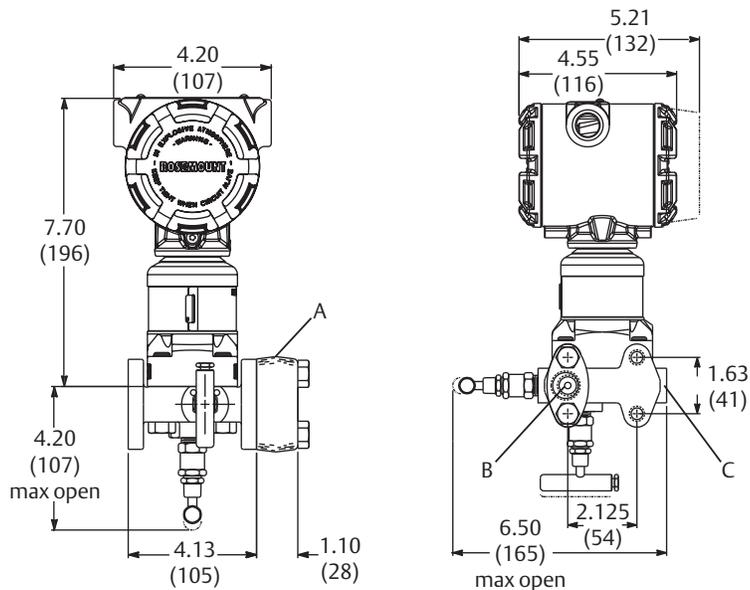


- A. Drain/vent valve
  - B. 1/2–14 NPT on optional process adapter<sup>(1)</sup>
  - C. 1/4–18 NPT on traditional manifold for process connections without the use of process adapters
- Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

1. Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

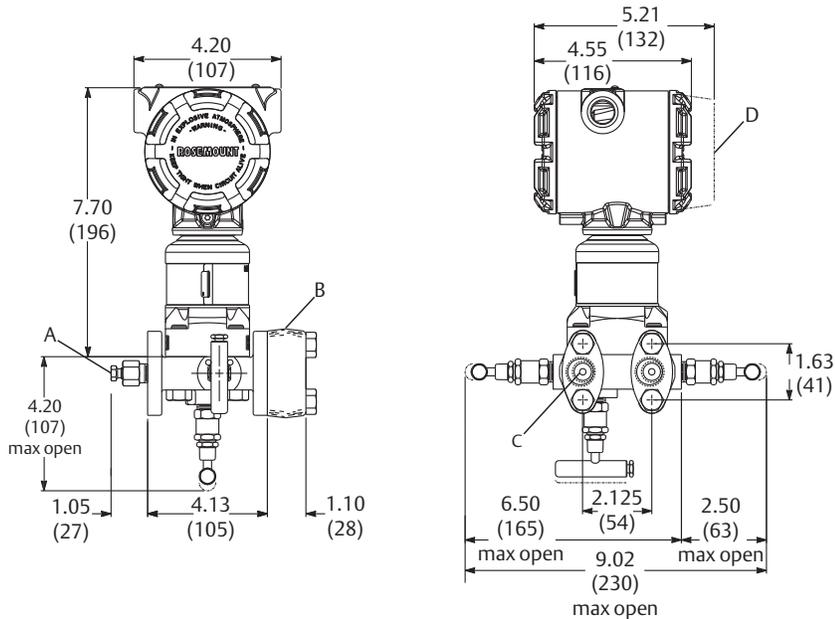
**Figure 12. Rosemount 305RM 2-Valve Traditional Style Manifold**



- A. 1/2–14 NPT on optional process adapter
  - B. 1/4–18 NPT on traditional manifold for process connection without the use of a process adapter
  - C. 1/4–18 NPT vent connection
- Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 13. Rosemount 305RM 3-Valve Traditional Style Manifold**



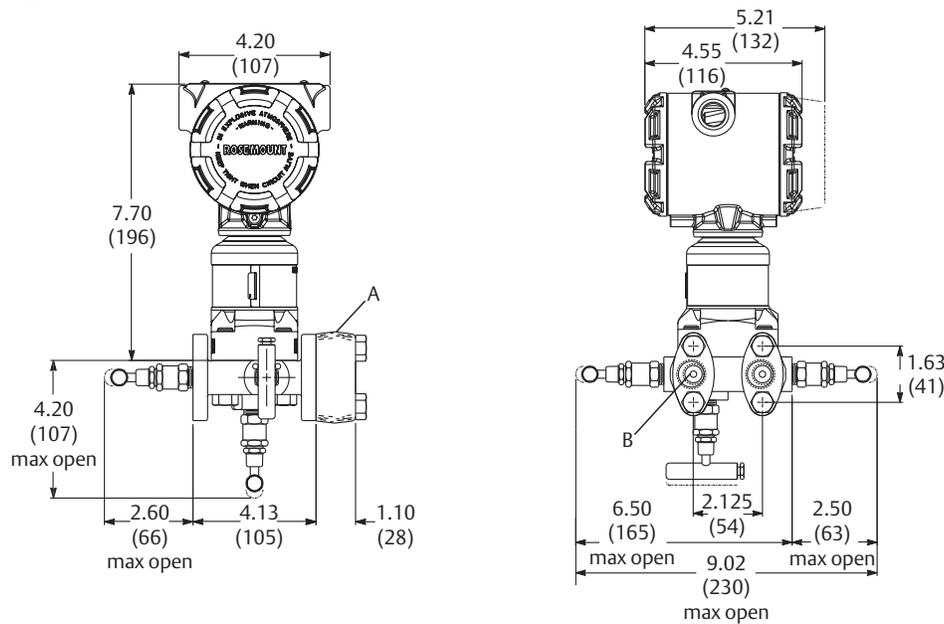
- A. Drain/vent valve
- B. 1/2–14 NPT on optional process adapter<sup>(1)</sup>
- C. 1/4–18 NPT on traditional manifold for process connections without the use of process adapters
- D. 0.75 (19) clearance for cover removal

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

1. Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

**Figure 14. Rosemount 305RM 5-Valve Traditional Style Manifold**



- A. 1/2–14 NPT on optional process adapter<sup>(1)</sup>
- B. 1/4–18 NPT on traditional manifold for process connections without the use of process adapters

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

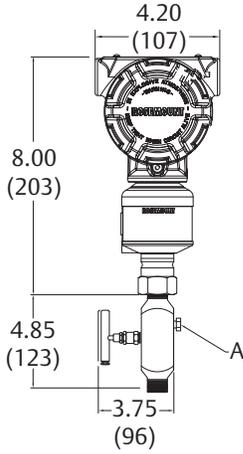
Dimensions are in inches (millimeters).

1. Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

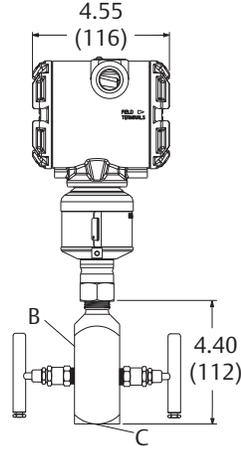
## Rosemount 306 Manifold

Figure 15. Rosemount 306R Pressure Style Manifold (3051S\_T Shown)<sup>(1)</sup>

**Block-and-bleed style**



**2-valve style**



A. Bleed screw

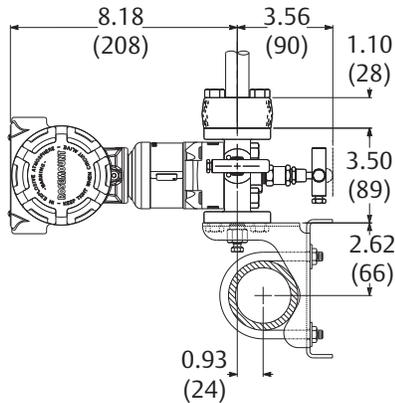
C. 1/2-14 NPT female NPT process connection (code BA)

B. 1/4-in. vent connection—pipe plug supplied with manifold, but not installed at factory (pipe plug supplied loose)

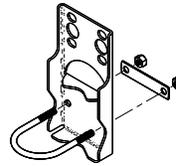
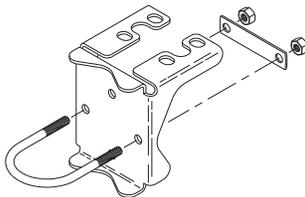
Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

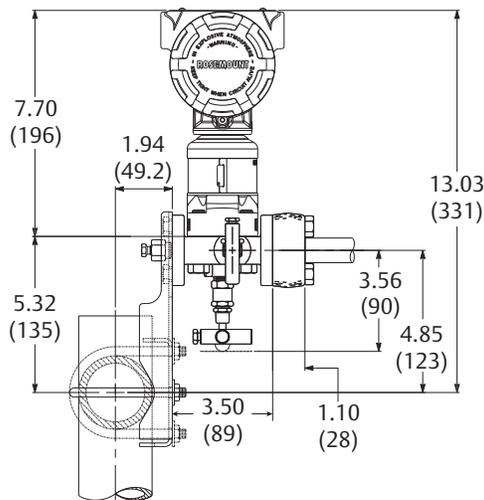
Figure 16. Traditional Manifold with Optional Brackets for 2-in. Pipe Mounting



**B1/B7/BA mounting bracket**



**B3/B9/BC mounting bracket**

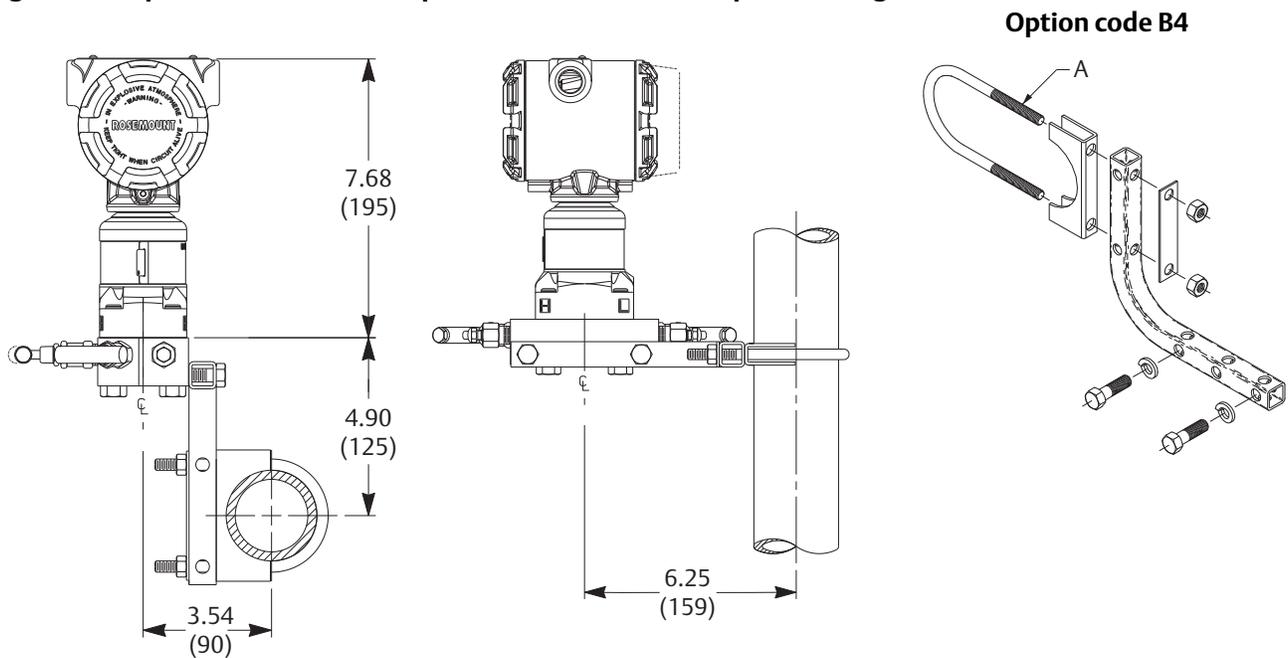


Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

1. Manifold valve orientation may vary with respect to transmitter mounting holes.

Figure 17. Coplanar Manifold with Optional Bracket for 2-in. Pipe Mounting

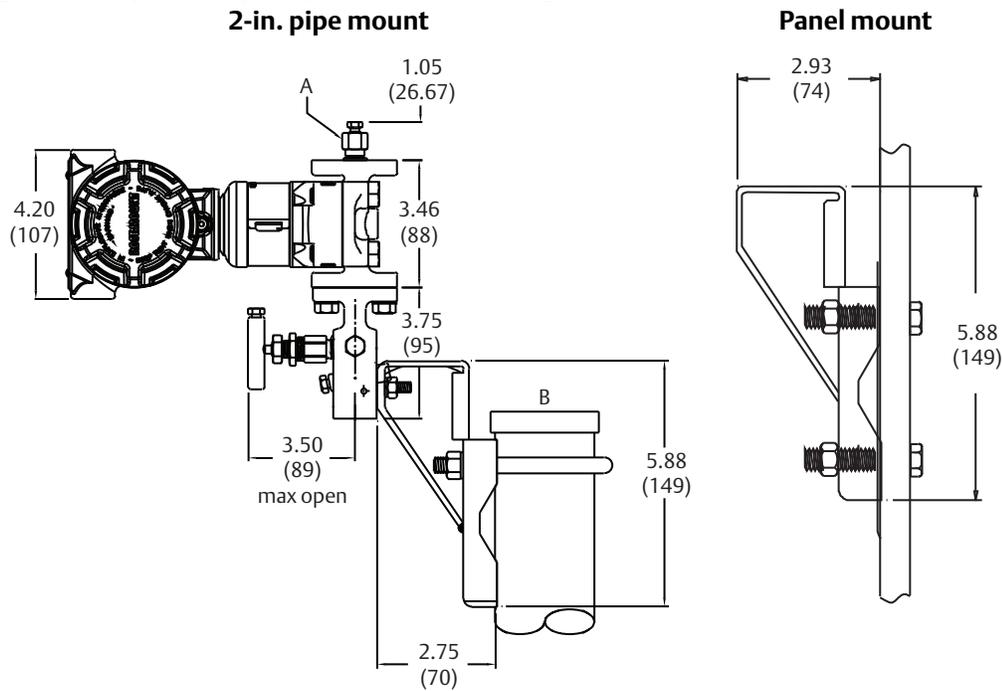


A. 2-in. U-bolt for pipe mounting

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

Figure 18. VS/VC Heavy Duty Manifold Mounting Bracket



A. Drain/vent valve

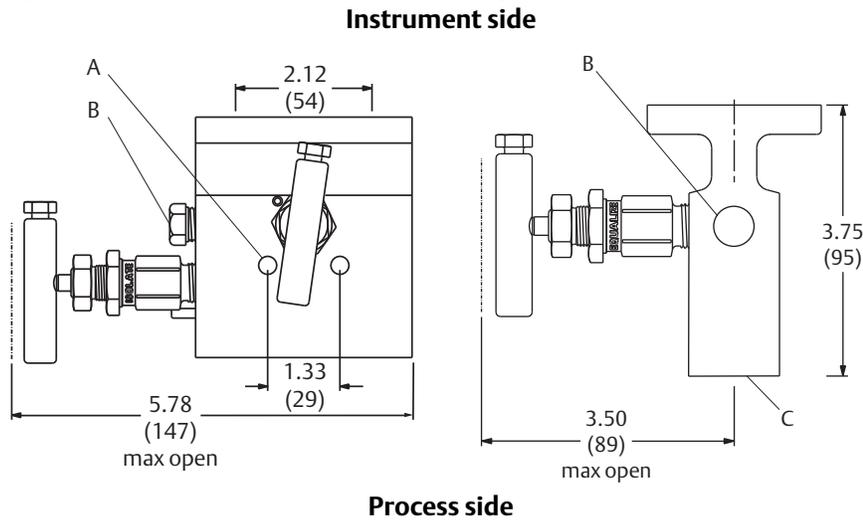
B. 2-in. pipe

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

## Rosemount 304 Manifold

**Figure 19. Rosemount 304RT 2-Valve Flange X NPT Conventional Manifold**



A.  $\varnothing$  0.281 mounting holes (2)

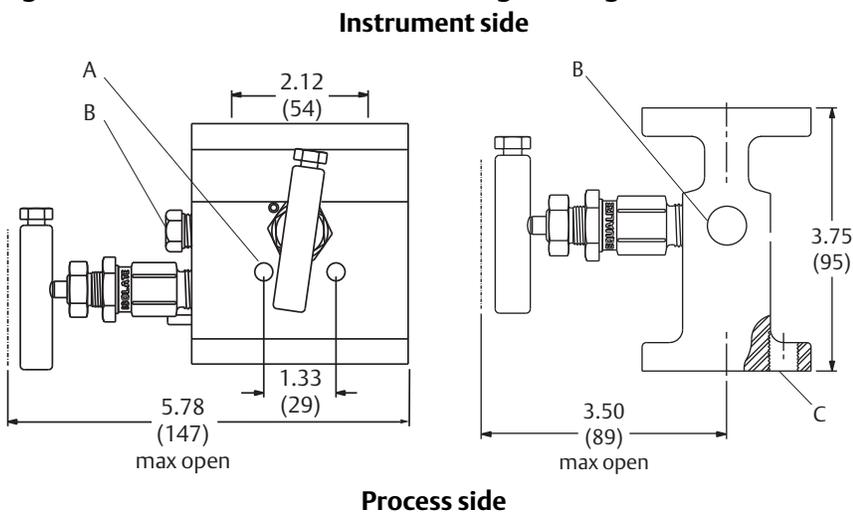
B.  $\frac{1}{4}$  NPT test

C.  $\frac{1}{2}$  NPT process connection on 2.125 (54) centers (2)

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 20. Rosemount 304RT 2-Valve Flange X Flange Conventional Manifold**



A.  $\varnothing$  0.281 mounting holes (2)

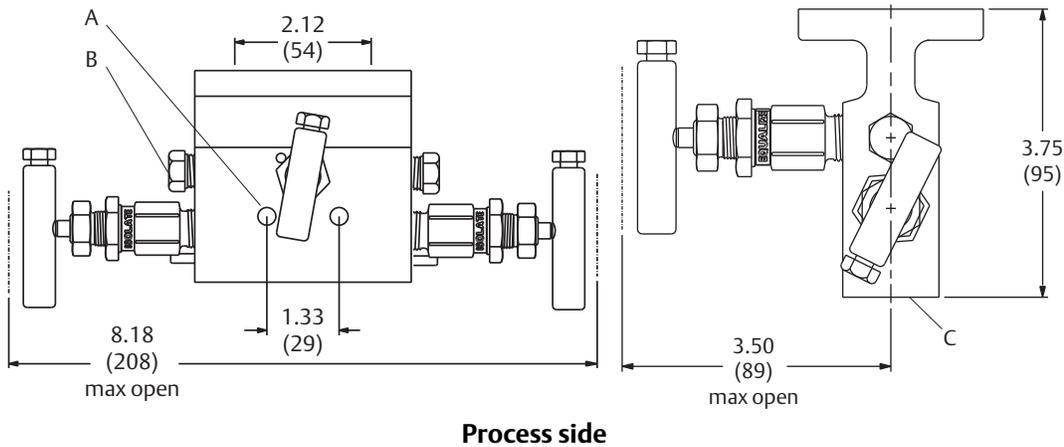
B.  $\frac{1}{4}$  NPT test

C.  $\frac{7}{16}$ -20-UNF mounting holes (4) on a 2.125  $\times$  1.625-in. hole pattern

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 21. Rosemount 304RT 3-Valve Flange X NPT Conventional Manifold**  
Instrument side



A.  $\varnothing$  0.281 mounting holes (2)

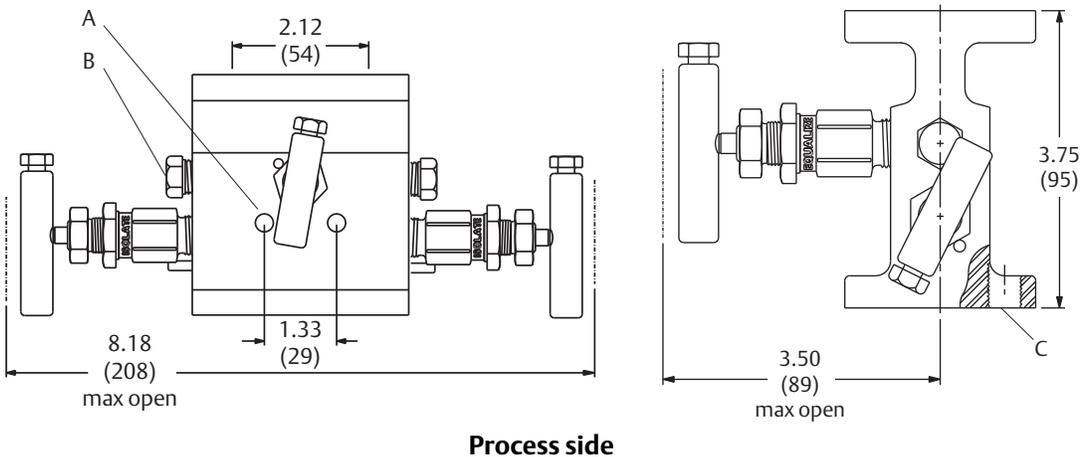
B. 1/4 NPT test (2)

C. 1/2 NPT process connection on 2.125 (54) centers (2)

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

**Figure 22. Rosemount 304RT 3-Valve Flange X Flange Conventional Manifold**  
Instrument side



A.  $\varnothing$  0.281 mounting holes (2)

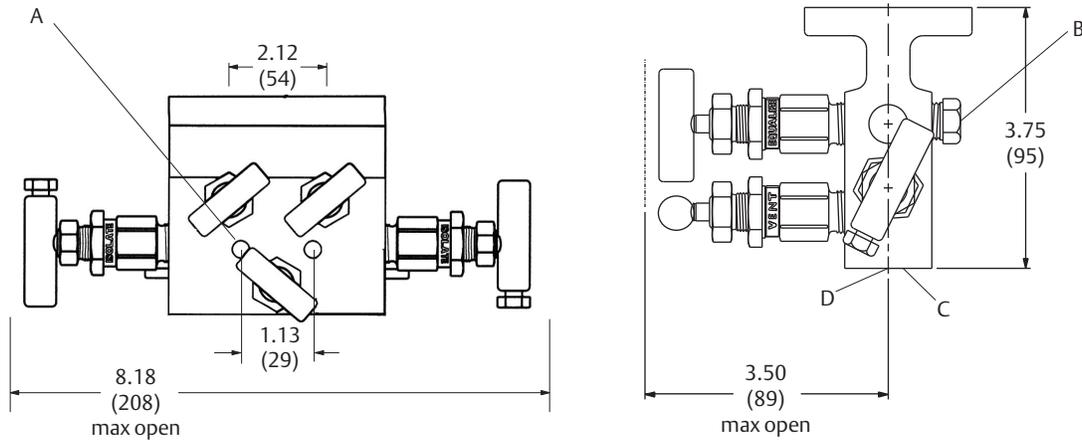
B. 1/4 NPT test (2)

C. 7/16-20-UNF mounting holes (4) on a 2.125 x 1.625-in. hole pattern

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

Dimensions are in inches (millimeters).

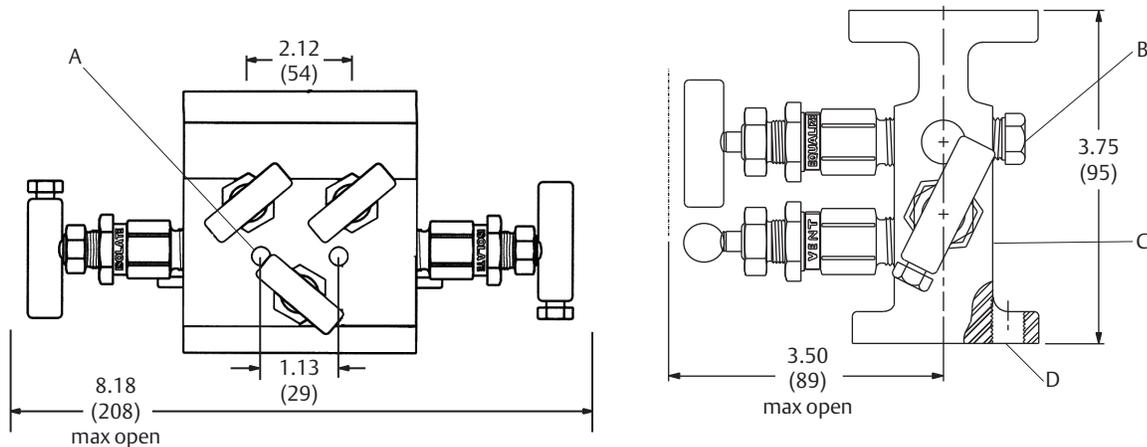
**Figure 23. Rosemount 304RT Natural Gas 5-Valve Flange X NPT Conventional Manifold**  
Instrument side



**Process side**

- A.  $\varnothing$  0.281 mounting holes (2)
  - B. 1/4 NPT test (2)
  - C. 1/2 NPT process connection on 2.125 (54) centers (2)
  - D. 1/4 NPT vent
- Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.  
Dimensions are in inches (millimeters).

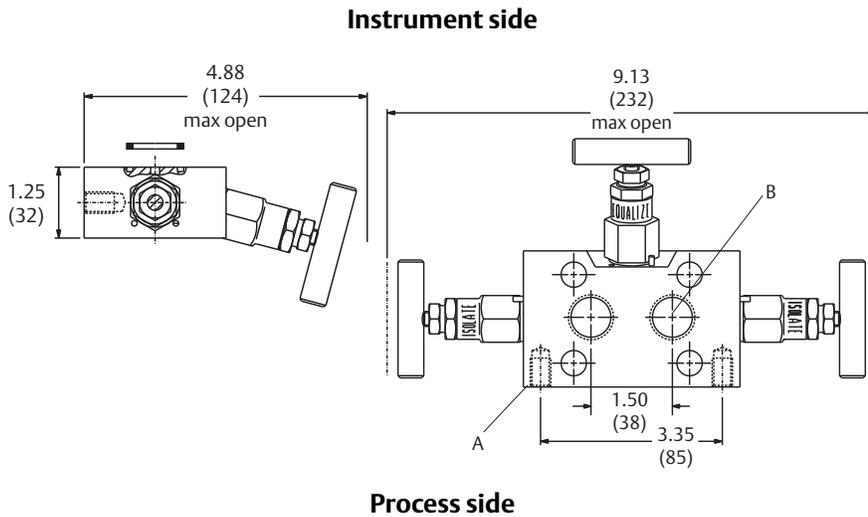
**Figure 24. Rosemount 304RT Natural Gas 5-Valve Flange X Flange Conventional Manifold**  
Instrument side



**Process side**

- A.  $\varnothing$  0.281 mounting holes (2)
  - B. 1/4 NPT test (2)
  - C. 1/4 NPT vent
  - D. 7/16-20-UNF mounting holes (4) on a 2.125 x 1.625-in. hole pattern
- Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.  
Dimensions are in inches (millimeters).

Figure 25. Rosemount 304RW 3-Valve Wafer Manifold



- A. 3/8-16 UNC mounting holes (2)
- B. 1/2-14 NPT process connection (2)

Note: Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.

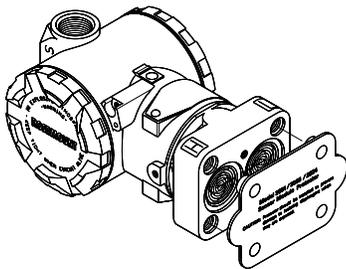
Dimensions are in inches (millimeters).

## Options

### Module guard

A sensor module guard is available to protect the transmitter process isolating diaphragms. This guard should be used whenever the transmitter is removed from the integral manifold to avoid damage to the isolating diaphragms.

Part number: 00305-1000-0001 (5/pack)



### P2 cleaning for special services

Per ASTM G93-96, this option minimizes process contaminants by cleaning wetted surfaces with a suitable detergent.

### SG sour gas

Materials of construction comply with recommendations per NACE MR 0175/ISO 15156 for sour oil field production environments. Environmental limits apply to certain materials. Consult latest standard for details. Selected materials also conform to NACE MR0103 for sour refining environments.

### Heat block kits

Rosemount 304 Manifolds are available with steam heat block kits for cold environments and services. The steam block attaches directly to the manifold to prevent the process from freezing.

### ASME B31.1 power piping code

Rosemount Manifolds are available in configurations that meet the requirements of the ASME B31.1 power piping code. This code specifies design criteria for most air, gas, steam, water, and oil systems used in electric generating systems, central and district heating systems, industrial power plants, and geothermal plants. ASME B31.1 includes requirements for manifolds, valves, and piping. Transmitters and other measuring devices do not fall within the scope of this code.

### Marking

Manifolds are tagged with a part number, schematic drawing, temperature, and pressure limits.

### Other publications

For additional information, go to [www.EmersonProcess.com/Rosemount](http://www.EmersonProcess.com/Rosemount).

## Spare parts list

**Table 18. Rosemount 305 Integral Manifold**

Part description	Part number (traditional style)	Part number (coplanar style)
<b>Mounting brackets (qty. 1)</b>		
Manifold SST mounting bracket for 2-in pipe mount	N/A	00305-0405-0001
<b>Bolt kits (set of 4)</b>		
CS bolt kit	03031-0312-0001	03031-0311-0001
SST bolt kit	03031-0312-0002	03031-0311-0002
ANSI/ASTM-A-193-B7M bolt kit	03031-0312-0003	03031-0311-0003
<b>Drain/vents (qty. 1)</b>		
316 SST drain/vent for use with 3-valve 305 manifold	01151-0028-0012	01151-0028-0012
Alloy C-276 drain/vent for use with 3-valve 305 manifold	01151-0028-0013	01151-0028-0013
<b>O-rings (set of 12)</b>		
Manifold-to-module O-ring, Glass-filled PTFE	03031-0234-0001	03031-0234-0001
Manifold-to-module O-ring, Graphite-filled PTFE	03031-0234-0002	03031-0234-0002
<b>Sensor guard (set of 5)</b>		
Coplanar module sensor guard	00305-1000-0001	00305-1000-0001

**Table 19. Rosemount 304 Conventional Manifold**

Part description	Part number (traditional style)	Part number (wafer style)
<b>Mounting brackets (qty. 1)</b>		
Manifold heavy duty mounting bracket, CS	01166-8005-0002	N/A
Manifold heavy duty mounting bracket, 316 SST	01166-8005-0001	N/A
Manifold SST mounting bracket for 2-in. pipe mount	N/A	00305-0405-0001
<b>Coplanar flange kits (qty. 1)</b>		
Differential flange kit, SST	N/A	00305-1001-0001
Gauge flange kit, SST	N/A	00305-1001-1001
<b>O-rings (set of 12)</b>		
Manifold-to-flange O-ring, Virgin PTFE	03031-0019-0003	03031-0019-0003
Manifold-to-flange O-ring, Graphite	03031-1302-0002	03031-1302-0002
<b>Manifold-to-flange bolt kits (set of 4)</b>		
Consult factory for part numbers	Consult factory	Consult factory
<b>Heater block kits (qty. 1)<sup>(1)</sup></b>		
Steam block kit	00305-0406-0001	N/A
<b>Socket weld adapter kit (qty. 2)</b>		
Virgin PTFE O-rings, Carbon Steel bolts, 316L SST adapter	03031-1320-0002	N/A
Virgin PTFE O-rings, 316 SST bolts, 316L SST adapter	03031-1320-0012	N/A
Graphite O-rings, Carbon Steel bolts, 316L SST adapter	03031-1320-0102	N/A
Graphite O-rings, 316 SST bolts, 316L SST adapter	03031-1320-0112	N/A

1. Not available with manifold type code 6.

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