Product Data Sheet
March 2017
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Rosemount™ Manifolds

- Factory assembled, leak-tested, and calibrate
- Full breadth of offering including integral, in-line, and conventional
- Integral design enables “flangeless” connection to instrument
- Block and bleed, 2-, 3-, and 5-valve configurations
- Compact, lightweight design
- Easy in-process calibration
- Direct-mount capability
- Available in NACE®-compliant materials of construction

EMERSON

Selection guide

Rosemount 305 Integral Manifold

See "Rosemount mounting brackets" on page 28.

- Assembles directly to transmitter, eliminating need for flange
- 2-, 3-, and 5-valve configuration
- Available with vertical or horizontal process connections
- Compact, lightweight assembly
- Factory assembled, seal-tested, and calibrated
- 50 percent fewer leak points than conventional transmitter to flange to manifold interface
- Female NPT process connections

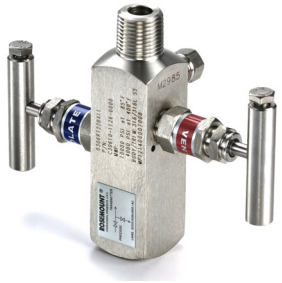
Rosemount 305 Integral Manifold - Coplanar Style

Rosemount 305 Integral Manifold - Traditional Style

Rosemount 306 In-line Manifold

See "Rosemount mounting brackets" on page 28.

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

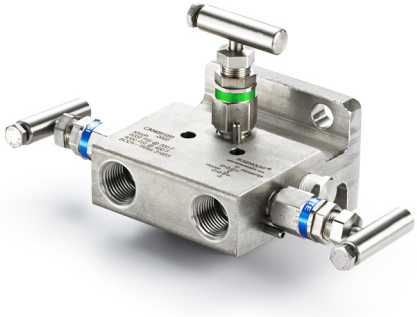


Rosemount 306 In-Line Manifold

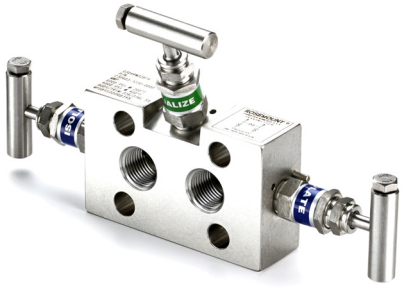
Rosemount 304 Conventional Manifold

See "Rosemount mounting brackets" 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

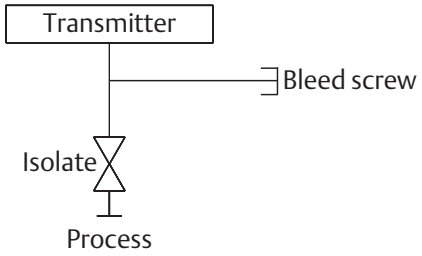
Contents

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 isolate valve provides instrument isolation and a bleed screw provides drain/vent capabilities.

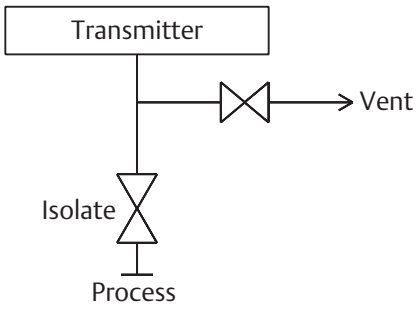
Rosemount 306 Manifold



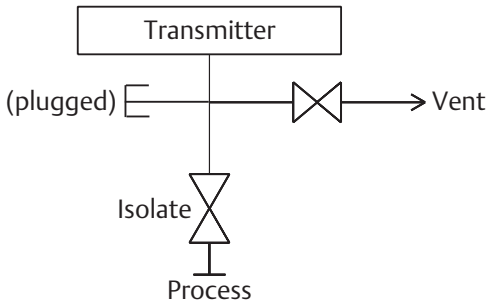
Two-valve

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

Rosemount 305 and 306 Manifolds



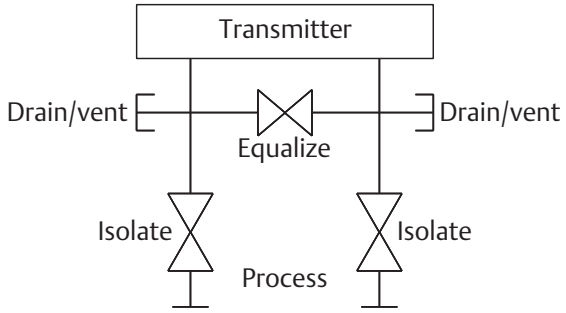
Rosemount 304 Manifold



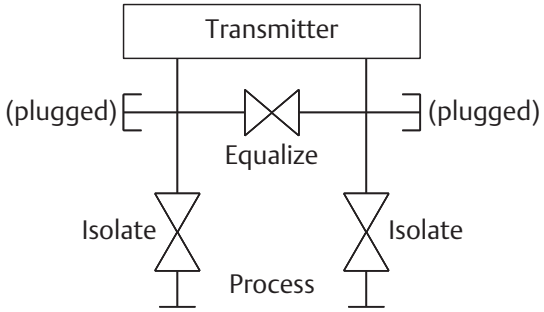
Three-valve

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

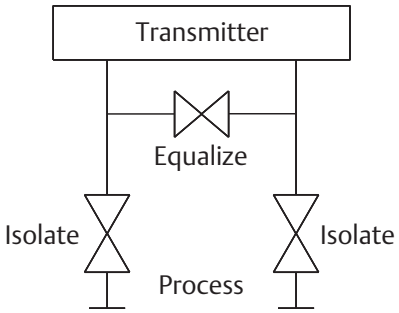
Rosemount 305 Manifold



Rosemount 304 (Traditional) Manifold



Rosemount 304 (Wafer) Manifold



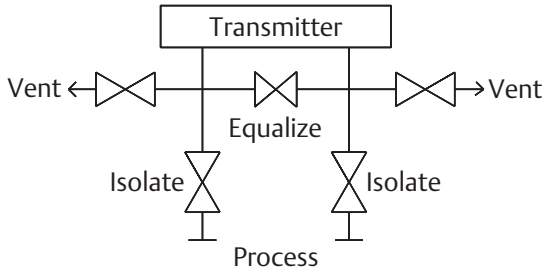
Note
Vent ports receive plastic caps to protect threaded connections unless otherwise noted.

Note
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 isolate valves provide instrument isolation and one equalize valve is positioned between the high and low process connections. In addition, two drain/vent valves allow for controlled venting, 100 percent capture of vented or drained process, and simplified in-process calibration capability.

Rosemount 305 Manifolds and 304 (Wafer)

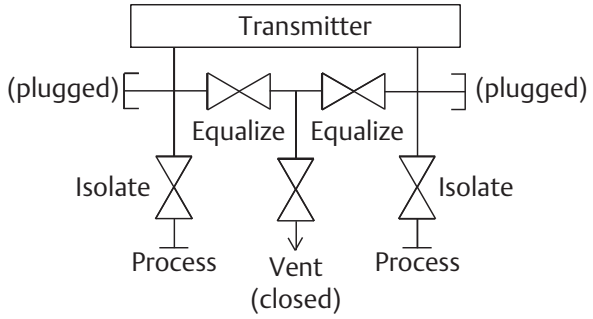


Five-valve natural gas

The 5-valve natural gas configuration is available on the Rosemount 305 and 304 Manifolds for use with differential pressure and multivariable transmitters. Two isolate valves provide instrument isolation and a single drain/vent valve allows for controlled venting, 100 percent 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.

- "NG" option includes wide handle pattern and soft seats for ease of use as well as a larger bore to reduce plugging

Rosemount 305 Manifolds and 304 (Traditional)



Note
Vent ports receive plastic caps to protect threaded connections unless otherwise noted.

Note
Plugged connections receive 1/4-in. NPT plugs unless otherwise noted.

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 5.
   - 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 5.
   - 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
Rosemount 3051S	305	A11	N/A
	306	A11	N/A
	304	A12	N/A
Rosemount 3051/2051	305	N/A	S5
	306	N/A	S5
	304	N/A	S6
Rosemount 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 13 for more information on material selection.

Table 2. Rosemount 305 Integral Manifold Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model	Product description			
0305	Integral manifold			
Manufacturer				
R	Rosemount			★
Manifold style				
C	Coplanar			★
T	Traditional			★
M	Traditional (DIN-compliant flange)			★
Manifold type				
2	2-valve			★
3	3-valve			★
5[1]	5-valve			★
6[2]	5-valve natural gas metering pattern			★
7[2][3]	2-valve (per ASME B31.1 [ANSI] power and piping code)			
8[2][3]	3-valve (per ASME B31.1 [ANSI] power and piping code)			
9[2][3]	5-valve (per ASME B31.1 [ANSI] power and piping code)			
Body[4]		**Bonnet**	**Stem and tip/ball**	
2	316 SST/316L SST	316 SST	316 SST	★
3[5]	Alloy C-276	Alloy C-276	Alloy C-276	
4[5][6]	Alloy 400	Alloy 400	Alloy 400	
Process connection style				
A[7]	1/4–18 NPT female			★
B[8]	1/2–14 NPT female			★
Packing material				
1[9]	PTFE			★
2[10]	Graphite-based			
Valve seat				
1	Integral			★
5	Soft POM (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 starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Mounting brackets		
B1	Bracket for 2-in. pipe mounting, CS bolts	★
B3[11]	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[11]	B3 bracket with 316 SST bolts	★
BA	316 SST B1 bracket with 316 SST bolts	★
BC[11]	316 SST B3 bracket with 316 SST bolts	★
BE	316 SST B4 bracket with 316 SST bolts	★
BF	CS panel mount bracket	★
BG	300 SST panel mount bracket	★
Bolt materials		
L4[12]	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★
Cleaning[13]		
P2	Cleaning for special services	★
Material recommendations for NACE[5][14]		
SG	Sour gas (meets NACE MR0175/ISO 15156, MR0103/ISO 17495)	★
Adapters[15]		
DF	1/2–14 NPT female flange adapter	★
DQ	12 mm ferrule tube flange adapter	
Process flowmeter configuration		
PF	Relocated equalize valve for 9295 Process Flowmeter	
Process flange bolting connection[16]		
HK	10 mm (M10) process flange bolting connection	★
HL	12 mm (M12) process flange bolting connection	★
Typical coplanar integral manifold model number: 305 R C 3 2 B 1 1 B4		

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 packing code 2.
4. Refer to Table 13 on page 18 for additional detail on process wetted materials of construction.
5. 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/ISO 17495 for sour refining environments.
6. Includes Alloy C - 276 drain vents.
7. Only available with traditional manifold style codes T and M.
8. Not available with traditional manifold style code M. Manifold style code T does not include mounting holes on process flange.
9. Includes PTFE tape on drain/vent valves and plugs.

10. Includes graphite tape on drain/vent valves and plugs.
11. Not compatible with the Rosemount 3095 Transmitter.
12. Not available with ASME B31.1 manifold type codes 7, 8, and 9.
13. Not available with graphite-based packing material code 2.
14. Only allowed with material of construction code 2.
15. Only allowed with traditional manifold style codes T and M. Not allowed with graphite-based packing code 2.
16. 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 13 for more information on material selection.

Table 3. Rosemount 306 Pressure Manifold Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Model	Product description			
0306	Pressure manifold			
Manufacturer				
R	Rosemount			★
Manifold style				
T	Threaded			★
Manifold type				
1	Block-and-bleed			★
2	2-valve			★
3(1)	2-valve (per ASME B31.1 power piping code)			
Body(2)		**Bonnet**	**Stem and tip/ball**	
2	316 SST/316L SST	316 SST	316 SST	★
3(3)(4)	Alloy C-276	Alloy C-276	Alloy C-276	
Process connection				
AA	1/2–14 male NPT process connection for in-line transmitter			★
AW	1/2–14 male NPT process connection for Rosemount Wireless Pressure Gauge			★
BA(3)	1/2–14 female NPT process connection for in-line transmitter			★
BW	1/2–14 female NPT process connection for Rosemount Wireless Pressure Gauge			★
Packing material				
1(5)	PTFE			★
2(6)	Graphite-based			
Valve seat				
1	Integral			★

Options

Extended product warranty		
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★
Cleaning(7)		
P2	Cleaning for special services	

Table 3. Rosemount 306 Pressure Manifold Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Material recommendations for NACE[4][8]		
SG	Sour gas (meets NACE MR0175/ISO 15156, MR0103/ISO 17495)	★
Typical integral manifold model number: 306 R T 2 2 BA 1 1		

1. Only available with 316 SST materials of construction and graphite-based packing.
2. Refer to Table 14 on page 18 for additional detail on process wetted materials of construction.
3. Not available with block-and-bleed manifold type.
4. 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/ISO 17495 for sour refining environments.
5. Includes PTFE tape on drain/vent valves and plugs.
6. Includes graphite tape on plugs.
7. Not available with graphite-based packing material code 2.
8. 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 13 for more information on material selection.

Table 4. Rosemount 304 Conventional Manifold Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

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

Table 4. Rosemount 304 Conventional Manifold Ordering Information

The starred offerings (★) represent the most common options and should be selected for best delivery. The non-starred offerings are subject to additional delivery lead time.

Options

Gas-metering configuration		
NG[9]	Wide handle pattern, 3/8-in. bore, soft POM seat	★
Extended product warranty		
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★
Mounting brackets		
VC[2]	Manifold heavy duty mounting bracket, CS for traditional style	★
VS[2]	Manifold heavy duty mounting bracket, 316 SST for traditional style	★
B4[3]	Manifold SST mounting bracket for 2-in. pipe mount with series 300 SST bolts for wafer style	★
Adapters and connectors[10]		
DF	1/2–14 NPT female flange adapter	★
DT	1/2-in. ferrule tube flange adapter	★
DQ	12mm ferrule tube flange adapter	★
DV[11]	1/2–14 NPT male non-stabilized connectors	★
DH[11]	1/2–14 NPT male stabilized extended connectors	★
Dielectric isolator kits		
G2[12]	Dielectric isolators and bolt sleeves for connectors	★
Bolt material		
L4[13]	Austenitic 316 SST bolts	★
L5	ASTM A193, Grade B7M bolts	★
L8	ASTM A193, Class 2, Grade B8M bolts	★
Material recommendations for NACE[1][14]		
SG	Sour gas (meets NACE MR0175/ISO 15156, MR0103/ISO 17954)	★
Cleaning[15]		
P2	Cleaning for special service	
Heater block kits[16]		
SB	Steam block kit, 1/4-in. NPT connection	★
Typical model number: 0304 R T 3 2 B 1 1 VS		

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. Refer to Table 15 on page 18 for additional detail on process wetted materials of construction.

6. Includes PTFE tape on drain/vent valves and plugs.
7. Includes graphite tape on plugs.
8. Only available with option code NG.
9. Only available with manifold type code 6.
10. Only allowed with both manifold style code T and process connection code F. Not allowed with Graphite-based packing code 2.
11. Only available with manifold style code 6.
12. Only available with option codes DV and DH.
13. Not available with manifold type codes 7, 8.
14. Materials of construction comply with recommendations per NACE MR0175/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 MR0103/ISO 17495 for sour refining environments.
15. Not available with Graphite-based packing material code 2.
16. Not available with manifold type code 6.

Specifications

Material selection

Emerson™ 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 (e.g. all chemical components, temperature, pressure, flow rate, abrasives, contaminants), 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. For more information on material compatibility, refer to the Material Selection Technical Note.

Pressure and temperature ratings

Figure 1. Rosemount 305 Integral Manifolds

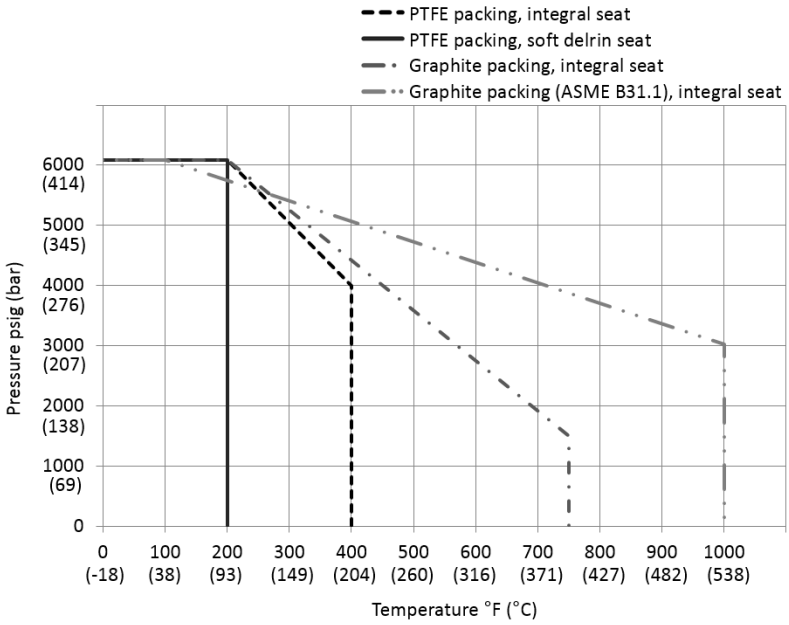


Table 5. Rosemount 305 Integral Manifolds(1)

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 POM	6092 psi @ 200 °F (420 bar @ 93 °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) 3030 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

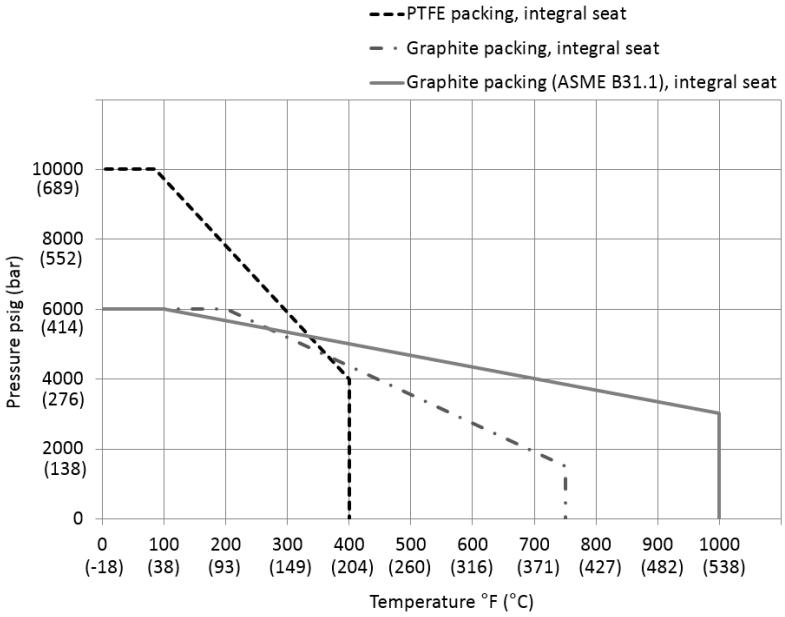


Table 6. Rosemount 306 In-line Manifolds

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) 3030 psi @ 1000 °F (201 bar @ 538 °C)

Figure 3. Rosemount 304 Conventional Manifolds

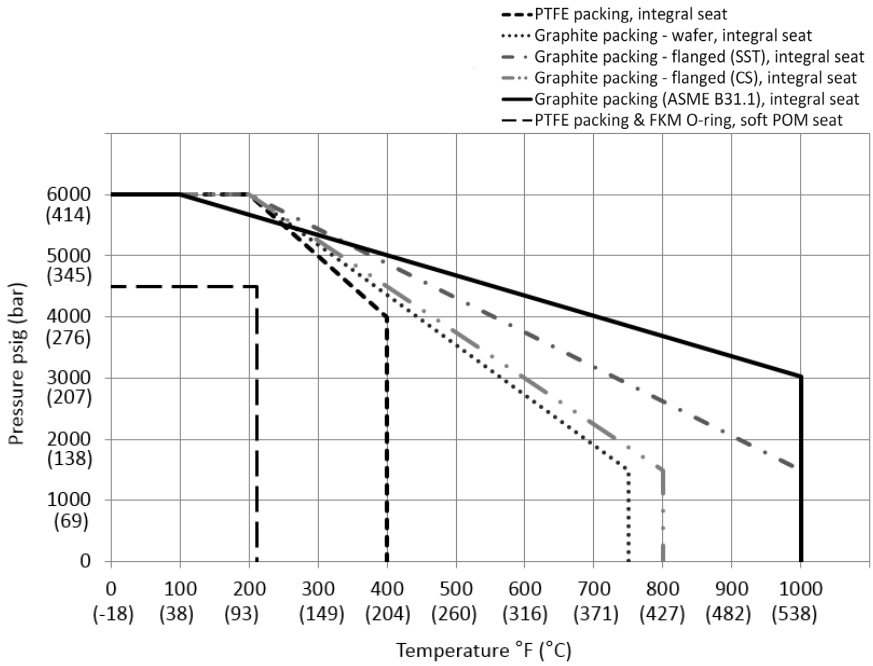


Table 7. Rosemount 304 Conventional Manifolds

Packing	Seat	Pressure and temperature ratings
PTFE[(1)]	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) 3030 psi @ 1000 °F (201 bar @ 538 °C)
PTFE	POM	4500 psi @ 212F (310 bar @ 100 C)
FKM O-ring	POM	4500 psi @ 212 F (310 bar @ 100 C)

1. Maximum working pressure limited to 4500 psi (310 bar) with G2 option.

Instrument connections

Table 8. 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 for In-line transmitters 1/2-14 female NPT for Rosemount Wireless Pressure Gauge
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)

O-rings

Figure 4. Rosemount 305 Integral Manifold

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

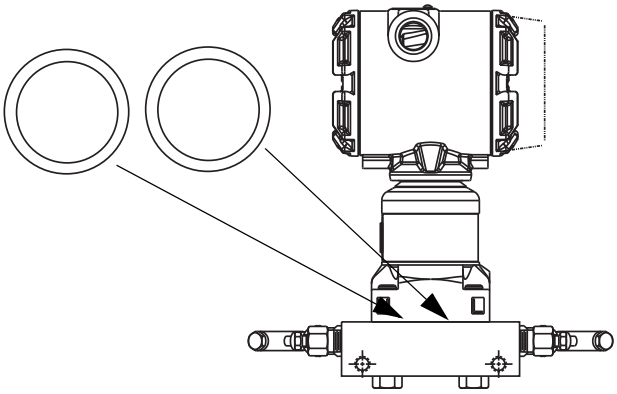
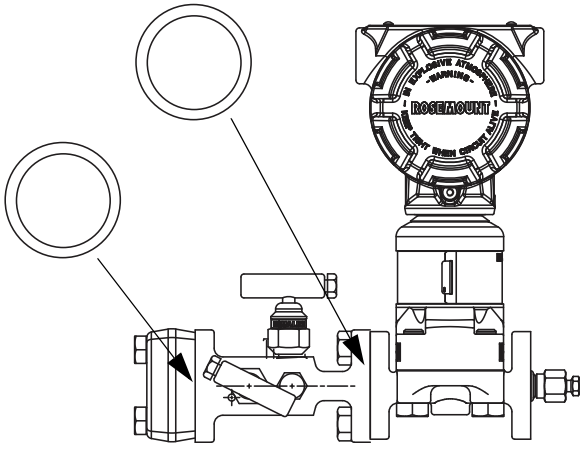


Figure 5. Rosemount 304 Conventional Manifold

Manifold-to-flange O-rings
Same material as specified by manifold “Packing Material” selection.(1)

Flange adapter O-rings
Glass-filled PTFE



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

Process connections

Table 9. Rosemount 305 Integral Manifold

Style	Connection
Coplanar	1/2–14 female NPT
Traditional	1/4–18 female NPT (process adapters optional)

Table 10. Rosemount 306 In-line Manifold

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

1. 1/2-14 female NPT option only available with Wireless Pressure Gauge.

Table 11. 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

Vent port connections

1/4–18 female NPT

Table 12. Adapters and Connectors

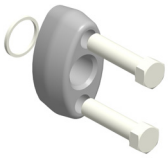
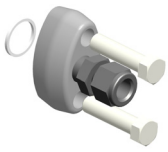
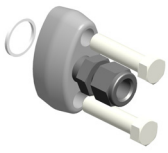
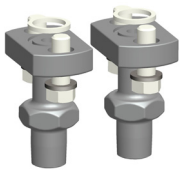
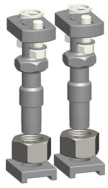
Option	Description	Image
DF	1/2-14 NPT female flange adapter • Available with Rosemount 305 Integral and 304 Conventional Manifolds	
DT	1/2-in. ferrule tube flange adapter • Available with Rosemount 304 Conventional Manifold	
DQ	12mm ferrule tube flange adapter • Available with Rosemount 305 Integral and 304 Conventional Manifolds	

Table 12. Adapters and Connectors

Option	Description	Image
DV(1)	Non-stabilized connector • 3.00-in. • No stabilizing foot • Includes assembly hardware	
DH(1)	Stabilized extended connectors • 4.75-in. • Stabilizing foot • Includes assembly hardware	
G2(1)(2)	Dielectric isolators • Rated to 2500 VDC and 5 mega-Ohms • Includes bolts sleeves and assembly hardware	

1. Only allowed with both Rosemount 304 Manifold type code 6 and process connection code F. Not allowed with Graphite- based packing code 2.
2. Maximum working pressure of assembly limited to 4500 psi (310 bar), 3626 psi (250 bar) at –20 °F (–29 °C), and 3626 psi (250 bar) at 150 °F (66 °C).

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, Grade B8M Class 2 bolts

Materials of construction

Process wetted

Table 13. Rosemount 305 Integral Manifold

Component	Option 2	Option 2 with SG	Option 3	Option 4
Body	316 SST/ 316L SST	316 SST/ 316L SST	Alloy C-276	Alloy 400
Ball/tip	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276	Alloy 400
Stem	316 SST	Alloy C-276	Alloy C-276	Alloy 400
Packing	PTFE/ Graphite	PTFE/ Graphite	PTFE/ Graphite	PTFE/ Graphite
Bonnet	316 SST	316 SST	Alloy C-276	Alloy 400
Pipe plug	316 SST	316 SST	Alloy C-276	Alloy 400
Drain/vent valve	316 SST	Alloy C-276	Alloy C-276	Alloy 400

Table 14. Rosemount 306 In-line Manifold

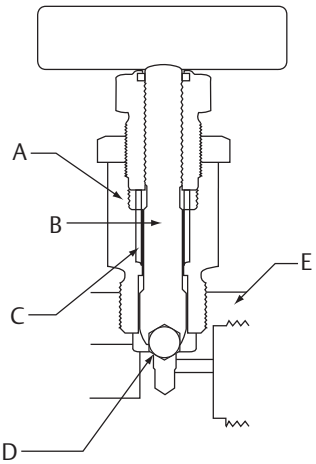
Component	Option 2	Option 2 with SG	Option 3
Body	316 SST/ 316L SST	316 SST/ 316L SST	Alloy C-276
Ball/tip	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276
Stem	316 SST	Alloy C-276	Alloy C-276
Packing	PTFE/Graphite	PTFE/Graphite	PTFE/Graphite
Bonnet	316 SST	316 SST	Alloy C-276
Pipe plug	316 SST	316 SST	Alloy C-276
Bleed screw	316 SST/ 316Ti SST	Alloy C-276	Alloy C-276

Table 15. Rosemount 304 Conventional Manifold

Component	Option 2	Option 2 with SG	Option 5
Body	316 SST/ 316L SST	316 SST/ 316L SST	CS
Ball/tip	316 SST/ 316Ti SST	Alloy C-276	316 SST
Stem	316 SST	Alloy C-276	316 SST
Packing	PTFE/ Graphite	PTFE/ Graphite	PTFE
Bonnet	316 SST	316 SST	CS
Pipe plug	316 SST	316 SST	CS

Typical

Figure 6. Typical Rosemount Manifold Valve



A. Bonnet
B. Stem
C. Packing
D. Ball/tip
E. Body

Estimated weight

Table 16. 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 17. Rosemount 306 In-line Manifold

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

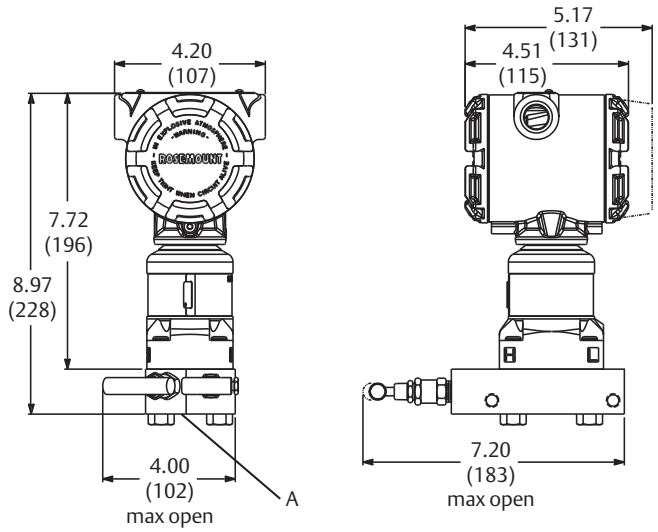
Table 18. Rosemount 304 Conventional Manifold

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

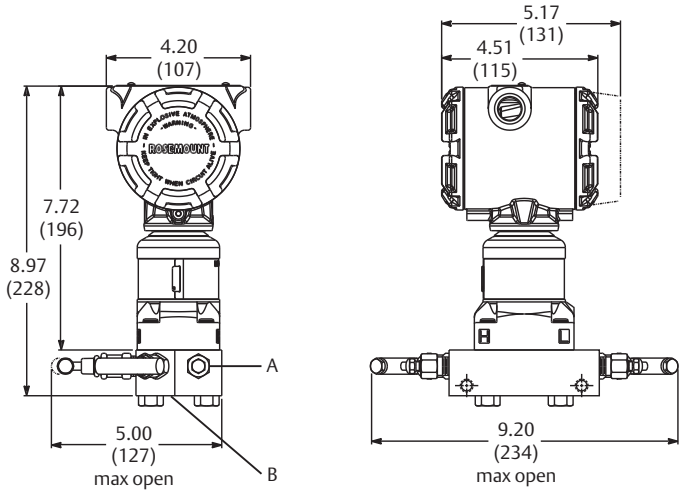
Rosemount 305 Manifold(1)

Figure 7. Rosemount 305RC 2-Valve Coplanar Style Manifold



A. 1/2–14 NPT on manifold for process connection, 1/4–18 NPT for test/vent connection
Dimensions are in inches (millimeters).

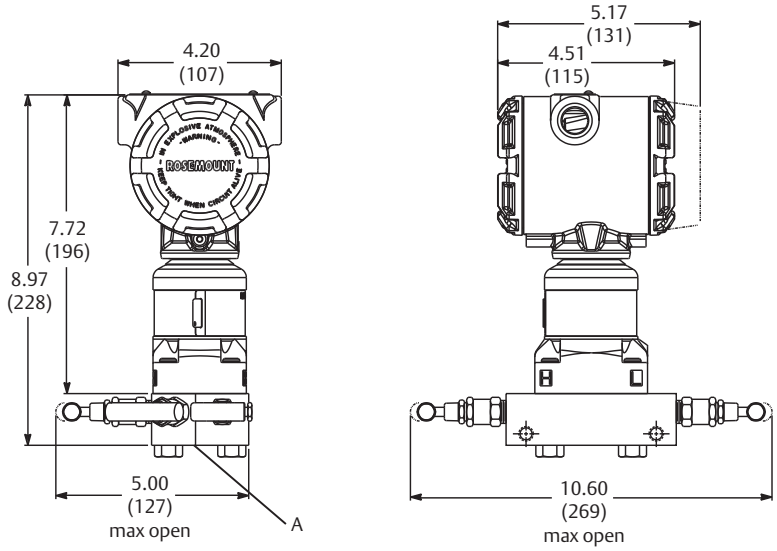
Figure 8. Rosemount 305RC 3-Valve Coplanar Style Manifolds



A. Drain/vent valve
B. 1/2–14 NPT on manifold for process connections, 2 1/8-in. center-to-center
Dimensions are in inches (millimeters).

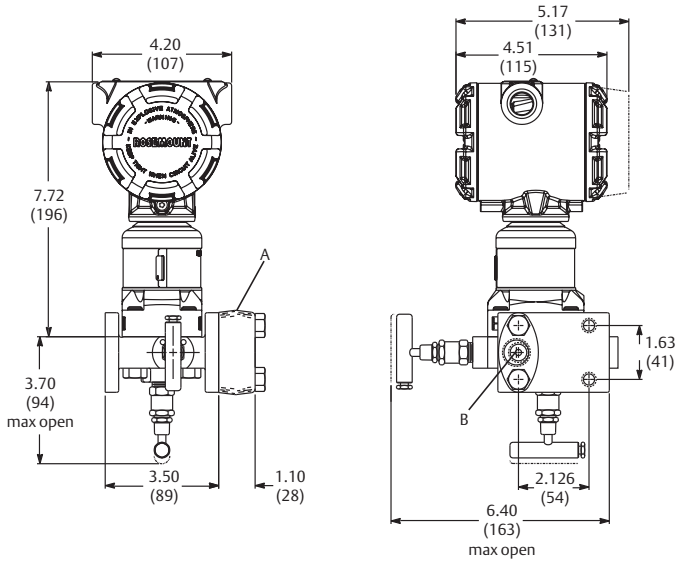
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*

Figure 9. Rosemount 305RC 5-Valve Coplanar Style Manifold



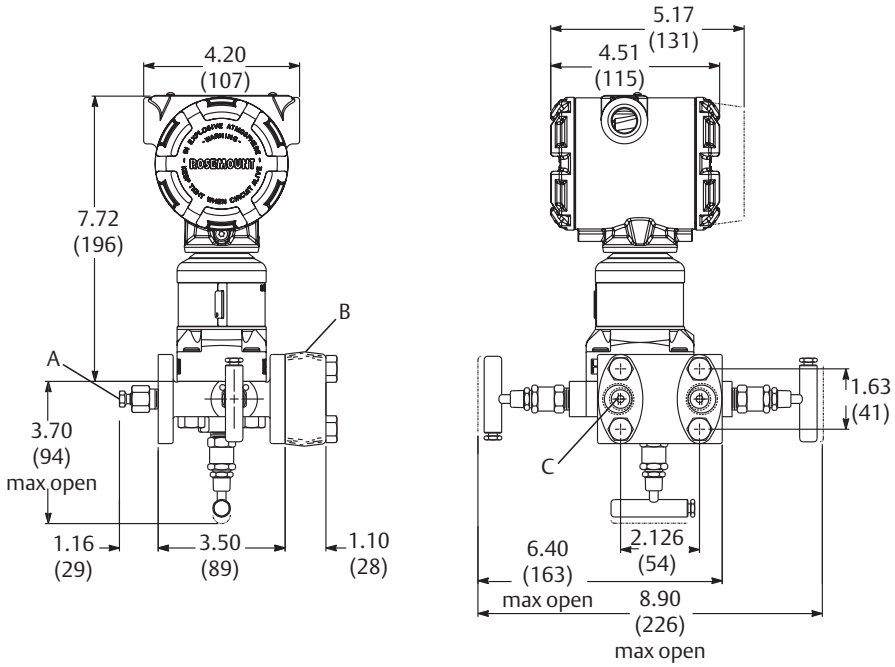
A. 1/2–14 NPT on manifold for process connections, 2 1/8-in. center-to-center, 1/4–18 NPT for test/vent connection
Dimensions are in inches (millimeters).

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
Dimensions are in inches (millimeters).

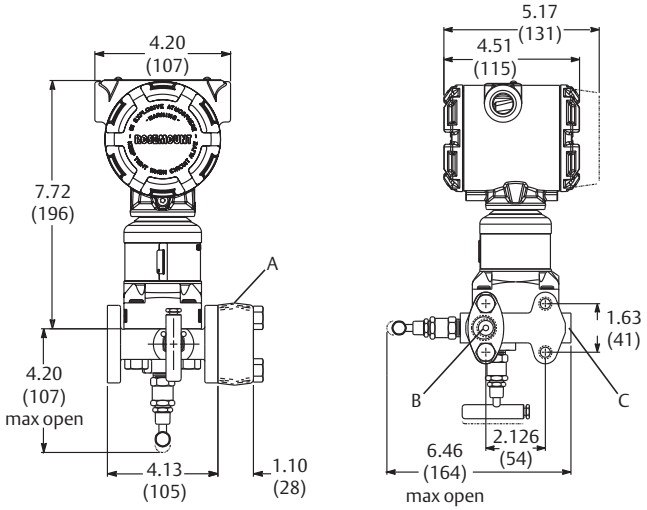
Figure 11. Rosemount 305RT 3-Valve Traditional Style Manifold



A. Drain/vent valve
B. 1/2–14 NPT on optional process adapter(1)
C. 1/4–18 NPT on traditional manifold for process connections without the use of process adapters
Dimensions are in inches (millimeters).

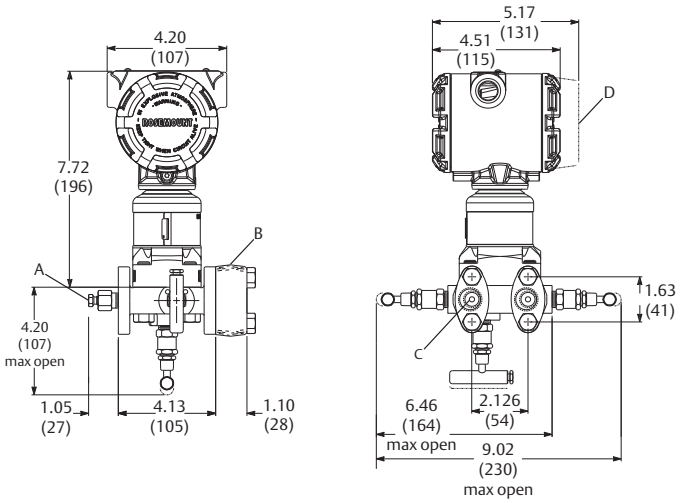
1. Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

Figure 12. Rosemount 305RM 2-Valve Traditional DIN 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
Dimensions are in inches (millimeters).

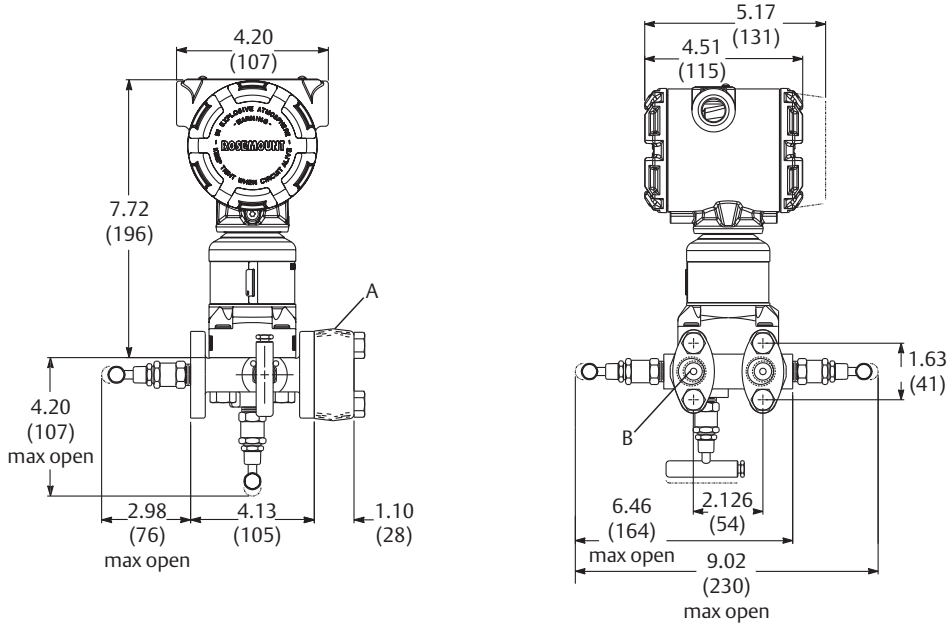
Figure 13. Rosemount 305RM 3-Valve Traditional DIN Style Manifold



A. Drain/vent valve
B. 1/2–14 NPT on optional process adapter(1)
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
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 DIN Style Manifold

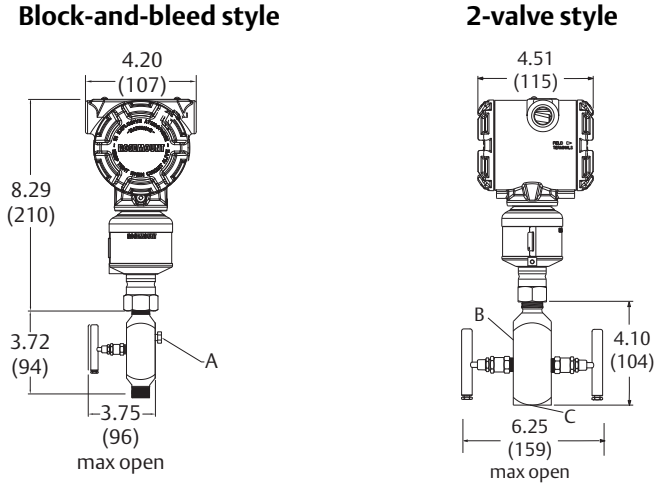


A. 1/2–14 NPT on optional process adapter(1)
B. 1/4–18 NPT on traditional manifold for process connections without the use of process adapters
Dimensions are in inches (millimeters).

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

Rosemount 306 Manifold[1]

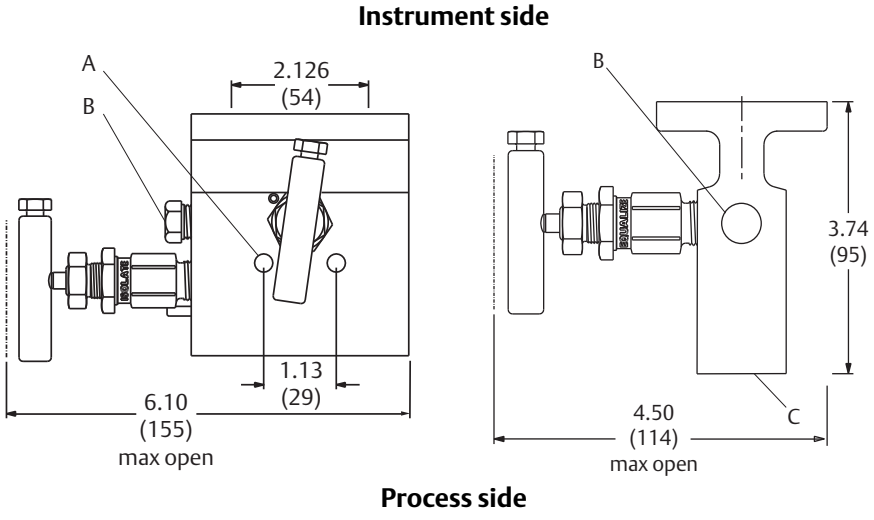
Figure 15. Rosemount 306RT Pressure Style Manifold (3051S_T Shown)[2]



A. Bleed screw (unspecified dimension) - not designed for accessory attachments.
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)
Dimensions are in inches (millimeters).

Rosemount 304 Manifold[1]

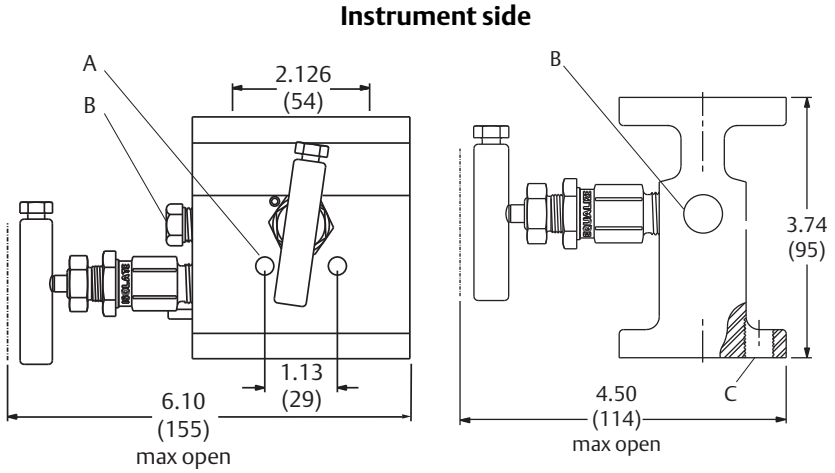
Figure 16. Rosemount 304RT 2-Valve Flange × NPT Conventional Manifold



A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged)
C. 1/2-in. NPT process connection on 2.125 (54) centers (2)
Dimensions are in inches (millimeters).

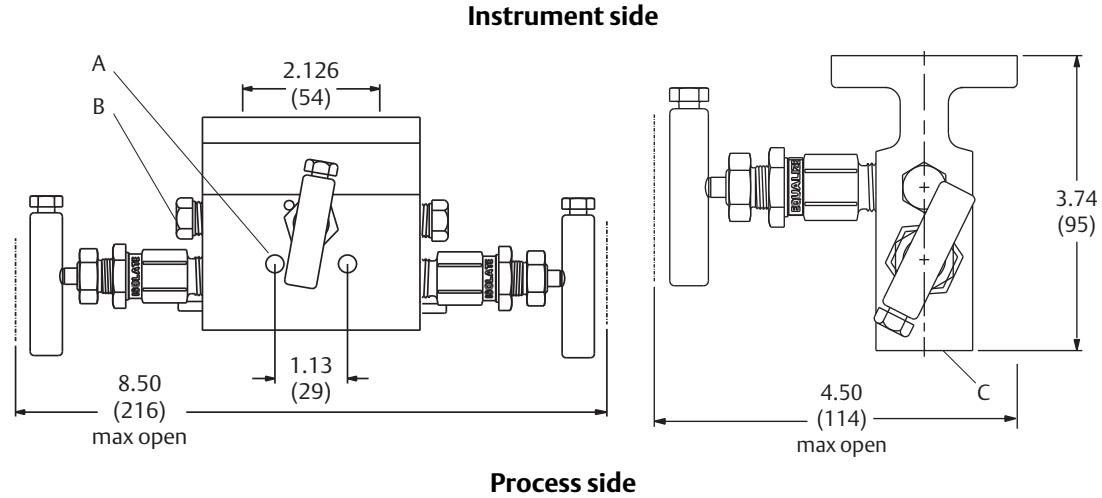
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*
2. *Manifold valve orientation may vary with respect to transmitter mounting holes.*

Figure 17. Rosemount 304RT 2-Valve Flange × Flange Conventional Manifold[(1)]



A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged)
C. 7/16–20–UNF mounting holes (4) on a 2.125 × 1.625–in. hole pattern
Dimensions are in inches (millimeters).

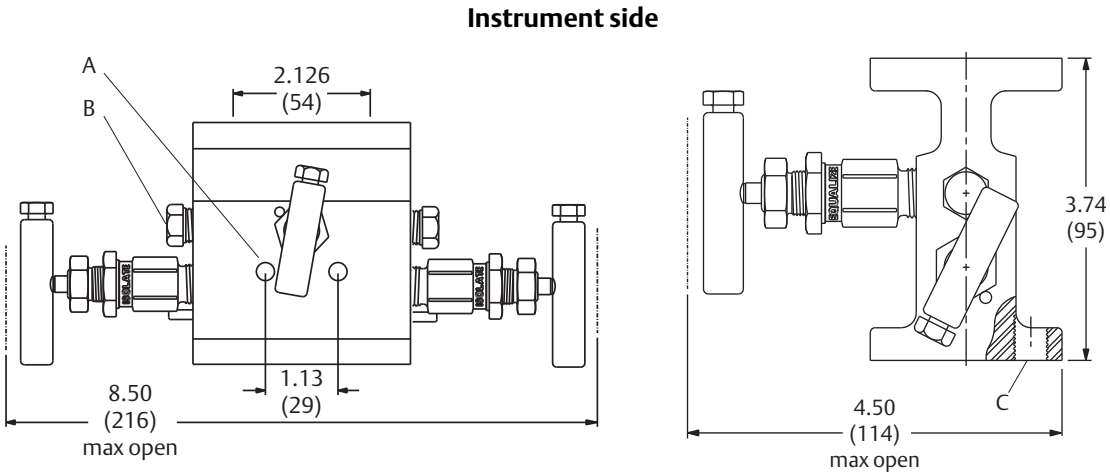
Figure 18. Rosemount 304RT 3-Valve Flange × NPT Conventional Manifold[(1)]



A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged) (2)
C. 1/2-in. NPT process connection on 2.125 (54) centers (2)
Dimensions are in inches (millimeters).

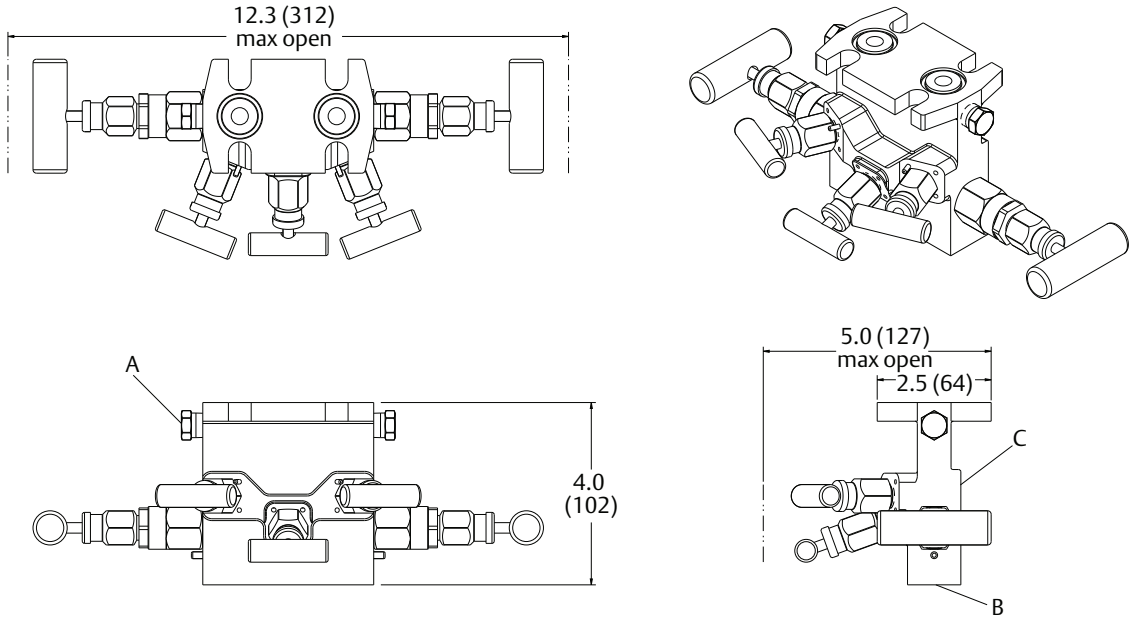
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*

Figure 19. Rosemount 304RT 3-Valve Flange × Flange Conventional Manifold[(1)]



A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged) (2)
C. 7/16–20–UNF mounting holes (4) on a 2.125 × 1.625–in. hole pattern
Dimensions are in inches (millimeters).

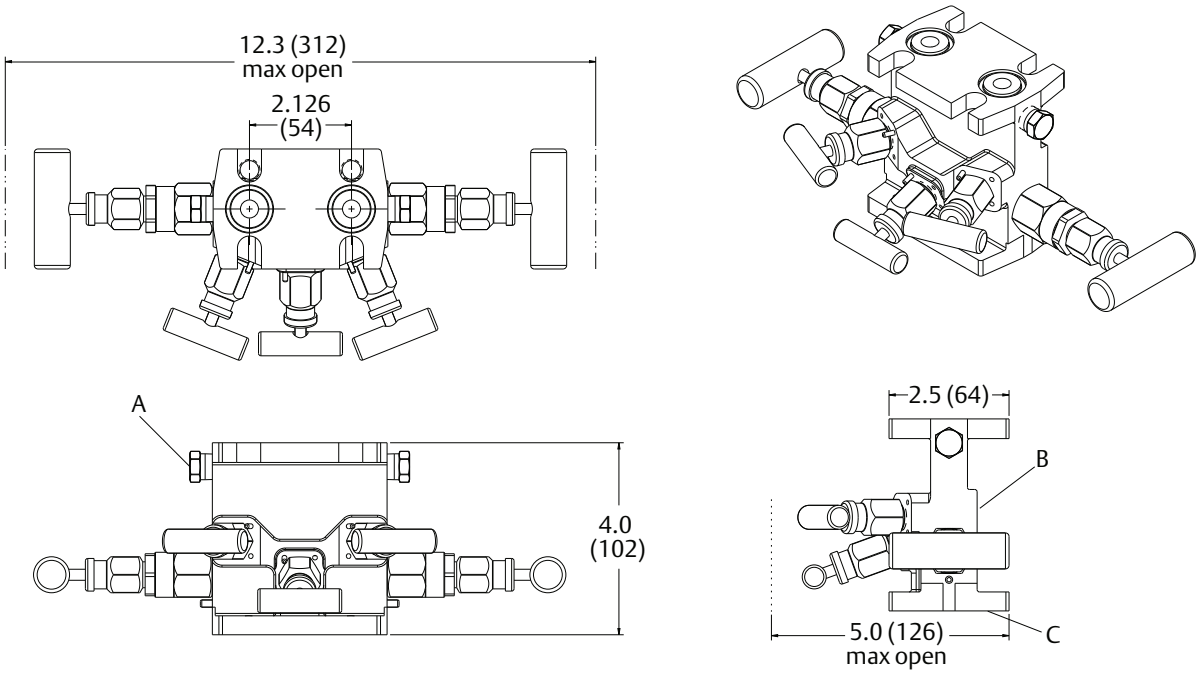
Figure 20. Rosemount 304RT Natural Gas 5-Valve Flange × NPT Conventional Manifold with NG Option



A. 1/4-in. NPT test (plugged) (2)
B. 1/2-in. NPT process connection on 2.125 (54) centers (2)
C. 1/4-in. NPT vent
Dimensions are in inches (millimeters).

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

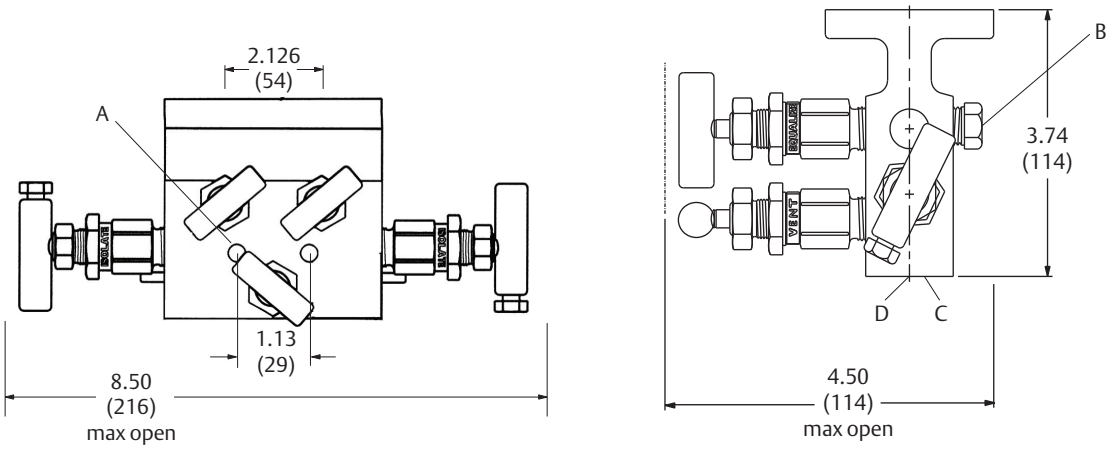
Figure 21. Rosemount 304RT Natural Gas 5-Valve Conventional Manifold with NG Option



A. 1/4-in. NPT test (plugged) (2)
B. 1/4-in. NPT vent
C. 7/16–20–UNF mounting holes (4) on a 2.125 × 1.625–in. hole pattern
Dimensions are in inches (millimeters).

Figure 22. Rosemount 304RT Natural Gas 5-Valve Flange × NPT Conventional Manifold(1)

Instrument side

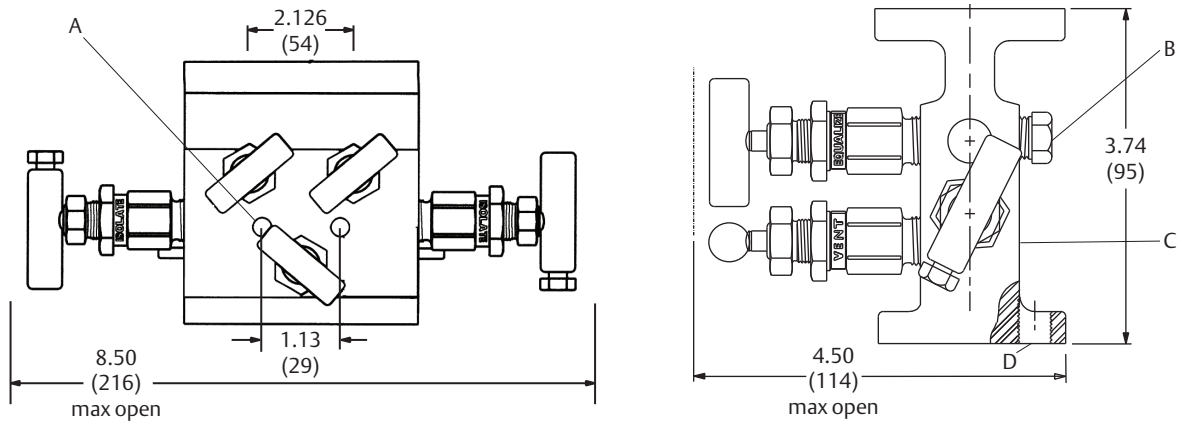


Process side

A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged) (2)
Dimensions are in inches (millimeters).
C. 1/2-in. NPT process connection on 2.125 (54) centers (2)
D. 1/4-in. NPT vent

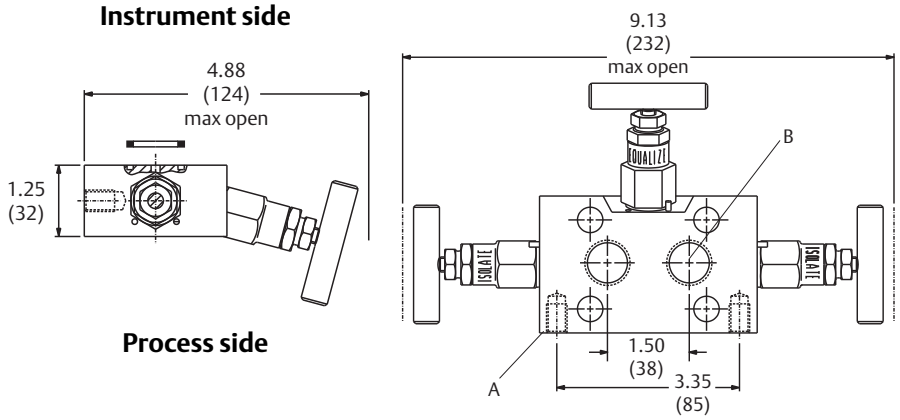
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*

Figure 23. Rosemount 304RT Natural Gas 5-Valve Flange × Flange Conventional Manifold[(1)]



A. ∅ 0.281 mounting holes (2)
B. 1/4-in. NPT test (plugged) (2)
C. 1/4-in. NPT vent
D. 7/16–20–UNF mounting holes (4) on a 2.125 x 1.625–in. hole pattern
Dimensions are in inches (millimeters).

Figure 24. Rosemount 304RW 3-Valve Wafer Manifold[(1)]

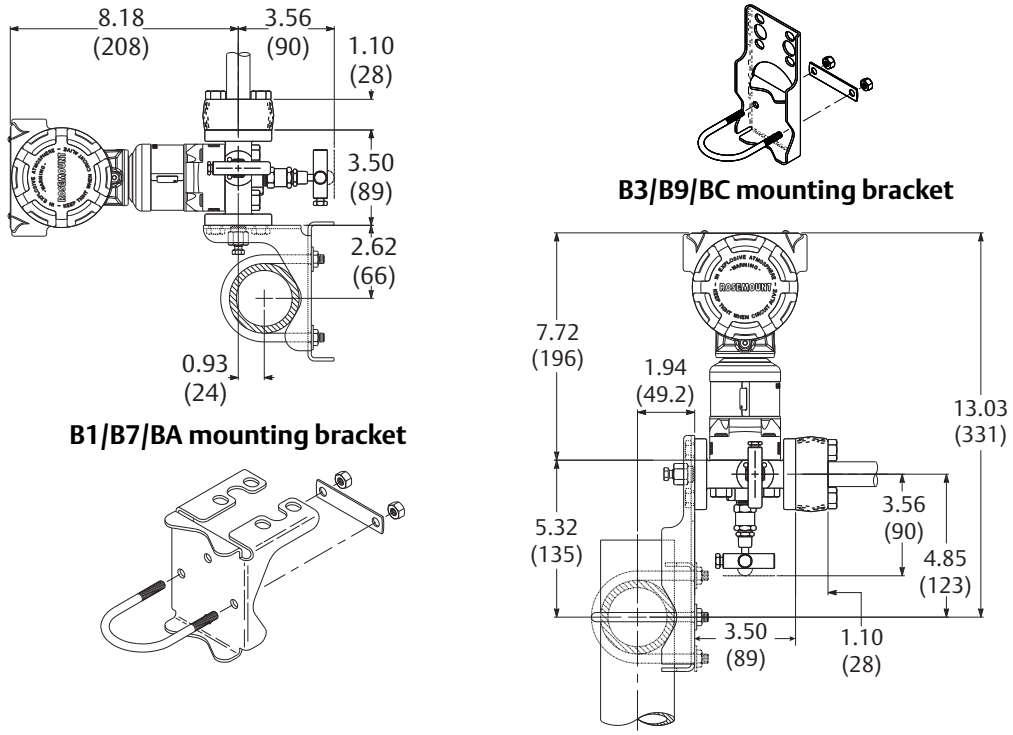


A. 3/8–16 UNC mounting holes (2)
B. 1/2–14 NPT process connection (2)
Dimensions are in inches (millimeters).

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

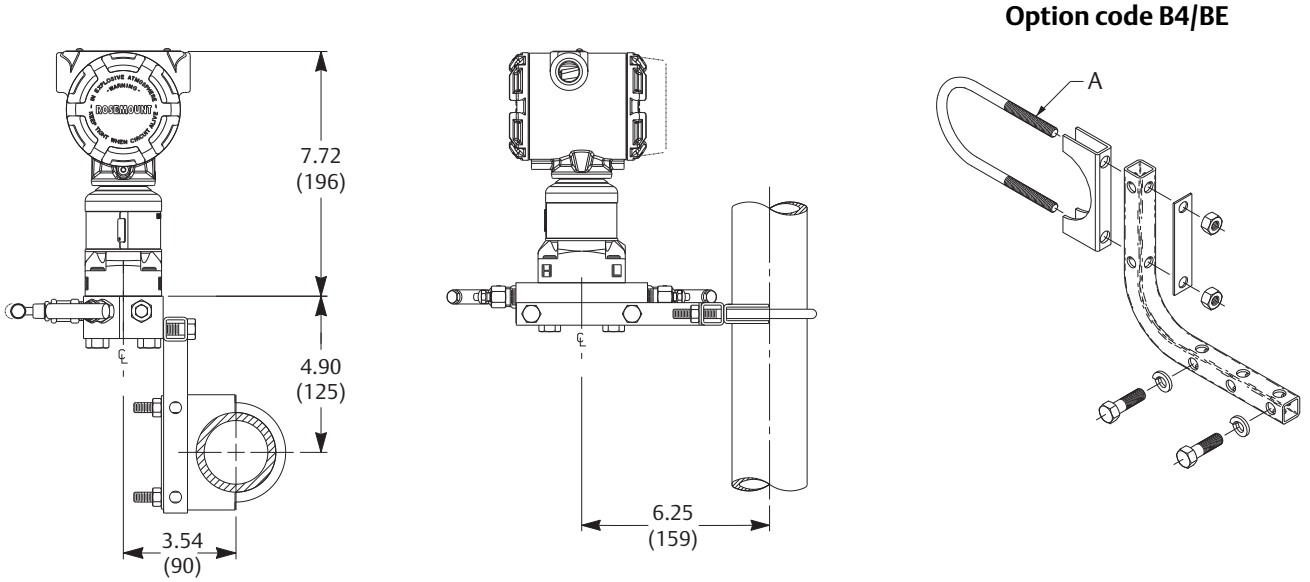
Rosemount mounting brackets

Figure 25. Traditional Manifold with Optional Brackets for 2-in. Pipe Mounting(1)



Dimensions are in inches (millimeters).

Figure 26. Coplanar Manifold with Optional Bracket for 2-in. Pipe Mounting(1)

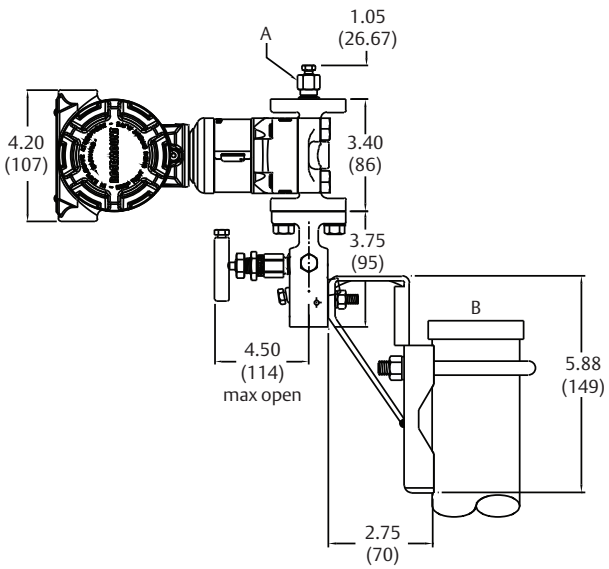


A. 2-in. U-bolt for pipe mounting
Dimensions are in inches (millimeters).

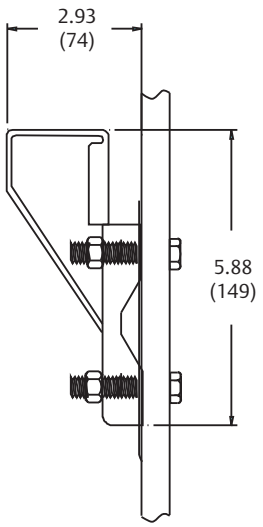
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*

Figure 27. VS/VC Heavy Duty Manifold Mounting Bracket[1]

2-in. pipe mount



Panel mount

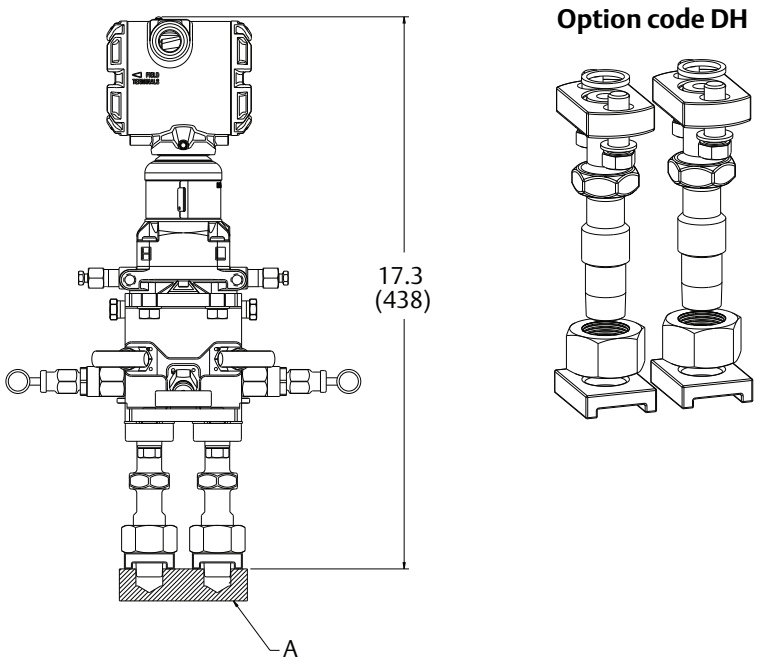


A. Drain/vent valve
B. 2-in. pipe
Dimensions are in inches (millimeters).

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

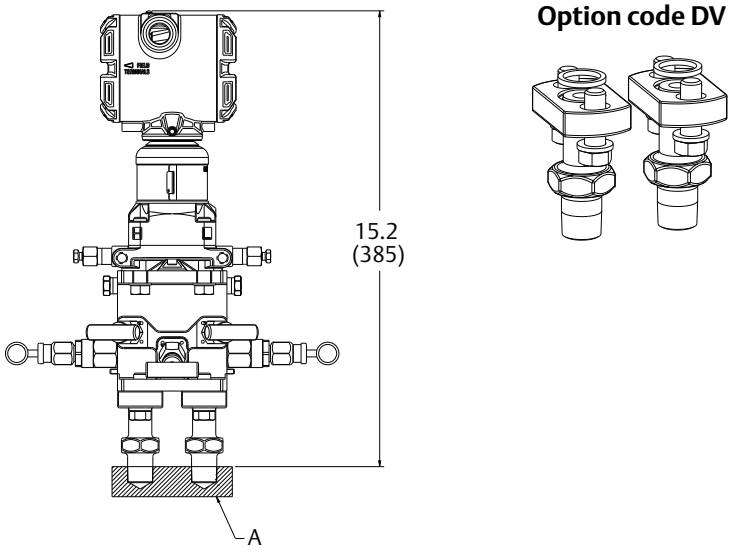
Rosemount connectors

Figure 28. DH Extended Stabilized Connectors for Direct Mounting(1)(2)



A. Cross section image is shown for dimensioning purposes only; it is not part of the transmitter assembly
Dimensions are in inches (millimeters).

Figure 29. DV Non-Stabilized Connectors for Direct Mounting(1)(2)



A. Cross section image is shown for dimensioning purposes only; it is not part of the transmitter assembly
Dimensions are in inches (millimeters).

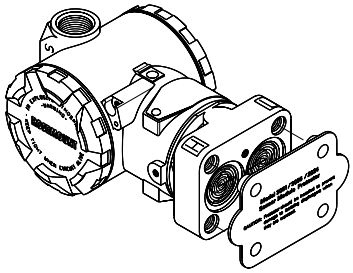
1. *Manifold handle assembly may vary slightly from image shown. All valve handle assemblies provide the same function and meet all stated drawing dimensions.*
2. *In default assembly orientation, manifold valves will face towards user when module high side is on user's left.*

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

This option minimizes process contaminants and prepares the unit for special service by cleaning wetted surfaces and providing material and packaging considerations per ASTM G93-96.

SG sour gas

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/ISO 17495 for sour refining environments.

Dielectric isolator kits

POM dielectric isolators and PEEK bolt sleeves are available with the Rosemount 304 5-valve natural gas metering pattern manifold for added instrument protection. Dielectric kits are rated to 2500 VDC and 5 mega-ohms.

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 Emerson.com/Rosemount.

Spare parts list

Table 19. Rosemount 305 Integral Manifold

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

Table 19. Rosemount 305 Integral Manifold

Part description	Part number (traditional style)	Part number (coplanar style)
Manifold-to-module O-ring, graphite-filled PTFE	03031-0234-0002	03031-0234-0002
Sensor guard (set of 5)		
Coplanar module sensor guard	00305-1000-0001	00305-1000-0001

Table 20. Rosemount 304 Conventional Manifold

Part description	Part number (traditional style)	Part number (wafer style)
Mounting brackets (qty. 1)		
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
Coplanar flange kits (qty. 1)		
Differential flange kit, SST	N/A	00305-1001-0001
Gauge flange kit, SST	N/A	00305-1001-1001
O-rings (set of 12)		
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
Manifold-to-flange bolt kits (set of 4)		
Consult factory for part numbers	Consult factory	Consult factory
Heater block kits (qty. 1)[(1)]		
Steam block kit	00305-0406-0001	N/A
DF adapter kit (qty. 2)		
SST adapters, CS bolts, glass-filled PTFE O-rings	03031-1300-0002	N/A
CS adapters, CS bolts, glass-filled PTFE O-rings	03031-1300-0005	N/A
SST adapters, SST bolts, glass-filled PTFE O-rings	03031-1300-0012	N/A
CS adapters, SST bolts, glass-filled PTFE O-rings	03031-1300-0015	N/A
Socket weld adapter kit (qty. 2)[(2)]		
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
Natural gas connector and dielectric kits (qty. 2)[(3)]		
Dielectric isolator kit, 316 SST	00304-1100-1022	N/A
Dielectric isolator kit, CS	00304-1100-1122	N/A
Stabilized extended connector kit, dielectric, 316 SST	00304-1100-2000	N/A
Non-stabilized connector kit, dielectric, 316 SST	00304-1100-2010	N/A
Stabilized extended connector kit, dielectric, CS	00304-1100-2101	N/A
Non-stabilized connector kit, dielectric, CS	00304-1100-2111	N/A
Stabilized extended connector kit, PTFE O-rings, 316 SST	00304-1100-3000	N/A

Table 20. Rosemount 304 Conventional Manifold

Part description	Part number (traditional style)	Part number (wafer style)
Non-stabilized connector kit, PTFE O-rings, 316 SST	00304-1100-3010	N/A
Stabilized extended connectors kit, PTFE O-rings, CS	00304-1100-3101	N/A
Non-stabilized connector kit, PTFE O-rings, CS	00304-1100-3111	N/A

1. Not available with manifold type code 6.
2. For H2 Traditional Flange.
3. Only available with manifold type code 6.

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