

Rosemount 305 and 306 Integral Manifolds

ROSEMOUNT 305 AND 306 FEATURE...

- *Unique Coplanar™ design of the Rosemount 3051 and 3095 families allows “flangeless” valve integration*
- *Coplanar, traditional, and inline styles*
- *Compact, lightweight assembly*
- *Factory assembled, seal-tested and calibrated*
- *Easy in-process calibration*
- *50% fewer possible leak points than conventional manifold/transmitter assemblies*
- *Direct-mount capability*



Contents

Specifications	page 4
Dimensional Drawings	page 7
Ordering Information	page 13

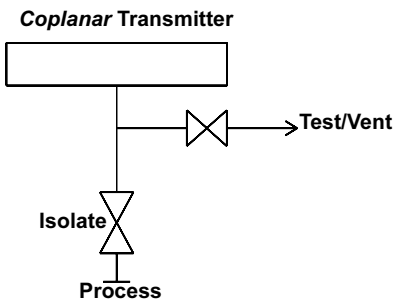
Rosemount 305 and 306 Manifolds

Rosemount 305R Coplanar Style Integral Manifolds

305R TWO-VALVE

This two-valve manifold is used with Rosemount 3051 gage and absolute pressure transmitters. The first valve provides instrument isolation. The second valve allows venting, draining, or calibration through the test port.

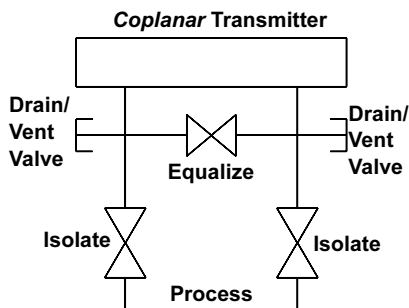
- 305RC2
- 305RT2
- 305RM2
- 305RC7



305R THREE-VALVE

This three-valve manifold is used with Rosemount 3095 and 3051 differential pressure transmitters. It provides two blocking valves and one equalizing valve. Two drain/vent valves are also installed at the test ports.

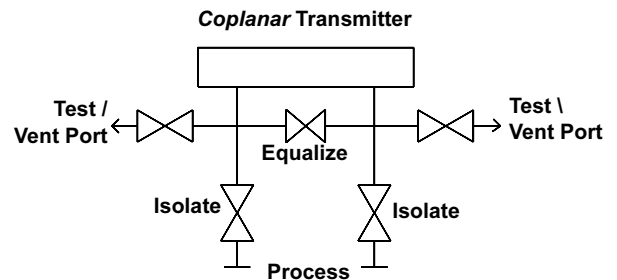
- 305RC3
- 305RT3
- 305RM3
- 305RC8



ROSEMOUNT 305R FIVE-VALVE

This five-valve manifold is used with 3095 and 3051 differential pressure transmitters. It provides two blocking valves, two test/vent valves, and one equalizing valve. The two vent valves allow for 100% capture of vented or drained process, and simplified in-process calibration capability. We also offer a five-valve integral manifold with a metering pattern for Natural Gas installations.

- 305RC5
- 305RC6
- 305RC9
- 305RM5

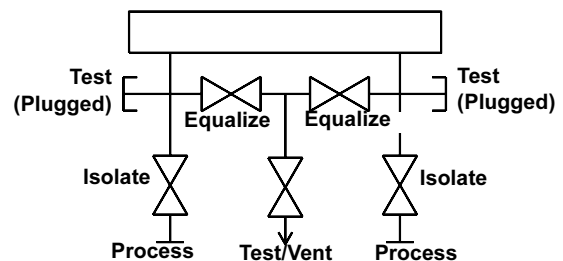


NOTE

Standard two-valve and standard 5-valve manifold Test/Vents receive plastic caps to protect threaded connections.

FIVE-VALVE NATURAL GAS

Coplanar Transmitter



NOTE

Five-valve Natural Gas Test (Plugged) connections receive 1/4-in. NPT plug.

Product Data Sheet

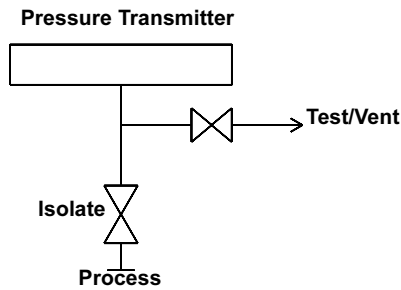
00813-0100-4733, Rev KA
Catalog 2006 - 2007

Rosemount 305 and 306 Manifolds

306RT TWO-VALVE MANIFOLDS

This two-valve pressure manifold is used with 3051 and 2088 gage and absolute pressure transmitters. The first valve provides instrument isolation. The second valve allows venting, draining, or calibration through the test port. Available in 1/2-14 NPT male or female process connections.

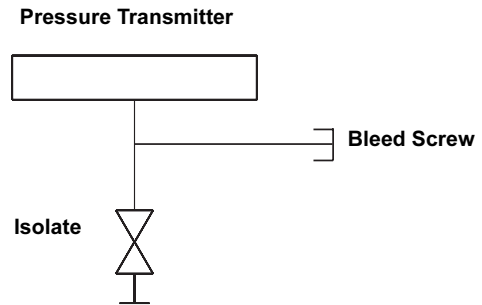
- 306RT2



306RT BLOCK-AND-BLEED MANIFOLDS

This pressure manifold is used with 3051 and 2088 gage and absolute pressure transmitters. It provides a single block valve for instrument isolation. There is also a plug for drain/vent capabilities. Available in 1/2-14 NPT male process connection.

- 306RT1



Specifications

FIGURE 1. 305R integral Manifolds - Pressure vs. Temperature

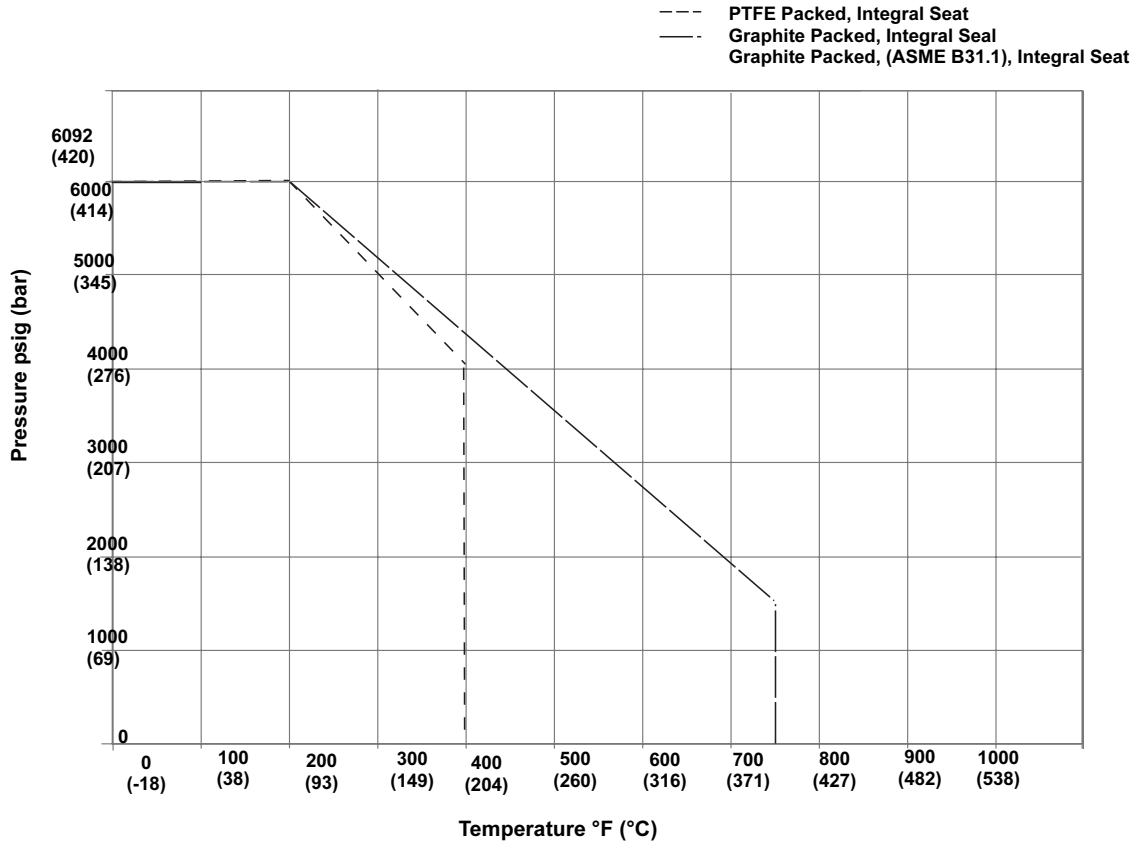


TABLE 1. 305R Integral manifolds - pressure and temperature ratings⁽¹⁾

Packing	Seat	Pressure and Temperature Ratings
PTFE	Integral	6092 psi @ 200°F (420 bar @ 93°C) 4000 psi @ 400°F (276 bar @ 204°C)
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. 306R integral Manifolds - Pressure vs. Temperature

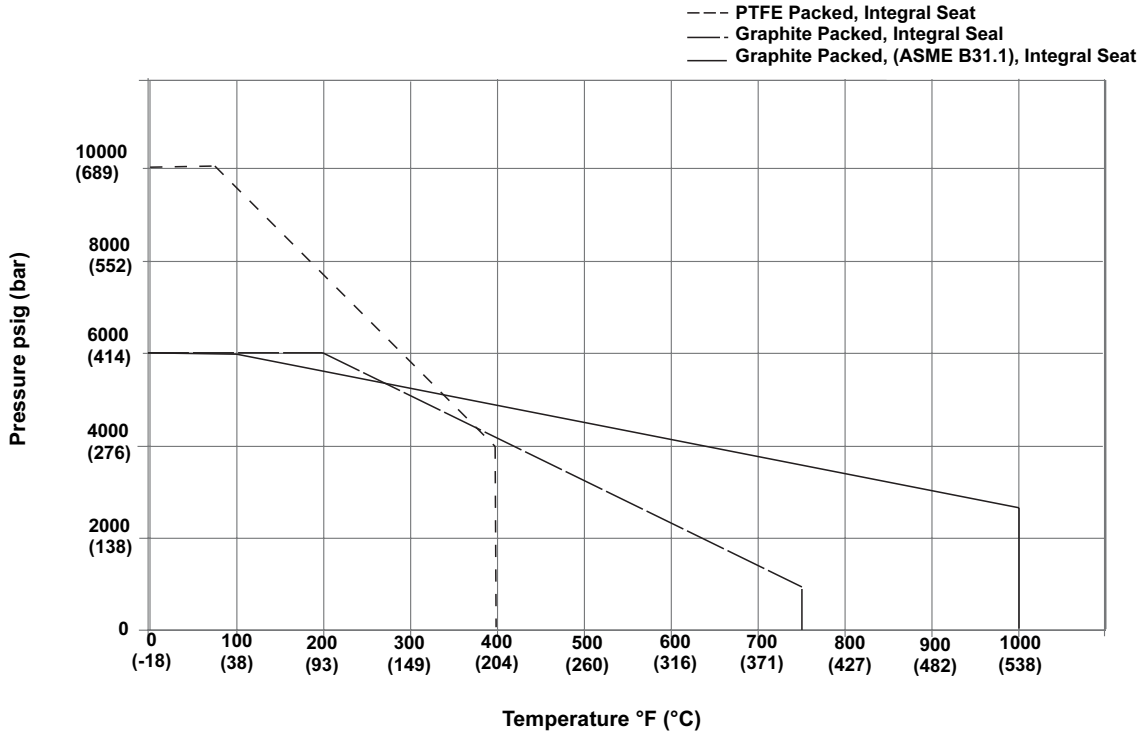


TABLE 2. 306R Integral manifolds - pressure and temperature ratings

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)

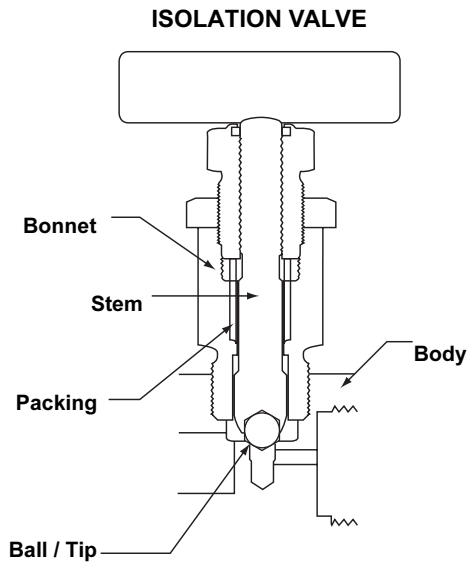
TABLE 3. Process Wetted Materials of Construction - Typical⁽¹⁾

Component	316SST	Hastelloy C	Monel	316 SST with SG option
Body ⁽²⁾	316 SST	Hastelloy C-276	Monel 400	316 SST
Ball / Tip	316 SST / 316Ti SST	Hastelloy C-276	Monel 400 / K500	Hastelloy C-276
Stem	316 SST	Hastelloy C-276	Monel 400 / R-405	Hastelloy C-276
Packing	PTFE / Graphite	PTFE / Graphite	PTFE / Graphite	PTFE / Graphite
Bonnet	316 SST	Hastelloy C-276	Monel 400 / R-405	316 SST
Pipe Plug	316 SST	Hastelloy C-276	Monel 400 / R-405	316 SST
Bleed Screw	316 SST / 316Ti SST	Hastelloy C-276	Monel 400 / R-405 / K500	Hastelloy C-276
Drain / Vent Valve	316 SST	Hastelloy C-276	Monel 400	Hastelloy C-276

(1) Non-wetted parts are 300 series SST.

(2) Body may be supplied as appropriate cast equivalent.

Rosemount 305 and 306 Manifolds



Note: "Typical" Valve

Shipping Weights

TABLE 4. 305 Manifold Weights Without Options, lb (kg)

Model	Approximate Manifold Weight	Manifold with 3051C	Manifold 3051S_C ⁽¹⁾	Manifold with 3095
0305_C2	4.5 (2,0)	9.4 (4,3)	7.6 (3,4)	9.9 (4,5)
0305_C3	4.7 (2,1)	9.6 (4,4)	7.8 (3,5)	10.1 (4,6)
0305_C5	6.5 (3,0)	11.4 (5,17)	9.6 (4,4)	11.9 (5,4)
0305_C6	6.4 (2,9)	11.3 (5,1)	9.5 (4,3)	11.8 (5,35)
0305_C7	4.7 (2,1)	9.6 (4,4)	7.8 (3,5)	10.1 (4,6)
0305_C8	5.0 (2,3)	9.9 (4,5)	8.1 (3,7)	10.4 (4,8)
0305_C9	6.3(2,85)	11.2 (5,1)	9.4 (4,25)	11.7 (5,3)
0305_T2	6.0 (2,7)	10.9 (4,9)	9.1 (4,1)	–
0305_T3	6.0 (2,7)	10.9 (4,9)	9.1 (4,1)	–
0305_T7	6.2 (2,8)	11.1 (5,0)	9.3 (4,2)	–
0305_T8	6.2 (2,8)	11.1 (5,0)	9.3 (4,2)	–

(1) 3051S Module only; see Rosemount product data sheet 00813-0100-4801 for additional information.

TABLE 5. 306 Manifold Weights Without Options, lb (kg)

Model	Approximately Manifold Weight	Manifold with 3051T	Manifold 3051S_T ⁽¹⁾	Manifold with 2088
0306_T1	1.1 (0,5)	4.1 (1,9)	2.5 (1,1)	3.1 (1,4)
0306_T2	2.5 (1,1)	5.5 (2,5)	3.9 (1,7)	4.5 (2,0)
0306_T3	2.5 (1,1)	5.5 (2,5)	3.9 (1,7)	4.5 (2,0)

(1) 3051S Module only; see Rosemount product data sheet 00813-0100-4801 for additional information.

Test Connections

1/4-18 NPT

Adapters

DF option, CF-8M (Cast version of 316 SST, material per ASTM-A743)

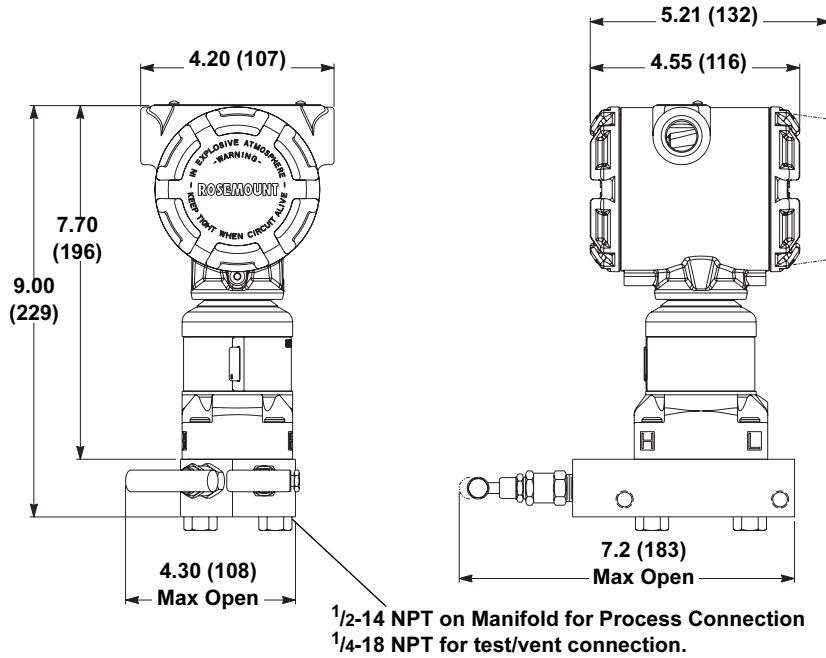
Bolts for Manifolds

Standard material is plated carbon steel per ASTM A449, Type 1
Alternative bolt materials offered through Option Codes

- L4 Austenitic 316 Stainless Steel Bolts
- L5 ASTM-A-193, Grade B7M Bolts
- L8 ASTM-A-193, Class 2, Grade B8M Bolts

Dimensional Drawings

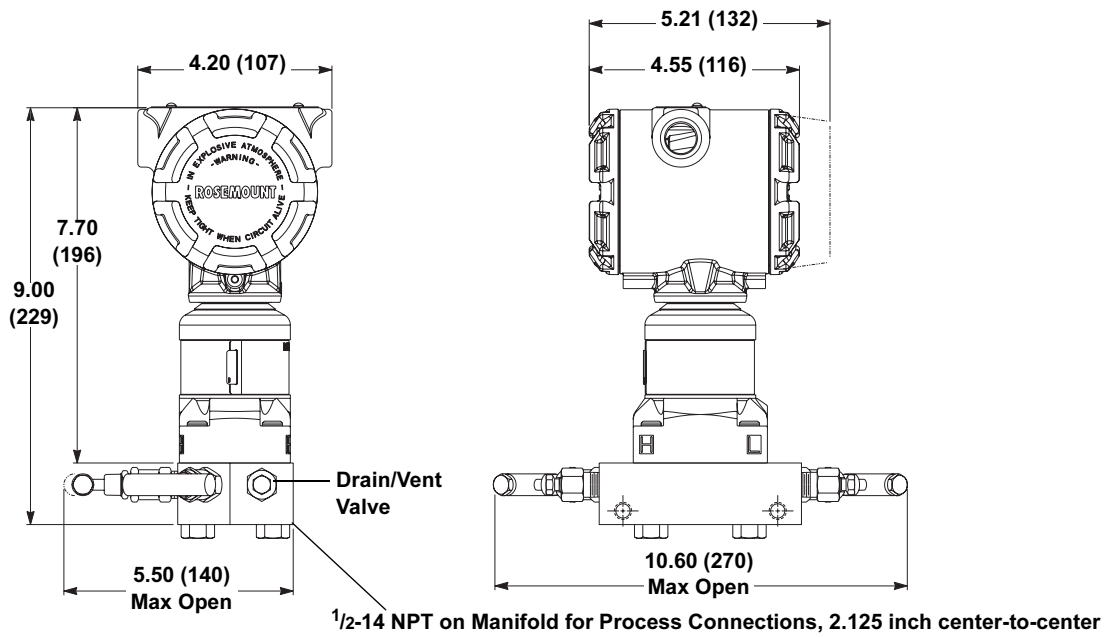
Rosemount 305R Two-Valve Coplanar Style Manifold



Dimensions are in inches (millimeters)

3051-3031E06Q

Rosemount 305R Three-Valve Coplanar Style Manifolds

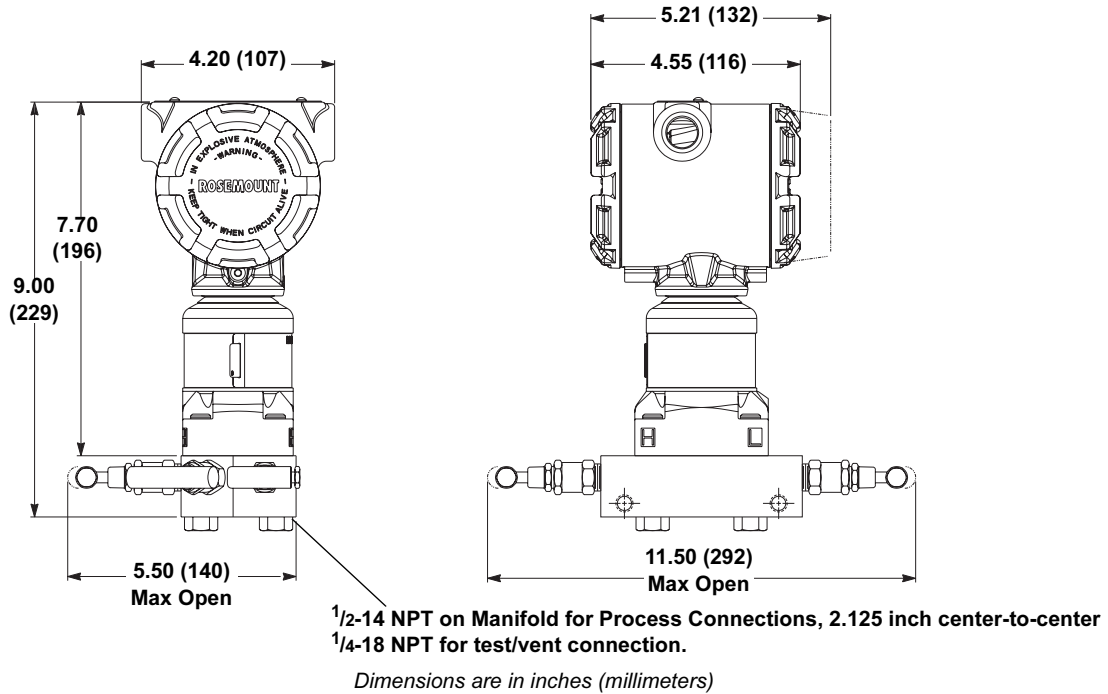


Dimensions are in inches (millimeters)

3051-3031E06Q

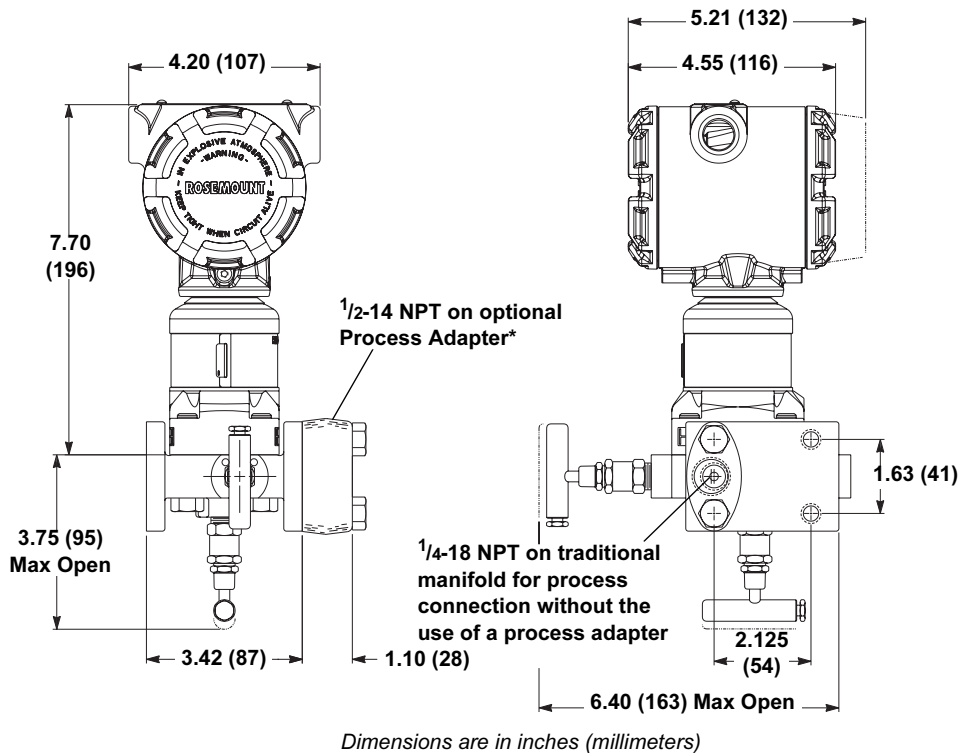
Rosemount 305 and 306 Manifolds

Rosemount 305R Five-Valve Coplanar Style Manifold



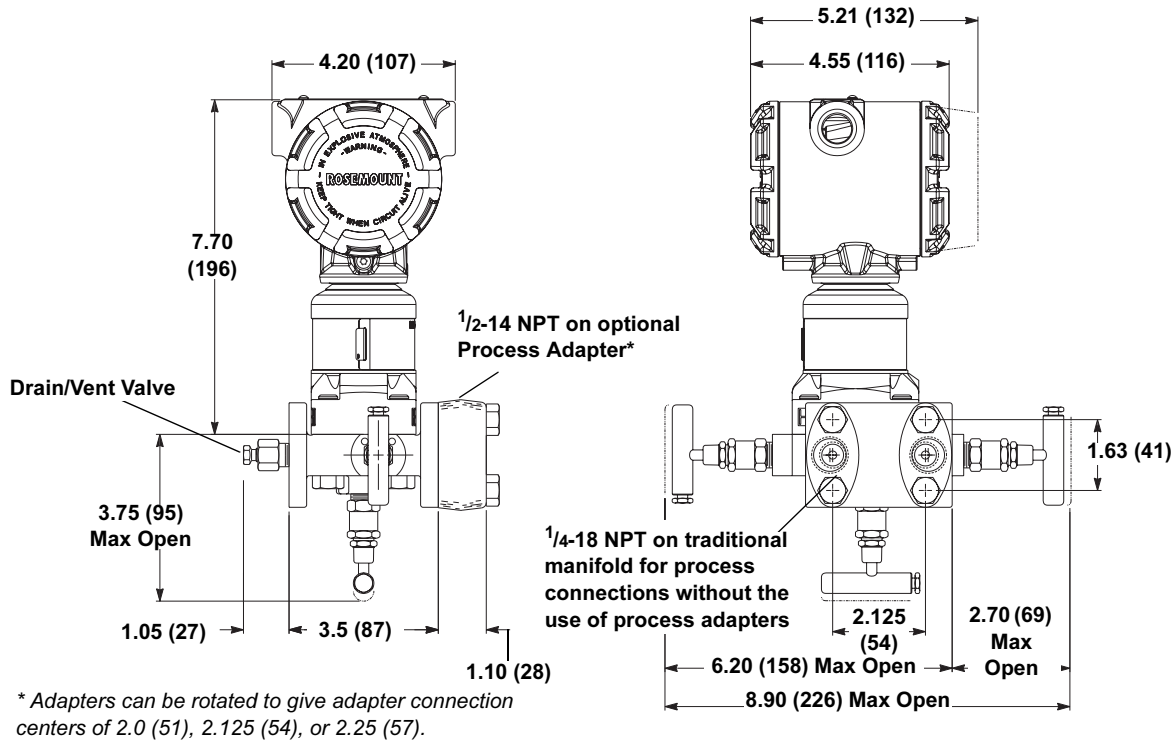
3051-3031E06Z

Rosemount 305RT Two-Valve Traditional Style Manifold



3051-3031F30A

Rosemount 305RT Three-Valve Traditional Style Manifold

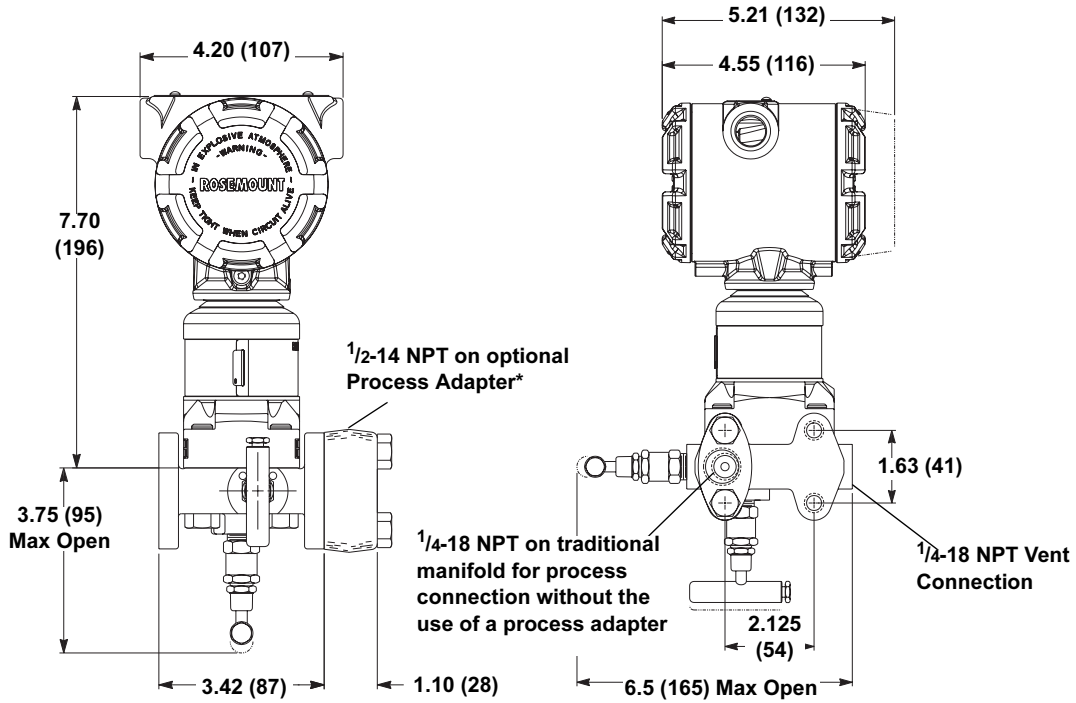


* Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

Dimensions are in inches (millimeters)

3051-3031G30B

Rosemount 305RM Two-Valve Traditional Style Manifold

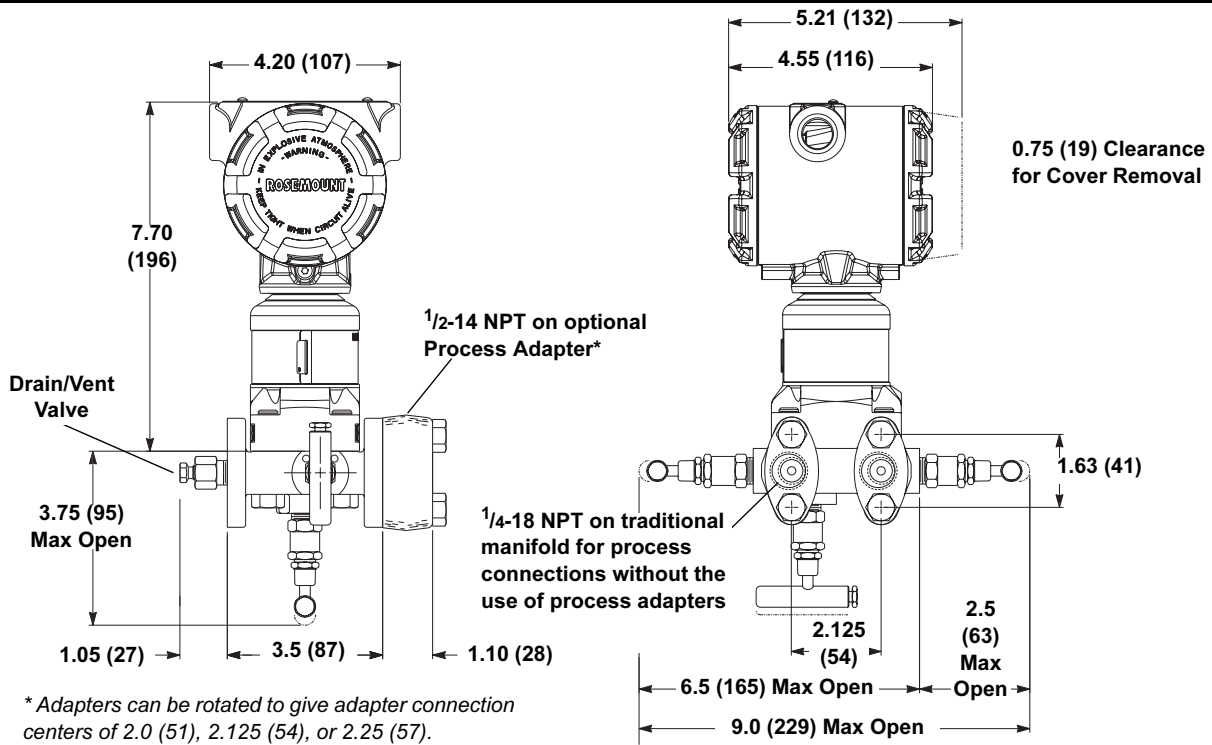


Dimensions are in inches (millimeters)

3051-3031RM2

Rosemount 305 and 306 Manifolds

Rosemount 305RM Three-Valve Traditional Style Manifold

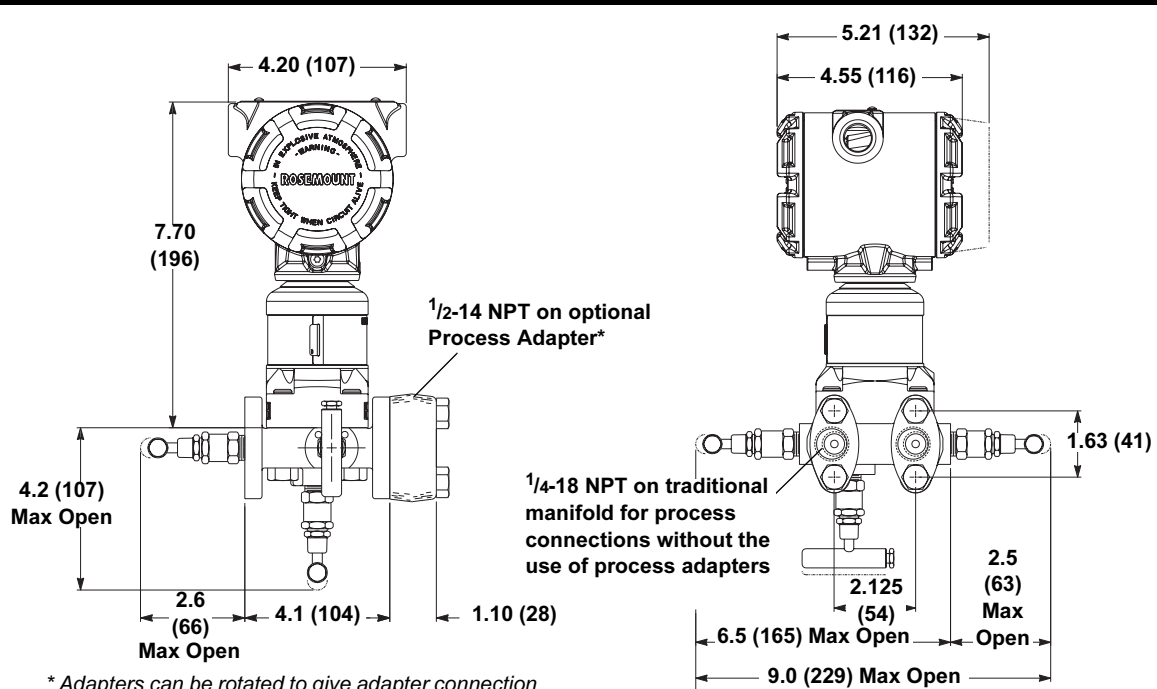


* Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

Dimensions are in inches (millimeters)

3051-305-3031F30B:

Rosemount 305RM Five-Valve Traditional Style Manifold



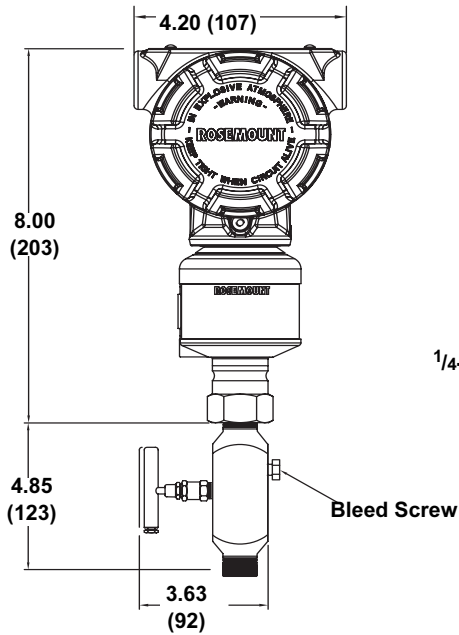
* Adapters can be rotated to give adapter connection centers of 2.0 (51), 2.125 (54), or 2.25 (57).

Dimensions are in inches (millimeters)

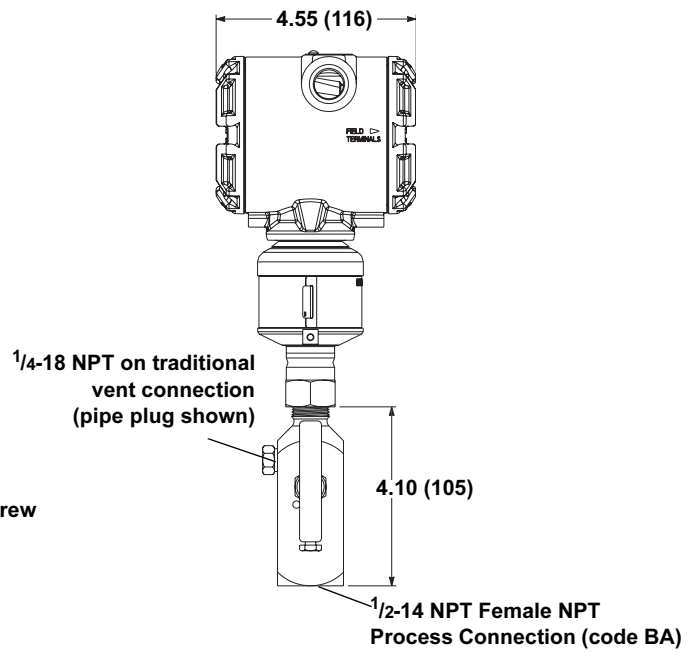
3051-305-3031F30C

Rosemount 306R Pressure Style Manifold (3051T Shown)

BLOCK AND BLEED STYLE



TWO-VALVE STYLE

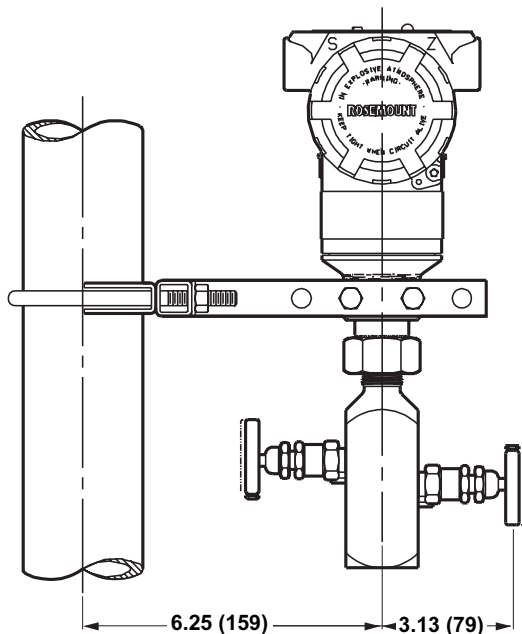


Dimensions are in inches (millimeters)

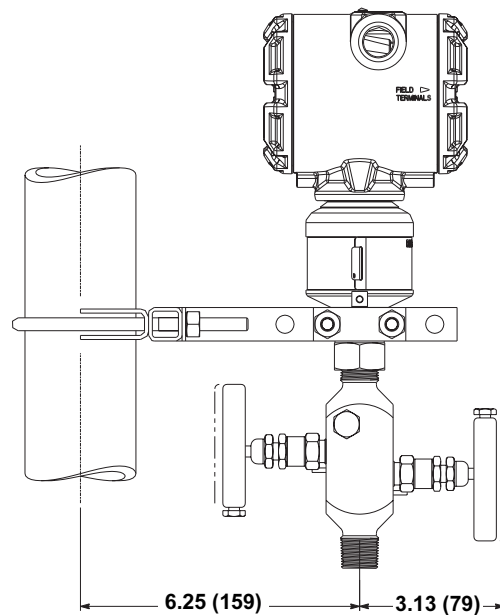
3051-305-303D06B

Installations for Rosemount 3051T and 3051S_T Transmitters for 2-in. Pipe Mounting

ROSEMOUNT 3051T



ROSEMOUNT 3051S_T



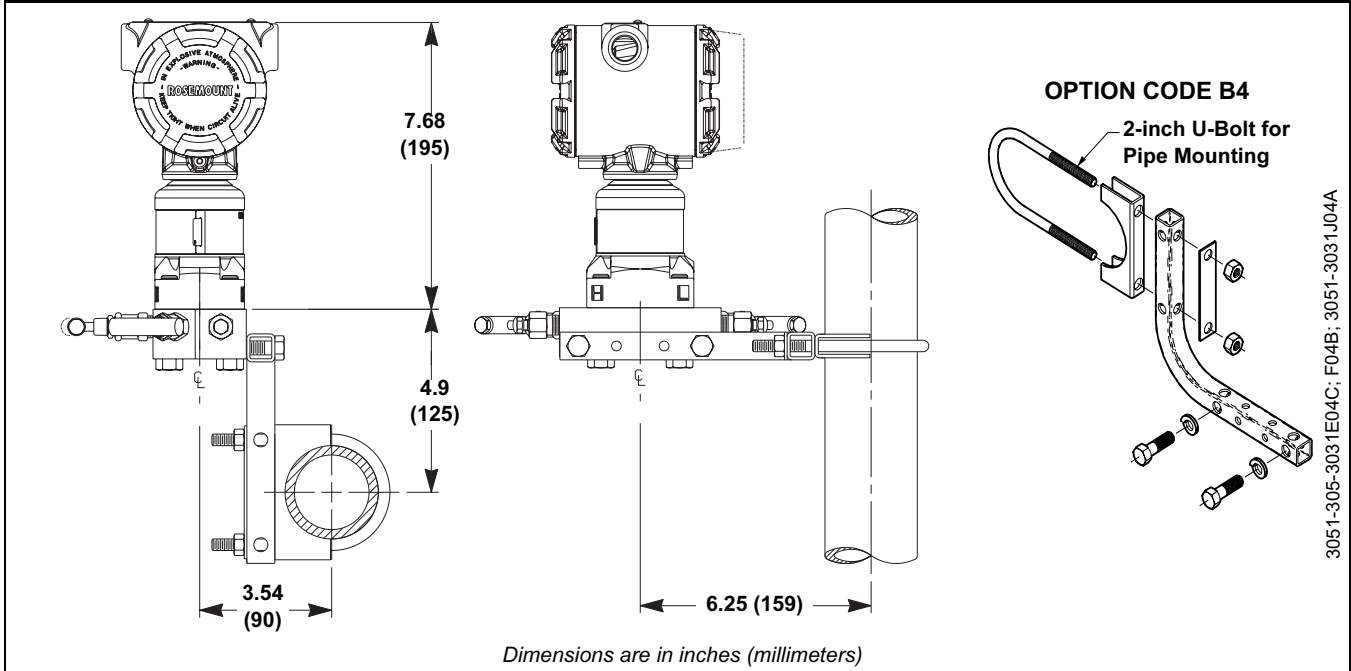
NOTE: Dimensions are in inches (millimeters).

Dimensions are in inches (millimeters)

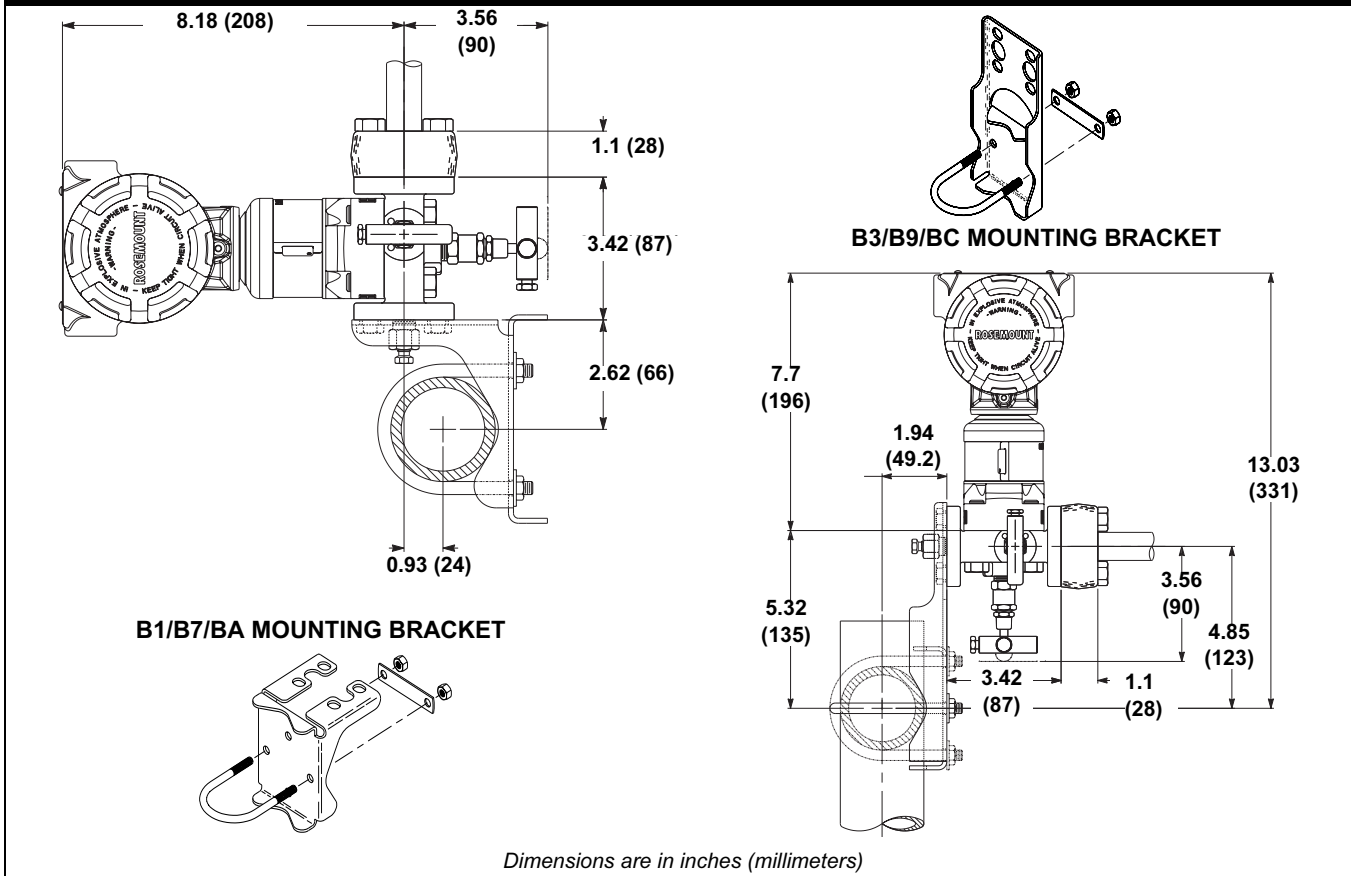
3051-305-3051D04B, 3031D06F

Rosemount 305 and 306 Manifolds

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



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



Ordering Information

TABLE 6. Rosemount 305R Integral Manifolds

Model	Product Description			
0305	Integral Manifold			
Code	Manufacturer			
R	Rosemount Inc.			
Code	Manifold Style			
C	<i>Coplanar</i>			
T	Traditional			
M	Traditional (Rosemount 3095-compatible; DIN-compliant flange)			
Code	Manifold Type			
2	2-valve			
3	3-valve			
5 ⁽¹⁾	5-valve			
6 ⁽²⁾	5-valve for 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)			
Materials of Construction				
Code	Body	Bonnet	Stem and Tip / Ball	Drain/Vent
2	316 SST	316 SST	316 SST	316 SST
3 ⁽⁴⁾⁽⁵⁾	<i>Hastelloy</i> [®] C	<i>Hastelloy</i> C	<i>Hastelloy</i> C	<i>Hastelloy</i> C
4 ⁽⁴⁾	<i>Monel</i> [®]	<i>Monel</i>	<i>Monel</i>	<i>Monel</i>
Code	Process Connection			
A	¼–18 NPT (Traditional manifold styles T and M)			
B	½–14 NPT (<i>Coplanar</i> manifold style only)			
Code	Packing Material			
1	<i>Teflon</i>			
2 ⁽⁶⁾	Graphite-based			
Code	Valve Seat			
1	Integral			
5	Soft delrin (only available with natural gas/ metering pattern)			
Continued on Next Page				

Rosemount 305 and 306 Manifolds

TABLE 6. Rosemount 305R Integral Manifolds

Code	305R Options
P2	Cleaning for special services (Not available with graphite-based packing)
SG ⁽⁶⁾⁽⁷⁾	316 SST NACE option (316 SST body and bonnet; Hastelloy C drain/vent, stem and tip/ball) for H ₂ S Service
L4 ⁽⁸⁾	Austenitic 316 SST bolts
L5	ASTM-A-193-B7M bolts
L8	ASTM-A-193, Class 2, Grade B8M bolts
Coplanar Options	
B4	SST bracket for 2-in. pipe mount with series 300 SST bolts
Traditional Options	
B1	Bracket for 2-in. pipe mounting, CS bolts
B3 ⁽⁹⁾	Flat bracket for 2-in. pipe mounting, CS bolts
B7	B1 bracket with series 300 SST bolts
B9 ⁽⁹⁾	B3 bracket with series 300 SST bolts
BA	SST B1 bracket with series 300 SST bolts
BC ⁽⁹⁾	SST B3 bracket with series 300 SST bolts
BD	SST Bracket with Series 300 SST Bolts for 305RM5 Manifolds
DF	¹ / ₂ -14 NPT flange adapters, Material of construction; match body material and packing material (Not available with graphite-based packing or HK, HL options)
HK ⁽¹⁰⁾	10mm (M10) process flange bolting connection
HL ⁽¹⁰⁾	12mm (M12) process flange bolting connection
Typical Coplanar Integral Manifold Model Number: 305RC32B11B4	
Typical Transmitter Model Number: 3051CD2A02A1AS5	

- (1) Not available with traditional manifold style T.
- (2) Only available with Coplanar manifold style
- (3) Only available with 316SST materials of construction and graphite-based packing.
- (4) Not available with traditional manifold Style M.
- (5) 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.
- (6) Includes graphite tape on drain/vent valves and plugs.
- (7) Only available with Materials of Construction Code 2: 316 SST body and bonnets; Hastelloy C stems, tip/balls, and drain/vents.
- (8) Not available with manifold codes 7, 8, and 9.
- (9) Not compatible with the Rosemount 3095 transmitter.
- (10) Only available with traditional manifold style M.

Product Data Sheet

00813-0100-4733, Rev KA
 Catalog 2006 - 2007

Rosemount 305 and 306 Manifolds

TABLE 7. Rosemount 306RT Integral Manifolds

Model	Product Description			
0306	Pressure Manifold			
Code	Manufacturer			
R	Rosemount Inc.			
Code	Manifold Style			
T	Threaded			
Code	Manifold Type			
1	Block-and-bleed			
2	2-valve			
3 ⁽¹⁾	2-valve (per ASME B31.1 [ANSI] power and piping code)			
Materials of Construction				
Code	Body	Bonnet	Stem and Tip / Ball	Drain/Vent Plug
2	316 SST	316 SST	316 SST	316 SST
3 ⁽²⁾⁽³⁾	Hastelloy C	Hastelloy C	Hastelloy C	Hastelloy C
Code	Process Connection			
AA	1/2-14 male NPT			
BA ⁽²⁾	1/2-14 female NPT			
Code	Packing Material			
1	Teflon			
2 ⁽⁴⁾	Graphite-based			
Code	Valve Seat			
1	Integral			
Code	306RT Options			
P2	Cleaning for special services (Not available with graphite-based packing)			
SG ⁽³⁾⁽⁵⁾	316 SST NACE option (316 SST body and bonnet; Hastelloy C stem and tip/ball). For H ₂ S Service			
Typical Integral Manifold Model Number: 3 0 6 R T 2 2 B A 1 1				
Typical Transmitter Model Number: 3051TG3A2B21AS5B4				

(1) Only available with 316SST 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 graphite tape on plugs.

(5) Only available with material of construction code 2.

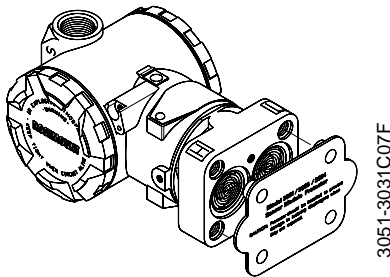
Rosemount 305 and 306 Manifolds

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 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.

ASME B31.1 (ANSI)

The 305 and 306 Manifolds are available in configurations that meet the requirements of ASME B31.1(ANSI) Power and 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(ANSI) 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.rosemount.com.

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Monel is a registered trademark of International Nickel Co.
Hastelloy is a registered trademark of Haynes International
Teflon is a registered trademark of E.I. du Pont de Nemours & Co.*

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