

A range of 2, 3 and 5 valve integral manifolds to be used with Rosemount® Coplanar™ style transmitters for static and differential pressure applications.

General Application

The MC/MT series includes 2 valve manifolds for static pressure; 3 and 5 valve models for differential pressure transmitters with specific variants for gas and power services, including those that meet ASME B31.3 and B31.1 Power Products for fossil fuel power plants.



TECHNICAL DATA

Materials

316 SS, Hastelloy®

Seats:

Metal

Connections:

MC: Pipe x flanged

MT: Flange x flanged

MC: 1/2" NPT inlet

MT: Flange by Flange with 1/4" FNPT thread ports inlet

Orifice size:

0.156" (4.8 mm)

0.136" (3.5 mm) minimal orifice size for MC5G

Pressure (max):

6000 psig (414 barg)

Temperature range (min/max):

-313°F to 1000°F

(-192°C to 538°C)

Hastelloy® is a registered trademark of Haynes International, Inc.

Features

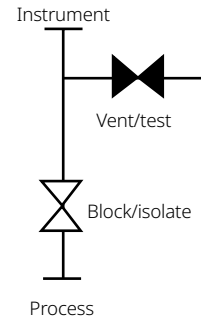
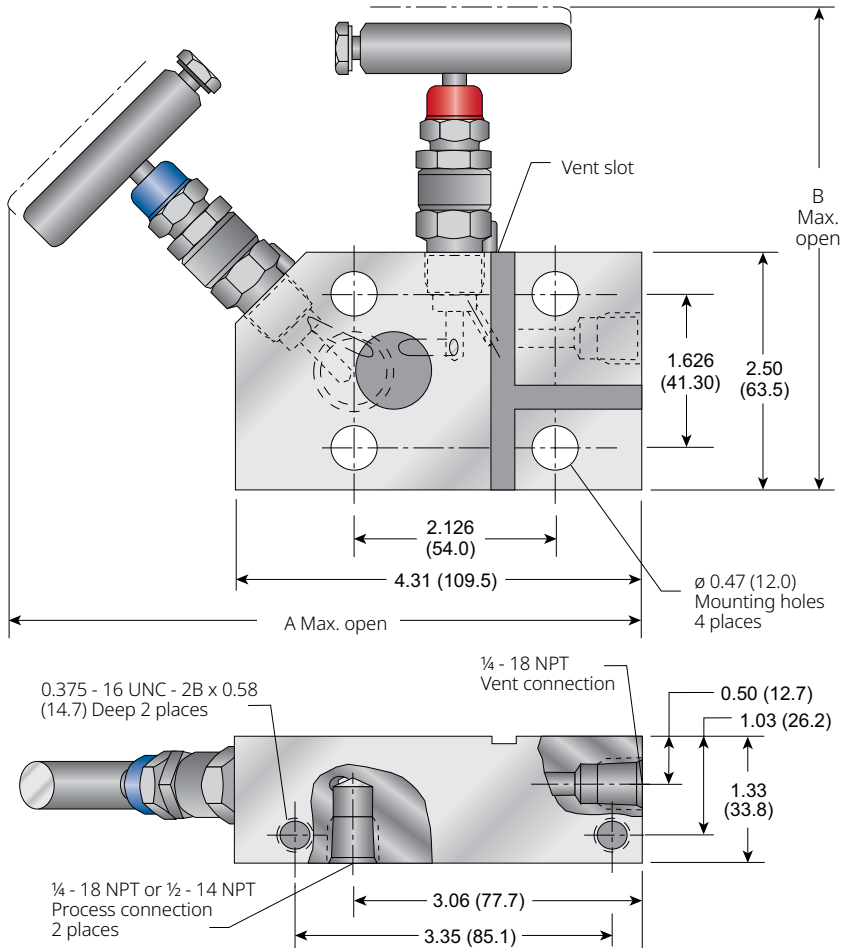
- Compatible with Rosemount® Coplanar™ style pressure transmitter models 3051.
- Ball end stems eliminate seat galling, provide bubble-tight shutoff and long life. Hardened, non-rotating balls ensure perfectly aligned closure.
- Packing below threads prevents lubricant washout, thread corrosion, process contamination and eliminates galling.
- Easily adjustable PTFE and Graphite packing decreases replacement downtime and increases valve life.
- Dust Caps protect stems from lubricant contamination.
- Safety back seating prevents stem blowout or accidental removal and provides a metal-to-metal secondary stem seal while in the fully open position.
- ENC plated 316 SS stems prevent galling of stem threads.
- Rolled stem and bonnet threads provide additional strength.
- Mirror stem finish in the packing areas provides smooth operation and extends packing life.
- Metal-to-metal body-to-bonnet seals in constant compression prevent bonnet thread corrosion, eliminate possible tensile breakage and give a reliable seal.
- Bonnet lock pins prevent accidental separation from the body while enabling easy maintenance and repair.
- Patented porting design allows complete venting of process fluids before start-up for easy installation commissioning, preventing trapping of unwanted liquid or gas process fluids.
- Bonnet cap or ring label identifies valve function.

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Two Valve

MC2 Dimensions

MC2 2-Valve Manifold for Static Pressure-Dimensions, Inches (mm)



Color of Cap	Type of Valve
Blue	Isolation/block
Red	Vent/Bleed

Dimensions - Inches (mm)

Valve ⁽¹⁾	PTFE packed and Graphite	E Series Graphite Packing
A	6.96 (176.8)	7.49 (190.2)
B	5.145 (130.8)	5.75 (146.1)

Bonnet Cap or Ring Label identification
Blue isolation/block
Red Vent/Bleed

Minimum Temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-192°C) @2500 psi (172 bar) 316SS itegral seat

Two Valve

Standard Materials

Valve	Body and bonnet ^[2]	Stem and ball
316 SS	A479-316 316	A276-316 316
SG ^[3]	A479-316 316	Monel [®] 400 Monel [®] K500
SG3 ^[4]	Hastelloy [®] C-276	Hastelloy [®] C-276 Elgiloy [®]

Pressure and Temperature Ratings

Valve	Packing	Ratings
316 SS	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
316 SS	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG ^[3]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG ^[3]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG3 ^[4]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG3 ^[4]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)

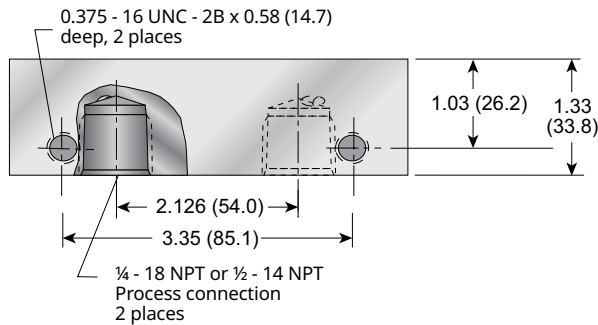
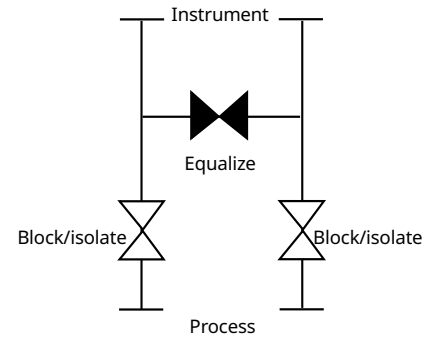
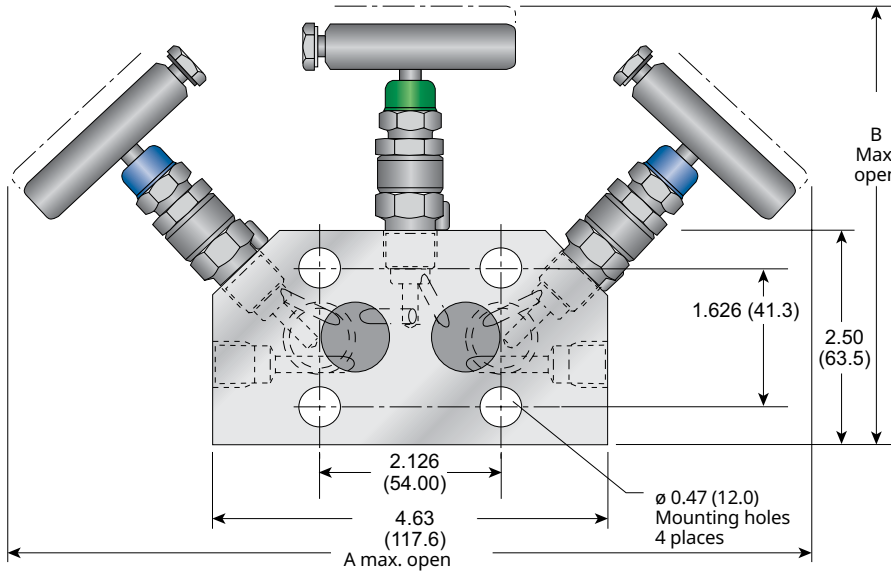
NOTES

1. Approximate valve weight: 4.1 lb (1.9 kg). 0.156 inch (4.0 mm) diameter orifice. Valve Cv 0.36 maximum.
2. Body face is slotted to assure atmospheric vent when a differential transmitter is used.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
4. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).
5. Optional bolting 2.25" consult factory.

Three Valve

MC3 Dimensions

MC3 3-Valve Manifold with Optional Externally Valved Test Ports-Dimensions, Inches (mm)



Color of Cap	Type of Valve
Blue	Isolation/block
Green	Equalize

Dimensions - Inches (mm)

Valve ⁽¹⁾	PTFE packed and Graphite	E Series Graphite Packing
A	9.93 (252.2)	10.98 (278.9)
B	5.15 (130.8)	5.76 (146.1)

Minimum Temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-192°C) @2500 psi (172 bar)
	316SS integral seat
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-192°C) @2500 psi (172 bar)
	316SS integral seat

Anderson Greenwood Instrumentation Manifolds

MC
SERIES

Three Valve

Standard Materials

Valve ^[2]	Body and bonnet	Stem and ball
316 SS	A479-316 316	A276-316 316
SG ^[3]	A479-316 316	Monel [®] 400 Monel [®] K500
SG3 ^[4]	Hastelloy [®] C-276	Hastelloy [®] C-276 Elgiloy [®]

Pressure and Temperature Ratings

Valve	Packing	Ratings
316 SS	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
316 SS	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG ^[3]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG ^[3]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG3 ^[4]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG3 ^[4]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)

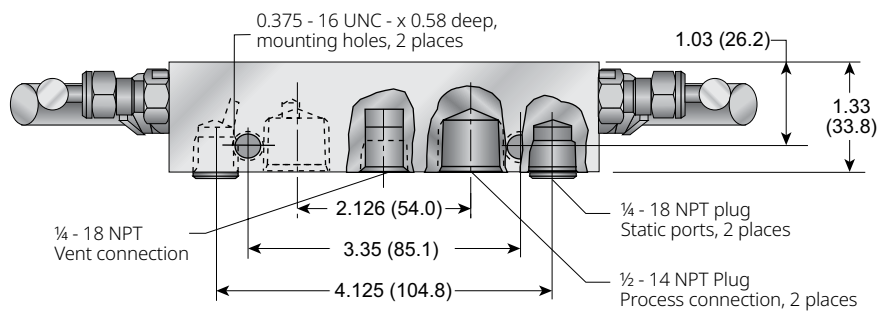
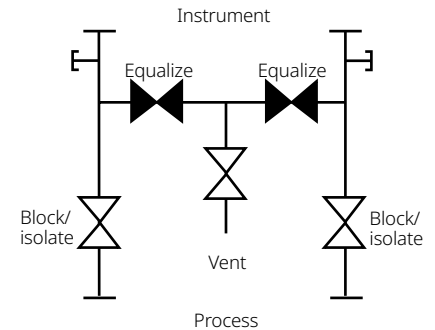
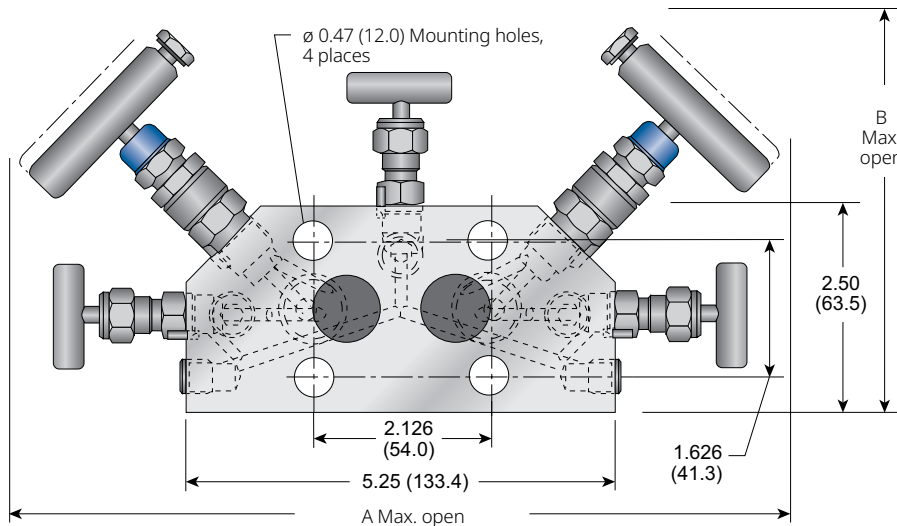
NOTES

- Approximate valve weight:
5.0 lb (2.3 kg) for MC3VI ()-2-H5,
0.4 lb (2.0 kg) for MC3VI ()-2
0.156 inch (4.0 mm) diameter orifice.
Valve Cv 0.36 maximum.
- Optional test port valves are H5VDS-22, convertible soft-to-metal seat.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
- SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).
- Optional bolting 2.25", consult factory.

Five Valve

MC5G Dimensions

MC5G 5-Valve Manifold for Gas Service (Patent Protected)-Dimensions, Inches (mm)



Color of Cap	Type of Valve
	Isolation/block

Standard Materials

Valve ^[1]	Body and bonnet	Stem and ball	Packing
316 SS	A479-316 316	A276-316 316	PTFE
SG ^[2]	A479-316 316/Monel [®]	Monel [®] 400 Monel [®] K500	PTFE
SG3 ^[3]	Hastelloy [®] C-276	Hastelloy [®] C-276 Elgiloy [®]	PTFE

Dimensions - Inches (mm)

Valve ^[1]	Graphite and PTFE
A	10.55 (268)
B	5.15 (130.8)

Minimum Temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel [®] , Hastelloy [®] , PTFE packed	-40°F (-40°)
316 SS, Monel [®] , Hastelloy [®] , Graphite packed	-40°F (-40°)

Pressure and Temperature Ratings

Valve	Ratings
316 SS, SG ^[2] , SG3 ^[3]	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)

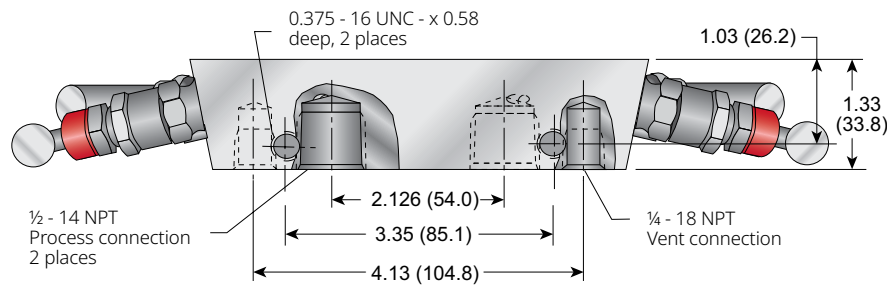
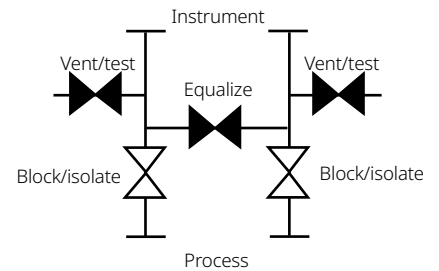
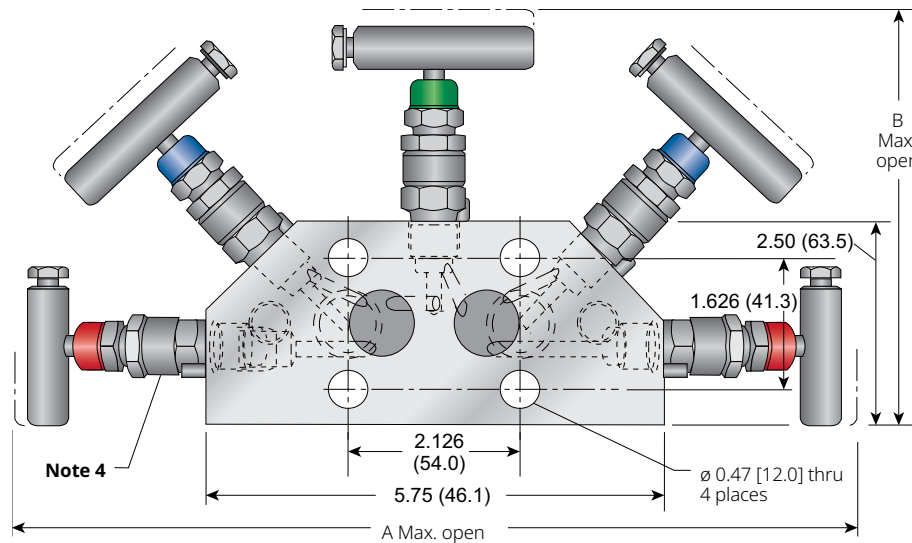
NOTES

- Approximate valve weight: 4.8 lb (2.2 kg).
0.136 inch (3.5 mm) diameter orifice.
Valve Cv 0.24 maximum.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
- SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).
- Static port plug is optional.

Five Valve

MC5P Dimensions

MC5P 5-Valve Manifold with Two Integral Test Valves (Patent Protected)-Dimensions, Inches (mm)



Color of Cap	Type of Valve
Blue	Isolation/block
Red	Vent/Bleed
Green	Equalize

Standard Materials

Valve[1]	Body and bonnet	Stem and ball	Packing
316 SS	A479-316 316	A276-316 316	PTFE
SG[2]	A479-316 316/Monel®	Monel® 400 Monel® K500	PTFE
SG3[3]	Hastelloy® C-276	Hastelloy® C-276 Elgiloy®	PTFE

Dimensions - Inches (mm)

Valve[1]	PTFE packed and Graphite	E Series Graphite Packing
A	11.05 (280.7)	12.48 (315.0)
B	5.15 (130.8)	5.75 (146.1)

Pressure and Temperature Ratings

Valve	Ratings	Packing
316 SS, SG[2], SG3[3]	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)	PTFE
316 SS, SG[2], SG3[3]	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)	Graphite

Minimum Temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat

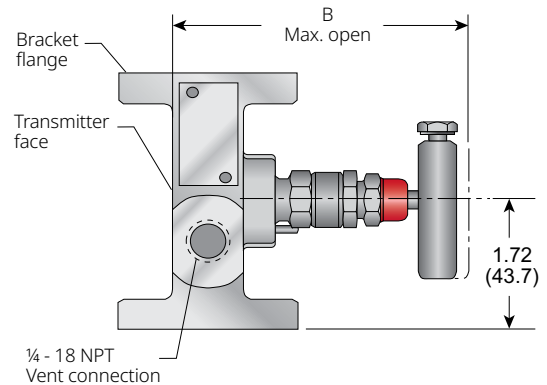
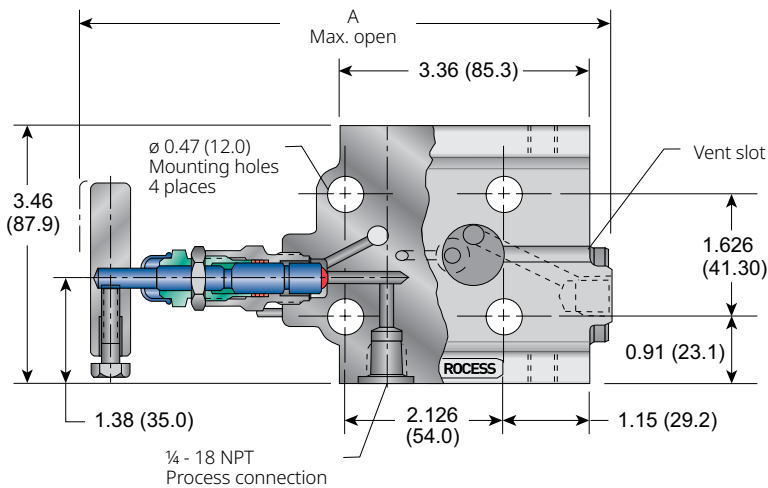
NOTES

- Approximate valve weight: 5.3 lb (2.4 kg).
0.156 inch (4.0 mm) diameter orifice.
Valve Cv 0.36 maximum.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
- SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).
- Valve bonnet labels not supplied on Graphite packed bonnets due to temperature limitations.

Two Valve

MT2 Dimensions

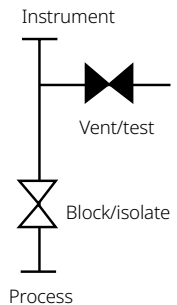
MT2 2-Valve Manifold for Static Pressure-Dimensions, Inches (mm)



Color of Cap	Type of Valve
Blue	Isolation/block
Red	Vent/Bleed

Standard Materials

Valve	Body and bonnet[2]	Stem and ball
316 SS	A479-316 316	A276-316 316
SG[3]	A479-316 316	Monel® 400 Monel® K500
SG3[4]	Hastelloy® C-276	Hastelloy® C-276 Elgiloy®



Pressure and Temperature Ratings

Valve	Packing	Ratings
316 SS	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
316 SS	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG[3]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG[3]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
SG3[4]	PTFE	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG3[4]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)

Dimensions - Inches (mm)

Valve[1]	PTFE packed and Graphite	E Series Graphite Packing
A	6.77 (171.9)	7.44 (188.9)
B	4.02 (102.1)	4.69 (119.1)

Minimum Temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat

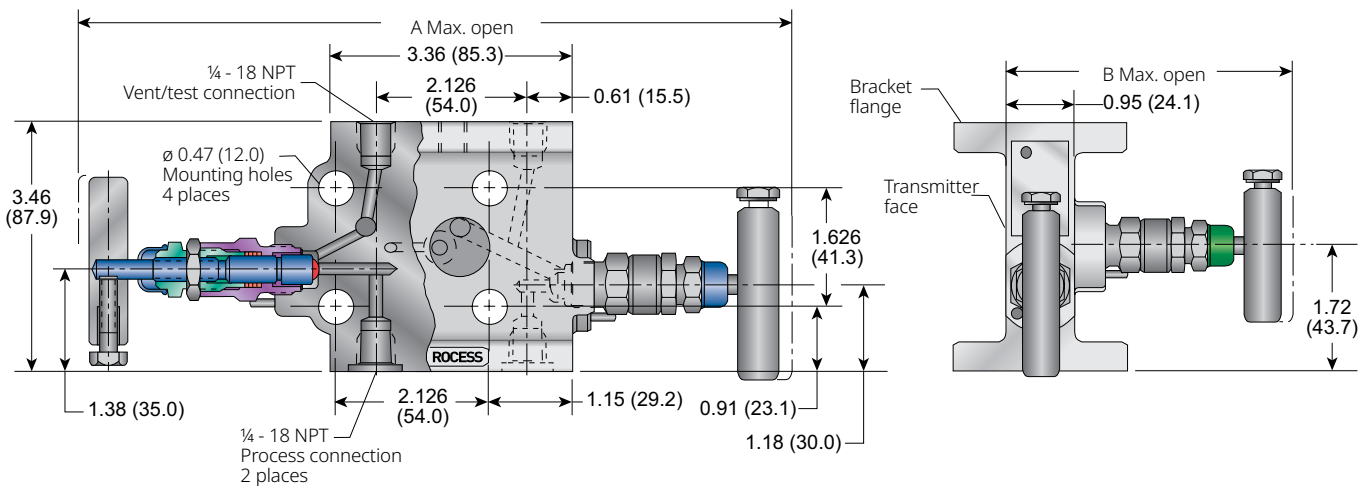
NOTES

- Approximate valve weight: 4.6 lb (2.09 kg).
0.156 inch (4.0 mm) diameter orifice.
Valve Cv 0.36 maximum.
- Body face is slotted to assure atmospheric vent when a differential transmitter is used.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
- SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).

Three Valve

MT3 Dimensions

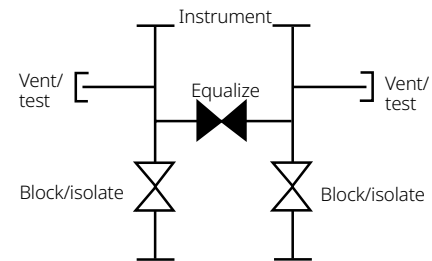
MT3 3-Valve Manifold with Test Ports-Dimensions, Inches (mm)



Color of Cap	Type of Valve
	Isolation/block
	Equalize

Standard Materials[2]

Valve	Body and bonnet	Stem and ball
316 SS	A479-316 316	A276-316 316
SG ^[3]	A479-316 316	Monel® 400 Monel® K500
SG3 ^[4]	Hastelloy® C-276	Hastelloy® C-276 Elgiloy®



Dimensions - Inches (mm)

Valve[1]	PTFE packed and Graphite	E Series Graphite Packing
A	9.68 (245.9)	11.02 (279.9)
B	4.02 (102.1)	4.69 (119.1)

Pressure and Temperature Ratings

Valve	Packing	Ratings
316 SS	PTFE	6000 psig at 200°F (414 barg at 93°C)
		4000 psig at 500°F (276 barg at 260°C)
316 SS	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C)
		1500 psig at 1000°F (103 barg at 538°C)
SG ^[3]	PTFE	6000 psig at 200°F (414 barg at 93°C)
		4000 psig at 500°F (276 barg at 260°C)
SG ^[3]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C)
		1500 psig at 1000°F (103 barg at 538°C)
SG3 ^[4]	PTFE	6000 psig at 200°F (414 barg at 93°C)
		4000 psig at 500°F (276 barg at 260°C)
SG3 ^[4]	Graphite/ Low emissions graphite	6000 psig at 200°F (414 barg at 93°C)
		1500 psig at 1000°F (103 barg at 538°C)

Minimum Temperature

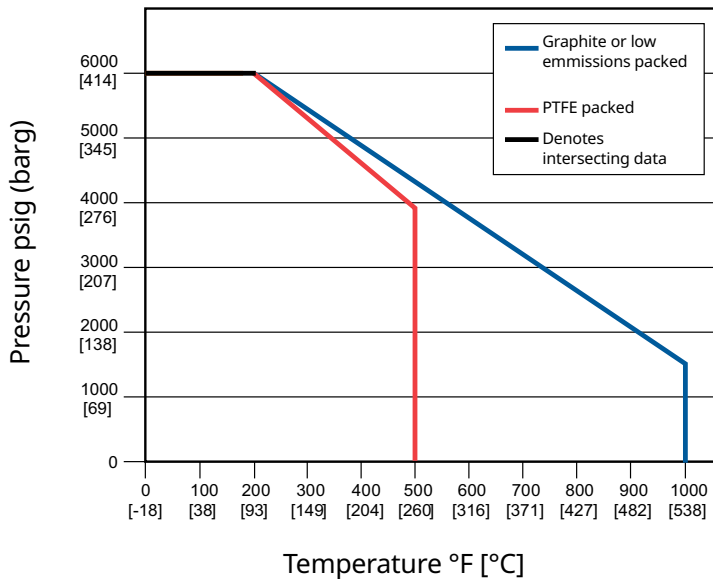
316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-192°C) @2500 psi (172 bar) 316SS integral seat

NOTES

- Approximate valve weight: 4.9 lb (2.22 kg).
0.156 inch (4.0 mm) diameter orifice.
Valve Cv 0.36 maximum.
- Monel® and Hastelloy® are also available.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
- SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]).

Pressure vs. Temperature

Pressure vs. Temperature



Minimum temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	(MC5G Minimum Temp 40°F (-40°))
-313°F (-192°C) @2500psi (172 bar)	
316SS integral seat	
316 SS, Monel®, Hastelloy®, Graphite packed	(MC5G Minimum Temp 40°F (-40°))
-313°F (-192°C) @2500psi (172 bar)	
316SS integral seat	

Bonnet Assemblies

The metal-seated bonnet assemblies have rotating stems with free swivel ball-type seats for long service life.

The specially hardened ball seat is ideal for gas, steam and liquid service.

All stem threads are rolled and lubricated to prevent galling and reduce operating torque. The stem seal is a PTFE or Graphite packing gland which is adjustable in service. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service and PTFE and Graphite assemblies have a protective dust cap fitted to contain stem lubricant and prevent the influx of contaminants.

The high-temperature bonnet assemblies use stems and bonnets incorporating adjustable graphite rings and back-up pressure rings to ensure a leak-free stem seal and are fitted with larger size T-bar handles.

Bonnet Lock (BL)

The Anderson Greenwood bonnet lock prevents accidental loosening of the bonnet-to-body seal. A high-strength, short bonnet pin aligns a hex collar over the bonnet.

Tests indicate the minimum torque required to break the collar loose is greater than the torque required to twist off the handle.



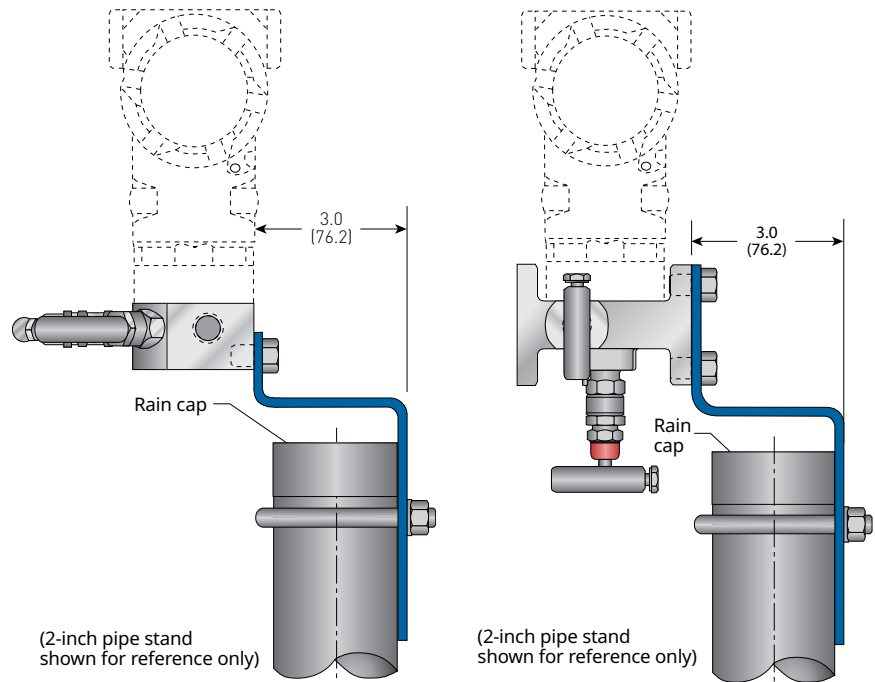
MC/MT Mounting Kits

MC/MT AGI Mount Kits

Manifold style	Material
MT-AM	CS[1]
MT-AMS	SS
MC-AM	CS[1]
MC-AMS	316 SS

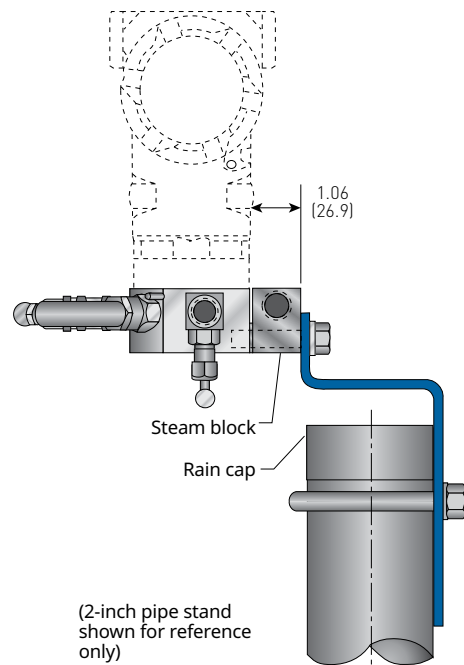
NOTE

1. Zinc TCP plated



MC Steam Block Option Kit

Manifold style	Material
MC	316 SS



Anderson Greenwood Instrumentation Manifolds

Two/Three/Five Valve

MC
SERIES

Selection Guide - MC (Rosemount® Coplanar™ only) Specifications

MC	3	V	I	S	-4	-PS	
BASIC SERIES	TYPE	PACKING	SEAT	MATERIAL	END CONNECTION	OPTIONS	
MC Coplanar™	2	2 valve (static pressure)	V PTFE	I Integral (body material)	S 316 SS	4 1/2-inch FNPT	AM AGI Mount kit for 2-inch pipe stand mounting of manifold AMS AGI Mount kit for 2 inch Pipe Stand mounting of manifold 316SS BL Bonnet lock device CB Ceramic ball ended stem H5 H5VDS-22 vent valve (2) (MC3 only) 1H5 H5VDS-22 vent valve (1) (MC2, MC3 only) HD Hydrostatic testing (100 percent) (MSS SP-61) OC00 Cleaned for oxygen service PS^[1] Required MC5G Static test ports only SB Steam block (MC only) SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103 SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm]) LT Low Temperature bonnet min temperature -313°F (-192°C) @ 2500 psi (172 bar) 316SS integral seat (not available on MC5G)
	3	3 valve (ΔP)	H Graphite (not available for MC5G)		J Hastelloy®		
	5G	5 valve (gas)(ΔP)	E Low emissions graphite (not available for MC5G)				
	5P	5 valve (power)(ΔP)					

NOTES

1. Required on MC5G Static test.
2. Bolts, plugs, bleed plugs and gaskets are not included; contact factory if bolts, plugs or gaskets are required.

Anderson Greenwood Instrumentation Manifolds

Two/Three Valve

MT
SERIES

Selection Guide - MT (Rosemount® Coplanar™ only) Specifications

MT	3	V	I	S	-2	-PS
BASIC SERIES	TYPE	PACKING	SEAT	MATERIAL	END CONNECTION	OPTIONS
MT Traditional (flange by flange)	2 2 valve (static pressure)	V PTFE	I Integral (body material)	S 316 SS	2 ¼-inch FNPT (use if futbol mounting to inlet)	AM AGI Mount kit for 2-inch pipe stand mounting of manifold
	3 3 valve (ΔP)	H Graphite E Low emissions graphite		J Hastelloy®		AMS AGI Mount kit for 2 inch Pipe Stand mounting of manifold 316SS BL Bonnet lock device CB Ceramic ball ended stem CL00 Cleaned for chlorine service HD Hydrostatic testing (100 percent) (MSS SP-61) OC00 Cleaned for oxygen service SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103 SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for C-chloride conditions > 50 mg/l [ppm]) LT Low Temperature bonnet min temperature -313°F (-192°C) @ 2500 psi (172 bar) 316SS integral seat

NOTE

Bolts, bleed plugs and gaskets are not included; contact factory if bolts, plugs or gaskets are required.

Anderson Greenwood Instrumentation Manifolds

MC/MT
SERIES

Two/Three/Five Valve

Selection Guide - MC ASME B31.1 - Power industry

MC and MT ASME B31.1 or B31.3 specifications meets MSS SP-105

MC	3HP	S	-4 -XP	-AM
BASIC SERIES	TYPE	MATERIAL	END CONNECTION	OPTIONS
MC Coplanar™	2HP 2 valve (static pressure)	S 316 SS	4 1/2-inch FNPT	AM AGI Mount kit for 2-inch pipe stand mounting of manifold
	3HP 3 valve (ΔP)			AMS AGI Mount kit for 2 inch Pipe Stand mounting of manifold 316SS
	5HP 5 valve (power)(ΔP)			

Selection Guide - MT ASME B31.1 - Power industry

MC	3HP	S	-2 -XP	-AM
BASIC SERIES	TYPE	MATERIAL	END CONNECTION	OPTIONS
MT Traditional (flange by flange)	2HP 2 valve (static pressure)	S 316SS	2 ¼-inch FNPT (use if futbol mounting to inlet)	AM AGI Mount kit for 2-inch pipe stand mounting of manifold
	3HP 3 valve (ΔP)			AMS AGI Mount kit for 2 inch Pipe Stand mounting of manifold 316SS

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NOTES

- All manifolds come standard with Graphite packing, integral seats, bonnet locks, and are subjected to hydrostatic testing.
- Manifold ratings:
SST
6000 psig at 100°F (414 barg at 38°C)
3030 psig at 1000°F (209 barg at 538°C)
- Bolts, plugs, bleed plugs and gaskets are not included; contact factory if bolts, plugs or gaskets are required.