Manifolds - Two/Three/Five Valve

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 B31.1 or B31.3 for fossil fuel power plants.

TECHNICAL DATA

Materials
316 SS, Hastelloy®

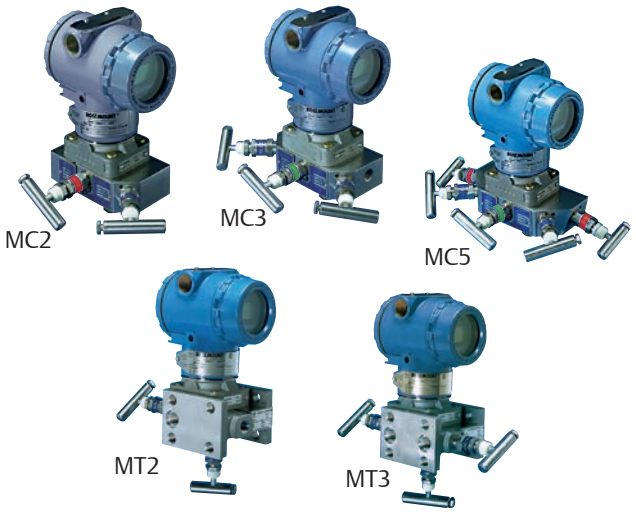
Seats:
Metal

Connections:
MC: Pipe x flanged
MT: Flange x flanged
MC: 1/2" NPT
MT: Double flanged or 1/4" NPT for futbol mounting

Orfice size:
0.156" (4.8 mm)
0.136" (3.5 mm) for gas service

Pressure (max):
6000 psig (414 barg)

Temperature range (min/max):
-70°F to 1000°F
(-57°C to 538°C)



Features

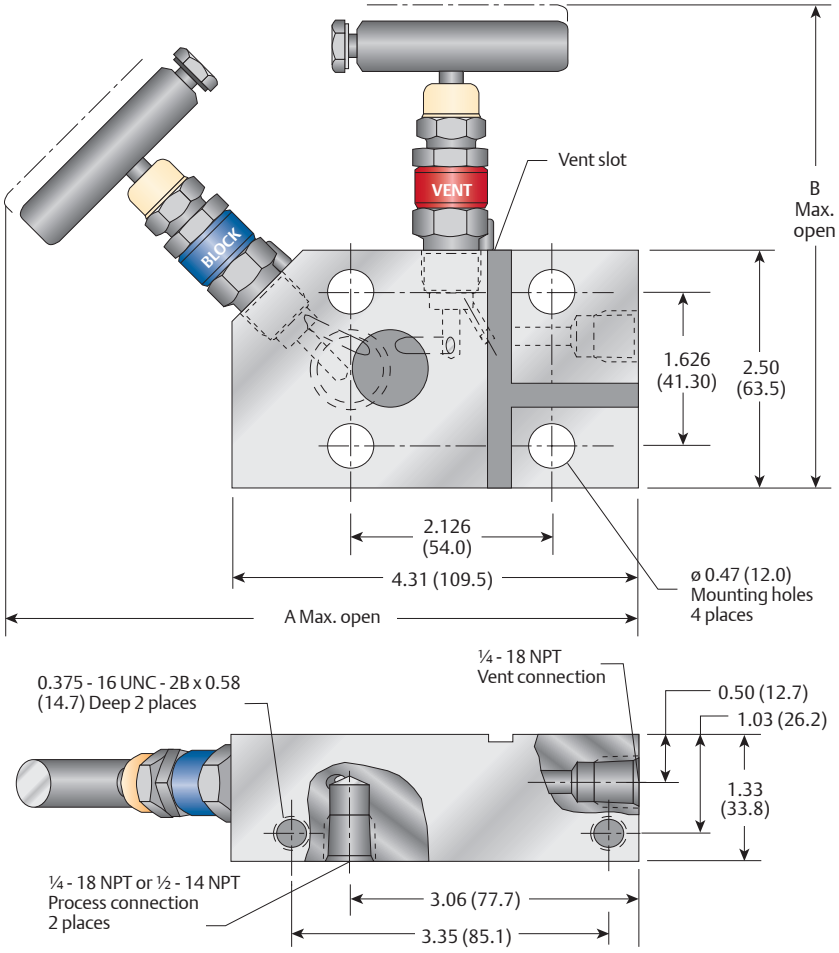
- Compatible with Rosemount® Coplanar™ style pressure transmitter models 3051C, 3051P, 2024 and 3095 Multivariable™.
- Ball end stems eliminate seat galling, provide bubble-tight shutoff and long life. Hardened, non-rotating balls ensure perfectly aligned closure.
- Packing below threads prevents lubricant washout, thread corrosion, process contamination and eliminates galling.
- Easily adjustable PTFE packing decreases replacement downtime and increases valve life.
- Dust covers 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 or freezing 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, not trapping unwanted liquid or gas process fluids.

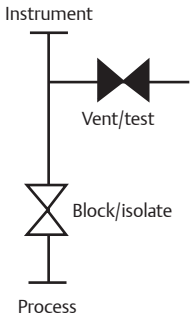
MC SERIES

Manifolds - Two Valve

MC2 Dimensions

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





Manifolds - 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	GRAFOIL®/ 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]	GRAFOIL®/ 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]	GRAFOIL®/ 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	GRAFOIL® and Low emissions graphite packed
A	6.85 (174.0)	7.49 (190.2)
B	5.10 (129.5)	5.75 (146.1)

Minimum temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

NOTES

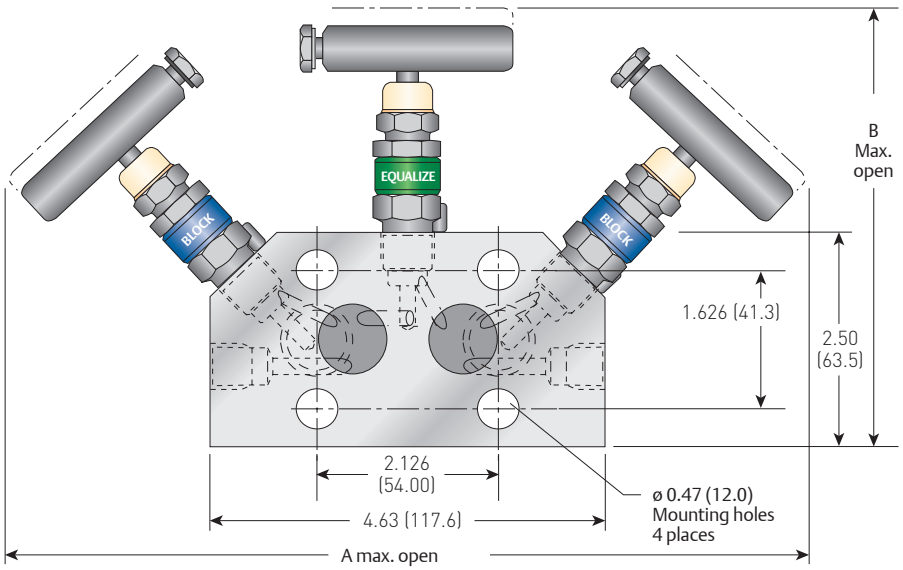
1. Approximate valve weight: 4.1 lb (1.9 kg). 0.156 inch (4.0 mm) diameter orifice. Valve Cv 0.36 maximum.
2. Body face is slotted to assure atmospheric vent when a differential transmitter is used.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm])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

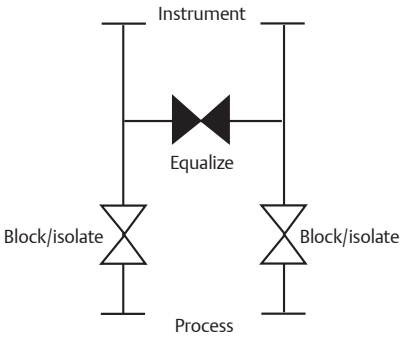
MC SERIES

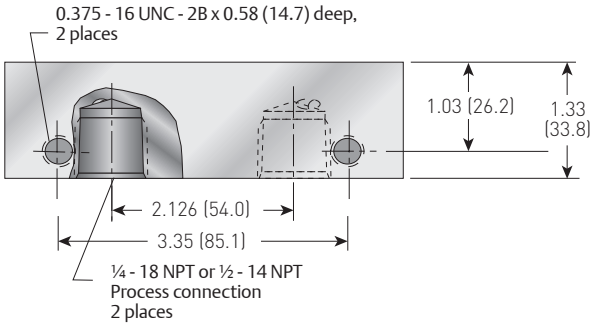
Manifolds - Three Valve

MC3 Dimensions

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







Manifolds - 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	GRAFOIL®/ 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]	GRAFOIL®/ 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]	GRAFOIL®/ 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	GRAFOIL® and Low emissions graphite packed
A	9.60 (243.8)	10.98 (278.9)
B	5.10 (129.5)	5.75 (146.1)

Minimum temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

NOTES

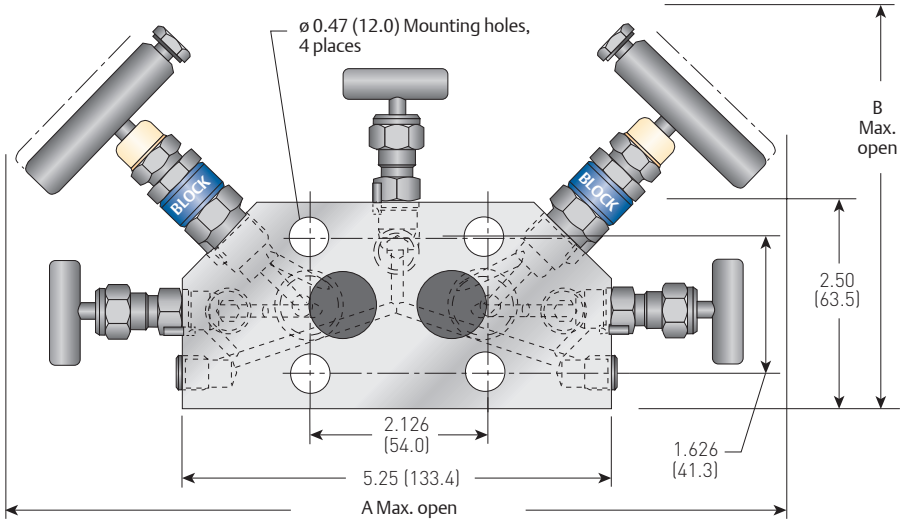
1. Approximate valve weight:
   5.0 lb (2.3 kg) for MC3VI ( )-2-H5,
   .4 lb (2.0 kg) for MC3VI ( )-2
   0.156 inch (4.0 mm) diameter orifice.
   Valve Cv 0.36 maximum.
2. Optional test port valves are H5VDS-22, convertible soft-to-metal seat.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 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.

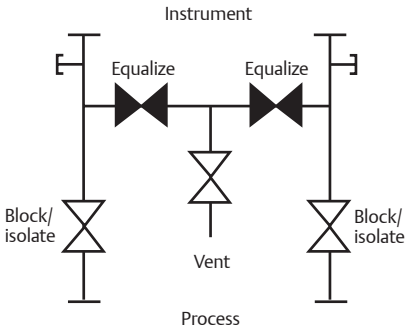
MC SERIES

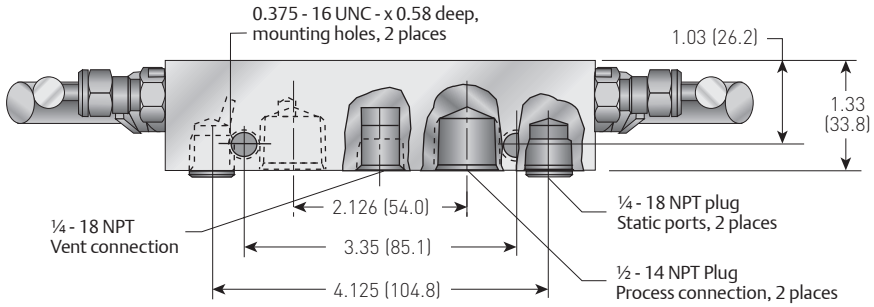
Manifolds - Five Valve

MC5G Dimensions

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







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]	GRAFOIL®
A	10.98 (278.9)
B	5.55 (140.97)

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)

Minimum temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

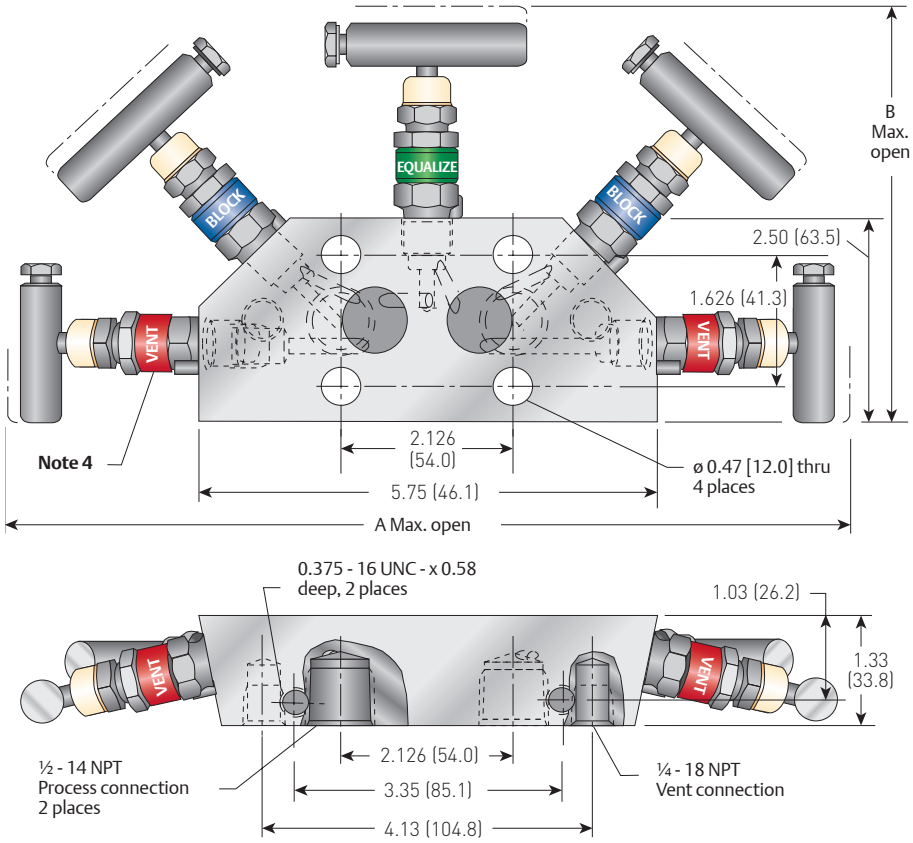
NOTES

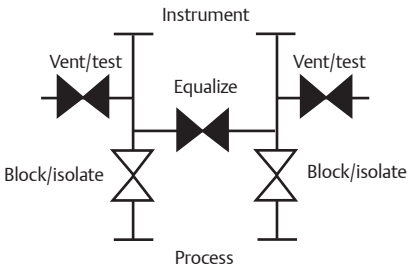
1. Approximate valve weight: 4.8 lb (2.2 kg).
   0.136 inch (3.5 mm) diameter orifice.
   Valve Cv 0.24 maximum.
2. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
3. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156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

Manifolds - Five Valve

MC5P Dimensions

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





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	GRAFOIL® and Low emissions graphite packed
A	10.95 (278.1)	12.40 (315.0)
B	5.10 (129.5)	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)	GRAFOIL®

Minimum temperature

316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

NOTES

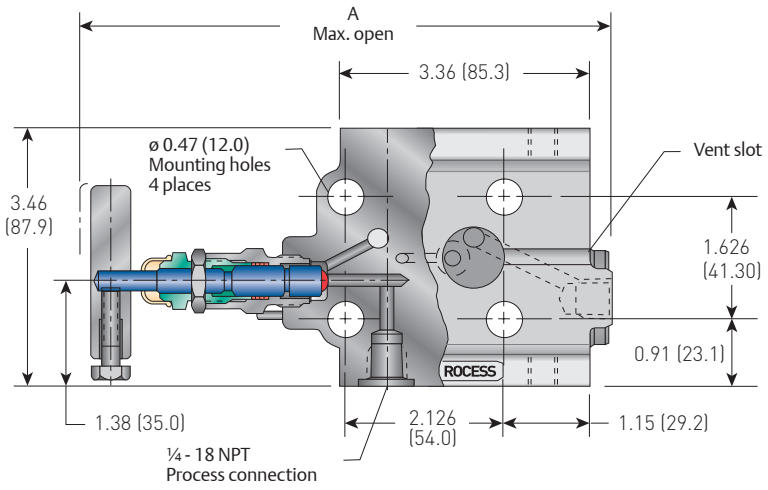
1. Approximate valve weight: 5.3 lb (2.4 kg).
   0.156 inch (4.0 mm) diameter orifice.
   Valve Cv 0.36 maximum.
2. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
3. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156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

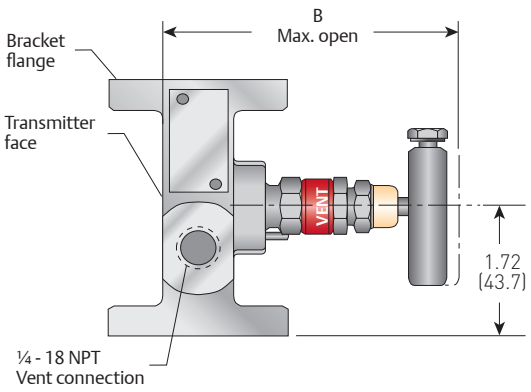
MT SERIES

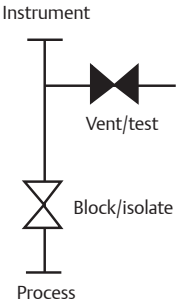
Manifolds - Two Valve

MT2 Dimensions

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







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®

Dimensions - inches (mm)

Valve[1]	PTFE packed	GRAFOIL® and Low emissions graphite packed
A	6.79 (172.5)	7.44 (188.9)
B	4.04 (102.6)	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	GRAFOIL®/ 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]	GRAFOIL®/ 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]	GRAFOIL®/ 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	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

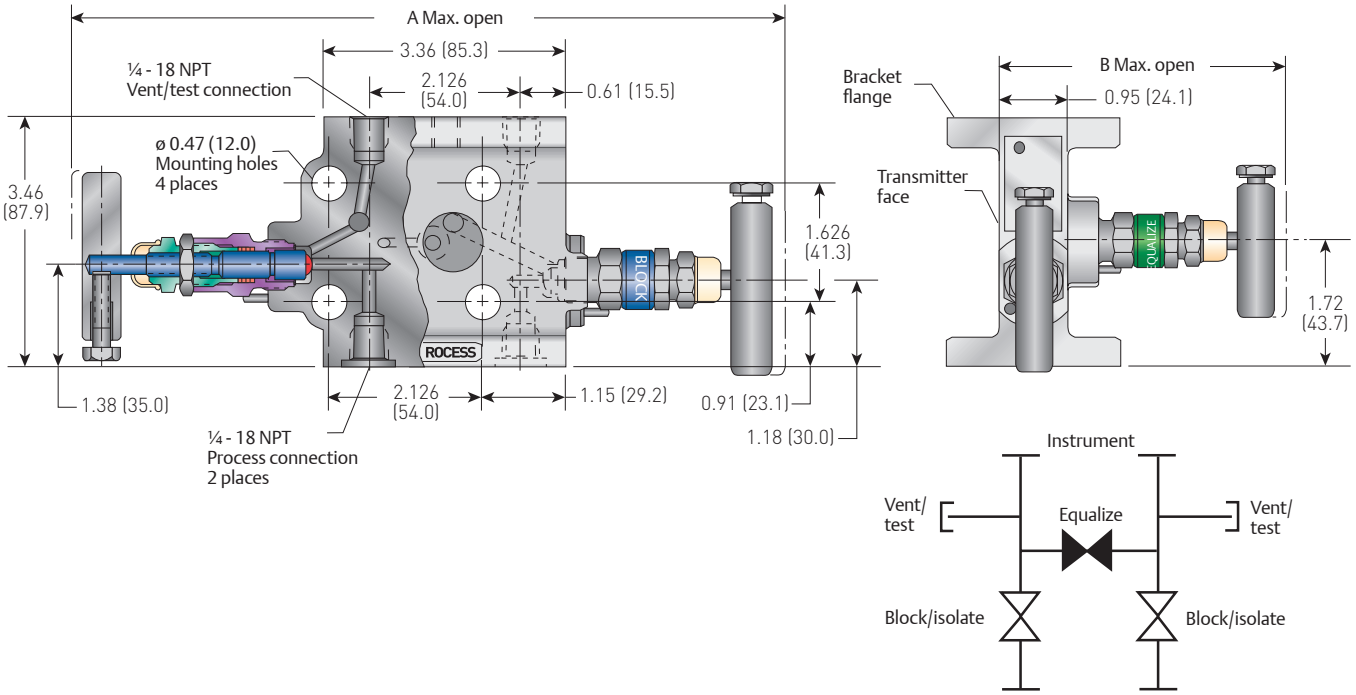
NOTES

1. Approximate valve weight: 4.6 lb (2.09 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]).

Manifolds - Three Valve

MT3 Dimensions

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



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	GRAFOIL® and Low emissions graphite packed
A	9.72 (246.9)	11.02 (279.9)
B	4.04 (102.6)	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	GRAFOIL®/ 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]	GRAFOIL®/ 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]	GRAFOIL®/ 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	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

NOTES

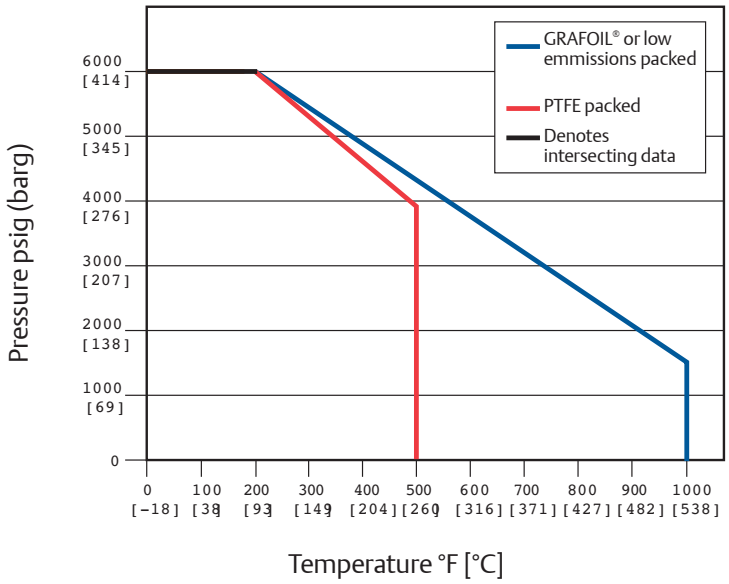
1. Approximate valve weight: 4.9 lb (2.22 kg).
   0.156 inch (4.0 mm) diameter orifice.
   Valve Cv 0.36 maximum.
2. Monel® and Hastelloy® are also available.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
4. SG3 (Sour Gas)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

MC/MT SERIES

Manifolds - Two/Three/Five Valve

Pressure vs. Temperature

Pressure vs. Temperature



Minimum temperature	
316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy®, GRAFOIL® packed	-70°F (-57°C)

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 patented PTFE 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 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.

Manifolds - Two/Three/Five Valve

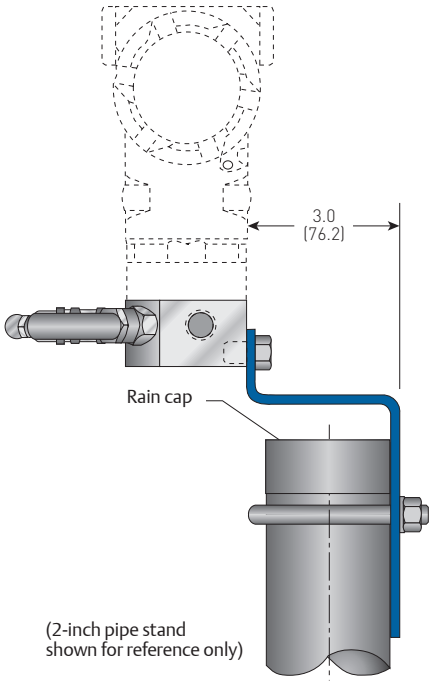
MC/MT Mounting Kits

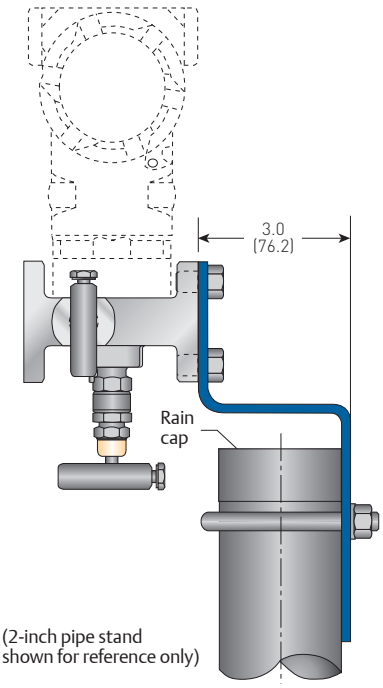
MC/MT AGCO Mount Kits

Manifold style	Material
MT	CS[1]
MT	SS
MC	CS[1]
MC	316 SS

NOTE

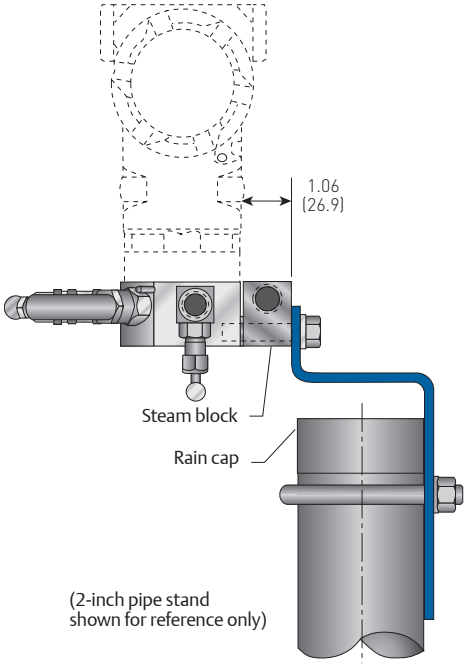
1. Zinc TCP plated





MC Steam Block Option Kit

Manifold style	Material
MC	316 SS



MC SERIES

Manifolds - Two/Three/Five Valve

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** AGCO Mount kit for 2-inch pipe stand mounting of manifold
	3 3 valve (ΔP)	**H** GRAFOIL® (not available for MC5G)		**J** Hastelloy®		**BL** Bonnet lock device (standard on power plant manifolds)
	5G 5 valve (gas)(ΔP)	**E** Low emissions-graphite (not available for MC5G)				**CB** Ceramic ball ended stem
	5P 5 valve (power)(ΔP)					**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
						SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l [ppm])
						SS All 316 SS materials on non wetted components

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.

Manifolds - Two/Three Valve

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 (double flanged)	**2** 2 valve (static pressure)	**V** PTFE	**I** Integral (body material)	**S** 316 SS	**4** 1/4-inch FNPT (use if futbol mount-ing to inlet)	**AM** AGCO Mount kit for 2-inch pipe stand mounting of manifold
	3 3 valve (ΔP)	**H** GRAFOIL®		**J** Hastelloy®		**BL** Bonnet lock device (standard on power plant manifolds)
		E Low emissions-graphite				**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])
						SS All 316 SS materials on non wetted components

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

MC/MT SERIES

Manifolds - 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) **3HP** 3 valve (ΔP) **5HP** 5 valve (power)(ΔP)	**S** 316 SS	**4** 1/2-inch FNPT	**AM** AGCO Mount kit for 2-inch pipe stand mounting of manifold **SS** All 316 SS materials on non wetted components

Selection Guide - MT ASME B31.1 - Power industry

MC	3HP	S	-2 -XP	-AM

BASIC SERIES	TYPE	MATERIAL	END CONNECTION	OPTIONS
MC Traditional (double flanged)	**2HP** 2 valve (static pressure) **3HP** 3 valve (ΔP)	**S** 316SS	**4** 1/4-inch FNPT (use if futbol mounting to inlet)	**AM** AGCO Mount kit for 2-inch pipe stand mounting of manifold **SS** All 316SS materials on non wetted components

NOTES

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