

ANDERSON GREENWOOD MDP DIFFERENTIAL PRESSURE MANIFOLD

Lightweight and compact 5 valve manifold designed for direct or remote mounting to differential pressure transmitters for pressures to 6000 psig (414 barg)



FEATURES

- Direct mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Two block valves, one equalizer valve and two instrument vent/calibrate valves in a compact unit.
- Cost savings when manifolding the valves by eliminating several parts used in conventional methods of 'piping up'.
- Free-swivelling ball end stem ensures perfect alignment, providing repetitive bubble-tight shutoff and long life.
- PTFE or graphite packing below stem threads prevents lubricant washout and thread corrosion.
- Back seat stem prevents blowout or accidental removal.
- Threaded 1/4" NPT vent ports allow vent to be piped away safely. Supplied plugged as standard.
- Standard pipe bracket bolts directly to the manifold providing a rigid support for the transmitter. Instrument can be removed easily for service or repair.

GENERAL APPLICATION

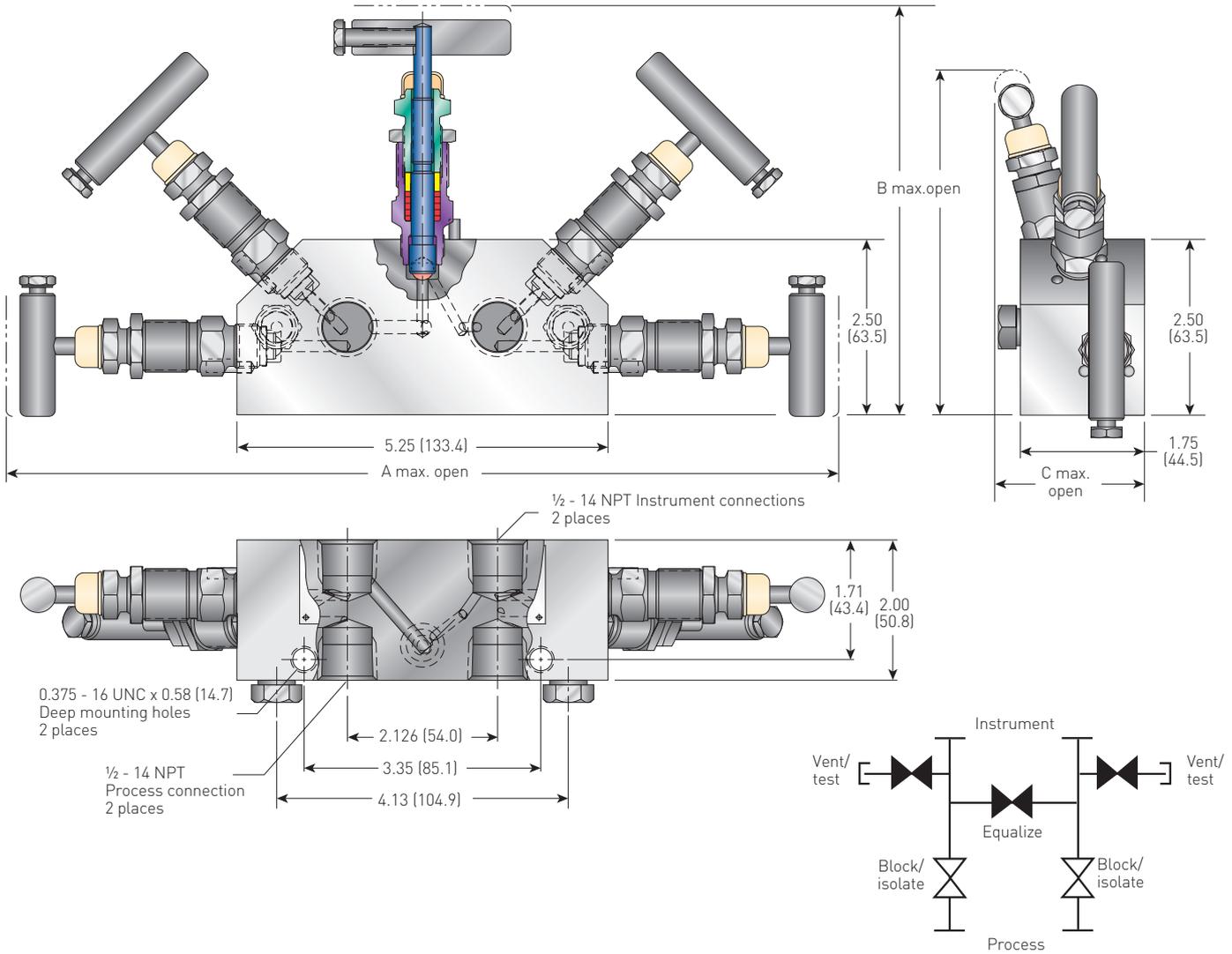
The MDP is a five-valve manifold for direct mounting that enables instrument operation, isolation, zeroing, calibration and venting to close the system in a single unit suitable for liquid, steam or vapor services.

TECHNICAL DATA

Materials:	CS, SS, Monel
Seats:	Metal
Connections:	Pipe x flange Pipe x pipe
Instrument:	1/2" NPT or flanged
Process:	1/2" NPT
Pressure (max.):	6000 psig (414 barg)
Temperature (max.):	1000°F (538°C)

ANDERSON GREENWOOD MDP DIFFERENTIAL PRESSURE MANIFOLD SPECIFICATIONS

Dimensions, inches (mm)



MDP DIMENSIONS - inches (mm)

Valve ^[1]	PTFE packed	GRAFOIL® and low emissions graphite packed
A	10.45 (265.4)	11.75 (298.5)
B	5.10 (129.5)	5.75 (146.1)

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B	5.10 (129.5)	5.75 (146.1)
C	2.11 (53.6)	2.34 (59.4)

STANDARD MATERIALS

Valve ^[1]	Body	Bonnet	Stem	Ball seat
SS	SS, A479 316	316 SS	316 SS	316 SS
Monel®	Monel® 400	Monel® 400	Monel® 400	Monel® K500
SG ^[2]	A479 316 SS	316 SS	Monel® 400	Monel® K500

Special severe service materials

Hastelloy® C276
For any other material requirements, please consult the factory.

NOTES

- Approximate valve weight: 6.7 lb (3.0 kg).
0.156 inch (4.0 mm) diameter orifice.
Valve C_v 0.364 maximum.
- SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103.

ANDERSON GREENWOOD MDP DIFFERENTIAL PRESSURE MANIFOLD

SPECIFICATIONS

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 both gas and liquid service.

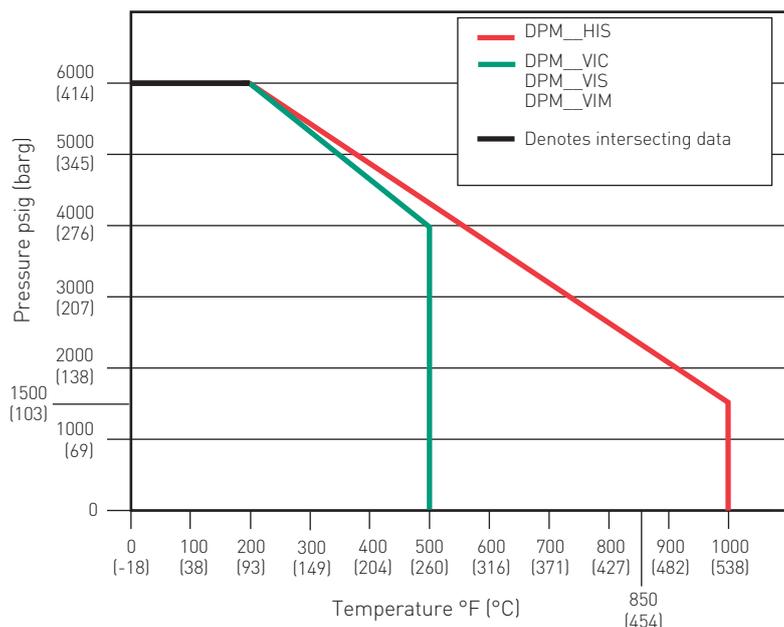
All stem threads are rolled and lubricated to prevent galling and reduce operating torque. The PTFE stem seal is a patented packing design which is adjustable in service. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service and the PTFE bonnet has a protective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

The MDP's 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) (patented)

- Anderson Greenwood's Bonnet Lock prevents accidental loosening of the bonnet-to-body seal.
- A high-strength, short bonnet pin aligns a hex collar over the bonnet. A standard panel nut (GRAFOIL® packed) then locks the collar against the valve.
- Tests indicate the minimum torque required to break the collar loose is greater than the torque required to twist off handle.
- Available on GRAFOIL® packed bonnets.

PRESSURE VS. TEMPERATURE



PRESSURE AND TEMPERATURE RATINGS

Valve	PTFE bonnet
CS, SS and Monel®	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
	High temperature
SS	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)

NOTES

1. Threaded connection: vent supplied with blanking plug as standard.
2. All manifolds are supplied with seal rings and four 7/16 inch UNF HT steel mounting bolts. PTFE seal rings are supplied with the standard bonnet; Graphite seal rings are supplied with high temperature bonnet.

VALVE BONNET IDENTIFICATION

Dust cap coding: The PTFE valve bonnet dust caps are color coded to identify the glandpacking/stem.

- White: Standard bonnet assembly PTFE packing.
- Green: Sour Gas service PTFE packing.



CONNECTIONS

Standard connections

- Process: Threaded 1/2-inch NPT to ANSI/ASME B1.20.1.
- Instrument: Threaded 1/2-inch NPT for remote mounting or flanged for direct mounting to transmitters on 2 1/8 inch (54 mm) centers.
- Vent: Threaded 1/4 inch NPT to ANSI/ASME B1.20.1.

Minimum temperature	
Carbon steel	-20°F (-29°C)
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)

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SELECTION GUIDE - MDP (1/2" FNPT X 1/2" FNPT) OR MDPT (1/2" FNPT X FLANGED)

Example:	MDP	V	I	S	-4	-SG
Bonnet packing						
V PTFE						
H Graphite						
Seat						
I Integral						
Body						
C CS						
S 316 SS						
M Monel®						
Process connections						
4 4 - 1/2 inch FNPT						
Other options						
-AM	AGCO Mount kit for 2-inch pipe stand mounting of manifold					
-AT	Tamper-proof bonnet					
-BL	Bonnet lock device GRAFOIL® only					
-CB	Ceramic ball ended stem					
-K	Key for -AT					
-LAT	Lockable tamper-proof bonnet (block valves only)					
-OC00	Cleaned for oxygen service					
-R3V⁽¹⁾	Add for use with Rosemount® model 3051C (SS 18-8 bolts)					
-SSB	316 SS flange bolt (B8M Class 2) - will provide full pressure rating					
-SSC⁽¹⁾	316 flange bolt (B8M) - maximum pressure rating 4500 psi (310 barg)					
-SG	(Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103 (SS valves only)					
-SG3	(Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions > 50 mg/l (ppm))					

NOTES

Grafoil® is a registered trademark of GrafTech International.

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

Monel® is a registered trademark of the Special Metals Corporation.

Rosemount™ is a trademark of Emerson Electric Co.

NOTE

- 316 SS bolts lower pressure ratings to a maximum of 4500 psi (310 barg). Consult factory for full rating with 316 SS bolts.

AGCO MOUNT KITS

Manifold style	Kit part number	Material	Description
MDP		CS ⁽¹⁾	Standard kit
		SS	Standard kit

NOTE

- Zinc plated

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