

## Anderson Greenwood Instrumentation Manifolds - Five Valve

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

### General Application

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



MDP

### TECHNICAL DATA

**Materials**

CS, 316 SS, Monel®

**Seats:**

Metal

**Connections:**

Pipe x flange

Pipe x pipe

**Instrument:** 1/2" NPT or flanged

**Process:** 1/2" FNPT

**Pressure (max):**

6000 psig (414 barg)

**Temperature range (min/max):**

-70°F to 1000°F

(-57°C to 538°C)

**NOTE**

Monel® is a registered trademark of Special Metals Corporation.

### Features

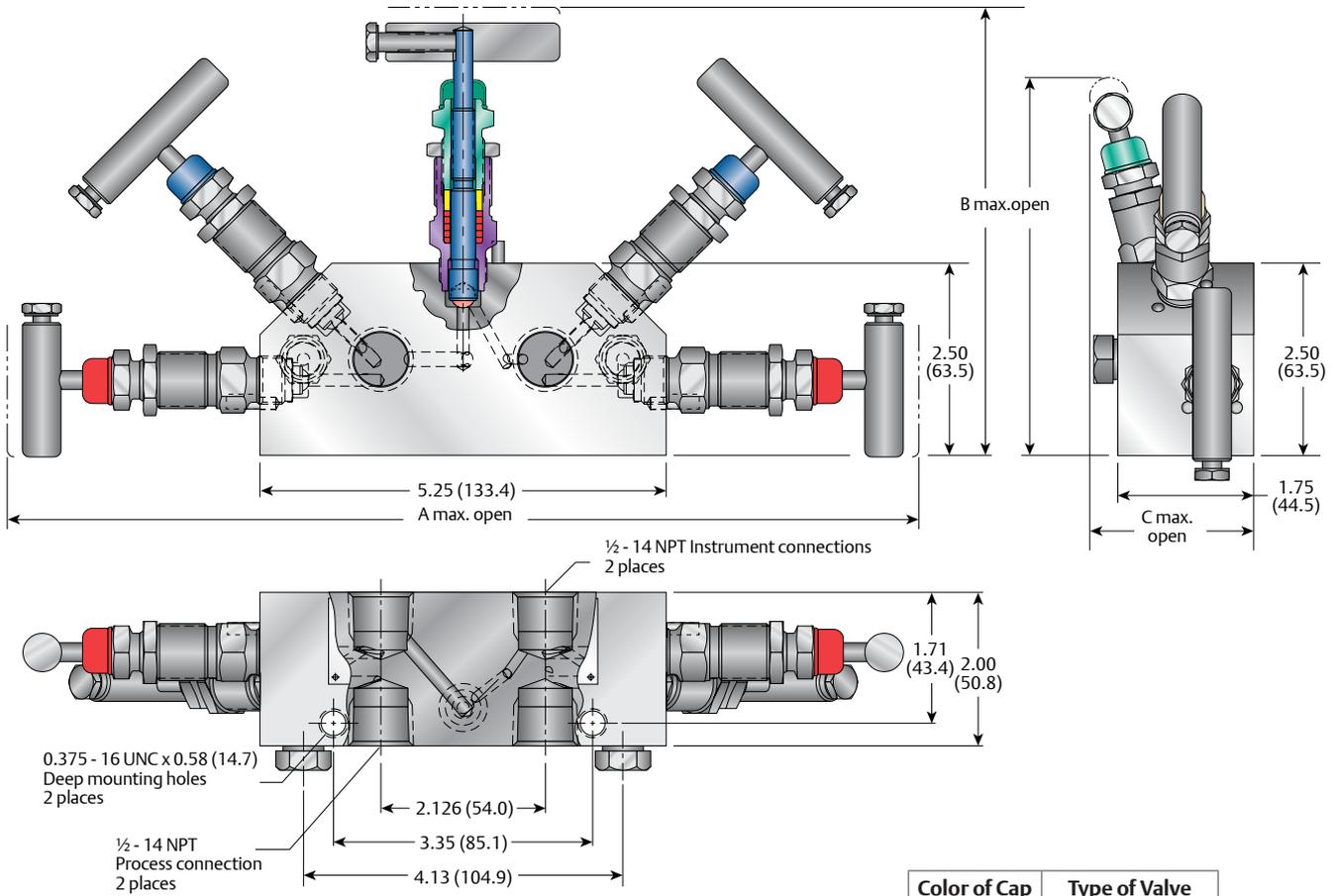
- Direct or remote mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Two block valves, one equalizer valve and two instrument vent/calibrate valves in a compact unit.
- Cost savings when manifolding the valves by eliminating several parts 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.

# MDP SERIES

## Anderson Greenwood Instrumentation Manifolds - Five Valve

### MDP Dimensions

Dimensions, inches (mm)



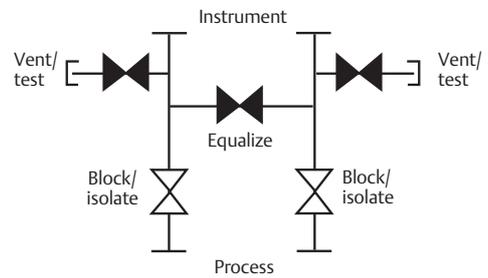
Color of Cap	Type of Valve
Blue	Block / Isolate
Green	Equalize
Red	Vent/Bleed

#### MDPT Dimensions - inches (mm)

Valve <sup>(1)</sup>	PTFE/Graphite	Low Emissions E graphite packed
A	10.55 (268)	11.75 (298.5)
B	5.15 (130.8)	5.75 (146.1)

#### MDPT Dimensions - inches (mm)

Valve <sup>(1)</sup>	PTFE/Graphite	Low Emissions E graphite packed
A	10.55 (268)	11.75 (298.5)
B	5.15 (130.8)	5.75 (146.1)
C	2.11 (53.6)	2.34 (59.4)



#### NOTES

1. Approximate valve weight: 6.7 lb (3.0 kg).  
0.156 inch (4.0 mm) diameter orifice.  
Valve Cv 0.364 maximum.

## Anderson Greenwood Instrumentation Manifolds - Five Valve

### Standard Materials

Valve <sup>(1)</sup>	Body	Bonnet	Stem	Ball seat
316 SS	SS, A479 316	316 SS	316 SS	316 SS
Monel®	Monel® 400	Monel® 400	Monel® 400	Monel® K500
SG <sup>(2)</sup>	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

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

### 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 or Graphite stem seal packing design is adjustable in service. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service and the PTFE or Graphite 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)

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.



### Valve Bonnet Identification

#### Dust cap or ring label coding:

- Blue: Isolation/Block
- Green: Equalize
- Red: Vent/Bleed

### Connections

#### Standard connections

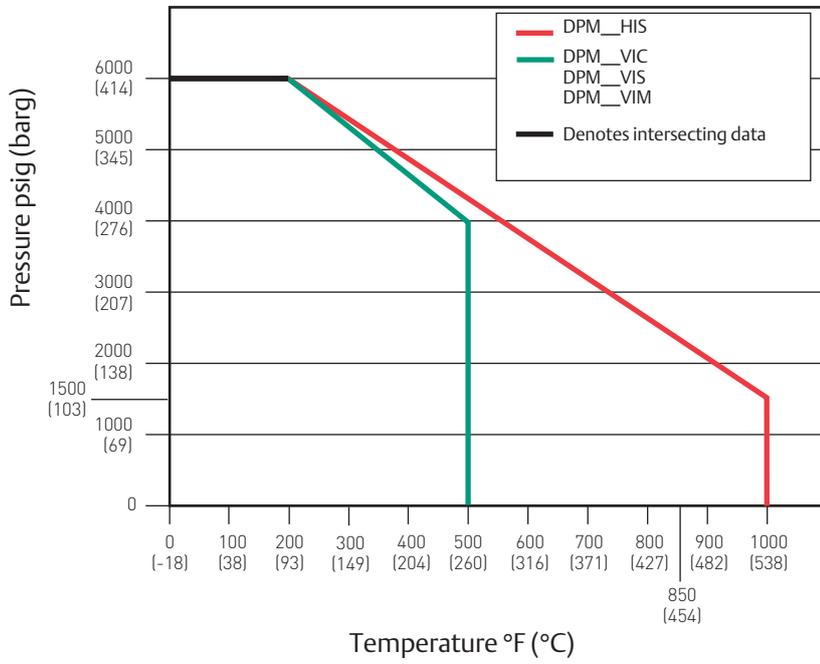
- Process      Threaded ½-inch NPT to ANSI/ASME or Flange.
- Instrument    Flanged for direct mounting to transmitters on 2<sup>1</sup>/<sub>8</sub> inch (54 mm) centers.
- Vent          Threaded ¼ inch NPT to ANSI/ASME B1.20.1.

# MDP SERIES

## Anderson Greenwood Instrumentation Manifolds - Five Valve

### Pressure vs. Temperature

Pressure vs. Temperature



### Pressure and Temperature Ratings

Valve	PTFE bonnet
CS, 316 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
316 SS	6000 psig at 200°F (414 barg at 93°C)
	1500 psig at 1000°F (103 barg at 538°C)

### Minimum temperature

Carbon steel	-20°F (-29°C)
316 SS O-ring seal	-20°F (-29°C)
316 SS, Monel®, Hastelloy®, PTFE packed	-313°F (-196°C)
316 SS, Monel®, Hastelloy®, Graphite packed	-313°F (-196°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.



Anderson Greenwood Instrumentation Manifolds - Five Valve

Selection Guide - MDP

MDP		V	I	S	-4	-SG
BASIC SERIES	BONNET PACKING	SEAT	BODY	PROCESS CONNECTIONS	OPTIONS	
MDP Pipe x flange	V PTFE	I Integral	C CS	4 1/2" FNPT Inlet on MDP	AM AGI Mount kit for 2-inch pipe stand mounting of manifold AMS AGI mount kit for 2-inch pipe stand mounting of manifold in 316SS	
MDPA Flange x flange	H Graphite E Low Emission Packing (Graphite)		S 316 SS M Monel®		BL Bonnet lock device CB Ceramic ball ended stem OC00 Cleaned for oxygen service R3V <sup>(1)</sup> 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 <sup>(1)</sup> 316 SS flange bolt (B8M Class 2) - will provide full pressure rating SST 316SS Circular Tag (10 Characters max) PMI00 PMI Body PMI01 PMI Body and Bonnet PMI02 PMI Body, Bonnet and STEM 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)) LT Low Temperature for 316SS manifolds -313°F (-196°C) @ 2500 psi (172.4 bar) must include -SSB option for use	

NOTES

1. 316 SS bolts lower pressure ratings to a maximum of 4500 psi (310 barg). Consult factory for full rating with 316 SS bolts.
2. Hastelloy® is a registered trademark of Haynes International, Inc.
3. Monel® is a registered trademark of the Special Metals Corporation.
4. Rosemount™ is a trademark of Emerson Electric Co.

AGI Mount Kits

Manifold style	Kit part number	Material	Description
MDP/MDPA	-AM	CS <sup>(1)</sup>	Standard kit
	-AMS	316 SS	Standard kit

NOTE

1. Zinc TCP plated