

ANDERSON GREENWOOD MM5 DIFFERENTIAL PRESSURE MANIFOLD

Compact stainless steel five valve manifold incorporating mini-valve bonnets with an interchangeable hard or soft seat



FEATURES

- Remote mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Reduced installation costs by manifolding the valves, eliminating several parts essential for 'piping-up.'
- Unique seat design enables conversion from metal to soft simply by fitting a soft seat and flow washer.
- Soft seats are field replaceable for easy maintenance, extending valve life.
- Rolled stem threads provide increased strength and smooth valve operation, extending valve life.
- Back seat stem prevents blowout under pressure or during operation.
- Threaded vent ports allow vent to be piped away safely. Supplied plugged as standard.
- All manifolds supplied with mounting holes as standard to enable surface or cabinet mounting.

GENERAL APPLICATION

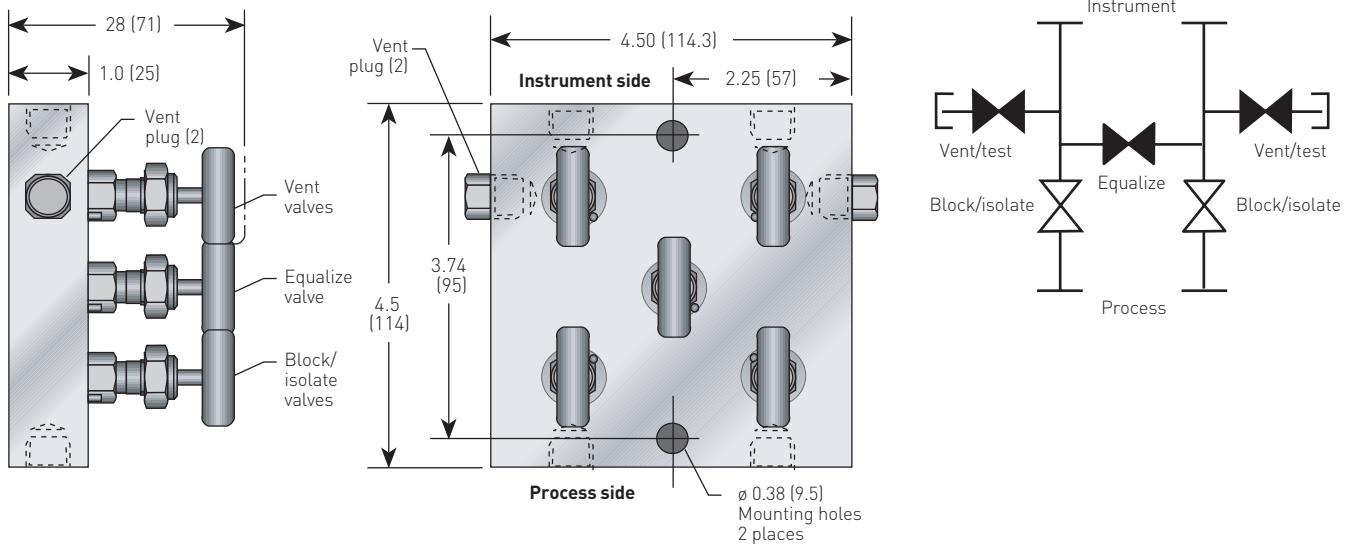
Suitable for use in compact instrument control loops for flow metering and differential pressure transmitters; for mounting in control panels and for gas sampling equipment.

TECHNICAL DATA

Materials:	SS
Seats:	Metal or soft
Connections	
Instrument:	1/4" NPT
Process:	1/4" NPT
Pressure (max.):	6000 psig (414 barg)
Temperature (max.):	1000°F (538°C)

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MM5 DIMENSIONS, INCHES (mm) THREADED X THREADED



STANDARD MATERIALS - METAL SEAT

Valve ^[1]	Body	Bonnet	Stem	Packing	Seat
SS	316 SS	316 SS	316 SS	PTFE, FKM O-ring or Grafoil®	Integral
SG ^[3]	316 SS	316 SS	Monel® 400	PTFE	Integral

STANDARD MATERIALS - SOFT SEAT

Valve ^[1]	Body	Bonnet	Stem	Packing	Flow washer	Seat
SS	316 SS	316 SS	316 SS	PTFE or FKM O-ring	316 SS	PCTFE ^[2]

CONNECTIONS

Standard connections

Threaded 1/4-inch NPT to ANSI/ASME B1.20.1.

BONNET ASSEMBLY

The MM5 features the mini-valve bonnet assembly with a compact design and a one-piece rotating stem which is 'V' tipped with a shoulder for use as a metal or soft seated valve. The stem threads are rolled and lubricated to prevent galling and reduce operating torque. The mini-valve bonnet comes in three designs:

- An adjustable PTFE stem packed bonnet which is suitable for panel mounting via external bonnet threads.
- O-ring bonnet assemblies which use a FKM O-ring seal below the stem thread.
- A graphite-packed bonnet suitable for temperatures of up to 1000°F (538°C) which is available for SS valves only.

SOFT SEAT

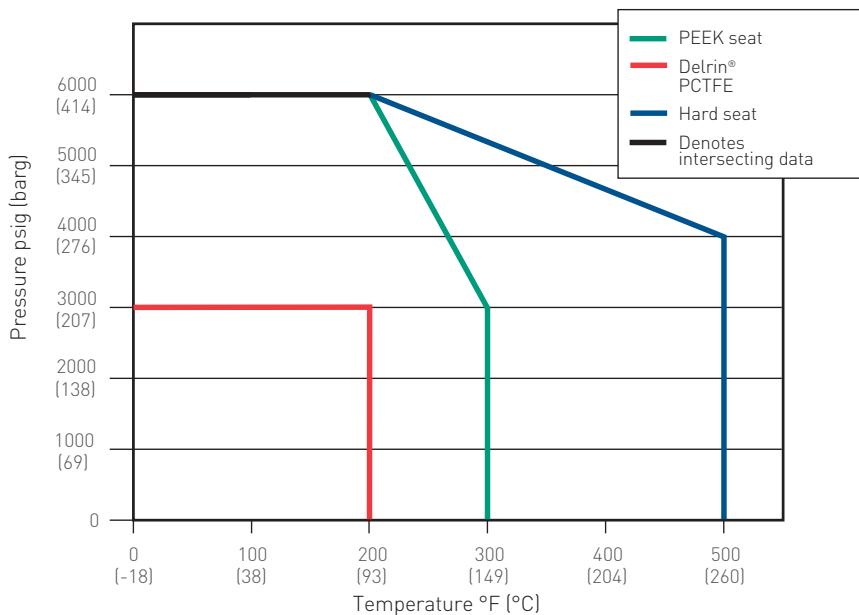
All miniature manifolds and valves feature a unique valve seat which may be converted from metal to soft simply by fitting a soft seat and flow washer. SS valves use PCTFE^[2] soft seat as standard. Delrin® and PEEK seats are also available.

NOTES

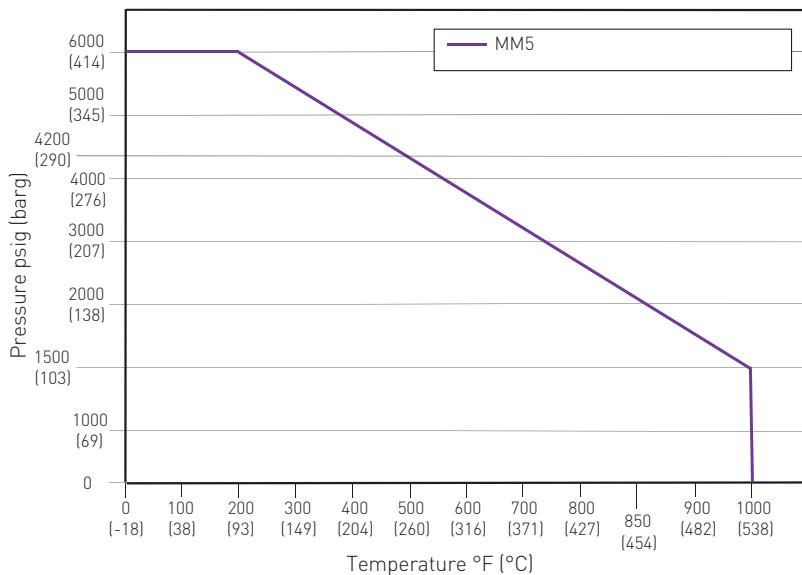
1. Approximate valve weight: 6.0 lb (2.7 kg). 0.136-inch (3.5 mm) diameter orifice. Valve C_v hard seat 0.25 maximum. Valve C_v soft seat 0.24 maximum.
2. PCTFE [Polychlorotrifluoroethylene] is the exact equivalent of Kel-F®.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 [for chloride conditions < 50 mg/l (ppm)] and NACE MR0103-2005.
4. Threaded connection - vent supplied with blanking plug as standard.

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PRESSURE VS. TEMPERATURE



PRESSURE VS TEMPERATURE - SS valves with Grafoil® bonnet



PRESSURE AND TEMPERATURE RATINGS

Valve	PTFE packed	Grafoil® packed
Hard seat	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)	6000 psig at 200°F (414 barg at 93°C) 1500 psig at 1000°F (103 barg at 538°C)
Delrin®/PCTFE	3000 psig at 200°F (207 barg at 93°C)	
PEEK	6000 psig at 200°F (414 barg at 93°C) 3000 psig at 300°F (207 barg at 149°C)	

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SELECTION GUIDE

Example:	MM5	V	I	S	-4	-SG
Bonnet packing						
V	PTFE					
R	O-ring bonnet					
H	Grafoil® (1000°F (538°C) max)					
Seat						
Hard						
I	Integral (body material)	Soft				
		D	Delrin®			
		K	PCTFE			
		E	PEEK			
Body material						
S	SS, A479-316					
Process connections						
2	1/4-inch FNPT					
Options						
-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					
-PHB	Phenolic black handle					
-PHG	Phenolic green handle					
-PHR	Phenolic red handle					
-PM	Panel mount (PTFE packed only)					

NOTES

Delrin® is a registered trademark of E.I. du Pont de Nemours and Company.

Grafoil® is a registered trademark of Graftech International.

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