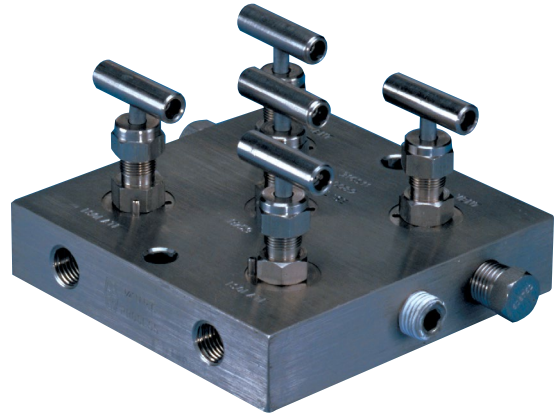


Anderson Greenwood Instrumentation Manifolds - Five Valve

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

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

316 SS

Seats:

Metal or Soft

Connections:

Instrument: 1/4" NPT

Process: 1/4" NPT

Pressure (max):

6000 psig (414 barg)

Temperature range (min/max):

-70°F to 1000°F

(-57°C to 538°C)

Features

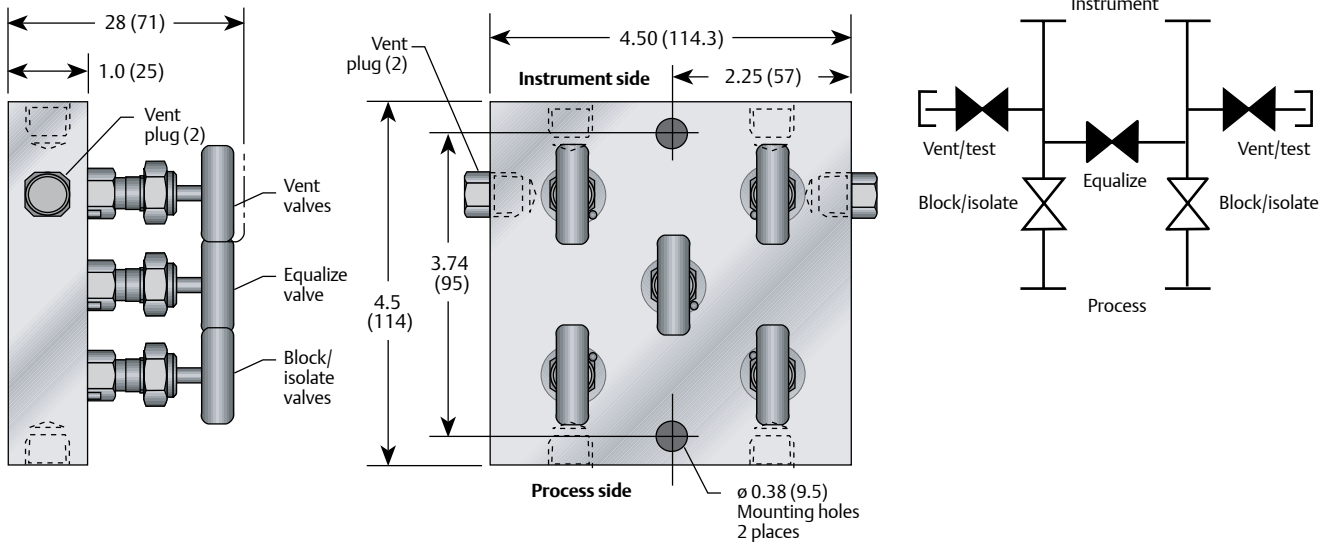
- Remote mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Reduced installation costs by manifolding the valves, eliminating several parts essential for 'piping-up.'
- Unique seat design enables conversion from metal to soft simply by fitting 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.

MM5 SERIES

Anderson Greenwood Instrumentation Manifolds - Five Valve

MM5 Dimensions

Dimensions, inches (mm) Threaded x Threaded



Standard Materials - Metal Seat

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

Standard Materials - Soft Seat

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

Connections

Standard connections

Threaded ¼-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 316 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. 316 SS valves use PCTFE^[2] soft seat as standard. Delrin[®] and PEEK seats are also available.

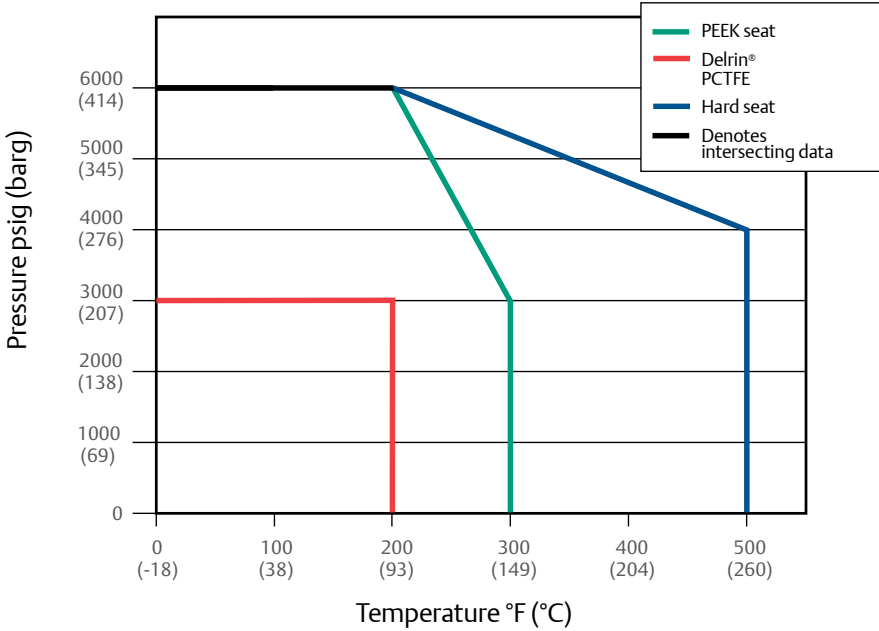
NOTES

1. Approximate valve weight: 6.0 lb (2.7 kg). 0.136-inch (3.5 mm) diameter orifice. Valve Cv hard seat 0.25 maximum. Valve Cv 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.

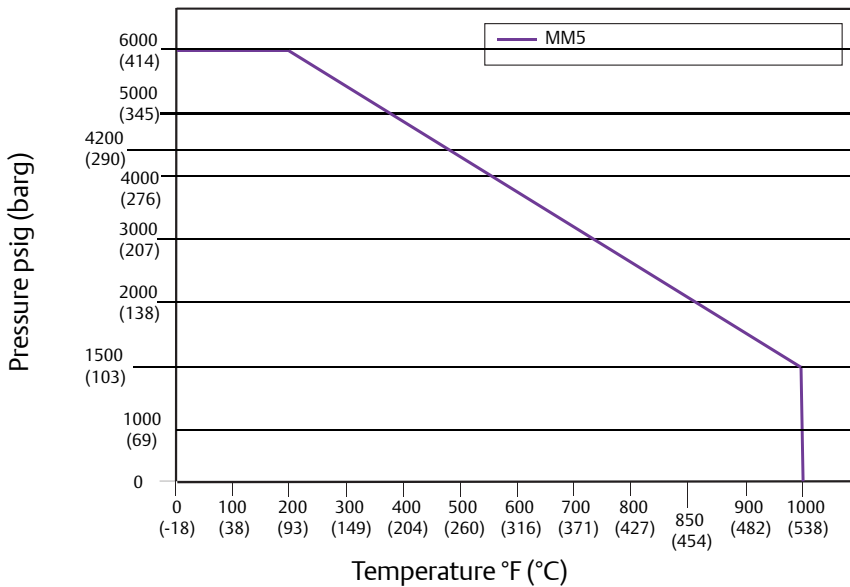
Anderson Greenwood Instrumentation Manifolds - Five Valve

Pressure vs. Temperature

Pressure vs. Temperature



Pressure vs temperature - 316 SS valves with Graphite bonnet



Pressure and Temperature Ratings

| Valve | PTFE packed | Graphite 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) | |

Minimum Temperature:
Carbon Steel -20°F (-29°C);
316 SS -70°F (-57°C), except for
O-ring -20°F (-29°C);
and 316 SS PTFE bonnet Delrin®
seats -40°F (-40°C)

MM5 SERIES

Anderson Greenwood Instrumentation Manifolds - Five Valve

Selection Guide

| MM5 | V | I | S | -4 | -SG |
|--------------|--------------------------------|---|----------------|---------------------|--|
| BASIC SERIES | BONNET PACKING | SEAT | BODY MATERIAL | PROCESS CONNECTIONS | OPTIONS |
| MM5 | V PTFE | HARD I Integral (body material) | S SS, A479-316 | 2 1/4-inch FNPT | OC00 Cleaned for oxygen service |
| | H O-ring bonnet | SOFT D Delrin® | | | SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103 |
| | E Graphite (1000°F(538°C) max) | K PCTFE E PEEK | | | PHB Phenolic black handle PHG Phenolic green handle PHR Phenolic red handle PM Panel mount (PTFE packed only) SS All materials 316 SS on non wetted components |

NOTES

Delrin® is a registered trademark of E.I. du Pont de Nemours and Company.
Monel® is a registered trademark of the Special Metals Corporation.