

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

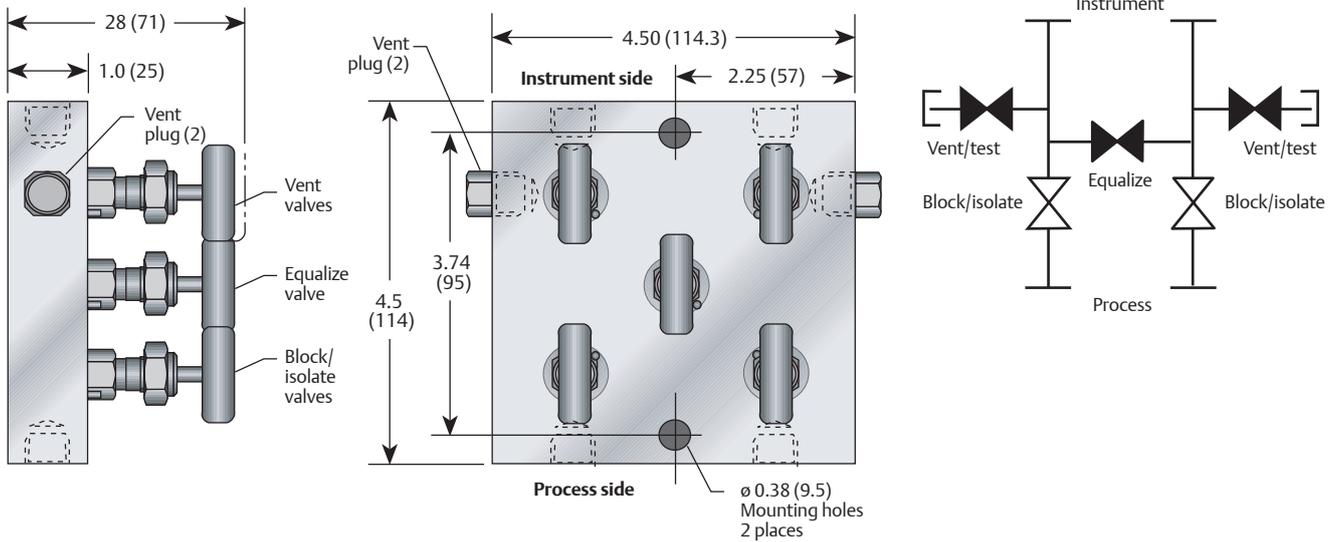
- Remote mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Reduced installation costs by manifolding the valves, eliminating several parts essential for 'piping-up.'
- Unique seat design enables conversion from metal to soft simply by fitting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

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 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
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.

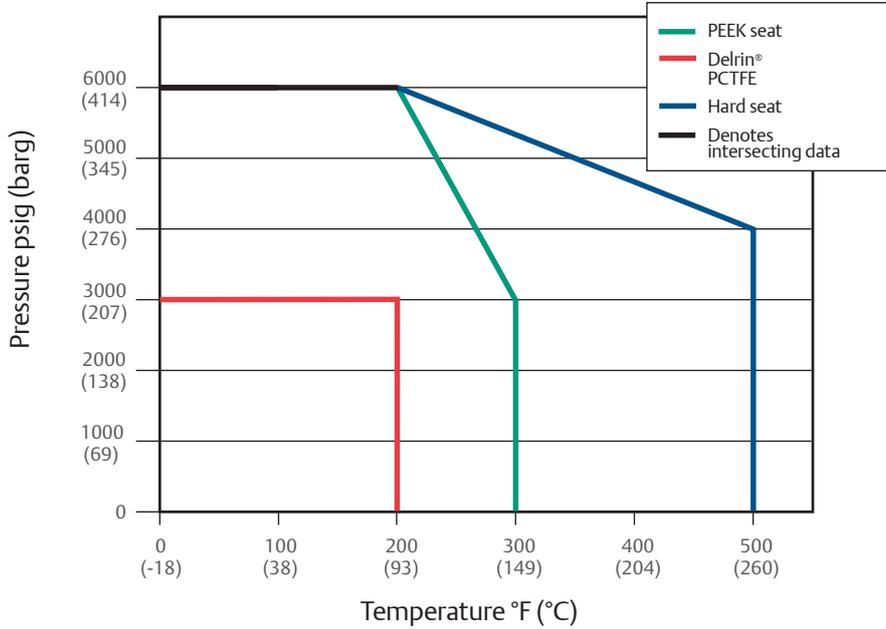
NOTES

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.

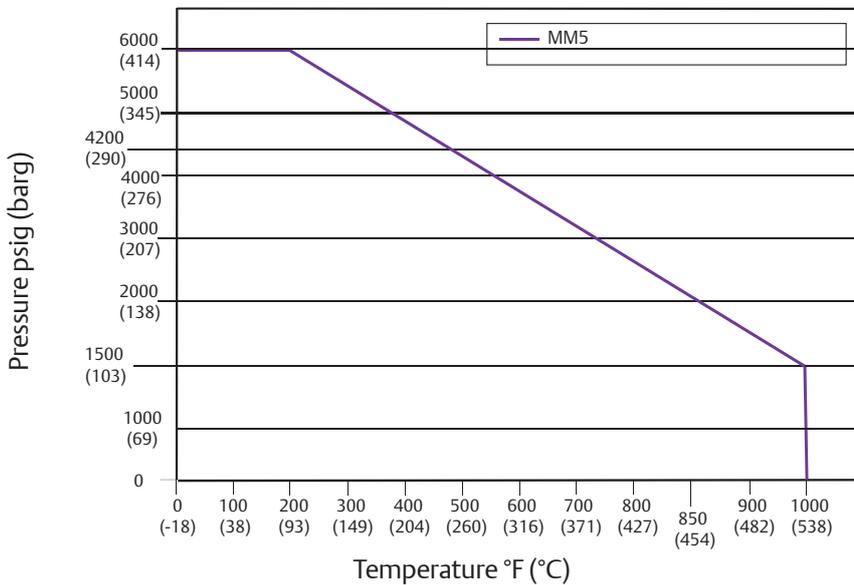
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Pressure vs. Temperature

Pressure vs. Temperature



Pressure vs temperature - 316 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)	

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 Teflon® bonnet Delrin®
seats -40°F (-40°C)

MM5 SERIES

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 GRAFOIL® (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.
 GRAFOIL® is a registered trademark of GrafTech International.
 Monel® is a registered trademark of the Special Metals Corporation.