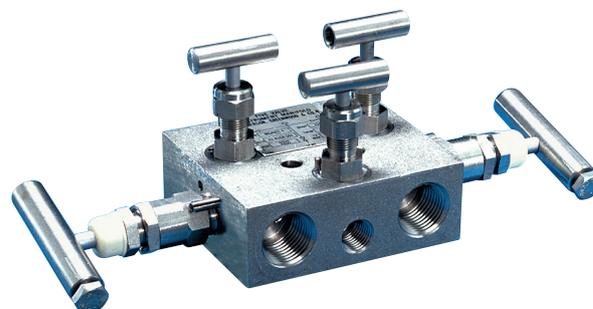


Manifolds - Five Valve

Five valve manifolds with a $\frac{3}{16}$ " (4.8mm) orifice soft and metal seat for differential pressure natural gas services to 6000 psig (414 barg)

General Application

The M6A is for differential pressure transmitters in natural gas applications and is usually supported in the vertical meter tubing from the orifice flange union. Static pressure and calibration test connections are standard.



TECHNICAL DATA

Materials

CS, 316 SS, Monel®, Hastelloy®

Seats:

Metal or soft

Connections:

Instrument: 1/2" NPT and socket weld

Process: 1/2" NPT and socket weld

Pressure (max):

6000 psig (414 barg)

Temperature range (min/max):

-70°C to 1000°F

(-57°C to 538°C)

Features

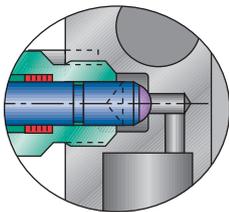
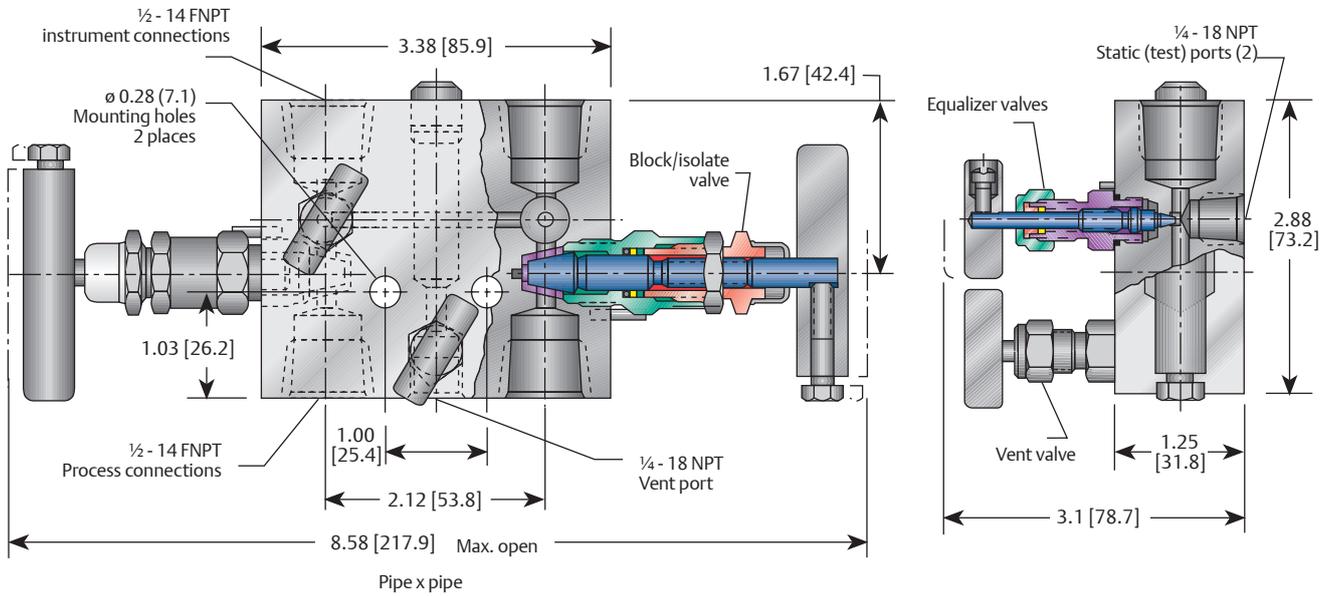
- Easy Installation in meter tubing with no additional support generally required.
- Upstream or downstream $\frac{1}{4}$ " FNPT ports for connecting the static pressure to the meter.
- Hard or field-replaceable soft seats for bubble-tight performance in abrasive applications.
- Bonnet-to-body and stem threads isolated from process corrosion - important in sour gas applications.
- Stem backout prevention eliminates accidental removal while under pressure.
- FKM O-ring with PTFE back-up ring standard stem packing with long life assured by mirror finish stem in the packing area.
- Integral hard back seat forms a secondary seal for the stem threads when valve is fully opened.
- ENC plated rolled stem threads increase strength and extend life.

M6A SERIES

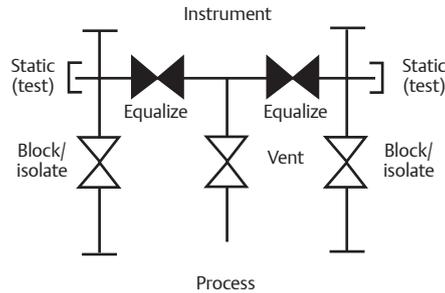
Manifolds - Five Valve

M6A Dimensions

Soft seat (metal seat available)



Metal seat



Bonnet Assemblies

The M6A offers the option of metal or soft seats.

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

Soft-seated Bonnet Assemblies

The soft-seated bonnet assemblies have a one-piece rotating stem and plug with standard stem packing provided by an FKM O-ring and PTFE back-up ring.

Metal-seated Bonnet Assemblies

The metal-seated bonnet assemblies have a rotating stem with free swivel ball-type seat for long service life. The specially hardened ball seat is ideal for natural gas service. The stem seal is a patented PTFE packing gland which is adjustable in service.

Manifolds - Five Valve

Standard Materials

Valve	Seat	Body	Bonnet	Stem	Ball	Flow washer
CS ^[1]	Soft	A108	A108	A581-303	N/A	316
CS ^[1]	Integral	A108	A108	A581-303	17-4PH	N/A
316 SS	Soft	A479-316	A479-316	A276-316	N/A	316
316 SS	Integral	A479-316	A479-316	A276-316	316	N/A
SG ^[5]	Soft	A479-316	A479-316	Monel [®] 400	N/A	316
SG ^[5]	Integral	A479-316	A479-316	Monel [®] 400	Monel [®] K500	N/A
SG3 ^[6]	Hastelloy [®] C-276	Hastelloy [®] C-276	Hastelloy [®] C-276	Hastelloy [®] C-276	Elgiloy [®]	Hastelloy [®]

NOTE

1. Approximate valve weight: 4.0 lb (1.8 kg).

Metal seat:

Block Valves 0.187 inch (4.8 mm) diameter orifice with Cv 0.83 maximum

Equalizer and Vent Valves 0.156 inch (4.0mm) diameter orifice with Cv 0.36 maximum

Soft seat:

Black Valves 0.187 inch (4.8 mm) diameter orifice with Cv 0.83 maximum

Equalizer and Vent Valves 0.156 inch (4.0mm) diameter orifice with Cv 0.36 maximum

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]
Delrin [®] seat	-40°F	[-40°C]
316 SS, Monel [®] , Hastelloy [®] , GRAFOIL [®] packed	-70°F	[-57°C]

NOTE

1. M6A Monel[®] ratings are:

6000 psig at 200°F [414 barg at 93°C]

4000 psig at 500°F [276 barg at 260°C].

Pressure and Temperature Ratings

Valve	Packing	Seat material	Ratings	
CS ^[1] , 316 SS, SG ^[4] , SG3 ^[5] , Monel [®]	PTFE O-ring	Delrin [®] PCTFE ^[2]	3000 psig at 200°F	[207 barg at 93°C]
CS ^[1] , 316 SS, SG ^[4] , SG3 ^[5]	PTFE O-ring	PEEK	6000 psig at 200°F	[414 barg at 93°C]
Monel [®]	PTFE O-ring	PEEK	3000 psig at 300°F	[207 barg at 149°C]
Monel [®]	PTFE	PEEK	5300 psig at 200°F	[365 barg at 93°C]
Monel [®]	O-ring	PEEK	3000 psig at 300°F	[207 barg at 149°C]
CS ^[1] , 316 SS, SG ^[4] , SG3 ^[5] , Monel [®]	PTFE	PTFE ³	1000 psig at 150°F	[69 barg at 66°C]
CS ^[1] , 316 SS, SG ^[4] , SG3 ^[5]	PTFE GRAFOIL [®] / Low emissions graphite, 316 SS	Body material	6000 psig at 200°F	[414 barg at 93°C]
			1500 psig at 1000°F	[103 barg at 583°C]

NOTES

1. CS parts are zinc TCP plated to prevent corrosion.

2. PCTFE (Polychlorotrifluoroethylene) is the exact equivalent of Kel-F[®].

3. Block valves only.

4. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.

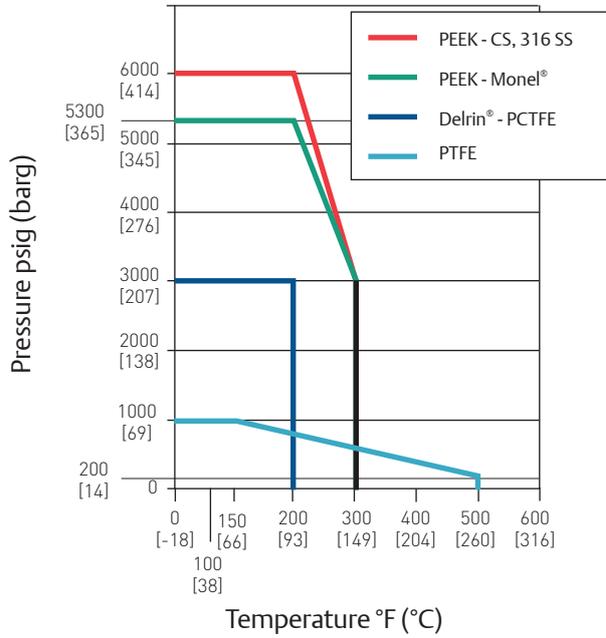
5. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions > 50 mg/l [ppm]).

M6A SERIES

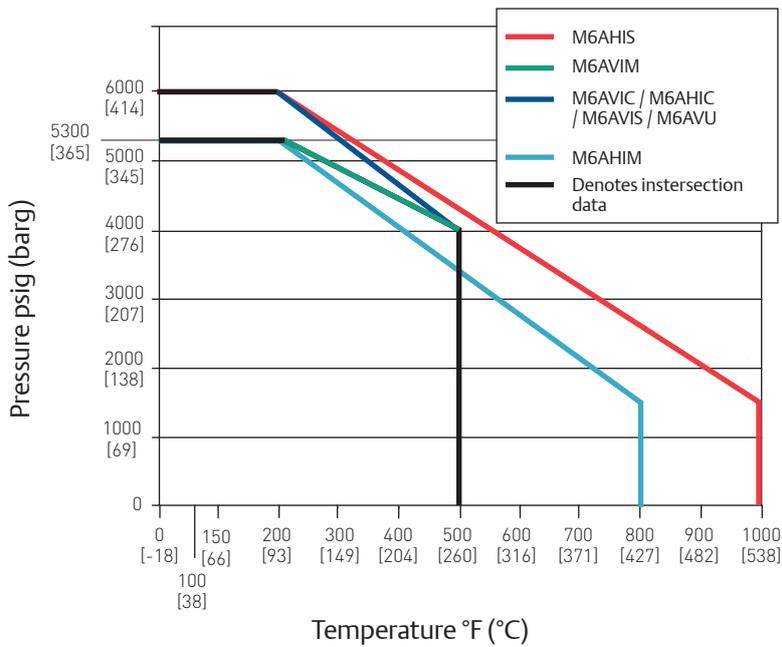
Manifolds - Five Valve

Pressure vs. Temperature

Pressure vs. Temperature - Soft Seat



Pressure vs. Temperature - Metal Seat



Manifolds - Five Valve

Selection Guide - 3/16 inch (4.8mm) orifice

M6A	V	D	S	-4	-SG
BASIC SERIES	PACKING	SEAT	BODY MATERIAL	PROCESS CONNECTION	OPTIONS
M6A Pipe x pipe	V PTFE	SOFT V PTFE (block valves only)	C CS	4 1/2-inch FNPT	AM AGCO Mount kit for 2-inch pipe stand
	R O-ring	D Delrin®	S 316 SS, A479-316	4B 1/2-inch socket weld (F-out x F-in)	HD Hydrostatic testing (100 percent) (MSS SP-61)
	H GRAFOIL®	E PEEK	M Monel®		OC00 Cleaned for oxygen service
	E Low emissions graphite (block valves only)	K PCTFE			SG Sour Gas) meets the requirements of NACE MRO175/ISO 15156 (for chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103-2005
		HARD I Integral (body material)			SG3 (Sour Gas) Meets the requirements of NACE MRO175/ISO 15156 (for chloride conditions > 50 mg/l (ppm)) Hastelloy® Material used for all wetted materials
					SS All 316 SS construction of non wetted components
					PV Plug-vent