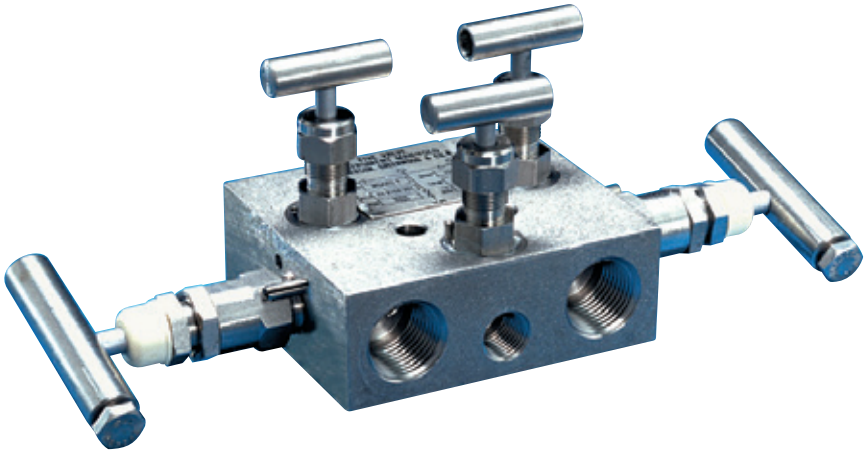
ANDERSON GREENWOOD M6A NATURAL GAS MANIFOLDS

Five valve manifolds with a 3/16" (4.8mm) orifice for differential pressure natural gas services to 6000 psig (414 barg)



FEATURES

- Easy Installation in meter tubing with no additional support generally required.
- Upstream or downstream ¼" 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.
- Rolled stem threads increase strength and extend life.

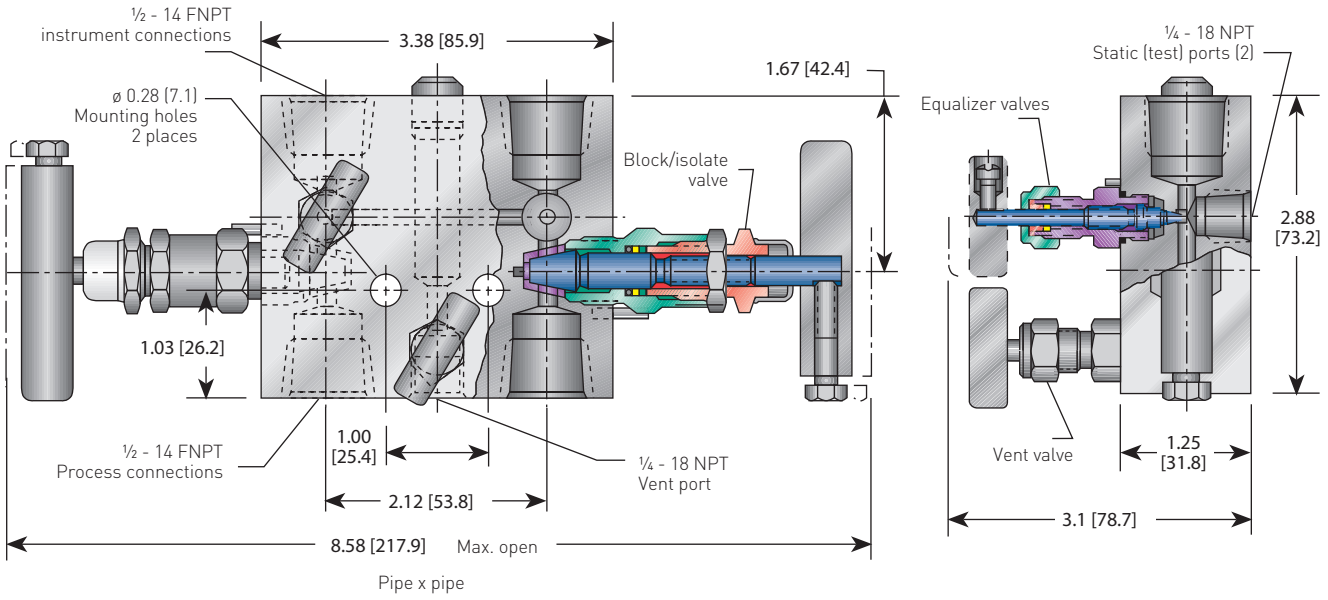
GENERAL APPLICATION

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, SS, Monel®, Hastelloy®
Seats:	Metal or soft
Connections	
Instrument:	½" NPT and socket weld
Process:	½" NPT and socket weld
Pressure (max.):	6000 psig (414 barg)
Temperature (max.):	500°F (260°C)

DIMENSIONS, INCHES (mm)
Soft seat (metal seat available)

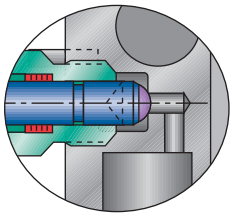


BONNET ASSEMBLIES

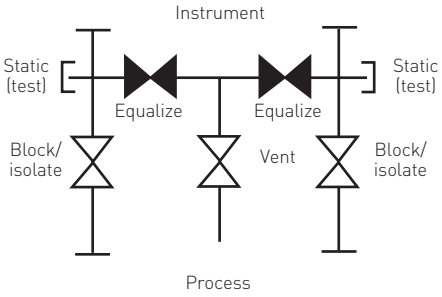
The M6A offers the option of metal or soft seats.
All stem threads are rolled and lubricated to prevent galling and reduce operating torque. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service and a protective dust cap is fitted to contain stem lubricant 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.



Metal seat



NOTE

1. Approximate valve weight: 4.0 lb (1.8 kg).
   Metal seat:
   0.156 inch (4.0 mm) diameter orifice.
   Valve C_v 0.36 maximum.
   Soft seat:
   0.187 inch (4.8 mm) diameter orifice.
   Valve C_v 0.83 maximum.

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
SS	Soft	A479-316	A479-316	A276-316	N/A	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®

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SPECIFICATIONS

PRESSURE AND TEMPERATURE RATINGS

Valve	Packing	Seat material	Ratings	
CS[1], SS, SG[4], SG3[5], Monel®	PTFE O-ring	Delrin® PCTFE[2]	3000 psig at 200°F	[207 barg at 93°C]
CS[1], SS, SG[4], SG3[5]	PTFE O-ring	PEEK	6000 psig at 200°F 3000 psig at 300°F	[414 barg at 93°C] [207 barg at 149°C]
Monel®	PTFE O-ring	PEEK	5300 psig at 200°F 3000 psig at 300°F	[365 barg at 93°C] [207 barg at 149°C]
CS[1], SS, SG[4], SG3[5], Monel®	PTFE	PTFE[3]	1000 psig at 150°F 200 psig at 500°F	[69 barg at 66°C] [14 barg at 260°C]
CS[1], SS, SG[4], SG3[5]	PTFE GRAFOIL®/ Low emissions graphite	Body material	6000 psig at 200°F 6000 psig at 200°F 4000 psig at 500°F	[414 barg at 93°C] [414 barg at 93°C] [276 barg at 260°C]

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]
316 SS, Monel®, Hastelloy®, Grafoil® packed	-70°F	[-57°C]

NOTES

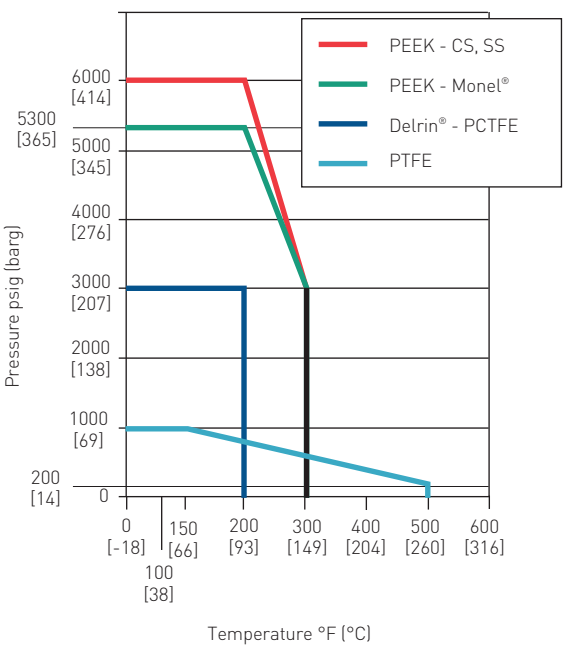
1. CS parts are zinc chromate plated to prevent corrosion.
2. PCTFE (Polychlorotrifluoroethylene) is the exact equivalent of Kel-F®.
3. Block valves only.
4. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103.
5. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions > 50 mg/l [ppm]).

NOTE

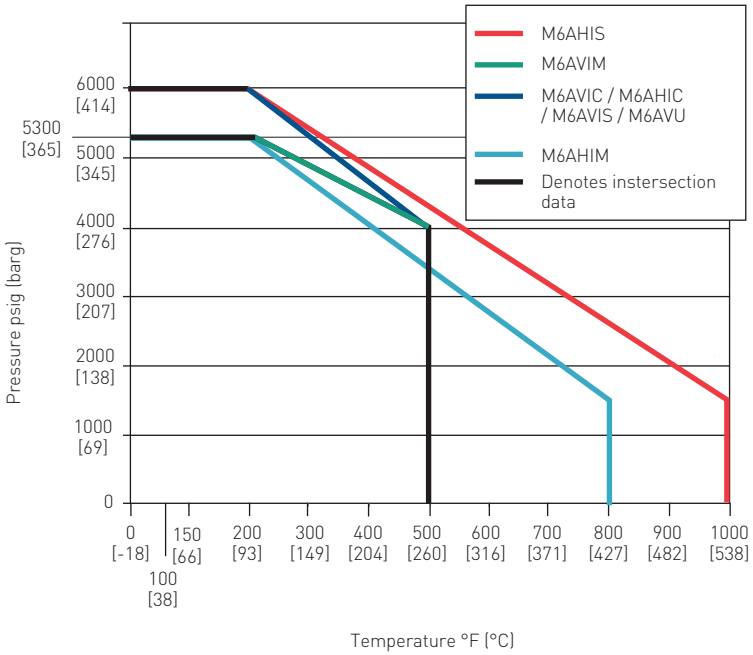
1. M6A Monel® ratings are:
   6000 psig at 200°F [414 barg at 93°C]
   4000 psig at 500°F [276 barg at 260°C].

PRESSURE VS. TEMPERATURE

Soft seat



Metal seat



SELECTION GUIDE

Example:		M6A	V	D	S	-4	-SG
Valve type - 3/16 inch (4.8 mm) orifice							
M6A	Pipe x pipe						
Packing							
V	PTFE						
R	O-ring						
H	GRAFOIL®						
E	Low emissions graphite						
Seat							
Soft							
V	PTFE (block valves only)						
D	Delrin®						
E	PEEK						
K	PCTFE						
Hard							
I	Integral (body material)						
Body material							
C	CS						
S	SS, A479-316						
M	Monel®						
Process connections							
4	½-inch FNPT						
4B	½-inch socket weld (F-out x F-in)						
Options							
-AM	AGCO Mount kit for 2-inch pipe stand						
-BC	Accessory bracket for mounting conduit with AGCO Mount						
-BP	Accessory bracket for mounting purge meters with AGCO Mount						
-CL00	Cleaned for chlorine service.						
-HD	Hydrostatic testing (100 percent) (MSS SP-61)						
-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						
-SG3	(Sour Gas) meets the requirements of NACE MR0175/ISO 15156 for chloride conditions > 50 mg/l (ppm))						
-SS	All 316 SS construction						
-PV	Plug-vent						