

## Manifolds - One Valve Equalizer

A compact manifold incorporating a PTFE-packed valve. This single valve serves to equalize a differential pressure transmitter at pressures up to 6000 psig (414 barg)

### General Application

The M3A equalizer manifold fits between the transmitter and the 2-bolt flanges (futbols) and is designed for use with differential pressure transmitters where low-cost direct coupling is desired and piping specifications require individual block valves

#### TECHNICAL DATA

##### Materials

CS, 316 SS, Hastelloy®

##### Seats:

Metal

##### Connections:

**Instrument:** Flanged

**Process:** Flanged

##### Pressure (max):

6000 psig (414 barg)

##### Temperature range (min/max):

-70°C to 1000°F

(-57°C to 538°C)



### Features

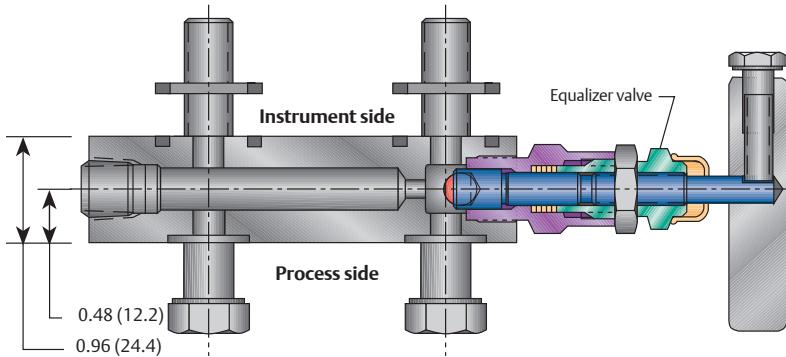
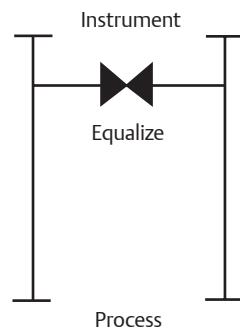
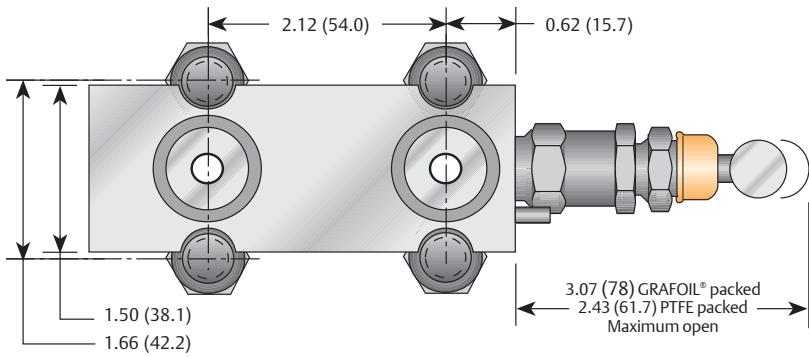
- Reduced installation costs of up to 20%-30% by manifolding the instrument, eliminating several components essential for 'piping-up.'
- Compact design requires minimum space for operation and installation.
- Reduced leakage through fewer parts to assemble.
- Free-swivelling ball end stem provides repetitive bubble-tight, metal-to-metal valve closure.
- Adjustable stem packing results in long, leak-proof service.
- Packing below stem threads prevents galling and thread corrosion.
- Integral hard back seat protects against stem blowout.
- Rolled stem threads provide a stronger, more durable thread area, increasing valve life.
- Two PTFE or graphite gaskets, 4 x 7/16" and 20 x 2 1/2" zinc cobalt plated alloy steel bolts supplied for mounting as standard.

# M3A SERIES

## Manifolds - One Valve Equalizer

### M3A Dimensions

Dimensions, inches (mm)



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### Bonnet Assembly

The metal-seated bonnet assembly has a rotating stem with free swivel ball-type seat for long service life.

The specially hardened ball seat is ideal for both gas and liquid service.

All stem threads are rolled and lubricated to prevent galling and reduce operating torque. The stem seal is a patented PTFE packing gland which is adjustable in service. 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.

The high-temperature bonnet assembly uses a strengthened stem and bonnet, incorporating adjustable graphite O-rings and back-up pressure rings to ensure a leak-free stem seal and is fitted with a larger size T-bar handle.

### Standard Materials

Valve <sup>[1]</sup>	Body	Bonnet	Stem	Ball	Packing
CS <sup>[2]</sup>	A108 CS	A105	A581-303 SS	17-4 PH	PTFE
CS <sup>[2]</sup>	A108 CS	A105	A581-303 SS	17-4 PH	GRAFOIL®
316 SS	A479-316 SS	A479-316 SS	A276-316 SS	316 SS	PTFE
316 SS	A479-316 SS	A479-316 SS	A276-316 SS	316 SS	GRAFOIL®
SG <sup>[3]</sup>	A479-316 SS	A479-316 SS	Monel® 400	Monel® K500	PTFE
SG <sup>[3]</sup>	A479-316 SS	A479-316 SS	Monel® 400	Monel® K500	GRAFOIL®
SG3 <sup>[4]</sup>	Hastelloy® C276	Hastelloy® C276	Hastelloy® C276	Elgiloy®	PTFE

#### NOTES

1. Approximate valve weight: 1.5 lb (0.7 kg).  
0.187-inch (4.8 mm) diameter orifice.  
Valve Cv 0.52 maximum.
2. CS parts are zinc TCP plated to prevent corrosion.
3. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions  $\leq$  50 mg/l [ppm]) and NACE MR0103.
4. SG3 (Sour Gas) meets the requirements of NACE MRO175/ISO15156 (for chloride conditions  $<$  50 mg/l (ppm)) and NACE MRO103-2005.

#### Minimum Temperature

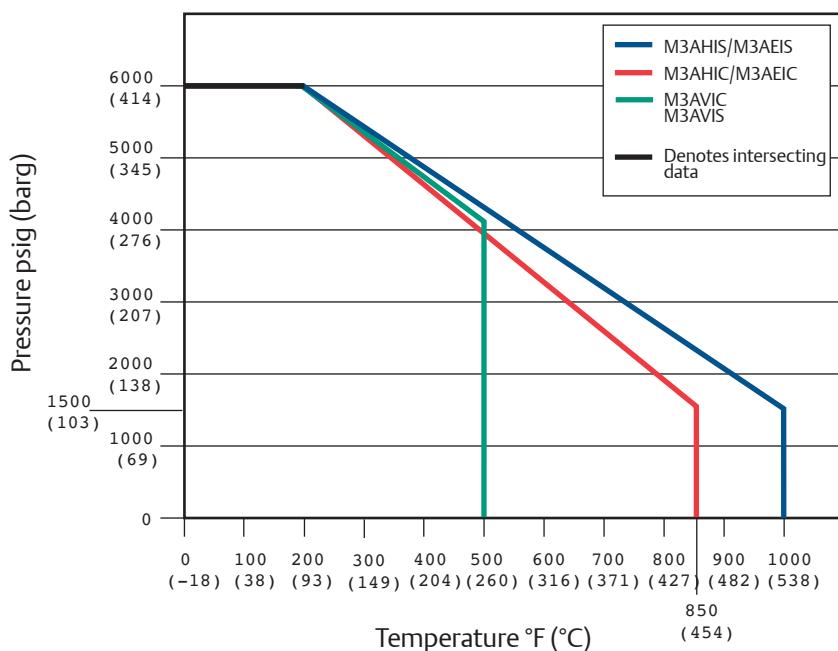
Carbon steel	-20°F (-29°C)
316 SS O-ring seal	-20°F (-29°C)
316 SS, Hastelloy®	-70°F (-57°C)
PTFE packed	
316 SS, Hastelloy®	-70°F (-57°C)
GRAFOIL® packed	

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### Pressure vs. Temperature

Pressure vs. Temperature



### Pressure and Temperature Ratings

Valve	PTFE packed
CS	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
316 SS	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)
SG	6000 psig at 200°F (414 barg at 93°C) 4000 psig at 500°F (276 barg at 260°C)

Valve	GRAFOIL® packed
CS	6000 psig at 200°F [414 barg at 93°C] 1500 psig at 850°F [103 barg at 427°C]
316 SS	6000 psig at 200°F [414 barg at 93°C] 1500 psig at 1000°F [103 barg at 538°C]
SG	6000 psig at 200°F [414 barg at 93°C] 1500 psig at 1000°F [103 barg at 538°C]

## Manifolds - One Valve Equalizer

### Selection Guide

M3A	V	I	S	-SG
BASIC SERIES	PACKING	SEAT	BODY MATERIAL	OPTIONS
M3A	V PTFE	I Integral (body material)	C CS <sup>[1]</sup> , A108	<b>SG</b> (Sour Gas) Meets the requirements of NACE MRO175/ISO15156 (for chloride conditions < 50 mg/l (ppm)) and NACE MRO103-2005
	H GRAFOIL®		S SS, A479-316	<b>SS</b> All materials 316 SS on non wetted components
	E Low emissions graphite		J Hastelloy®	

#### NOTES

1. CS parts are zinc chromate plated to prevent corrosion.
2. Delrin® is a registered trademark of E.I. du Pont de Nemours and Company.
3. GRAFOIL® is a registered trademark of Gr - afTech International.
4. Hastelloy® is a registered trademark of Haynes International, Inc.
5. Elgiloy® is a registered trademark of Elgiloy Specialty Metals.
6. Monel® is a registered trademark of the Special Metals Corporation.