

## Manifolds - Three Valve

Lightweight and compact 3 valve manifold designed for direct mounting to standard differential pressure transmitters

### General Application

The AX3A and AX3T are three-valve manifolds that enable instrument operation, isolation and zeroing in a single unit and are suitable for liquid or vapor service.

#### TECHNICAL DATA

**Materials**

316 SS, Monel®, Hastelloy®

**Seats:**

Metal

**Connections:**

**Instrument:** Flanged - direct mount to instrument

**Process:** 1/4", 1/2" NPT or flanged

**Pressure (max):**

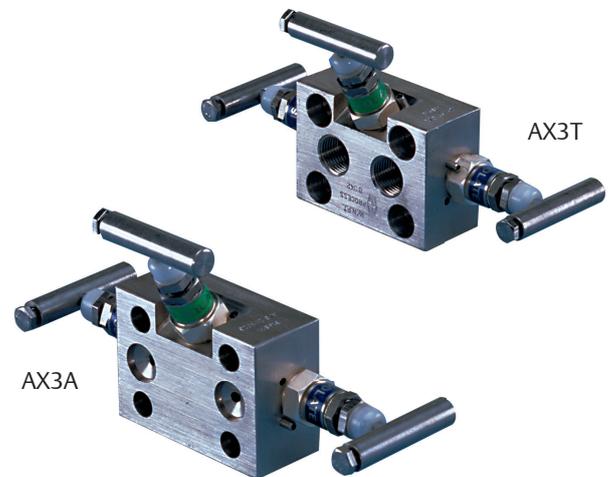
**Standard:** 6000 psig (414 barg)

**Optional:** 10,000 psig (690 barg)

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

-70°F to 1000°F

(-57°C to 538°C)



### Features

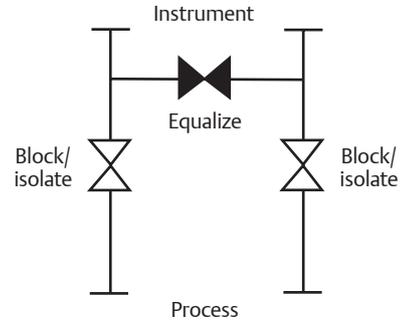
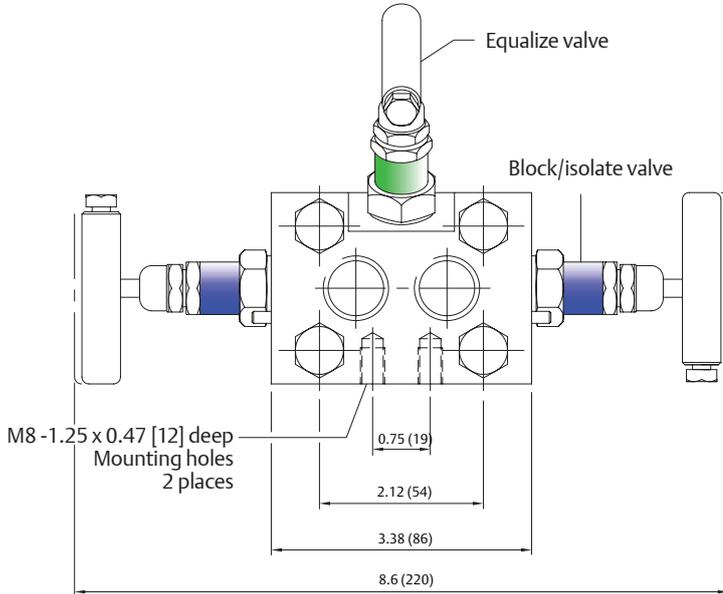
- Direct mounting compact design requires minimum space for operation and installation with fewer potential leak points.
- Cost savings when manifolding the valves by eliminating several parts used in conventional methods of 'piping up'.
- Free-swivelling ball end stem ensures perfect alignment, providing repetitive bubble-tight shutoff and long life.
- PTFE or graphite packing below stem threads prevents lubricant washout and thread corrosion.
- Back seat stem prevents blowout or accidental removal while in operation.
- Standard pipe bracket bolts directly to the manifold providing a rigid support for the transmitter. Instrument can be removed easily for service or repair

# AX3/AX3T SERIES

## Manifolds - Three Valve

### AX3/AX3T Dimensions

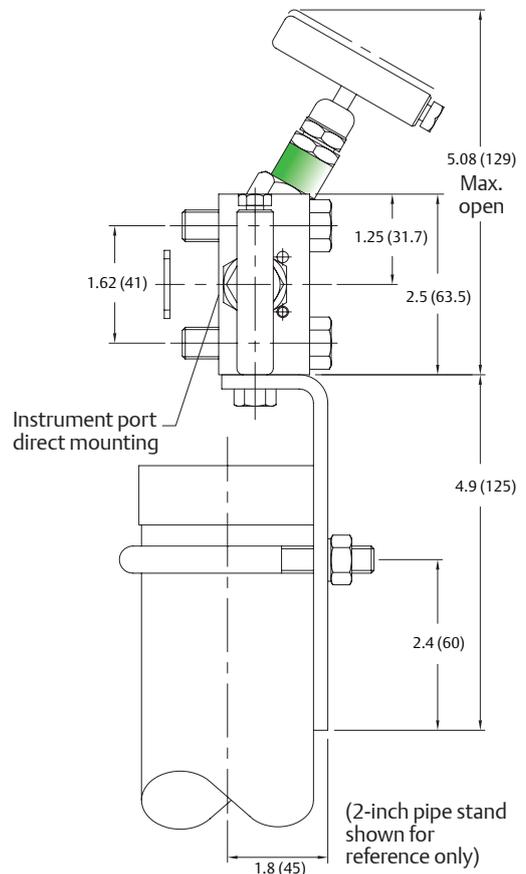
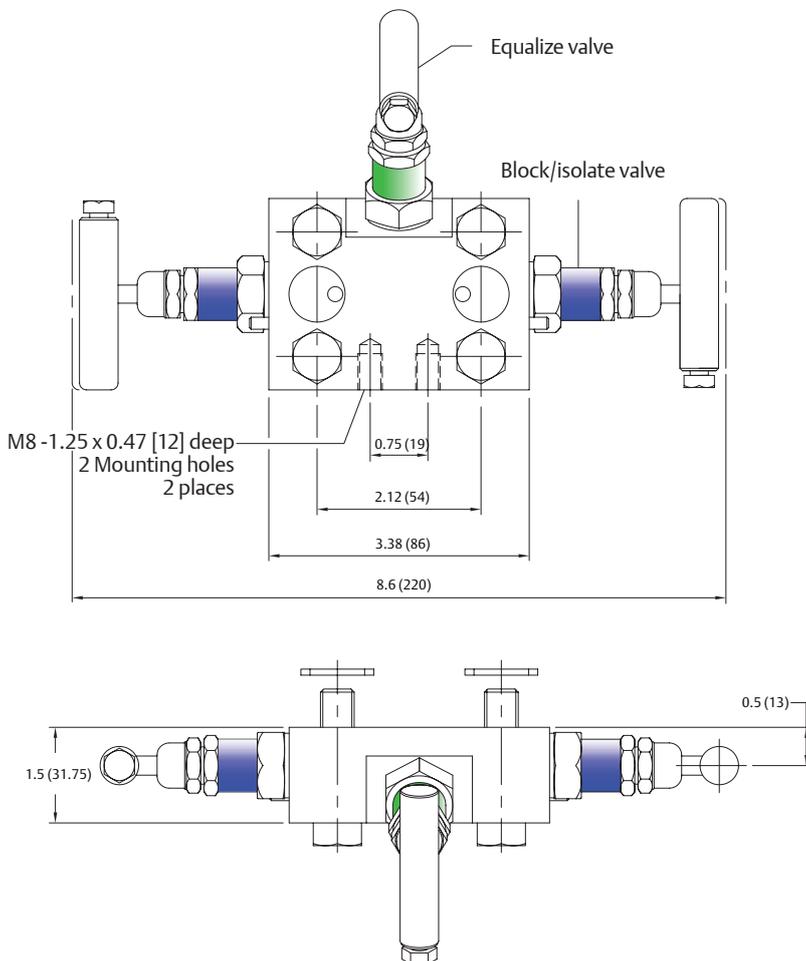
AX3T Dimensions, inches [mm] - Threaded x flanged



### AGCO Mount AM

The AGCO Mount principle is to mount the manifold, not the transmitter, enabling easier instrument loop installation and lower on-going maintenance costs. AX3 is available with an AGCO Mount suitable for 2-inch [50 mm] pipestand. Supplied in zinc plated CS as standard.

AX3A Dimensions, inches [mm] - Flanged x Flanged



## Manifolds - Three Valve

### Bonnet Assemblies

The metal-seated bonnet assemblies have a rotating stem with free swivel ball-end 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.

### Standard Materials

Valve <sup>[1]</sup>	Body	Bonnet	Stem	Ball seat
316 SS	316 SS	316 SS	316 SS	316 SS
Monel®	Monel® 400	Monel® 400	Monel® 400	Monel® K500
SG <sup>[2]</sup>	316 SS	316 SS	Monel® 400	Monel® K500
SG3 <sup>[4]</sup>	Hastelloy® C276	Hastelloy® C276	Hastelloy® C276	Elgiloy®

#### NOTES

1. Approximate valve weight: 3.7 lb [1.7 kg]. 0.187-inches [4.8 mm] diameter orifice. Valve Cv 0.52 maximum.
2. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103-2005.
3. All manifolds are supplied with seal rings and four 7/16 -inch UNF HT steel mounting bolts. PTFE seal rings are supplied with the standard bonnet; Graphite seal rings are supplied with high temperature bonnet.
4. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions > 50 mg/l [ppm]).

#### Special Severe Service Materials

Duplex UNS S31803
6MO UNS S31254
Hastelloy® C276
Inconel 625

#### Minimum Temperature

316 SS, Monel®, Hastelloy® PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy® GRAFOIL® packed	-70°F (-57°C)

316 SS and Monel® valves are suitable for most process applications, however for severe service, AX3 valves are also available in the above exotic materials. For any other material requirements, please consult the factory.

# AX3/AX3T SERIES

## Manifolds - Three Valve

### Valve Bonnet Identification

**Dust cap coding:** the valve bonnet dust caps are color coded to identify the gland packing/stem.

- White: standard bonnet assembly PTFE packing.
- Green: sour gas service PTFE packing.

**Ring labels:** the valve bonnets have color coded ring labels for service identification.

- Blue: isolate valves
- Green: equalize valves

### Connections

#### Standard connections

- Process Threaded or flanged. The standard thread type is 1/2-inch NPT to ANSI/ASME B1-20-1.
- Instrument Flanged for direct mounting to transmitters on 2 1/8-inch [54 mm] centers. Flanged connections are on 2 1/8-inch [54 mm] centers.

#### Other connections

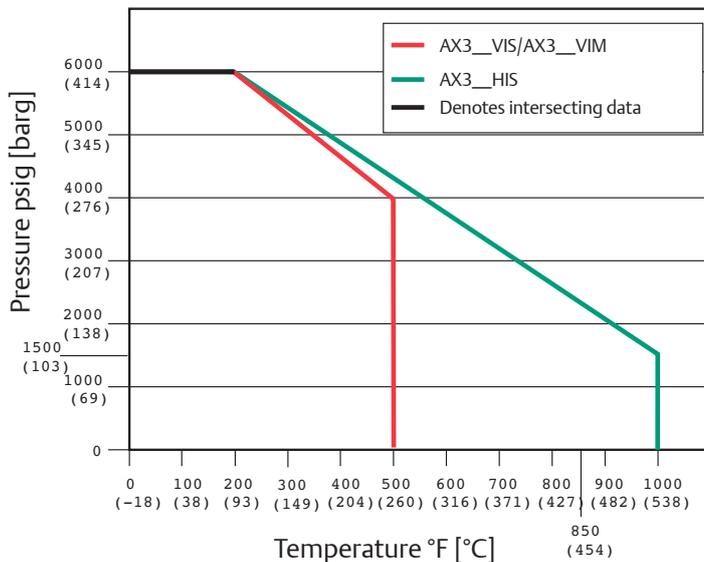
- Process Threaded BSPT tapered thread and BSPF straight thread, please consult factory for availability.

### Futbol Flanges

Futbol flanges are available for bolting to the process side of a flanged x flange manifold. This provides the ideal solution for welded connection requirements, allowing the futbols to be welded to process piping while keeping the flexibility to remove the manifold when required, for maintenance or repair.

Connection	CS	316 SS
1/2" NPT FNPT	KFC-4	KFS-4
1/2" NPT MNPT	KFC-4M	KFS-4M
1/2" Butt weld	KFC-4BW	KFS-4BW
1/2" Socket weld	KFC-4B	KFS-4B

### Pressure vs. Temperature



#### Pressure and Temperature Ratings

Valve	PTFE Bonnet
316 SS and Monel®	6000 psig at 200°F [414 barg at 93°C] 4000 psig at 500°F [276 barg at 260°C]

Valve	High temperature
316 SS	6000 psig at 200°F [414 barg at 93°C] 1500 psig at 1000°F [103 barg at 538°C]

Minimum Temperature	
316 SS, Monel®, Hastelloy® PTFE packed	-70°F (-57°C)
316 SS, Monel®, Hastelloy® GRAFOIL® packed	-70°F (-57°C)

## Manifolds - Three Valve

### Selection Guide

AX3T	V	I	S	-4	-SG
BASIC SERIES	BONNET PACKING	SEAT	BODY MATERIAL	PROCESS CONNECTIONS (AX3T ONLY)	OPTIONS
<b>AX3T</b> Threaded x flanged	<b>V</b> PTFE	<b>I</b> Integral	<b>S</b> 316 SS	<b>2</b> 1/4-inch FNPT	<b>AT</b> Tamper-proof bonnet
<b>AX3A</b> Flanged x threaded	<b>H</b> Graphite		<b>M</b> Monel® 400 <b>J</b> Hastelloy®	<b>4</b> 1/2-inch FNPT	<b>BL</b> Bonnet lock device (Graphite packing for PTFE consult factory) <b>K</b> Key for -AT <b>LAT</b> Lockable tamper-proof bonnet <b>AM</b> AGCO Mount kit (CS) <b>AMS</b> AGCO Mount kit (SS) <b>OC00</b> Cleaned for oxygen service <b>PD</b> Padlock for -LAT <b>R3V</b> Add for use with Rosemount® model 3051C (SS 18-8 bolts) <b>SSA</b> SS flange bolt (grade 18-8) - maximum pressure rating 4500 psi [310 barg] <b>SSB</b> 316 SS flange bolt (B8M Class 2) - will provide full pressure rating <b>SSC</b> 316 flange bolt (B8M) - maximum pressure rating 4500 psi [310 barg] <b>SG</b> (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions ≤ 50 mg/l [ppm]) and NACE MR0103 (SS valves only) <b>SG3</b> (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for Chloride conditions > 50 mg/l [ppm]) <b>HP</b> 10,000 psig (690 barg) <b>SS</b> All 316 SS material on non wetted components

#### NOTES

Monel® is a registered trademark of the Special Metals Corporation.  
Hastelloy® is a registered trademark of Haynes International, Inc.  
Elgiloy® is a registered trademark of Elgiloy Specialty Metals.