



Use Anderson Greenwood Three Valve Manifolds with the DPharp Differential Pressure Transmitter

Product Overview

Anderson Greenwood offers the broadest range of three valve manifolds for the most demanding process and installation applications for use with the Yokogawa DPharp Differential Pressure Transmitters. Based on a 2 1/8" [54 mm] center-to-center global connection standard, the Anderson Greenwood manifold provides the least number of leak points, ease of installation and largest number of options to meet customers' needs.

The three valve designs can be mounted to the process direct close coupled or remote. AG Manifolds are also available in a wide range of materials to meet the customers' process conditions. AG manifold inlet connections can be a variety of pipe thread styles, tube, socket weld, compression fitting or flanged for ultimate flexibility.

For over 50 years, the features that are a part of manifolds have been recognized by the instrumentation industry to provide the highest quality installed service with bubble tight sealing and long product life. Standard features include:

- Rolled and chrome plated threads for strength and durability of the stem.
- Viton[®], O-ring and adjustable Packing in Teflon[®] and GRAFOIL[®] for a wide range of pressures and temperatures. The Packing or O-ring is below the stem threads to prevent washout, thread corrosion and galling.
- Integral hard back seating for stem blow out protection and secondary seal.
- Bonnet to body seal is metal to metal below the bonnet threads to prevent thread corrosion while providing a reliable re-seal when the bonnet is removed.
- For applications where reduced emission is specified, an optional patented Graphite packed bonnet can be used.

Anderson Greenwood Manifolds Installation Applications:

Direct Mount

Direct Mounted manifolds are connected and supported at the differential pressure taps to reduce gauge line error, heat tracing cost, installation cost, promote installation standardization, reduce plugging, and eliminate impulse line error caused by liquid slugs in gas service or gas in liquid service. The Three valve manifold model families that can be direct mounted are: M4A flange-by-flanged, M45A large bore flange-by-flange, AX3A flange-by-flange Wafer, MB3A Low Profile flange-by-flange, IMS (Large Bore IntelliMount), and SBM (SaddleMount).

Close Coupled Mount

Close Mounted manifolds are typically mounted to the process piping so that the manifold/transmitter and primary root valves are all within reach of the technician. Close Coupled mounting is done for space or location (up in the piping rack), ease of heat tracing, or to limit impulse line error. Mounting to a 2" pipe stand can be done by using an AGCO Mount kit. The three valve manifold families that can be used for close couple mounting are: M4A, M4T pipe-by-flange, M45A, M45T large bore pipe-by-flange, MB3A, MB3 pipe-by-flange, and the IMS in the flange-by-flange or pipe-by-flange configuration.

Remote Mount

Remote mounted manifolds are typically connected to the process by tubing or piping some distance from the process taps. This is done for access convenience or space limitation around the process piping. The three valve manifold families that can be remote mounted using an AGCO Mount kit are: M4T, M45T, AX3T, MB3T and the IMS.

Installation Options

To help the user apply the transmitter/manifold combination, many options are available with the AGCO three valve manifold, such as optional test ports and purge ports. See catalog for a complete listing of options.



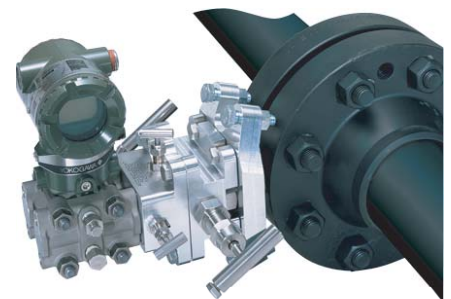
MB3



M4T



M4A



Saddle Mount (SBM)

Bulletin 22A00R03-01E



ANDERSON GREENWOOD INSTRUMENTATION PRODUCTS



DPharp

Specifications - For Anderson Greenwood Three Valve Manifolds Flanged to EJX or EJA Differential Pressure Transmitters

M4A, M4T, AX3A, AX3T, MB3A, MB3T, IMS, SBM - Pressure and Temperature Ratings

Metal Seat

Valve	Packing	Ratings			
CS ₂	Teflon®	6000 psig @ 200°F	[414 barg @ 93°C]		
		4000 psig @ 500°F	[276 barg @ 260°C]		
CS ₂	GRAFOIL® Graphite	6000 psig @ 200°F	[414 barg @ 93°C]		
		4000 psig @ 600°F	[276 barg @ 316°C]		
SS	Teflon®	6000 psig @ 200°F	[414 barg @ 93°C]		
		4000 psig @ 500°F	[276 barg @ 260°C]		
SS	Graphite GRAFOIL®	6000 psig @ 200°F	[414 barg @ 93°C]		
		1500 psig @ 1000°F	[103 barg @ 538°C]		
SG3 or SG34	Teflon®	6000 psig @ 200°F	[414 barg @ 93°C]		
		4000 psig @ 500°F	[276 barg @ 260°C]		
SG3 or SG34	GRAFOIL®	6000 psig @ 200°F	[414 barg @ 93°C]		
		1500 psig @ 1000°F	[103 barg @ 538°C]		
Monel®	Teflon®	5300 psig @ 200°F	[360 barg @ 93°C]		
		4200 psig @ 500°F	[290 barg @ 260°C]		
Hastelloy®	Teflon®	6000 psig @ 200°F	[414 barg @ 93°C]		
		4000 psig @ 500°F	[276 barg @ 260°C]		

Soft Seat

Valve	Packing	Ratings	
CS ₂	Teflon®		
SS	Viton® O-ring with Teflon® back up ring	600 psig @ 200°F	[414 barg @ 93°C]
SG3 or SG34	Teflon®	6000 psig @ 200°F	[414 barg @ 93°C]

M45A - Pressure and Temperature Ratings

Valve	Packing	Seat	Ratings	
CS ₂	Teflon®	Delrin®	6000 psig @ 200°F	[414 barg @ 93°C]
CS ₁	GRAFOIL®	SS	1500 psig @ 850°F	[103 barg @ 454°C]
SS	Teflon®	Delrin®	6000 psig @ 200°F	[414 barg @ 93°C]
SS	GRAFOIL®	SS	1500 psig @ 1000°F	[103 barg @ 538°C]
SG3 SG35	Teflon®	Delrin®	6000 psig @ 200°F	[414 barg @ 93°C]

Options

- AL Arctic Lubricant (low temperature service -70°F). Not available for CS valves.
- AM AGCO Mount Kits (CS) (for pipestand mounting of manifold)
- BC Accessory Bracket – Mount Conduit with -AM
- BL Bonnet Lock Device (Accessories, page 146)
- BP Accessory Bracket Mount Purge Meters with -AM
- CL Cleaned for Chlorine Service.
- HD Hydrostatic Testing (100 percent) (MSS-SP-61)
- LP Street Elbows and Top Purge Ports
- OC Cleaned for Oxygen Service.
- PB Bottom Purge Ports (1/4-inch FNPT) (not available with -SB option) (M4T Metal Seat only) (option not available for M4A with -AM)
- PT Top Purge Ports (1/4-inch FNPT) (Metal Seat only) (if elbows are required, specify -LP, not -PT)
- SB Steam Block (CS)
- SG Sour Gas meets the requirements of NACE MRO103 & MRO175/ISO 15156:2003 when chlorides are less than 50 ppm. (SS valves only) (not available for O-ring packed valves)
- SG3 Sour Gas meets the requirements of NACE MRO175/ISO15156:2003 when chlorides are more than 50 ppm.
- SSAs SS Flange Bolt (grade 18-8) - Maximum pressure rating 4500 psi [310 barg]
- SSCs 316 Flange Bolt (B8M) - Maximum pressure rating 4500 psi [310 barg]
- TB Test Ports – Bottom of Manifold (1/4-inch FNPT) (option not available for M4A with -AM)

Notes

1. Instrument mounting kit furnished with manifold includes (4) A193-137 bolts and (2) Teflon® or GRAFOIL® flange gaskets to match bonnet packing.
2. Carbon steel parts are zinc cobalt plated to prevent corrosion.
3. SG (Sour Gas) meet the requirement of NACE MRO103 & MRO175/ISO 15156:2003 when chlorides are less than 50 ppm.
4. SG3 (Sour Gas) meets the requirement of NACE MRO175/ISO 15156:2003 when chlorides are more than 50 ppm.
5. 316 SS bolts lower pressure ratings to a maximum of 4500 psi [310 barg]. Consult factory for full rating with 316 SS bolts.



NOTICE

Before operating the product, read the user's manual thoroughly for proper and safe operation.

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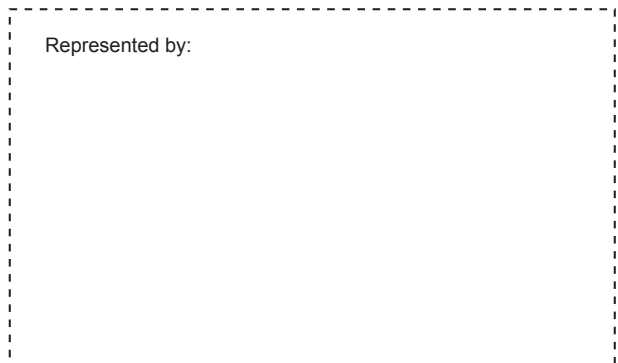
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