

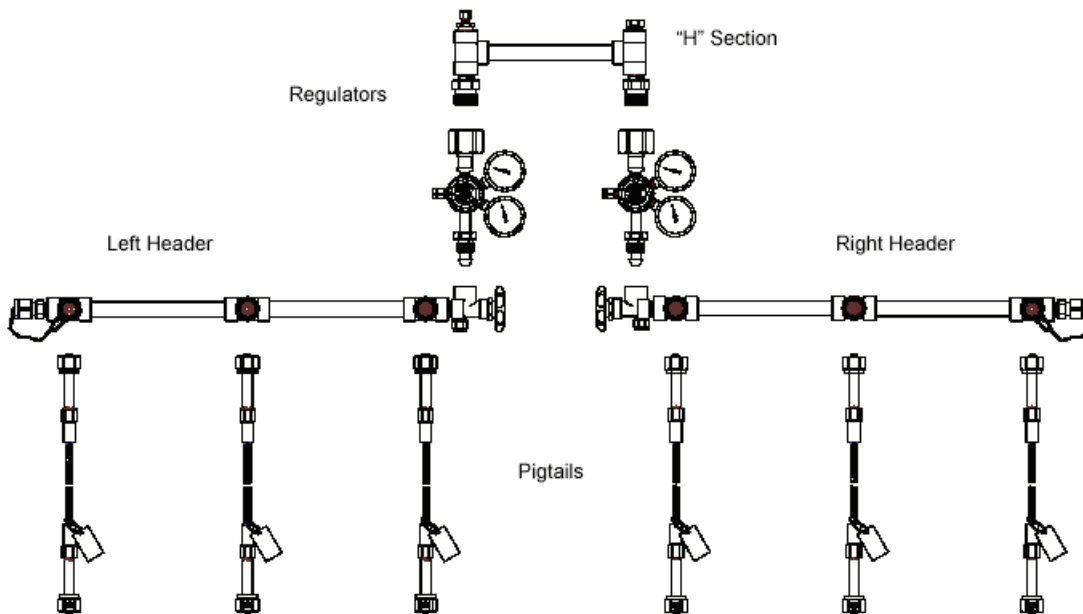
HBAD2 - Series

High Purity Brass Automatic Manifold (Open Style) for High Pressure Cylinders (up to 3,000 psi.)



The HBAD2 series manifold systems are cleaned, tested and prepared for the indicated gas service and are built following National Fire Protection Association and Compressed Gas Association guidelines. The manifold consists of a manifold control and two supply bank headers, one service and one reserve supply, to provide an uninterrupted supply of gas for the specific gas application. The HBAD2 control is designed and built with features providing automatic changeover from the depleted "Service" supply bank to the "Reserve" supply with a predetermined drop in delivery pressure. Pressure gauges show system status and alert the need to replace depleted cylinders. Features of the HBAD2 systems include chrome plated brass regulators with stainless steel diaphragms, stainless steel inner core flexible pigtailed with check valves, headers and complete mounting hardware.

The HBAD2 series manifold should be installed in accordance with guidelines stated by the National Fire Protection Association, the Compressed Gas Association, OSHA, and all applicable local codes. The carbon dioxide and nitrous Oxide manifold should not be placed in a location where the temperature will exceed 120°F (49°C) or fall below 20°F (-7°C) . The manifolds for all other gases should not be placed in a location where the temperature will exceed 120°F (49°C) or fall below 0°F (-18°C). A manifold placed in an open location should be protected against weather conditions. During winter, protect the manifold from ice and snow. In summer, shade the manifold and cylinders from continuous exposure to direct rays of the sun.



Specifications

- Maximum Inlet Pressure: 3,000 psig
- Delivery Pressure Range: 50 - 100 psig
- Inlet (Pigtails) Connections: CGA specific
- Cylinder Station Spacing: 10" or 5" center options
- Header Inlets: CGA Check valve outlets (for added safety) corresponding to gas use
- Outlet Connections: 1/4" Compression
- Flow: 94 l/min. or 200 SCFH with 10 psig pressure drop Nitrogen, 35 SCFH max flow for CO₂ and N₂O

Please Note: Acetylene manifold are not available for the HBAD2 series manifold.

Features and Benefits

- The HBAD2 series eliminates costly downtime by providing a constant uninterrupted gas flow.
- Enhances safety by consolidating cylinders into a centralized location.
- Ensures system purity with compatible component selection.
- Check valve outlets and check valves provide added safety.
- 1/2" brass pipe and tee construction, silver brazed and Teflon taped.
- Modular design - allows field installation of additional stations without brazing.
- Flexible stainless steel lined pigtailed with check valves at cylinder end allow easy hook up and maintain gas purity.

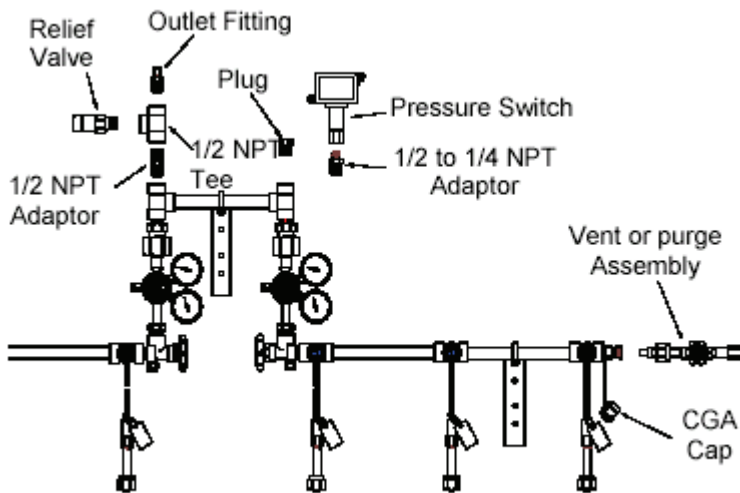
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Manifold Operation

The HBAD2 manifold control includes the following components and features: chrome plated brass regulator with stainless steel diaphragm, brass packless master valves, flexible stainless steel inner core pigtails with check valves, headers designed to be easily expanded, port for an optional pressure switch, header construction allows installation of purge assemblies, and automatic bank switching. The manifold is designed to use a line regulator (optional) which can be mounted on the manifold outlet. The cylinder bank that supplies the piping system is known as the "Service" supply, while the cylinders on stand-by are referred to as the "Reserve" supply. Gas flows through the manifold control, first to the service primary regulator and then through the line regulator. Final delivery pressure is controlled by the line regulator that must be installed on the manifold outlet. This line regulator is not provided with the manifold. Changeover from the "Service" to "Reserve" side is accomplished when the "Service" side pressure falls below the set pressure of the reserve side regulator. When this pressure drops to the reserve regulator set point, the reserve side begins to flow, without any interruption of gas to the line regulator. After changeover the high pressure gauges on the regulator will indicate which bank should be changed. The manifold should only be reset when the application can be shut down. The system should be purged to ensure that any atmosphere is removed from the line. After replacing empty cylinders, reset the regulator so that the reserve side is now the supply side. This will ensure that the reserve side is always full.



Optional Equipment

Orificed Adapter: WMS-1-97

Pressure Switch: WME-4-5 Explosion Proof
 30 - 300 psig
 WME-4-13 High/Low Pressure
 0 - 200 psig
 WME-4-14 General Purpose
 20 - 200 psig

Power supply: WMS-9-25C

Remote Alarm Panel: BIA-1 Visual
 BIA-3 Audio/ Visual

To add a alarm to the HBAD2 manifold you will require the orificed adapter, pressure switch, power supply and the remote alarm panel.

Purge and Vent Assemblies

Remove the CGA cap on the ends of the headers and connect the purge assembly (optional) to the ends of the header.

Material of Construction

Brass Fittings and Pipe Materials

UNS C36000
 UNS C37700

Pigtail Materials

CGA Connections: Brass
 Inner Core Material; 316L stainless (annular Corrugated)

Master Valve Materials

Diaphragm: 303 Stainless Steel
 Seat: Nylon
 Body: Brass

Internal Check valves

Body: Brass
 Seat: Viton™ (EPDM for CO₂ and N₂O)
 Spring: 302 Stainless Steel

Pipe Thread Seal: Teflon™ Tape

Inlet Filter: 10 Micron Sintered Porous Bronze

Intermediate Relief Valve

Body: UNS C36000
 Seat: Viton™ (EPDM for CO₂ and N₂O)

Primary Regulator

Body, Nozzle, and Retainer: Brass
 Seat: Kel-F™
 O-Rings: Viton™ (EPDM for CO₂ and N₂O)
 Diaphragm: 316 Stainless Steel

Pressure Switch

Body: 316 Stainless Steel
 Diaphragms: 316 Stainless Steel

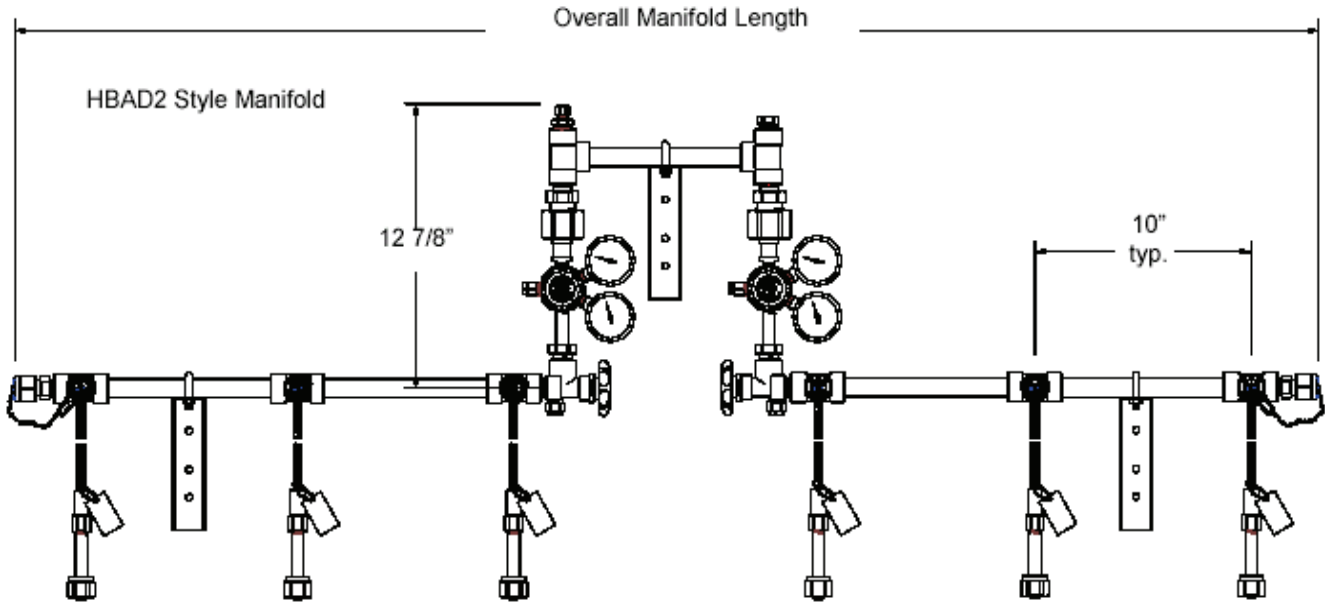
Inlet Pressure gauges

Body: Brass
 Bourdon Tube: Phosphor Bronze
 Solder: Silver

Outlet Pressure Gauge

Body: Brass
 Bourdon Tube: Phosphor Bronze
 Solder: Soft Solder

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Total Number of Cylinders	2	4	6	8	10	12	16
Standard (10" Centers) Overall Manifold Length	1'-6"	3'-2"	4'-10"	6'-6"	8'-2"	9'-10"	11'-6"
Staggered Design (5" Centers) Overall Manifold Length	1'-6"	2'-4"	3'-2"	4'-0"	4'-10"	5'-8"	7'-6"
Vertical Crossover (10" Centers) Overall Manifold Length	N/A	1'-6"	N/A	3'-2"	N/A	4'-10"	N/A

How to Order: Specify; Control type (V) - Service (W) - Number of Cylinders (X) Header Configuration (Y) Mounting (Z)

Control Type (V)	Gas Service (W)	Number of Cylinders (X)	Header Configuration (Y)	Mounting (Z)
HBAD2 (30-100 psig)	(2) Zero Air	CGA-346	BLANK-Standard 10" on center	Blank = Wall Mount (Standard)
	(2A) Zero Air	CGA-590	S-STAGGERED 5" on center	
	(3) Argon	CGA-580	V- VERTICAL CROSSOVER -Standard 10" on center	F - Floor Stand
	(4) Carbon Dioxide	CGA-320		
	(5) Helium	CGA-580		
	(6) Hydrogen	CGA-350	U-SHAPED - SKETCH REQUIRED L-SHAPED- SKETCH REQUIRED	
	(6A) Argon/Methane	CGA-350		
	(7) Nitrogen	CGA-580		
	(8) Nitrous Oxide	CGA-326		
(9) Oxygen	CGA-540			

Warranty

All Western manifold are warranted against defects in materials and workmanship for the period of one year from the date of shipment. For complete information on the warranty please see the back cover of the Installation and operations manual