

FHM2 Series Fully Automatic Switchover Manifold

Features

- 24" flexible stainless steel braided pigtails, except oxygen which include rigid copper pigtails. Vertical crossover and staggered configurations include 36" pigtails for half of the cylinders. All pigtails include a check valve.
- CGA connections with integral check valves at each header station.
- Special header configurations available upon request. (U-shaped, L-shaped, etc.) (Dimensional sketch of installation required).
- Built for expansion by adding header extensions



Description

Fully Automatic Changeover Medical Gas Manifold

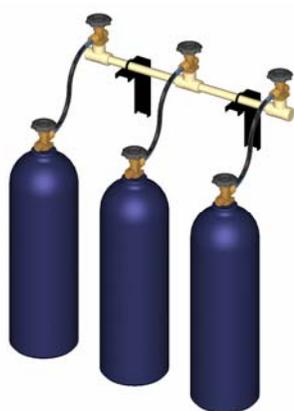
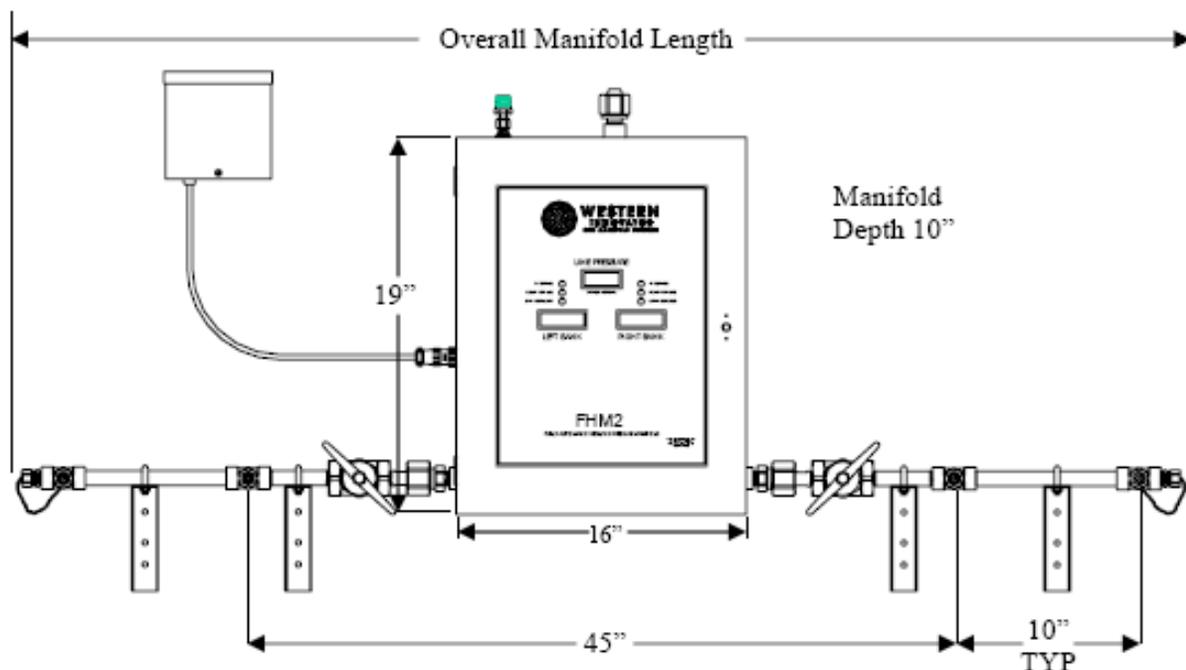
The fully automatic changeover manifold is designed to provide a reliable uninterrupted supply of gas to a hospital or clinic's medical gas pipeline system. It is designed to meet NFPA 99 type 1 facility requirements.

Manifold Design

The manifold control unit includes the following components and features: green "In Service", yellow "Ready for Use", and red "Bank Depleted" indicator lights", digital cylinder pressure readouts, digital line pressure readout and gauge, intermediate pressure gauge, internal dual line regulator assembly, intermediate relief valves, line relief valve, and fully automatic bank switching. Supply bank consist of a header with 24" and/or 36" stainless steel flexible pigtails with check valves, except oxygen which include rigid copper pigtails with check valves, individual header check valve outlet bushings, master shut off valves, and union connections for attachment to the control unit. The control unit shall automatically switch to the secondary bank when the service bank is depleted. Under normal operating conditions, the gas shall leave the high pressure cylinders through the pigtails into the header bars. The pigtails shall include check valves to allow the replacement of depleted cylinders without gas pressure back-flow into the remaining depleted cylinders on that bank. When the depleted cylinders are replaced with full cylinders, the system will automatically reset itself in preparation for the next bank change.

The only manual activity required by the FHM2 Series manifold control is the changing of the depleted cylinders.

A separate power supply is furnished with the manifold to convert 120 VAC to 24 VAC output power and includes dry contacts for connecting the "Reserve in Use" alarm to the facility's master alarm panel/s. The power supply is housed in a NEMA 3R, enclosure with electrical requirements of 1.5 amp at 120 VAC, 1Ph, 60 Hz. The power supply is CSA approved.



Standard 10" on Centers



Staggered 5" on Centers



Vertical Crossover 10" on Centers



Crossover 10" on Centers Floor Stand Required

Design Lengths

Total Number of Cylinders	4	6	8	10	12	14	16	18	20
Standard (10" Centers) Overall Manifold Length	5'-11"	7'-7"	9'-3"	10'-11"	12'-7"	14'-4"	15'-11"	17'-7"	19'-3"
Staggered Design (5" Centers) Overall Manifold Length	5' - 1"	5'-11"	6'-9"	7'-7"	8'-5"	9'-4"	10'-1"	10'-11"	11'-9"
Vertical Crossover (10" Centers) Overall Manifold Length	4' - 3"	N/A	5'-11"	N/A	7'-7"	N/A	9'-3"	N/A	10'-11"

Specifications

Installation Information

The FHM2 manifold shall be installed in accordance with guidelines stated by the NFPA, CGA, and all applicable local codes. The carbon dioxide and nitrous oxide manifolds 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 the other gases should not be placed in a location where the temperature will exceed 120°F (49°C) or fall below -20°F (-29°C). A manifold placed in an open location should be protected against weather conditions. During the winter, protect the manifold from ice and snow. In summer, shade the manifold and cylinders from continuous exposure to direct rays of the sun.

All safety relief valves shall be piped/vented to the outside. Follow all local and applicable codes for piping systems.

Carbon Dioxide & Nitrous Oxide Manifolds

Under certain conditions, users of carbon Dioxide & Nitrous Oxide gas (from high pressure cylinders), experience “freeze-up” problems on valves, regulators and other compressed gas equipment. The term “freeze up” refers to a pressure regulator becoming clogged with dry ice, snow or crystals, which restrict the flow of gas through regulators or other pressure control devices. Western Enterprises recommends the installation of a gas heater to prevent the freeze up condition on any manifold providing more than 35 scfh. Manifolds with the HL designation include a 500scfh capacity heater. The thermostatically controlled heater warms the gas before entering the primary regulator, preventing “freeze-up”. The heater operates at 115 VAC and draws 4 amps.

Warranty

All Western manifolds are warranted against defects in materials and workmanship for the period of two years from the date of shipment. For complete information on the warranty please see the back cover of the Installation and Operations manual.

Ordering Information

HOW TO ORDER

Example: FHM2-9-12S represents FHM2 with oxygen gas service, staggered bank of 6 cylinders per side which is wall mounted

CONTROL TYPE (W)	GAS SERVICE (X)	NUMBER OF CYLINDERS (Y)	HEADER CONFIGURATION (Z)
FHM2 (30 - 70 psig)	(2) Medical Air (4) Carbon Dioxide	CGA 346 CGA 320	Indicate the total number of cylinders required. Blank - Standard 10" on center S - Staggered 5" on center V - Vertical Crossover 10" on center
FHM2HL (30 - 70 psig) (For CO ₂ and N ₂ O - includes 500 scfh heater)	(5) Helium (7) Nitrogen (8) Nitrous Oxide (9) Oxygen	CGA 580 CGA 580 CGA 326 CGA 540	
FHM2HP (100 - 190 psig)			