

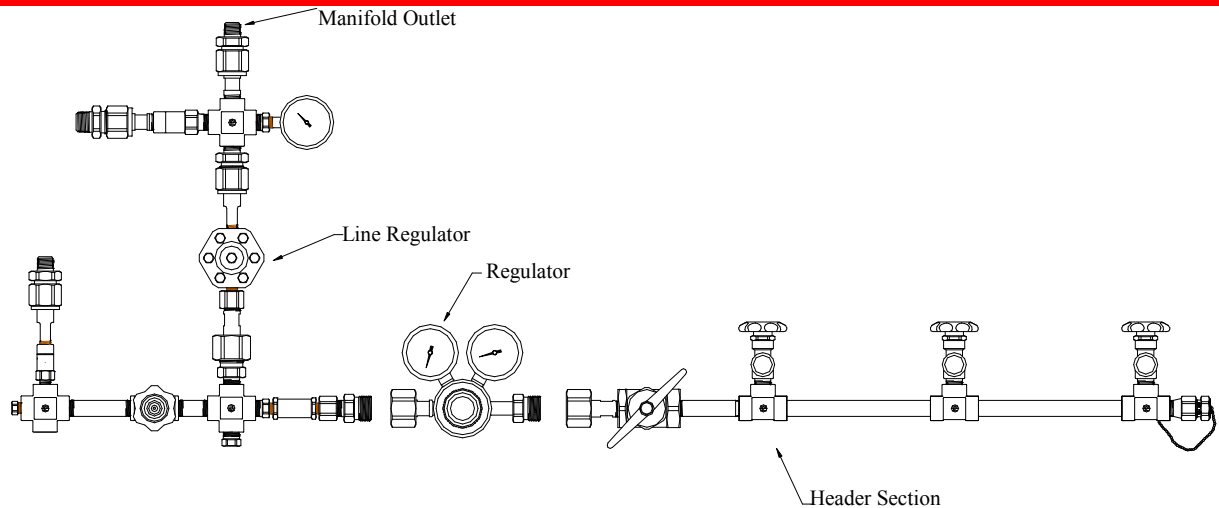


LA - Series

Automatic Manifolds for Cryogenic Liquid Cylinders with High Pressure Reserve for Industrial Applications

The LA - series manifold systems are cleaned, tested and prepared for the indicated gas service and are built in accordance with the National Fire Protection Association and Compressed Gas Association guidelines. The manifold is specifically designed to regulate and monitor vaporized gas from cryogenic liquid cylinders. When the gas from the cryogenic cylinders is depleted the manifold will automatically permit gas to flow from the reserve high pressure cylinders. This ensures an uninterrupted supply of gas to the application. The manifold consists of a high pressure header, 24" stainless steel flexible pigtails with check valves, and regulator, an adjustable cryogenic line regulator, 72" cryogenic flexible pigtails with check valves, a port for an optional pressure switch and complete mounting hardware.

The LA - 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 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 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.



Manifold Operation

The LA series manifold control includes the following components and features: A high pressure manifold consisting of a regulator, 24" stainless steel flexible pigtails with check valves and a header designed to be easily expanded and a cryogenic manifold consisting of 72" cryogenic flexible pigtails with check valves and a line regulator. Gas flows from the cryogenic cylinder into the manifold system. This gas flows to the line regulator where the pressure is reduced to the desired line pressure. A check valve prevents the flow of gas back to the high pressure portion of the manifold. Gas from the high pressure cylinders enters the high pressure regulator and is reduced to a pressure lower than the cryogenic cylinder pressure. When the cryogenic cylinder is depleted the gas pressure will drop. When the pressure drops to the high pressure regulator setting, the gas from the reserve high pressure cylinders is permitted to flow. An alarm will sound at this time (optional equipment) signaling that new cryogenic cylinders are required.

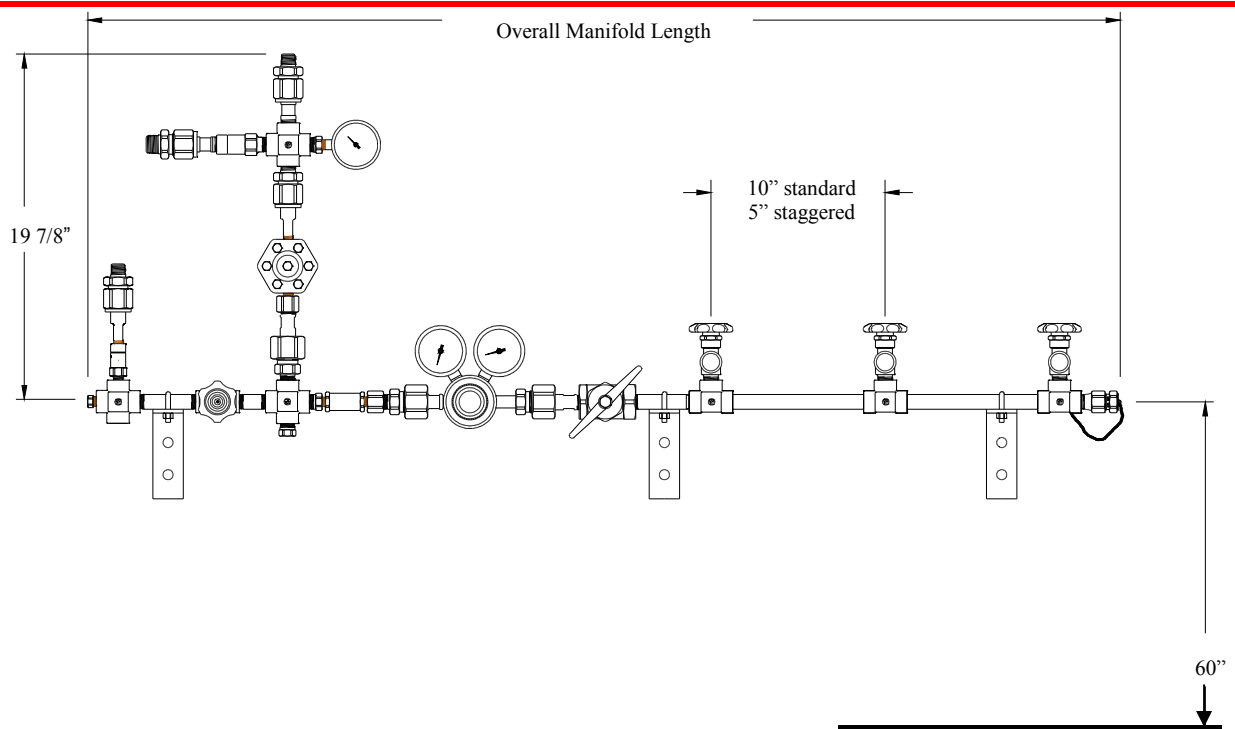
Specifications

- LA and LAMP model uses RM (or RDM for Oxygen) regulator, adjustable delivery pressure 20 - 160 PSIG, LAHP model uses RS-300-MAN regulator (all gases except Oxygen), adjustable delivery pressure 40-210 PSIG.
- 24" Flexible stainless steel braided Teflon™ lined pigtails with check valves. Check valve is at header end of pigtails except Oxygen. Vertical crossover and staggered styles include half 24" and half 36" pigtails.
- Individual header valves at each cylinder location (Units with 2 cylinders or larger- all gases except Oxygen). Oxygen units shipped with check valve outlets in place of header valves to provide added safety from "heat of recompression."
- Manifold Outlet: 1/2" NPT male
- High quality master valve and header shut-off valve on high pressure reserve side.
- Complete wall mounting hardware and operating instructions.
- High pressure reserve header constructed of 1/2" brass pipe and tees, silver-brazed at each cylinder location, painted almond and labeled for the indicated gas service.
- Maximum working pressure for high pressure reserve system: 3000 PSIG
- Accessory heater kits available for Carbon Dioxide and Nitrous Oxide manifolds.

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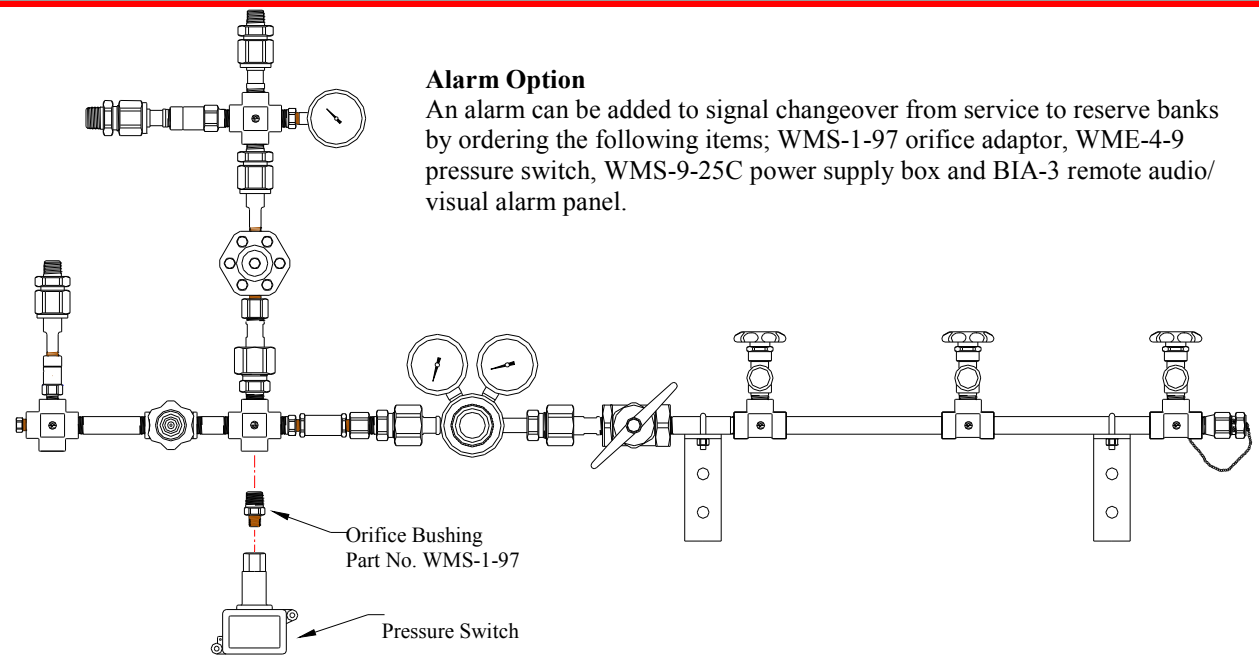


- A check valve to prevent pressure from primary bank from registering on the high pressure regulator delivery gauge.
- Special header configurations available upon request, L-Shaped, Staggered, Crossover, and Vertical Crossover. Dimensional sketch of installation required for L-Shaped header.
- Western will customize to meet your customer's special requirements.
- Designed to manifold up to two portable cryogenic cylinders.
- Adjustable line regulator: 40-85 PSIG on LA Series
 40-130 PSIG on LAMP Series
 40-210 PSIG on LAMP Series
- Maximum flow capacity: 750 SCFH - Model LA
 750 SCFH - Model LAMP
 800 SCFH - Model LAHP
- Cryogenic side includes 72" cryogenic pigtails with check valve (nylon inner core with polyester braid). Maximum working pressure 1375 PSIG.
- A high quality cryogenic master valve on the cryogenic side.
- Optional remote audio/visual alarm panel available.
- Line relief outlet: 1/2" NPT male.
- Cryogenic relief valve outlet: 1/2" NPT male.
- Inlet pressures from each liquid cylinder must be the same. If more than one cylinder is used a pigtail should be used to connect cylinder vent lines to ensure equalized cylinder pressure.
- **Minimum inlet pressure for LA: 125 PSIG**
- **Minimum inlet pressure for LAMP: 160 PSIG**
- **Minimum inlet pressure for LAHP: 250 PSIG**
- Maximum cryogenic inlet pressure 350 PSIG

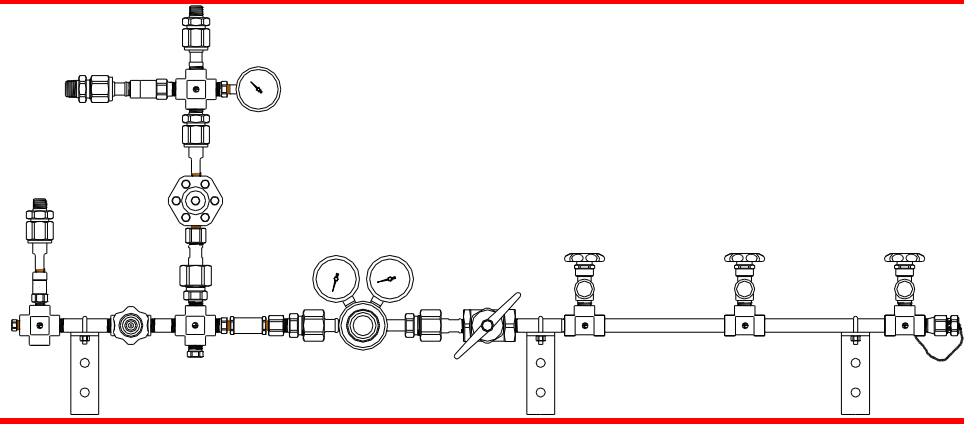


Total Number of High pressure Cylinders	2	3	4	5	6	7	8
Standard (10" Centers) Overall Manifold Length	4'-1" (1.25M)	4'-11" (1.50M)	5'-9" (1.75M)	6'-7" (2.01M)	7'-5" (2.26M)	8'-3" (2.51M)	9'-1" (2.77M)
Staggered Design (5" Centers) Overall Manifold Length	3'-8" (1.12M)	4'-1" (1.25M)	4'-6" (1.37M)	4'-11" (1.50M)	5'-4" (1.63)	5'-9" (1.75M)	6'-2" (1.88M)
Vertical Crossover (10" Centers) Overall Manifold Length	4'-1" (1.25M)	N/A	4'-11" (1.50M)	N/A	5'-9" (1.75M)	N/A	6'-7" (2.01M)
Crossover (10" Centers) Overall Manifold Length	4'-1" (1.25M)	N/A	4'-11" (1.50M)	N/A	5'-9" (1.75M)	N/A	6'-7" (2.01M)

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Alarm Option
 An alarm can be added to signal changeover from service to reserve banks by ordering the following items; WMS-1-97 orifice adaptor, WME-4-9 pressure switch, WMS-9-25C power supply box and BIA-3 remote audio/visual alarm panel.



How to Order: Specify; Control type (V) - Service (W) - Number of Cylinders (X) Header Configuration (Y) Mounting (Z)
 LA-9-1-3 represents model LA with oxygen gas service with a standard header configuration for 1 liquid cylinder and 3 high pressure cylinders which is mounted on the wall.

Control Type (U)	Gas Service (V)	Number of Liquid Cylinders (W)	Number of High Pressure Cylinders (X)	Header Configuration (Y)	Mounting (Z)
LA (40-85 PSIG)	(3) Argon	CGA 580		BLANK-Standard 10" on center 13" on center for Acetylene & LPG	Blank = Wall Mount (Standard)
	(4) Carbon Dioxide	CGA 320			
LAMP (40-130 PSIG)	(5) Helium	CGA 580		S-STAGGERED 5" on center 6.5" on center for Acetylene & LPG	F - Floor Stand
	(7) Nitrogen	CGA 580			
	(8) Nitrous Oxide	CGA 326			
LAHP (40-210 PSIG)	(9) Oxygen	CGA 540		V- VERTICAL CROSSOVER Standard 10" on center 13" on center For Acetylene& LPG	

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.