



**WESTERN
INNOVATOR**

G A S M A N I F O L D S Y S T E M S



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Industrial Manifold Systems

Hours: Monday - Friday 8:00 AM to 5:00 PM / Eastern Standard time

B20466 (0508)

Industry Standards

Western Manifold Systems meet or exceed the following industry standards:

- Compressed Gas Association, Pamphlets V-1, E-1 & G-1

Compressed Gas Association

4221 Walney Road, 5th Floor
Chantilly, VA 20151-2923
Phone: 703-788-2700
www.cganet.com

CGA Standards

At Western, fittings and gas manifolds are manufactured to the standards of the Compressed Gas Association (CGA) where applicable. All manifolds are manufactured from high quality materials and components and are engineered and designed with user safety in mind. When ordering a Western manifold, please supply information regarding intended gas service and /or CGA number for proper identification and current manufacturing specifications.

NOTE: If any questions should arise as to the safety or application for special assembled items, Western's product design engineering department will evaluate the customer requirements and make recommendations based on any known regulatory information. User/installer is responsible for ensuring installation has been done in accordance with local codes.

Warranty

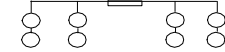
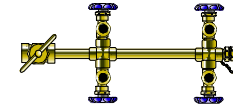
All Western manifolds are warranted against defects in material and workmanship for the period of one year from date of purchase. For optimum safety and reliability, all Western gas manifolds are tested to help ensure trouble free service for high pressure applications up to 3000 PSIG.

This catalog is for informational purposes. Specific information regarding the use of these products is contained in the operating instructions provided with each product.

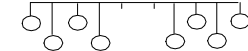
Special Configurations

Western specializes in the manufacture and design of manifolds to customers' applications. If you have a requirement for a unique manifold system or a unit to fit into limited room dimensions, contact a Western supplier for a custom designed system.

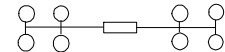
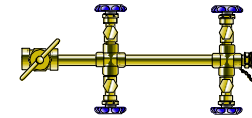
Header Configurations



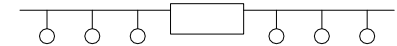
Vertical Crossover



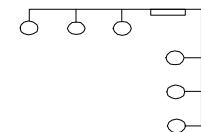
Staggered Design



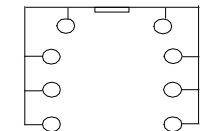
Crossover (floor mount)



10" Centers



L-Shaped

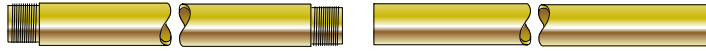


U-Shaped

Brass Manifold Fittings

Pipe Nipples & Pipe Lengths

Working Pressures to 3000 PSIG
Brass UNS C36000



Length	1/2" NPT Part #	3/4" NPT Part #	1/2" Nominal Part #	3/4" Nominal Part #
1-1/2"	WHF-3-1	WHF-3-9		
2"	WHF-3-2	WHF-3-10		
4"	WHF-3-3	WHF-3-11	WHF-3-4	WHF-3-12
6"	WHF-3-19	WHF-3-21	WHF-3-20	WHF-3-22
8-1/4"				WHF-3-14
8-3/8"		WHF-3-13		
8-1/2"	WHF-3-5		WHF-3-6	
11-1/4"				WHF-3-15
11-3/8"		WHF-3-16		
11-1/2"	WHF-3-7		WHF-3-18	
6'			WHF-3-120	WHF-3-122
12'			WHF-3-17	WHF-3-18

Note: 6' & 12' pipe lengths are not cleaned for oxygen service.

Gas Service Labels

Quality Mylar with adhesive. Size 2" x 1". Letters 1/2".

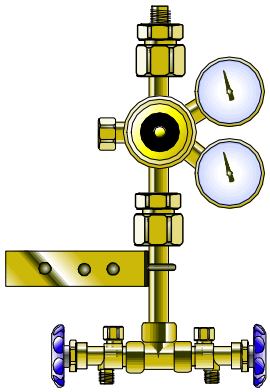
Part #	Gas	Part #	Gas
WMC-7-2	Helium	WMC-7-9	Nitrogen
WMC-7-3	Argon	WMC-7-10	Nitrous Oxide
WMC-7-4	Hydrogen	WMC-7-14	Compressed Air
WMC-7-5	Carbon Dioxide	WMC-7-15	Liquefied Fuel Gas
WMC-7-6	Oxygen	WMC-7-43	Argon / Methane
WMC-7-7	Acetylene		

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BI, BIHL, BIHP Manifold Series	Pages 12-13
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SD Series Manual Manifold System

Manual manifolds are designed to regulate compressed gases in high pressure cylinders (up to 3,000 PSIG) and are ideal for manifold applications not requiring automatic changeover from the service to the secondary bank. The SD series simple duplex manifold is specifically designed as an economical system for a total capacity of two cylinders—one per side. Cylinders may be used one at a time maintaining a reserve or both at the same time for higher flow capacity.



Example: SD-7-2

Specifications

- Model RM regulator included for most gas services. *Note:* RDM Series used for Oxygen. Alternate regulators are available upon request for higher or lower delivery pressures.
- Model RS-300-MAN regulator included for SDHP series manifolds.
- Manifold Outlet: 1/2" NPT male.
- 24" Flexible Stainless Steel braided Teflon® lined pigtails. *Note:* Helium and Hydrogen manifolds shipped with synthetic fiber braided pig-tails.
- High quality header shut-off valves.
- Complete wall mounting hardware and operating instructions.
- Maximum working pressure: 3000 PSIG.

To Order: Specify - Model # (X) - Gas Service (Y) - # of Cylinders (Z)

Model # (X)	Gas Service (Y)	# of Cylinders (Z)
SD Most Gases: 20 - 160 PSIG Acetylene: 0 - 15 PSIG LPG: 0 - 45 PSIG	(1) Acetylene CGA-510 (1A) Acetylene CGA-300 (2) Compressed Air CGA-346 (3) Argon CGA-580 (4) Carbon Dioxide CGA-320 (5) Helium CGA-580	Always 2
SDHP (Only available for non-fuel gas service) Most Gases: 140 - 300 PSIG Oxygen: 140 - 450 PSIG	(6) Hydrogen CGA-350 (6A) Argon/Methane Mixtures CGA-350 (7) Nitrogen CGA-580 (7A) Industrial Air CGA-590 (8) Nitrous Oxide CGA-326 (9) Oxygen CGA-540 (10) Liquefied Fuel Gases CGA-510	

Brass Manifold Fittings

Pipe Tees, Female

Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

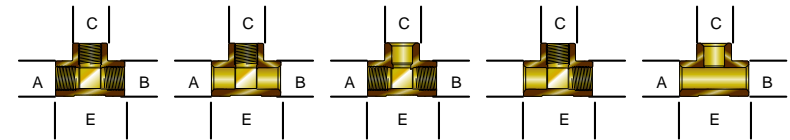


Figure Part #	A Female	B Female	C Female	E Ref.	Part #
1	1/2" NPT	1/2" NPT	1/2" NPT	2-1/2"	WHF-4-7
1	3/4" NPT	3/4" NPT	3/4" NPT	2-3/4"	WHF-4-10
2	.843-.847	.843-.847	1/2" NPT	2-1/2"	WHF-4-14
2	1.053-1.057	1.053-1.057	3/4" NPT	2-3/4"	WHF-4-18
3	1/2" NPT	1/2" NPT	.843-.847	2-1/2"	WHF-4-13
3	3/4" NPT	3/4" NPT	1.053-1.057	2-3/4"	WHF-4-17
4	.843-.847	1/2" NPT	1/2" NPT	2-1/2"	WHF-4-21
4	1.053-1.057	3/4" NPT	3/4" NPT	2-3/4"	Special Order
5	.843-.847	.843-.847	.843-.847	2-1/2"	WHF-4-1
5	1.053-1.057	1.053-1.057	1.053-1.057	2-3/4"	WHF-4-4

Pipe Crosses, Female

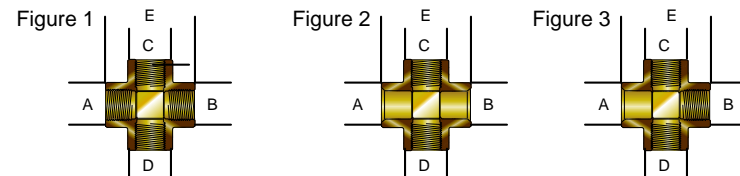


Figure	A Female	B Female	C & D Female	E Ref.	Part #
1	1/2" NPT	1/2" NPT	1/2" NPT	2-1/2"	WHF-4-9
1	3/4" NPT	3/4" NPT	3/4" NPT	2-3/4"	WHF-4-12
2	.843-.847	.843-.847	1/2" NPT	2-1/2"	WHF-4-16
2	1.053-1.057	1.053-1.057	3/4" NPT	2-3/4"	WHF-4-20
3	.843-.847	1/2" NPT	1/2" NPT	2-1/2"	WHF-4-23
3	1.053-1.057	3/4" NPT	3/4" NPT	2-3/4"	Special Order

Relief Valve & Pipe Elbows

Relief Valves



Ideal for cryogenic pressure vessel (vapor area), manifolds and other damaging applications. Not recommended for corrosive gases or liquid cryogenic applications.

1/4" NPT (With Weep Hole)	1/4" NPT (Without Weep Hole)	1/2" NPT (Without Weep Hole)
WMV-4-22	WRV-4-100	WMV-8-60
WMV-4-35	WRV-4-125	WMV-8-75
WMV-4-50	WRV-4-200	WMV-8-100
WMV-4-125	WRV-4-230	WMV-8-150
WMV-4-200	WRV-4-235	WMV-8C-150*
WMV-4-235	WRV-4-250	WMV-8-200
WMV-4-250	WRV-4-300	WMV-8-250
WMV-4-300	WRV-4-350	WMV-8C-300*
WMV-4-350	WRV-4-650	WMV-8-300
WMV-4C-350*	PIPE AWAY ADAPTOR: WMV-4-7	WMV-8-350
WMV-4-400		WMV-8-375
WMV-4C-400*		WMV-8-450
WMV-4C-450*		PIPE AWAY ADAPTOR: WMV-8-7

*CO₂ models

Pipe Elbows, Female

Figure	A Female	B Female	F Ref.	Part #
1	1/2" NPT	1/2" NPT	1-1/4"	WHF-4-8
1	3/4" NPT	3/4" NPT	1-3/8"	WHF-4-11
2	1/2" NPT	.843-.847	1-1/4"	WHF-4-15
2	3/4" NPT	1.053-1.057	1-3/8"	WHF-4-19
3	.843-.847	.843-.847	1-1/4"	WHF-4-2
3	1.053-1.057	1.053-1.057	1-3/8"	WHF-4-5

Figure 1

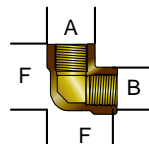


Figure 2

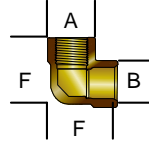
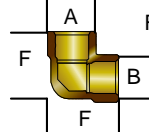


Figure 3

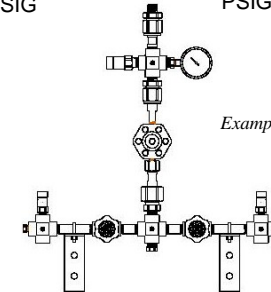


SDLA Series Manual Manifold System

Western Innovator SDLA Manual Changeover Manifolds are designed for applications requiring gas withdrawal from cryogenic cylinders. The SDLA manifolds are designed for use with up to 4 cylinders, 2 per bank, and can flow from both banks or one bank can be kept in reserve. An alarm can be added to signal when your primary bank is nearly depleted.

Specifications

- Includes high quality cryogenic master valves for low temperature operation.
- To maximize flow performance when more than one cylinder is used, pigtails should be used to connect the vent lines to ensure equalized cylinder pressure.
- Options:
 - Alarm Kit Part # SDLA-AK
 - Floor stand
- Constructed of brass pipes and tees, labeled for indicated gas usage.
- Wall mounting brackets included.
- Minimum inlet pressure:
 - SDLA 125 PSIG
 - SDLAHP 250 PSIG
- Maximum inlet pressure:
 - SDLA 350 PSIG
 - SDLAHP 350 PSIG
- Adjustable Line Regulator:
 - SDLA 40-100 PSIG
 - SDLAHP 80-210 PSIG
- Maximum Flow:
 - SDLA 750 SCFH
 - SDLAHP 800 SCFH
- Manifold Outlet: 1/2" NPT male.
- Line relief valve outlet: 1/2" NPT female.
- 72" Cryogenic pigtails with check valves.
- SDLA series for use with 235 PSIG relief valve Dewars.
- SDLAHP series for use with 350 PSIG relief valve Dewars.



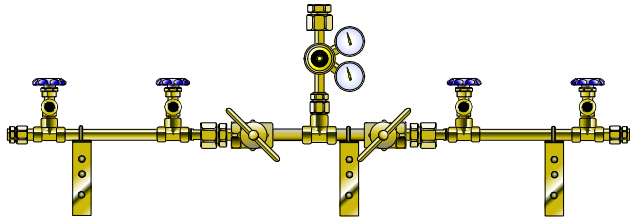
Example: SDLA-7-2

To Order: Specify - Model # (W) - Gas Service (X) - # of Cylinders (Y) - Mounting (Z)

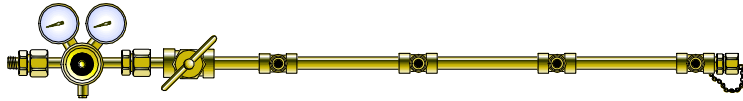
Model # (W)	Gas Service (X)	# of Cylinders (Y)	Mounting (Z)
SDLA (40-100)	(3) Argon CGA-580		Blank = Wall Mount
SDLAHP (80-210)	(4) Carbon Dioxide CGA-320	4 Maximum	F = Floor Stand
	(5) Helium CGA-580		
	(7) Nitrogen CGA-580		
	(8) Nitrous Oxide CGA-326		
	(9) Oxygen CGA-540		

MD & MS Series Manual Manifold System

Manual manifolds are designed to regulate compressed gases in high pressure cylinders (up to 3,000 PSIG) and are ideal for manifold applications not requiring automatic changeover from the service to the secondary bank. The MS series simplex manifold system allows manifolding of an unlimited number of cylinders in a single row. This system is often used as a high pressure reserve for bulk, portable bulk and gas generator systems.



Example: MD-7-4



Example: MS-9-4

To Order: Specify - Model # (V) - Gas Service (W) - # of Cylinders (X) - Header Configuration (Y) - Mounting (Z)

Model # (V)	Gas Service (W)		
MD / MS	(1)	Acetylene	CGA-510
Most Gases: 20 - 160 PSIG	(1A)	Acetylene	CGA-300
Acetylene: 0 - 15 PSIG	(2)	Compressed Air	CGA-346
LPG: 0 - 45 PSIG	(3)	Argon	CGA-580
	(4)	Carbon Dioxide	CGA-320
	(5)	Helium	CGA-580
MDHP / MSHP	(6)	Hydrogen	CGA-350
(Only available for non-fuel gas service)	(6A)	Argon/Methane Mixtures	CGA-350
Most Gases: 140 - 300 PSIG	(7)	Nitrogen	CGA-580
Oxygen: 140 - 450 PSIG	(7A)	Industrial Air	CGA-590
	(8)	Nitrous Oxide	CGA-326
	(9)	Oxygen	CGA-540
	(10)	Liquefied Fuel Gases	CGA-510

Manifold Accessories

Header Valves

High pressure CGA outlet valves for manifolding. Features controlled flow seat design with easy low torque shut-off.



Part #	1/2" NPT Male x CGA Gas Service	Part #	3/4" NPT Male x CGA Gas Service
WMV-2-3	Argon, Helium, Nitrogen CGA-580	WMV-2-35	Carbon Dioxide CGA-320
WMV-2-4	Compressed Air CGA-346	WMV-2-36	Nitrous Oxide CGA-326
WMV-2-7	Carbon Dioxide CGA-320	WMV-2-37	Compressed Air CGA-346
WMV-2-8	Oxygen CGA-540	WMV-2-38	Hydrogen CGA-350
WMV-2-14	Nitrous Oxide CGA-326	WMV-2-39	Oxygen CGA-540
WMV-2-19	Hydrogen CGA-350	WMV-2-40	Argon, Helium, Nitrogen CGA-580
WMV-2-30	Acetylene CGA-510	WMV-2-43	Industrial Air CGA-590
WMV-2-31	Acetylene CGA-300		
WMV-2-32	Industrial Air CGA-590		

Working pressures to 3000 PSIG

Union Adaptors, Tailpieces & Nuts

Figure	Union Nuts Female Thread	Length	Part #
1	1"-11 1/2" NPS RH	1.75"	WHF-3-29
1	1"-11 1/2" NPS LH	1.75"	WHF-3-30

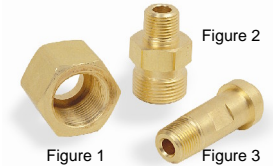


Figure	Union Adaptors			Part #	w/ Nickel Plated Phosphorous Bronze Filter
	Outlet	Inlet	Length		
2	1/2" NPT	1"-11 1/2" NPS RH	2.187"	WHF-3-31	WMS-1-40
2	1/2" NPT	1"-11 1/2" NPS LH	2.187"	WHF-3-32	WMS-1-41
2	3/4" NPT	1"-11 1/2" NPS RH	2.230"	WHF-3-33	WMS-1-42
2	3/4" NPT	1"-11 1/2" NPS LH	2.230"	WHF-3-34	WMS-1-43
2	3/8" NPT	1"-11 1/2" NPS RH	3.125"	WHF-3-37	WMS-1-44
2	3/8" NPT	1"-11 1/2" NPS LH	3.125"	WHF-3-38	WMS-1-45

Figure	Male Thread	Length	Part #
3	3/8" NPT	2.40"	WHF-3-36
3	1/2" NPT	2.94"	WHF-3-35

Valves

1/4 Turn Ball Valves

Specifications

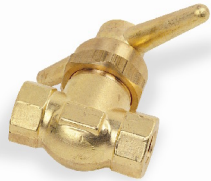
- Forged Bronze Body
- Teflon® Seals
- Chrome Plated Ball
- Steel Handle (plastic coated)
- 600 PSIG Maximum Working Pressure
- Cleaned for Oxygen



Part #	Description
WMV-5-11	1/4" NPT F
WMV-5-8	1/2" NPT F
WMV-5-9	3/4" NPT F

Master Valves

Designed specifically for high pressure compressed gas manifold piping requirements. Large tee handle for easy operation. For use with non-corrosive gases.



Part #	Description
WMV-2-16	1/2" NPT female inlet & outlet
WMV-2-11	3/4" NPT female inlet & outlet

Line Station Valves

Western's line station valves are designed for use with Oxygen, Acetylene, Inert gases and Liquefied Fuel Gases at station outlets of line distribution systems. The 7/8-14 outlets follow CGA E-1 specifications (CGA-024 RH for Oxygen and CGA-025 LH for Fuel Gases). These valve outlets and the mating regulator inlet nuts prevent the danger of possible attachment of a station regulator to a high pressure cylinder. All valves are UL listed.



Part #	Description
WSV-1-1P	Plain valve, Oxygen & Inert Gases
WSV-1-2P	Plain valve, Fuel Gases
WSV-1-1	With gas tight cap & chain, Oxygen & Inert Gases
WSV-1-2	With gas tight cap & chain, Fuel Gases
WSV-1-1DC	With dust cap & chain, Oxygen & Inert Gases
WSV-1-2DC	With dust cap & chain, Fuel Gases

MD & MS Series Manual Manifold System

Specifications

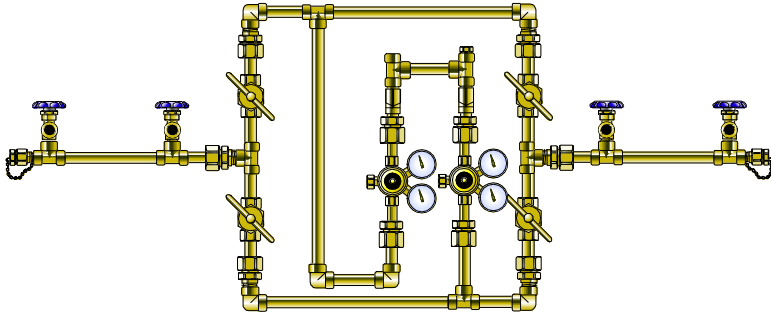
- Model RM regulator included for most gas services. *Note:* RDM Series used for Oxygen. Optional regulators are available upon request for higher or lower delivery pressures.
- Model RS-300-MAN regulator included for MSHP & MDHP series manifolds.
- Manifold Outlet: 1/2" NPT male.
- 24" Flexible Stainless Steel braided Teflon® lined pigtailed with check valves. (EPDM seat all gases, Argon/Methane mixtures use Viton). Check valve is at header end of pigtail for all gases except Oxygen. *Note:* Helium and Hydrogen manifolds shipped with synthetic fiber braided pigtailed.
- High quality master shut-off valves.
- Individual header valves at each cylinder location (units with two cylinders or larger—all gases except Oxygen).
- Headers constructed of 1/2" brass pipe and tees, silver-brazed at each cylinder location, painted almond and labeled for the indicated gas service.
- Acetylene manifolds shipped complete with dry flashback arrestor, relief valve and connecting piping. Hydraulic Flashback arrestors are available as an option for an additional charge.
- Optional safety kits, flash arrestor and relief valve, available for Liquefied Fuel Gases.
- Accessory heater kits available for Carbon Dioxide and Nitrous Oxide.
- Special header configuration available upon request. U-shaped, L-Shaped, Staggered, Crossover and Vertical Crossover. Dimensional sketch of installation required for U and L-Shaped designs.
- Western will customize to meet your customer's special requirements.
- Complete wall mounting hardware and operating instructions.
- Maximum working pressure: 3000 PSIG.

# of Cylinders (X)	Header Configuration (Y)	Mounting (Z)
--------------------	--------------------------	--------------

	BLANK STANDARD 10" on center or 13" on center for Acetylene & LPG	Blank = Wall Mount (Standard)
	S - STAGGERED 5" on center or 6.5" on center for Acetylene & LPG	F = Floor Mount
	V - VERTICAL CROSSOVER 10" on center or 13" on center for Acetylene & LPG	
	C - CROSSOVER (Floor Mount Only) 10" on center or 13" on center for Acetylene & LPG	

AD Series Automatic Manifolds For Industrial Applications

The AD series automatic duplex manifolds are designed for applications requiring a constant and uninterrupted supply of compressed gas. This control will allow changeover from one bank to another automatically, provided a sufficient differential is maintained between the two primary regulators. After changeover, a simple manipulation of four master valves reverses the "service" and "reserve" banks. A line regulator is required to eliminate the changeover pressure differential and maintain a constant line pressure. An alarm can be added to signal changeover from "service" to "reserve" bank by adding items WME-4-9 pressure switch, WMS-1-97 orificed adaptor, WMS-9-25C power supply box and BIA-3 remote audio visual alarm.



Example: AD-7-4

To Order: Specify - Model # (V) - Gas Service (W) - # of Cylinders (X) - Header Configuration (Y) - Mounting (Z)

Model # (V)	Gas Service (W)	# of Cylinders (X)
AD	(1) Acetylene CGA-510	
Most Gases (20-160 PSIG)	(1A) Acetylene CGA-300	
Acetylene (0-15 PSIG)	(2) Compressed Air CGA-346	
LGP (0-45 PSIG)	(3) Argon CGA-580	
	(4) Carbon Dioxide CGA-320	
ADHP	(5) Helium CGA-580	
Most Gases (140-300 PSIG)	(6) Hydrogen CGA-350	
Oxygen (140-450 PSIG)	(7) Nitrogen CGA-580	
	(7A) Industrial Air CGA-590	
	(8) Nitrous Oxide CGA-326	
	(9) Oxygen CGA-540	
	(10) Liquefied Fuel Gas (LPG) CGA-510	

In-Line Manifold Regulators

Specifications

- Field-replaceable seat cartridge - model RM.
- Pressure compensated seat - high flow rates and two stage performance from a single stage regulator.
- Forged brass body and bonnet.
- Bonded neoprene seat with broad face nozzle (RDM - first stage KEL-F™ second stage viton).
- Large 2-3/4" reinforced neoprene diaphragm.
- 2-1/2" diameter gauges.
- Maximum inlet pressure: 3000 PSIG.

	Max Inlet PSIG	Inlet Connection	Outlet Connection	Replacement Cartridge #
	400	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-59
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-49
	3000	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-49
	3000	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RWC-3-49
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1178
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1178
	400	1-11 1/2" NPS LH M	1-11 1/2" NPS LH F	RWC-3-59
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1022
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1178
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1176
	3000	1-11 1/2" NPS RH M	1-11 1/2" NPS RH F	RK-1163

In-Line Manifold Regulators



RM-7-4

The RM series manifold regulators are a pressure compensated single stage design (oxygen is two-stage) and are able to maintain stable delivery pressure performance equal to a two-stage design. The unique cartridge in this regulator permits easy, single-unit replacement of vital parts in minutes. Seals, nozzle, filter spring, seals and built-in check-relief valve can be replaced without special tools and without breaking the bonnet-to-body seal. The cartridge can be removed and a new one installed without costly down time or removing the regulator from the pipeline.

Part #	Description	Delivery Range	
RM-1-1	Acetylene	0-15	
RM-2-1	Compressed Air	0-15	
RM-2-4	Compressed Air	20-160	
RM-4-1	Carbon Dioxide	0-15	
RM-4-4	Carbon Dioxide	20-160	
RM-6-1	Hydrogen	0-15	
RM-6-4	Hydrogen	20-160	
RM-7-1	Nitrogen, Helium & Argon	0-15	
RM-7-4	Nitrogen, Helium & Argon	20-160	
RM-7A-4	Industrial Air	20-160	
RM-8-1	Nitrous Oxide	0-15	
RM-8-4	Nitrous Oxide	20-160	
RDM-9-3	Oxygen	20-160	
RDM-9-4	Oxygen	20-160	
RM-10-2	LPG Fuel Gases	0-45	
RS-300-MAN	Inert, Air, Carbon Dioxide & Nitrous Oxide	40-300	
RDM-11-4	Medical Mix	20-160	
SG-450-MAN	Oxygen	40-450	
RS-11-MAN	Inert, Air, Carbon Dioxide & Nitrous Oxide	0-2000	

AD Series Automatic Manifolds For Industrial Applications

Specifications

- Model RM (or RDM for oxygen) (pressure compensated regulator), adjustable delivery pressure 20-160 PSIG. **Optional equipment is available upon request for higher delivery pressures up to 3000 PSIG.**
- 24" flexible Stainless steel braided Teflon[®] lined pigtailed with check valves. Check valve is at header end of pigtail except Oxygen. Note: Helium & Hydrogen manifolds are shipped with synthetic fiber braided pigtailed. Vertical crossover and staggered styles include equal quantities of 24" and 36" pigtailed.
- Individual header valves at each cylinder location (units with 4 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".
- Acetylene manifolds shipped complete with a dry flashback arrestor, separate flash arrestor with check valve on each pigtail and connecting piping.
- Optional safety kits (flash arrestor and relief valve) available for Liquefied Fuel Gas manifolds.
- Maximum inlet pressure: 3000 PSIG (20680 kPa).
- Manifold outlet: 1/2" NPT female.
- Complete wall mounting hardware and operating instructions.
- Special header configurations available upon request, U-Shaped, L-Shaped Staggered, Crossover and Vertical Crossover. Dimensional sketch of installation necessary for U and L - Shaped designs.
- Built to accommodate future expansion by adding header extensions.
- Master Valves

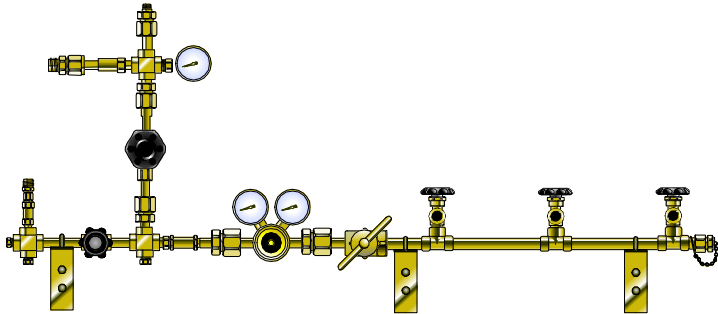
Header Configuration (Y)

Mounting (Z)

BLANK STANDARD 10" on center 13" on center for Acetylene & LPG	Blank = Wall (Standard)
S - STAGGERED 5" on center 6.5" on center for Acetylene & LPG	F = Floor Mount
V - VERTICAL CROSSOVER Standard 10" on center 13" on center for Acetylene & LPG	
C - CROSSOVER (Floor Mount Only) Standard 10" on center 13" on center for Acetylene & LPG	
U - SHAPED - SKETCH REQUIRED	
L - SHAPED - SKETCH REQUIRED	

LA Series Automatic Manifolds For Industrial Applications

The LA series manifolds are designed for applications warranting liquid gas use as a primary gas source, but usage is insufficient to warrant liquid as a reserve. This LA series manifold will automatically switch over from service to reserve bank without any interruption of service. Line pressure will remain constant within a variation of $\pm 2\%$ throughout the changeover cycle. An alarm can be added to signal changeover from service to reserve banks by adding items: WME-4-9 pressure switch, WMS-1-97 orificed adaptor, WMS-9-25C power supply box and BIA-3 remote audio visual alarm.



Example: LA-9-1-3

Minimum inlet pressure for LA: 125 PSIG (860 kPa)

Minimum inlet pressure for LAMP: 160 PSIG (1100 kPa)

Minimum inlet pressure for LAHP: 250 PSIG (1700 kPa)

To Order: Specify - Model # (U) - Gas Service (V) - # of Liquid Vessels (W) - # of Cylinders (X) - Header Configuration (Y) - Mounting (Z)

Model # (U)	Gas Service (V)	# of Liquid Vessels (W)
LA (40-85 PSIG)	(3) Argon CGA-580	
LAMP (40-130 PSIG)	(4) Carbon Dioxide CGA-320	
LAHP (40-210 PSIG)	(5) Helium CGA-580	
	(7) Nitrogen CGA-580	
	(8) Nitrous Oxide CGA-326	
	(9) Oxygen CGA-540	

Gas Heaters / Check Valves

Western's automatic gas heaters are designed to prevent regular freeze-up and ensure uniform temperature with constant gas flow at all times. All units are completely automatic and can be used with pressure up to 3000 PSIG. Highly recommended for use with Carbon Dioxide and Nitrous Oxide when withdrawal rates exceed 35 SCFH. Requires 115 volts (AC).

Gas Heaters



Specifications

- 11" H x 5-1/2" W x 4-1/4" D
- 12 pounds
- Temperature setting 160° F
- UL listed 3 wire grounded cord
- CSA approved
- Current Draw: 10 amps

Part #	Description	Gas Service	Capacity
WME-3-4	Gas Heater	Carbon Dioxide CGA-320	1,000 SCFH
WME-3-7	Gas Heater	Nitrous Oxide CGA-326	1,000 SCFH
WHS-11	Manifold Adaptor	Carbon Dioxide CGA-320	
WHS-12	Manifold Adaptor	Nitrous Oxide CGA-326	

Ideal for installation downstream of the manifold, designed for high flow rates and working pressures up to 3,000 PSIG. These brass body, female by female check valves are cleaned for use with oxygen.

Pipe Line Check Valves



Part #	Inlet	Outlet	Seat Material
CVF-8F	1/2" NPT F	1/2" NPT F	EPDM
CVF-12F	3/4" NPT F	3/4" NPT F	Neoprene

Check valve outlets are safer than conventional header valves; they minimize the danger of "heat of recompression" associated with oxygen by relocating the heat, away from the Teflon[®] area of a pigtail. Check valves provide automatic gas shut off if a pigtail ruptures, preventing possible injury to the operator. For added safety, check valve outlets are assembled in the oxygen manifold headers.



Check Valve Outlets

Part # Working	CGA # & Gas Service	Pressure
WMS-1-53	CGA-540 Oxygen, RH M	3000 PSIG
WMS-1-54	CGA-580 Helium, RH F	3000 PSIG
WMS-1-59	CGA-326 Nitrous Oxide, RH M	3000 PSIG
WMS-1-60	"C" size - 7/8-14 RH Inert Gases	200 PSIG
WMS-1-61	"C" size - 7/8-14 LH	200 PSIG
WMS-1-62	CGA-346 Compressed Air, RH M	3000 PSIG
WMS-1-65	CGA-320 Carbon Dioxide, RH M	3000 PSIG
WMS-1-67	CGA-300 Acetylene, LH M	500 PSIG
WMS-1-99	CGA-350 Hydrogen, LH M	3000 PSIG
WMS-1-100	CGA-510 Acetylene, LH F	500 PSIG

Regulators

Line Station Regulators



The Western line station regulators utilize a large diaphragm for high sensitivity and provide extremely accurate delivery pressure.

NOTE: Maximum inlet pressure 200 PSIG.

Part #	Application	Delivery Pressure PSIG	Capacity SCFH	Inlet	Outlet
WSR-1-1	Oxygen	0-125	760	7/8"-14 RH, CGA-024	9/16"-18 RH, CGA-022
WSR-1-2	Acetylene	0-15	420	7/8"-14 LH, CGA-025	9/16"-18 LH, CGA-023
WSR-1-3	Fuel Gases	0-50	640	7/8"-14 LH, CGA-025	9/16"-18 LH, CGA-023
WSR-1-5	Oxygen	0-50	600	7/8"-14 RH, CGA-024	9/16"-18 RH, CGA-022
WSR-1-6	Oxygen	0-200	475	7/8"-14 RH, CGA-024	9/16"-18 RH, CGA-022
WSR-1-7	Inert / Air	0-50	100	7/8"-14 RH, CGA-024	5/8"-18 RH, CGA-032
WSR-1-8	Inert / Air	0-125	200	7/8"-14 RH, CGA-024	5/8"-18 RH, CGA-032
WSR-1-9	Inert / Air	0-200	400	7/8"-14 RH, CGA-024	5/8"-18 RH, CGA-032
WSR-1-10	Inert	0-100	0-100	1/4" F NPT	5/8"-18 RH, CGA-032

In-Line Regulators

Designed for installation in pipe lines where a large gas volume is required. * 400 PSI maximum inlet pressure.



Part #	Inlet/Outlet Female	Delivery PSIG	SCFH	Gauge
WMR-2-2	1/2" NPT	5-55	3000	0-100
WMR-2-3	3/4" NPT	40-110	11,000	0-200
WMR-2-4	1/2" NPT	40-110	5000	0-200
WMR-2-5	1/2" NPT	100-200	3500	0-400
WMR-2-6	3/4" NPT	100-200	6000	0-400
WMR-2-8	1" NPT	100-200	6000	0-400

Part #	Inlet/Outlet Female	Delivery PSIG	SCFH	Gauge
WMR-3-1	1/4" NPT	0-15	-	0-30
WMR-3-2	1/4" NPT	0-50	-	0-60
WMR-3-3	1/4" NPT	0-125	1250	0-150
WMR-3-4	1/4" NPT	0-250	1250	0-400



LA Series Automatic Manifolds For Industrial Applications

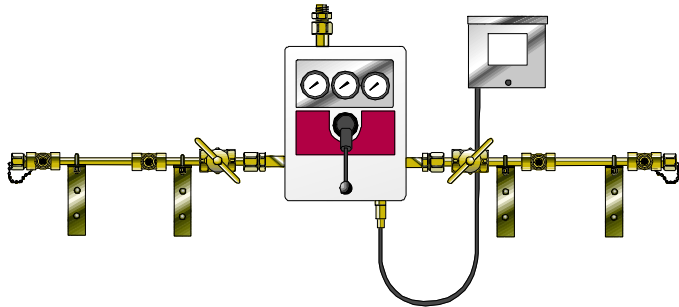
Specifications

- Model RM high pressure regulator included for LA and LAMP series. Note: RDM Series used for Oxygen.
- Model RS-300-MAN (40-300 PSIG) high pressure regulator included for LAHP series manifolds.
- Manifold outlet: 1/2" NPT male.
- 24" Flexible Stainless Steel braided Teflon[®] lined pigtailed with check valves, for high pressure bank. Check valve is at header end of pigtail for all gases except Oxygen. Vertical crossover and staggered styles include equal quantities of 24" and 36" pigtailed.
- 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".
- High pressure reserve headers 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 (20680 kPa).
- Adjustable cryogenic line regulator:
 - 40-85 PSIG on LA Series
 - 40-130 PSIG on LAMP Series
 - 40-210 PSIG on LAHP Series
- Maximum flow capacity:
 - 750 SCFH—Model LA
 - 750 SCFH—Model LAMP
 - 800 SCFH—Model LAHP
- Cryogenic side includes 72" cryogenic pigtailed with check valves (nylon inner core with polyester braid). Maximum working pressure 1375 PSIG.
- Inlet pressures from each liquid cylinder must be the same.

# of High Pressure Cylinders (X)	Header Configuration (Y)	Mounting (Z)
	BLANK STANDARD 10" on center	Blank = Wall
	S - STAGGERED 5" on center	Mount Standard
	V - VERTICAL CROSSOVER	F = Floor Mount
	Standard 10" on center	
	C - CROSSOVER	

BI Series Automatic Manifolds For Industrial Applications

The BI series manifolds are specifically designed to regulate and monitor compressed gases in high pressure cylinders (up to 3,000 PSIG). Automatic changeover from the "service" to "reserve" side is accomplished without any interruption of service or change in line pressure. Line pressure will remain constant within a variation of $\pm 2\%$ throughout the changeover cycle. Each unit is precisely calibrated at the factory and the sealed case protects the unit from tampering and preserves proper adjustments. Manual resetting of the control valve is all that is required after changeover and cylinder replacement. A pressure switch contained within the cabinet (except fuel gas units) controls the cabinet lights; green indicating the "primary" bank is functioning and red announcing the changeover to the 'secondary' bank has occurred. A circuit board in the power supply box isolates remote alarm terminals for hook-up to all remote alarms regardless of voltage (up to 3 amps 30 VDC or 2 amps 250 VAC).



Example: BI-9-4

To Order: Specify - Model # (V) - Gas Service (W) - # of Cylinders (X) - Header Configuration (Y) - Mounting (Z)

Model # (V)	Gas Service (W)		
BI (30-125 PSIG)	(1)	Acetylene	CGA-510
Acetylene (0-15 PSIG)	(1A)	Acetylene	CGA-300
LPG (0-45 PSIG)	(2)	Compressed Air	CGA-346
	(3)	Argon	CGA-580
BIHL (30-125 PSIG)	(4)	Carbon Dioxide	CGA-320
(500 SCFH heater included in HL model for CO ₂ and N ₂ O)	(5)	Helium	CGA-580
	(6)	Hydrogen	CGA-350
BIHP (50-200 PSIG)	(6A)	Argon/Methane Mixtures	CGA-350
	(7)	Nitrogen	CGA-580
	(7a)	Industrial Air	CGA-590
	(8)	Nitrous Oxide	CGA-326
	(9)	Oxygen	CGA-540
	(10)	Liquefied Fuel Gases (LPG)	CGA-510

Power Supplies / Station Drops / Flowmeters

Utilized with remote alarm panels, reduces 115 VAC to 24 VAC. A circuit board in the power supply isolates remote alarms regardless of voltage (up to 3 amps 30 VDC or 2 amps 250 VAC). Dimensions: 6-1/4" x 4". Rated NEMA 3R, CSA approved.

Power Supplies

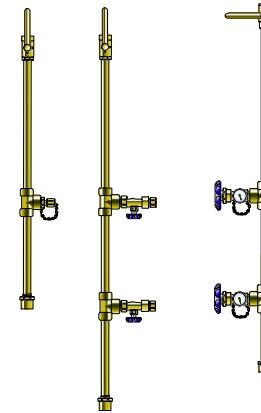


Part #	Description
WMS-9-25C	For use with AD, LA, MD, MS & SD
8570D	For use with BI, LC, HBAC2 & HSAC cabinet style manifold

How to Order: Insert (X) = Gas Service

Station Drops

Part #	Outlet	Length
WSO-(X)-5	1/2" Single outlet	25"
WSO-(X)-6	3/4" Single outlet	25"
WSO-(X)-7	1/2" Double outlet	35"
WSO-(X)-8	3/4" Double outlet	35"



Gas Service (X)	Outlet Connection
(1) Acetylene	7/8"-14 LH M
(2) Compressed Air	9/16"-18 RH M
(3) Argon	5/8"-18 RH F
(4) Carbon Dioxide	5/8"-18 RH F
(5) Helium	5/8"-18 RH F
(6) Hydrogen	7/8"-14 LH M
(7) Nitrogen	5/8"-18 RH F
(8) Nitrous Oxide	7/8"-14 RH M
(9) Oxygen	7/8"-14 RH M
(10) LPG	7/8"-14 LH M

Western station drops are equipped with an in-line shut-off valve, drip leg and outlet cap and chain. All drops are labeled for the indicated gas service. No assembly required. Available in 1/2" or 3/4"; single or double outlet. Double outlet station drops shipped complete with shut-off valves. All single outlet drops for fuel gas or oxidizer gas service equipped with a check valve.

Part #	Gas Service	Range
RWS-2-7	Nitrogen	0-100 SCFH
RWS-2-13	Argon/Carbon Dioxide	0-70 SCFH
FM601	Air	0-15 lpm

Flowmeters



Precision flow control for MIG & TIG gas welding operations, laboratory use and many industrial applications. Use Western fittings AW-14A & AW-3 to attach flowmeters to station drops.

Pressure Switches / Remote Alarm Panels

Pressure Switches



Designed for use with gas pressure manifolds to activate remote alarm systems. Operates when cylinder/line pressure is below minimum pressure setting. High/low switches have two activation points. Available for explosion proof or general purpose service. Electrical rating for all switches is SPDT 15 amps 24/125/250/480 VAC resistive. CSA approved. Pressure port connection 1/4" NPT.

Part #	Description	Pressure Maximum		Wetted Materials
		Range (PSIG)	Inlet (PSIG)	
WME-4-5	Explosion Proof	30-300	800	S.S. Bellows
WME-4-6	Explosion Proof	5-50	75	Brass Bellows
WME-4-9	General Purpose	100-1000	10,000	S.S. Pistons & BUNA "N" o-ring
WME-4-10	General Purpose	200-3000	10,000	S.S. Pistons & BUNA "N" o-ring
WME-4-13	High/Low Switch	0-300	350	Phosphor Bronze Bellows
WME-4-14	General Purpose	20-200	250	Phosphor Bronze Bellows
WME-4-15	High/Low Switch	0-100	125	Brass Bellows
WME-4-16	General Purpose	20-200	250	316 S.S. Bellows
WME-4-17	General Purpose	100-1700	2,500	316 S.S. Bellows
WME-4-18	High/Low Switch	20-200	250	316 S.S. Bellows
WME-4-20	High/Low Explosion Proof	0-100	125	Brass Bellows

Alarms

Visual Alarm Panel - Contains green LED to indicate "service" side is in use and red LED to indicate control unit has switched to "secondary" side. **Audio/Visual Alarm Panel** - Contains red and green alarm lights and buzzer with "squelch" button. Green light remains illuminated while "service" bank is in use. When "service" bank is exhausted, green light is extinguished, red light plus buzzer, rated 75 decibels within 100 cm, is activated to ensure notice of the alarm conditions. A touch of the squelch button silences the buzzer, but the red alarm light will remain illuminated until the exhausted bank has been replaced. **Two Gas Audio/Visual Alarm Panel** - As above, but warning alarm lights and buzzer for two gases in a single box, i.e. Oxygen and Nitrogen, etc.



Part #	Description
BIA-1	Visual Alarm, 24 VAC
BIA-2	Two Gas Audio / Visual Alarm, 24 VAC
BIA-3	Audio / Visual Alarm, 24 VAC

BI Series Automatic Manifolds For Industrial Applications

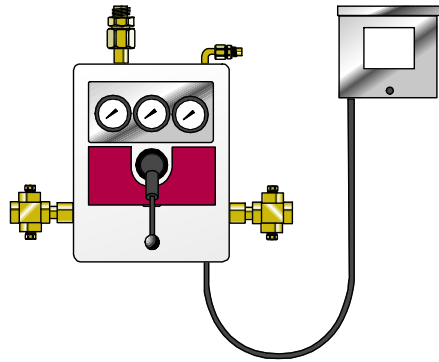
Specifications

- All functional components (regulators, pressure switches, check valves, etc.) are enclosed in a tamper-resistant metal case.
- Adjustable integral line regulator: 30-125 PSIG standard, (Acetylene: 0-15 PSIG, LPG: 0-45 PSIG) 50-200 PSIG BIHP Series.
- Manifold outlet: 1/2" NPT male.
- 24" Flexible Stainless Steel braided Teflon[®] lined pigtailed with check valves. Check valve is at header end of pigtail for all gases except Oxygen. Note: Helium and Hydrogen manifolds shipped with synthetic fiber braided pigtailed. Vertical crossover and staggered styles include 24" and 36" pigtailed.
- Acetylene manifolds are shipped complete with a dry 300 SCFH flashback arrestor, a separate flash arrestor with check valve on each pigtail and connecting piping.
- Individual header valves at each cylinder locations (units with 4 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".
- System alarm lights with 115/24 VAC power supply box included for all gas services except fuel gases.
- Headers are a single unit design constructed of 1/2" brass pipe and tees, silver-brazed at each connection, painted almond and labeled for the indicated gas service.
- Maximum inlet pressure: 3000 PSIG (20680 kPa).
- Flow Capacity: up to 1500 SCFH.
- Special header configurations available upon request: U-Shaped, L-Shaped, Staggered, Crossover and Vertical Crossover. Dimensional sketch of installation required for U and L shaped designs.

# of Cylinders (X)	Header Configuration (Y)	Mounting (Z)
	BLANK STANDARD 10" on center	Blank = Wall Mount
	13" on center for Acetylene & LPG	(Standard)
	S - STAGGERED - 5" on centers	F = Floor Mount
	6.5" on center for Acetylene & LPG	
	V - VERTICAL CROSSOVER	
	Standard 10" on center	
	13" on center for Acetylene & LPG	
	C - CROSSOVER (Floor Mount Only)	
	Standard 10" on center	
	13" on center for Acetylene & LPG	

LC Series Automatic Manifolds For Portable Bulk Cylinders

The LC series manifolds are specifically designed to regulate and monitor vaporized gas from portable cryogenic cylinders. The control unit changes over from the exhausted "service" bank to the "secondary" bank automatically without interruption of line service. Manual resetting of a single control valve is all that is required after changeover and cylinder replacement. The control unit incorporates cryogenic regulators for high flow rates without the need for expensive heaters. An economizer valve is contained within the cabinet to utilize accumulated pressure from the "secondary" bank, preventing the exhausting of useful product to the atmosphere. Line pressure is field adjustable and will remain constant within a variation of $\pm 2\%$ throughout the changeover cycle. Each unit is precisely calibrated at the factory and the sealed case protects the unit from tampering. A visual alarm system is contained within the control cabinet. A circuit board in the power supply box isolates remote alarm terminals for hookup to all remote alarm regardless of voltage (up to 3 amps 30 VDC or 2 amps 250 VAC).



Example: LC-9-2

The LC series units used in combination with MS series units are two separate manifolds which must be ordered as two separate line items.

LC series units with portable bulk vessels on both the service and secondary not recommended for applications using less than 50 SCFH!

Model # (W)	Gas Service (X)	
LC (40-85 PSIG)	(3) Argon	CGA-580
LCMP (40-120 PSIG)	(4) Carbon Dioxide	CGA-320
LCHP (40-180 PSIG)	(5) Helium	CGA-580
(Nitrogen units only are adjustable - 40-210 PSIG)	(7) Nitrogen	CGA-580
	(8) Nitrous Oxide	CGA-326
	(9) Oxygen	CGA-540

Fuel Gas Alarm Kits / In Line Flashback Arrestors

These kits are designed specifically for Western Manifold units for use with Acetylene, Hydrogen or Liquefied Fuel Gases. These kits are cleaned, tested and built following National Fire Protection Association, Compressed Gas Association, Canadian Standards Association and OSHA guidelines. Each fuel gas alarm kit consists of an explosion proof (Class 1 Division 2) pressure switch, a 24 VAC transformer assembly (WMS-9-25C), an audio visual alarm (BIA-3), rated NEMA 1, and all fittings required for installation. These alarm kits will signal to a remote location that the manifold primary supply bank has been depleted and the secondary supply is in use.

Fuel Gas Alarm Kits

Part #	Description
FGAK-A	BI-Acetylene models
FGAK-H	BI-Hydrogen models
FGAK-L	BI-LPG models



The SIMAX series for flashback arrestors provides a full range of dry type (no water or fluid to check or replenish) flashback, gas reverse flow, and hose burn back protection in a compact economical package. Simax series flashback arrestors are approved safety devices under ANSI Z49.1:1999 safety guidelines and help meet OSHA, NFPA, and other strict industry safety standards (see listing of approvals and specifications below). They are ideal for high volume gas flow applications in pipelines and manifolds.

Simax

Type of Gas	Part #	Connection		SCFH at 21.9 PSIG Air
		Inlet	Outlet	
Fuel Gas	SIMAX 3-F	1" NPT F	1" NPT F	1904
	SIMAX 5-F	1" NPT F	1" NPT F	3060
	SIMAX 8-F	1-1/2" NPT F*	1-1/2" NPT F*	5168
Oxygen	SIMAX 3-OX	1" NPT F	1" NPT F	1904
	SIMAX 5-OX	1" NPT F	1" NPT F	3060
	SIMAX 8-OX	1-1/2" NPT F*	1-1/2" NPT F*	5168

*1" NPT optional

The DEMAX is designed for high gas volume pipelines and tapping points to help meet ANSI Z49.1 1999 safety guidelines, OSHA, NFPA and other strict industry standards. It can be used in manifold systems and pipelines, it includes an inlet filter, reverse flow check valve, flame barrier, and thermal cut off in one compact brass body. One (1") NPT female inlet and outlet makes installation easy.

Demax

Type of Gas	Part #	Connection		SCFH at 4.6 PSIG Air
		Inlet	Outlet	
Fuel Gas	Demax-F	1" NPT F	1" NPT F	265
Oxygen	Demax-OX	1" NPT F	1" NPT F	265



Flashback Arrestors / Fuel Gas Safety Kits

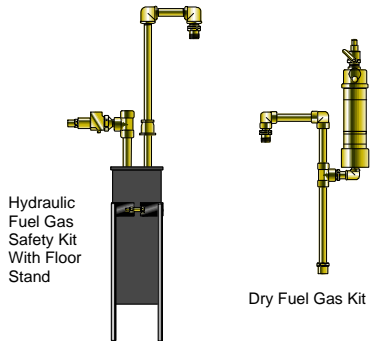
Dry & Hydraulic Flashback Arrestors

Dry and hydraulic flashback arrestors are designed for use on Acetylene or Fuel Gas manifold systems, as well as station drops, to protect the main fuel gas supply from the dangers of reverse flow and flashbacks. A safety relief valve is included with each arrestor and is installed on the outlet side. In the event excessive pressure does occur, the gas is vented away to a safe location. All models are UL listed.



Part #	Gas	Capacity SCFH	Inlet/Outlet	Relief Valve Set Pressure (PSIG)
Type: Hydraulic WEM-1-17	Acetylene	300	1" NPT	20 PSIG
WEM-1-36	LPG/Hydrogen	300	1" NPT	20 PSIG
WEM-1-22	Floor Stand	300		
Type: Dry WEM-1-25	Acetylene	300	1/2" NPT	20 PSIG
WEM-1-26	LPG/Hydrogen	300	1/2" NPT	35 PSIG

Fuel Gas Safety Kits



Fuel gas safety kits are available as an option for use with any of Western's industrial fuel gas manifolds. The fuel gas safety kit includes either a dry or hydraulic flashback arrestor and the proper piping to connect the flashback arrestor to your Western Manifold.

Manifold Type	MD Series	BI Series	MS Series	Flow Capacity	Relief Valves
Acetylene/Hydraulic	DM-FKA	BI-FKA	MS-FKA	300 SCFH	20 PSIG
Hydraulic	DM-FK	BI-FK	MS-FK	300 SCFH	40 PSIG
Dry	DM-FKD	BI-FKD	MS-FKD	300 SCFH	35 PSIG

LC Series Automatic Manifolds For Portable Bulk Cylinders

Specifications

- All functional components (cryogenic regulators, check valves, relief valves and pressure switch) are enclosed in a tamper-resistant metal case.
- Manifold outlet: 1/2 NPT male.
- Designed to manifold up to six (6) portable cryogenic cylinders.
- Adjustable line regulator:
 - 40-85 PSIG on LC Series
 - 40-120 PSIG on LCMP
 - 40-180 PSIG on LCHP Series -
(All gases except Nitrogen.)
 - 40-210 PSIG on LCHP Nitrogen (Only)
- Maximum flow capacity:
 - 750 SCFH - Model LC
 - 750 SCFH - Model LCMP
 - 800 SCFH - Model LCHP

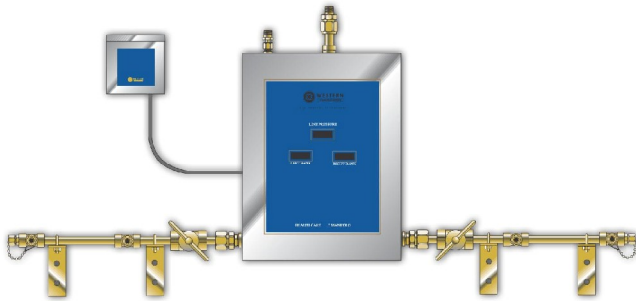
***Note - Flow rate is limited by the withdrawal rate of the vaporized gas from liquid containers, as well as the number of containers in the system.*
- 72" cryogenic pigtails with check valves (nylon inner core with polyester braid). Maximum working pressure 1375 PSIG.
- System alarm lights with 115/24 VAC power supply box.
- Optional remote audio and visual alarm panels available.
- Inlet pressures from each liquid cylinder must be the same. If more than one cylinder is used per side, a pigtail should be used to connect cylinder vent lines to ensure equalized cylinder pressure.
- Minimum inlet pressure for LC: 125 PSIG
- Minimum inlet pressure for LCMP: 160 PSIG
- Minimum inlet pressure for LCHP: 250 PSIG
- LC series units are designed for use with portable bulk vessels with 235 PSIG relief valves only!
- LCHP series units are designed for use with portable bulk vessels with 350 PSIG relief valves only!

To Order: Specify - Model # (W) - Gas Service (X) - # of Cylinders (Y) - Mounting (Z)

# of Cylinders (Y)	Mounting (Z)
	Blank = Wall Mount (standard)
	F = Floor Mount

DS1000 Fully Automatic Changeover Manifold

Western Innovator DS1000 Digital Manifolds provide fully automatic system control. An Integrated Circuit Board monitors cylinder bank pressure electronically, controlling changeover and eliminating the need to manually reset levers or valves. Easy-to-read digital displays show the line and individual bank pressures. A series of lights for each bank indicates whether the bank is “in service”, “ready for use”, or “bank depleted”.



Example: DS1000-9-4

** Not for hospital applications. Does not meet NFPA-99 requirement for hospital use. See Western Innovator model FHM2.

DS1000 Fully Automatic Changeover Manifold

Specifications

- Fully Automatic Changeover - no levers to reset. Continuous, uninterrupted gas flow. The only manual function is to replace depleted cylinders.
- LED Indicators provide system status for each bank. Lights will indicate “in service”, “ready for use”, or “bank depleted”.
- Large digital display provides constant readout of bank pressure and delivery pressure.
- Displays readout in PSIG, kPa or Bar.
- Micro controller monitors all functions and controls changeover.
- Available for the following gases: Air, Argon, Carbon Dioxide, Helium, Nitrogen, Nitrous Oxide and Oxygen.
- Maximum Inlet pressure 3000 PSIG
(2000 PSIG for DS1000HL)
- Delivery Pressure:

DS1000	40-100 PSIG
DS1000HL	40-100 PSIG
DS1000HP	100-190 PSIG
- Maximum Flow:

DS1000	2000 SCFH
DS1000	35 SCFH
(CO ₂ & N ₂ O)	
DS1000 HL	500 SCFH
(CO ₂ & N ₂ O with heater)	
DS1000HP	2500 SCFH
- Manifold Outlet: 1/2" NPT male.
- Relief Valve Outlet: 1/2" NPT male.
- 24" flexible stainless steel pigtailed with check valves.
- 1/2" brass, silver brazed headers.

To Order: Specify - Model # (V) - Gas Service (W) - # of Cylinders (X) - Header Configuration (Y) - Mounting (Z)

Model # (V)	Gas Service (W)	# of Cylinders (X)	Header Configuration (Y)	Mounting (Z)
DS1000 (40-100 PSIG)	(2) Air CGA-346		Blank STANDARD 10" Centers	Blank = Wall Mount
DS1000HL (40-100 PSIG)	(3) Argon CGA-580		V - VERTICAL CROSSOVER 10" Centers	F = Floor Mount (Floor Stand option required with Crossover option)
(For CO ₂ and N ₂ O—includes 500 SCFH heater)	(4) Carbon Dioxide CGA-320			
DS1000HP (100-190 PSIG)	(5) Helium CGA-580		S - STAGGARED 5" Centers	
	(7) Nitrogen CGA-580		C - CROSSOVER 10" Centers	
	(8) Nitrous Oxide CGA-326		U-Shaped - Drawing Required	
	(9) Oxygen CGA-540		L-Shaped - Drawing Required	

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