WE LISTENED.
WE DELIVERED.
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This information is accurate to the best of our knowledge at the time of printing and is subject to change at any time at Victor’s sole discretion.
Victor Manifold Systems meet or exceed the following industry standards:

- Compressed Gas Association, Pamphlets V-1, E-1 and G-1
- American National Standards Institute, Pamphlet B-57.1
- Canadian Standards Association, Pamphlet B-96
- National Fire Protection Association, Pamphlets NFPA-51
- Underwriters Laboratories, Pamphlet UL407

Components listed with a recognized independent testing agency:

- Victor Manifolds *
- Primary Regulators
- Line Regulators
- Station Regulators
- Pressure Switches
- Flash Arrestors (in-line)
- Master Valves
- Alarm Systems (Pending)

Components which are FM Listed:

- Hydraulic Flash Arrestors
- Pressure Switches

Components which are CSA Approved:

- Pressure Switches

Victor® Standard / Features

- Easy to Order, User Friendly
- Model Number System.
- Brazed Connections on all piping where possible to minimize the risks of leaks through threaded connections.
- 100% Tested.
- Shipped Complete. All manifolds come complete with adjustable regulator, brazed brass headers, pigtails with check valves (rigid or flexible depending on gas service), relief valves, and wall brackets.
- All systems designed to provide expandability in the event of future growth requirements (except Dual systems).
- All manifolds cleaned for oxygen service.
- The accuracy and dependability of Victor Regulators.
- Two Year Warranty.
- Worldwide Field Sales and Technical Support.
- Manifolds greater than six (6) stations per header are shipped in six (6 maximum) station sections.

*Nitrous Oxide manifolds are UL listed, industrial use only.

For Manifold Questions Call
1-800-569-0547

United States Customer Service
Phone: 1-800-569-0547 • FAX: 1-800-535-0557
For International & Canada see back cover.
Manifold Application

Determining the right manifold for your application

MAKE A COPY OF THIS PAGE. KEEP THIS AS A MASTER.

1) What is the application that the manifold will service?
   ________________________________________________________________

2) What gas is required for your application?
   (ie. Oxygen, Nitrogen, Acetylene, etc.)
   _____________________________________________________________

3) What CGA connection is used for this gas service?
   (ie. 540, 320, 510, etc.)
   _____________________________________________________________

4) Do you require automatic or manual gas control?
   _____________________________________________________________

5) What is the configuration required? Standard or Special? If Special, please indicate type and the actual dimensions of the area in which the manifold will be located.
   _____________________________________________________________

6) Required line delivery pressure? (PSIG)
   _____________________________________________________________

7) Volume Requirements:
   SCFH per month:
   _____________________________________________________________
   Peak Flow Rate:
   _____________________________________________________________
   CF Size of Cylinders to be Used:
   _____________________________________________________________
   # days required between cylinder change:
   _____________________________________________________________
   Total # of Cylinders on the manifold: (see below)
   _____________________________________________________________

8) Installation: Inside or Outside?
   (Systems used outside must be shielded from direct weather contact.)
   _____________________________________________________________

9) Accessories Required:
   Pressure Switch, Type: ________________________________________
   Line Regulators, Type: ________________________________________
   Alarm System, Type: _________________________________________
   Station Regulators, Type: _____________________________________
   Hydraulic Flash Arrestor ______________________________________
   Flowmeters, Type: __________________________________________
   Hydraulic Flash Arrestor Stand _________________________________
   Station Drops (List): _________________________________________
   Cylinder Brackets, Type: _____________________________________
   Other (s) __________________________________________________
   Gas Service Labels, Type: _____________________________________

Cylinder Formula

\[
\text{Cylinder Volume} = \text{CF of Cylinder Less Residual Gases},
\]
\[
\text{CF/Day/Station} = (\text{CFH/Station} \times \text{# Hours/Day}) \times \text{Duty Cycle}
\]
\[
\text{CF/Day} = (\text{CF/Day/Station} \times \text{# Stations})
\]
\[
\frac{\text{Cylinder Volume}}{\text{CF/Day}} = \text{Cylinders/Day}
\]
\[
\frac{\text{Planned Cylinders/Header}}{\text{Cylinder Day}} = \text{Days/Header} \times \text{# of Headers}
\]

Maximum Days/Header \times \text{# of Headers Days Between Deliveries}
How to Order

Victor Manifold Systems are designed to make your ordering experience simple and easy to understand. Despite a product line which appears to be complex, this ordering system will allow you to get the right product to you or your customer.

The key to ordering is having the right information on what your needs are for the particular application. We have thus provided a checklist (p. 4) of the key information you will need to make the ordering process trouble-free. Should you require additional information, please contact our Customer Service Department at (US) 1-800-569-0547.

MANIFOLD ORDERING MATRIX

<table>
<thead>
<tr>
<th>GAS SERVICE</th>
<th>CENTER SECTION*</th>
<th>REGULATOR</th>
<th>HEADER (R)</th>
<th>HEADER (L)</th>
<th>PIGTAIL</th>
<th>OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetylene</td>
<td>Single Stage</td>
<td>SR450MD</td>
<td>SR450ME</td>
<td>SR452MD</td>
<td>SR453MD</td>
<td>SR460MA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SR461MB</td>
<td>Right Side Wall Mount (RW=right side wall mount)</td>
<td>1RW</td>
<td>1LW</td>
<td>00 w/ Line Regulator</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02 w/o Pipe Line Relief</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>03 w/ Alarm &amp; Switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>04 w/ Alarm Switch Visual Only</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>05 500W Heater</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>06 1000W Heater</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07 No Heater</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>08 w/ Header Nut &amp; Plug</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>09 w/ Hydraulic Flash Arrestor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 w/o Hydraulic Flash Arrestor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>19 w/ 1000 CFH Hydrolic Flash Arrestor</td>
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<tr>
<td>Air</td>
<td>Dual</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Argon</td>
<td>SP LXR (Right Inlet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CO₂</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Helium</td>
<td>Dual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen</td>
<td>SP LXL (Left Inlet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrous Oxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Propane</td>
<td></td>
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<td>Proplene</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Propylene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step by Step Ordering Example

Step 1 Identify the gas service. (Ex. Acetylene)
Step 2 Center Section - locate the model in the catalog that best suits your needs.
(Ex. SSIN - one side in use with other in reserve. Service may be interrupted.)
Step 3 Select regulator for the flow rates and gas service. (Ex. Acetylene - SR460MA, SR710MA are available for acetylene service.)
Step 4 Determine whether your needs require wall or stand mount and how many different cylinders per side (if applicable).
(Ex. 2 RW & 2LW - 2 right hand wall mount and 2 left hand wall mount)
Step 5 Determine length of pigtail needed and CGA connection. Use chart on Page 26 (Ex. 510 x 24” pigtail flex with CV & FA.)
Step 6 Any options that are needed for the system. (Ex. With 300 SCFH flash arrestors and stand needed)

ORDERING EXAMPLE:
Manifolds

DUAL & SIMPLEX

Dual Manifold

Applications
The Victor Dual manifold system is designed for those in need of basic manifolding. This manifold can provide two cylinder service for applications such as service stations, maintenance departments and other situations requiring simple manifolding. These are non-expandable systems with a maximum of two cylinders in service at one time.

Design and Construction
- Open Style Manifold
- Choice of Regulators - See page 31
- Individual Station Shut-off Valves
- 3/4” NPT(F) Outlet
- Headers (7/8” brass pipe with bar stock tees)
- Brazed construction for maximum leak prevention
- Pigtails (check valves are standard)
  - 24 inch rigid for Hydrogen, Helium & N₂O
  - 24 inch flexible for all other gases.
  - Acetylene models equipped w/ dry flash arrestors.
- Wall mount only
- 200 # Relief Valve to protect downstream piping (except fuel gas)

Performance Specifications
- Maximum inlet: 3000 PSIG
- Maximum Temperature Range: 140°F
- Minimum Temperature Range: 0°F

* Dimensional data see page 38

Simplex Manifold - SPLXR & SPLXL

Applications
The Victor Simplex manifold system is designed to provide a single source of supply from one cylinder bank. Although these manifolds can be used as a primary source of gas, the typical application finds this model as a high pressure back-up system for liquid or bulk tank systems in industry and medical environments.

Design and Construction
- Open Style manifold
- Choice of Regulators - See page 31
- Master Shut-off Valve
- Individual Station Shut-off valves
- 3/4” NPT(F) Outlet
- Headers (7/8” Brass Pipe with Bar Stock Tees)
  - 10 inch centers for Oxygen, Inert Gases & Hydrogen
  - 13 inch centers for Acetylene & Fuel Gases
- Brazed construction for maximum leak prevention
- End capped to accommodate future expansion needs
- Pigtails (check valves are standard)
  - 24 inch rigid for Hydrogen, Helium, & N₂O
  - 24 inch flexible for all other gases.
  - Acetylene models equipped with dry flash arrestors.
- 200 # Relief Valve to protect piping (except fuel gas)
- Right & left hand inlets available
- Wall or stand mount available
- Acetylene and propane systems with two or more stations are shipped with a hydraulic flash arrestor-300 SCFH

Performance Specifications
- Maximum inlet: 3000 PSIG
- Maximum Temperature Range: 140°F
- Minimum Temperature Range: 0°F

* Dimensional data see page 38
Single Manifold - SSIN

Applications
The Victor Single manifold system is designed to provide a dual source of supply via a primary and reserve bank of cylinders. This manifold can provide effective service to any application in which down-time is not a problem. Once the primary bank has been depleted the reserve bank can be manually activated to return the system to working status.

Design and Construction
- Open Style Manifold
- Choice of regulators - See page 31
- Master Shut-off Valves
- Individual Station Shut-off valves
- 3/4” NPT(M) Outlet
- Headers (7/8” brass pipe with bar stock tees)
  - 10 inch centers for Oxygen, Inert Gases & Hydrogen
  - 13 inch centers for Acetylene & Fuel Gases
- Brazed construction for maximum leak prevention
- End capped to accommodate future expansion needs
- Pigtails (check valves are standard)
  - 24 inch rigid for Hydrogen, Helium, & N₂O
  - 24 inch flexible for all other gases.
- Acetylene and propane models equipped with dry flash arrestors.
- Acetylene and propane systems with two or more stations, are shipped with a hydraulic flash arrester - 300 SCFH
- Pressure switch port included, 1/4” NPT(F)
- Wall or stand mount available
- 200 # Relief Valve to protect piping (except fuel gas)

Performance Specifications
- Maximum inlet: 3000 PSIG
- Maximum Temperature Range: 140°F
- Minimum Temperature Range: 0°F

Semi Automatic Manifold - SAM

Applications
The Victor Semi-Automatic manifold system is designed to provide an uninterrupted supply to any application requiring no down-time. As the primary supply is depleted a reserve supply is waiting to automatically begin service. Through pressure differential the switchover takes place without interruption of service, once depleted the primary bank can be replaced and becomes the new reserve bank.

Design and Construction
- Open Style Manifold
- Choice of regulators - See page 31
- Adjustable Line Regulator (except for fuel gas)
- Master Shut-off Valves
- Individual Station Shut-off valves
- 3/4” NPT(M) Outlet
- Headers (7/8” brass pipe with bar stock tees)
  - 10 inch centers for Oxygen, Inert Gases & Hydrogen
  - 13 inch centers for Acetylene & Fuel Gases
- Brazed construction for maximum leak prevention
- Low Pressure Side - Black Pipe
- End capped to accommodate future expansion needs
- Pigtails (check valves are standard)
  - 24 inch rigid for Hydrogen, Helium, & N₂O
  - 24 inch flexible for all other gases.
- Acetylene models equipped with dry flash arrestors.
- Acetylene and propane systems with two or more stations, are shipped with a hydraulic flash arrester - 300 SCFH
- Pressure switch port included, 1/4” NPT(F)
- Wall or stand mount available
- 200 # Relief Valve to protect piping (except fuel gas)

Performance Specifications
- Maximum inlet: 3000 PSIG
- Minimum pressure differential between primary & reserve bank is +/- 20 psig (+/- 5 PSIG Acetylene)
- Maximum Temperature Range: 140°F
- Minimum Temperature Range: 0°F

* Dimensional data see page 38
Liquid Manifold - LIQ

Applications
Designed for applications with “low flow rates”, this liquid/high pressure back-up manifold prevents excessive product loss. For applications with sufficient volume for liquid usage.

Design and Construction
- Open style manifold
- LC700 series regulator L.P. side - See page 31
- SR450 series backup regulator H.P. side
- Adjustable Line Regulator downstream
- 3/4”NPT(F) Outlet
- High Flow Relief Valves
- Master shut off valve (H.P.)
- Individual station shut-off valves
- Headers (H.P.) (7/8” brass pipe with bar stock tees)
  - 10 inch centers for O2 & other Inerts
- Brazed Construction for maximum leak protection
- Pressure switch port included on H.P. side, 1/4” NPT(F)
- End capped to accommodate future expansion needs
- 200# relief valve to protect piping

Performance Specifications
- Maximum Inlet:
  - 400 PSIG low pressure bank
  - 3000 PSIG high pressure bank
- Maximum Delivery: 200 PSIG
- Minimum Pressure Differential ±20 PSIG
- Maximum Temperature: 140°F
- Minimum Temperature: 0°F

DIMENSIONS - OVERALL LENGTH

<table>
<thead>
<tr>
<th># OF CYLINDERS</th>
<th>INCHES</th>
<th>CENTIMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Only</td>
<td>30.0</td>
<td>76.2</td>
</tr>
<tr>
<td>3 X 1</td>
<td>67.4</td>
<td>171.2</td>
</tr>
<tr>
<td>6 X 2</td>
<td>97.4</td>
<td>247.4</td>
</tr>
<tr>
<td>8 X 3</td>
<td>117.4</td>
<td>298.2</td>
</tr>
</tbody>
</table>

Model Shown: LIQ-IRW-2LW-580-36FTCV
Liquid is always on the right.

Portable Bulk Liquid Containers

What you need to know?
Vaporization Rate*: Typically 250 to 350 SCFH
Outlet Pressure: Typically 125 PSIG 300 PSIG Models are also available
Evaporization Rate: Up to 3% per day will vent to atmosphere
Temperature: Vaporizing gas is very cold. Approximately -300° Fahrenheit.

Warning:
Multiple liquid cylinder manifolds MUST have the pressure building regulator of each vessel set at the same pressure to insure proper cylinder withdrawal.
Header Extension - HER & HEL

All Victor Manifolds are expandable to meet changing application requirements. Victor header extensions are easy to add to your existing Victor manifold system.

Design and Construction

- 3000 PSIG Rated
- Brazed brass construction for maximum leak protection
- Right or left side expansions.
- 1” x 111/2” NPS Connections
- End capped to accommodate future expansion needs. (Option #08)
- Pigtails (Check valves are standard)
  - 24 inch rigid for Hydrogen, Helium & N2O
  - 24 inch flexible for all other gases
  - Acetylene models equipped with dry flash arrestors
  - High purity brass and stainless models also available.
  - Contact Victor Customer Service.

DIMENSIONS - OVERALL LENGTH

<table>
<thead>
<tr>
<th># OF CYLINDERS</th>
<th>INCHES</th>
<th>CENTIMETERS</th>
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<tr>
<td>1</td>
<td>17.4</td>
<td>44.1</td>
</tr>
<tr>
<td>2</td>
<td>27.4</td>
<td>69.5</td>
</tr>
<tr>
<td>3</td>
<td>37.4</td>
<td>94.9</td>
</tr>
<tr>
<td>4</td>
<td>47.4</td>
<td>120.4</td>
</tr>
</tbody>
</table>

Model Shown: HER-3* (Right Side)

* Includes valves and pigtails as shown above

Looking at the Manifold

HEL = Left Side, HER = Right Side

Expansion Elbow

EXPANSION ELBOW - 90° ANGLE

1”-1-1/2 NPS (F) X 1”-11-1/2 NPS (M)

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1109-0503</td>
<td>4-1/2&quot; LONG</td>
</tr>
<tr>
<td>1109-0501</td>
<td>8-1/3&quot; LONG</td>
</tr>
<tr>
<td>1109-0502</td>
<td>11-1/3&quot; LONG</td>
</tr>
</tbody>
</table>

For Manifold Questions Call
1-800-569-0547
Station Drops
Victor offers Station drops in 3 various configurations - single, double, and quad systems. Each system can be outfitted for various gas service with the proper station valve or outlet valve.

**Design and Construction**
- 1/2" ball valve
- All brass construction

**Inert Gas Station Drops**

### OXYGEN

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODEL</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Station Drop w/ Station Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8” - 14 RH outlet CGA 024</td>
<td>SD - 1 - 024</td>
<td>1126 - 0043</td>
</tr>
<tr>
<td>Double Station Drop w/ Station Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8” - 14 RH outlet CGA 024</td>
<td>SD - 2 - 024</td>
<td>1126 - 0047</td>
</tr>
<tr>
<td>Quadruple Station Drop w/ Station Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7/8” - 14 RH outlet CGA 024</td>
<td>SD - 4 - 024</td>
<td>1126 - 0051</td>
</tr>
<tr>
<td>Single Station Drop w/ Ball Seat Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/16” - 18 RH outlet CGA 022</td>
<td>SD - 1 - 022</td>
<td>1126 - 0058</td>
</tr>
<tr>
<td>Double Station Drop w/ Ball Seat Valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9/16” - 18 RH outlet CGA 022</td>
<td>SD - 2 - 022</td>
<td>1126 - 0060</td>
</tr>
<tr>
<td>Quadruple Station Drop w/ Ball Seat Valve</td>
<td></td>
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</tr>
<tr>
<td>9/16” - 18 RH outlet CGA 022</td>
<td>SD - 4 - 022</td>
<td>1126 - 0055</td>
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</table>

### FUEL GAS

<table>
<thead>
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<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>Single Station Drop w/ Station Valve</td>
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<td></td>
</tr>
<tr>
<td>7/8” - 14 LH outlet CGA 025</td>
<td>SD - 1 - 025</td>
<td>1126 - 0044</td>
</tr>
<tr>
<td>Double Station Drop w/ Station Valve</td>
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<td></td>
</tr>
<tr>
<td>7/8” - 14 LH outlet CGA 025</td>
<td>SD - 2 - 025</td>
<td>1126 - 0048</td>
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<tr>
<td>Quadruple Station Drop w/ Station Valve</td>
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</tr>
<tr>
<td>7/8” - 14 LH outlet CGA 025</td>
<td>SD - 4 - 025</td>
<td>1126 - 0052</td>
</tr>
<tr>
<td>Single Station Drop w/ Ball Seat Valve</td>
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<td></td>
</tr>
<tr>
<td>9/16” - 18 LH outlet CGA 023</td>
<td>SD - 1 - 023</td>
<td>1126 - 0059</td>
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<tr>
<td>Double Station Drop w/ Ball Seat Valve</td>
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<td></td>
</tr>
<tr>
<td>9/16” - 18 LH outlet CGA 023</td>
<td>SD - 2 - 023</td>
<td>1126 - 0061</td>
</tr>
<tr>
<td>Quadruple Station Drop w/ Ball Seat Valve</td>
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<td></td>
</tr>
<tr>
<td>9/16” - 18 LH outlet CGA 023</td>
<td>SD - 4 - 023</td>
<td>1126 - 0056</td>
</tr>
</tbody>
</table>

### Inert Gas Station Drops W/ VALVE

#### W/ STATION VALVE

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODEL</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Station Drop w/ Station Valve CGA 034</td>
<td>SD - 1 - 034</td>
<td>1126 - 0045</td>
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<tr>
<td>Double Station Drop w/ Station Valve CGA 034</td>
<td>SD - 2 - 034</td>
<td>1126 - 0049</td>
</tr>
<tr>
<td>Quadruple Station Drop w/ Station Valve CGA 034</td>
<td>SD - 4 - 034</td>
<td>1126 - 0053</td>
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</table>

#### W/ BALL VALVE

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODEL</th>
<th>PART NO.</th>
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<tbody>
<tr>
<td>Single Station Drop w/ Ball Seat Valve 5/8” - 18F RH CGA 032</td>
<td>SD - 1 - 032</td>
<td>1126 - 0046</td>
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<tr>
<td>Double Station Drop w/ Ball Seat Valve 5/8” - 18F RH CGA 032</td>
<td>SD - 2 - 032</td>
<td>1126 - 0050</td>
</tr>
<tr>
<td>Quadruple Station Drop w/ Ball Seat Valve 5/8” - 18F RH CGA 032</td>
<td>SD - 4 - 032</td>
<td>1126 - 0054</td>
</tr>
</tbody>
</table>
EDGE™ EST4 Pipeline – Station Regulator Series

Ideal for weld station use and other gas distribution applications, the EST4 station regulator is fitted with the appropriate station style CGA connections for use with oxygen, inert or fuel gases. Along with the color coded adjusting knob and new gauges, this regulator not only improves productivity but looks good doing it.

Design and Construction

- 4 port forged brass body
- High strength zinc-aluminum housing cap
- 2.5” gauge with updated artwork
- Color-coded SLAM™ impact absorbing safety knob
- Meets or exceeds CGA E-4
- ETL listed to UL 252
- Side entry and rear entry inlet versions available

Dimensions

3.8” W x 7.1” H X 8.2” L
(96.5 mm x 180.3 mm x 208.3 mm)

Weight

4 lbs. 5 oz. (1.95 kg)

Performance

Maximum inlet – 200 PSIG

<table>
<thead>
<tr>
<th>GAS SERVICE</th>
<th>PART NO.</th>
<th>MODEL NO.</th>
<th>DELIVERY RANGE (PSIG)</th>
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<tbody>
<tr>
<td>Oxygen</td>
<td>0781-5191</td>
<td>EST4-40-024</td>
<td>2-40</td>
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<tr>
<td></td>
<td>0781-5204</td>
<td>EST4-40-024R</td>
<td>2-40</td>
</tr>
<tr>
<td></td>
<td>0781-5192</td>
<td>EST4-80-024</td>
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<td>0781-5205</td>
<td>EST4-80-024R</td>
<td>4-80</td>
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<tr>
<td></td>
<td>0781-5193</td>
<td>EST4-125-024</td>
<td>5-125</td>
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<tr>
<td></td>
<td>0781-5206</td>
<td>EST4-125-024R</td>
<td>5-125</td>
</tr>
<tr>
<td>Inert (Nitrogen, Argon, Helium)</td>
<td>0781-5189</td>
<td>EST4-125-034</td>
<td>5-125</td>
</tr>
<tr>
<td></td>
<td>0781-5207</td>
<td>EST4-125-034R</td>
<td>5-125</td>
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<tr>
<td>Acetylene</td>
<td>0781-5194</td>
<td>EST4-15-025</td>
<td>2-15</td>
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<tr>
<td></td>
<td>0781-5209</td>
<td>EST4-15-025R</td>
<td>2-15</td>
</tr>
<tr>
<td>Hydrogen, Methane, Natural Gas, L.P. Gas</td>
<td>0781-5195</td>
<td>EST4-80-025</td>
<td>4-80</td>
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<tr>
<td></td>
<td>0781-5212</td>
<td>EST4-80-025R</td>
<td>4-80</td>
</tr>
<tr>
<td></td>
<td>0781-5196</td>
<td>EST4-125-025</td>
<td>5-125</td>
</tr>
<tr>
<td></td>
<td>0781-5213</td>
<td>EST4-125-025R</td>
<td>5-125</td>
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</tbody>
</table>
Manifolds

HOW TO ORDER VM SERIES

Victor Manifold Systems are designed to make your ordering experience simple and easy to understand. Despite a product line which appears to be complex, this ordering system will allow you to get the right product to you or your customer.

The key to ordering is having the right information on what your needs are for the particular application. We have thus provided a checklist below of the key information you will need to make the ordering process trouble-free. Should you require additional information, please contact our Customer Service Department at (US) 1-800-569-0547. Additionally, we offer a worldwide network of trained District and Regional Managers who would be glad to assist you.

VM SERIES MANIFOLD ORDERING MATRIX

<table>
<thead>
<tr>
<th>GAS SERVICE</th>
<th>CENTER SECTION</th>
<th>HEADER (R)</th>
<th>HEADER (L)</th>
<th>CGA</th>
<th>LENGTH /STYLE</th>
<th>OPTIONS</th>
</tr>
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<tbody>
<tr>
<td>Acetylene</td>
<td>VM2000</td>
<td>Wall Mount 1RW</td>
<td>Wall Mount 1RW</td>
<td>Acetylene</td>
<td>300, 580</td>
<td>03 w/ Alarm &amp; Switch (Audio &amp; Visual)</td>
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<tr>
<td>Air (Industrial)</td>
<td>2RW</td>
<td>3RW</td>
<td>4RW</td>
<td>5RW</td>
<td>6RW</td>
<td>7RW</td>
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<tr>
<td>Argon</td>
<td>VM2100</td>
<td>Stand Mount 1RW</td>
<td>Stand Mount 1RW</td>
<td>Air (Breathing)</td>
<td>346</td>
<td>05 w/ 1000W Heater</td>
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<tr>
<td>Carbon Dioxide</td>
<td>VM1000</td>
<td>2RS</td>
<td>4RS</td>
<td>6RS</td>
<td>10RS</td>
<td>12RS</td>
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<tr>
<td>Helium</td>
<td>(Industrial Liquid)</td>
<td>24FTCV</td>
<td>24FTCV</td>
<td>Argon</td>
<td>580</td>
<td>07 w/ Header Nut &amp; Plug</td>
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<tr>
<td>Hydrogen</td>
<td>VM1100</td>
<td>24FS</td>
<td>24FS</td>
<td>Carbon Dioxide</td>
<td>320</td>
<td>08 w/ 300 CFH Hydraulic Flash Arrestor</td>
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<tr>
<td>Nitrogen</td>
<td>(Medical Liquid)</td>
<td>24RC</td>
<td>24RC</td>
<td>Helium</td>
<td>580</td>
<td>09 w/ Hydraulic Flash Arrestor</td>
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<tr>
<td>Methane</td>
<td>VM2010</td>
<td>24FCL</td>
<td>24FCL</td>
<td>Hydrogen</td>
<td>350</td>
<td>10 w/ Hydraulic Flash Arrestor</td>
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<tr>
<td>Nitrous Oxide</td>
<td>(C2H2)</td>
<td>24RC</td>
<td>24RC</td>
<td>Nitrogen</td>
<td>580</td>
<td>11 w/ 1000 CFH Hydraulic Flash Arrestor</td>
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<tr>
<td>Oxygen</td>
<td>VM2011</td>
<td>24FTL</td>
<td>24FTL</td>
<td>Methane</td>
<td>350</td>
<td>12 Center Section Stand</td>
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<tr>
<td>Propane</td>
<td>(LP)</td>
<td>24FCL</td>
<td>24FCL</td>
<td>Nitrous Oxide</td>
<td>326</td>
<td>13 Center Section Stand</td>
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<tr>
<td>VM2012</td>
<td>(H2 Methane)</td>
<td>24FCL</td>
<td>24FCL</td>
<td>Oxygen</td>
<td>540</td>
<td>14 Center Section Stand</td>
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<tr>
<td>VM2000/1100</td>
<td>1RWC</td>
<td>2RWC</td>
<td>3RWC</td>
<td>Propane</td>
<td>510</td>
<td>15 Center Section Stand</td>
</tr>
<tr>
<td>VM2010/1100</td>
<td>1LWC</td>
<td>2LWC</td>
<td>3LWC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ordering Example #1:

**Acetylene VM2000-2RW-2LW-580-24FTCV**

VM2000 Manifold with 2 cylinders per side, CGA 580 connections on 24” flexible Teflon lined pigtails with check valves.

Ordering Example #2:

**Oxygen VM1000-1RWC-1LWC-540-72FPCV**

VM1000 Manifold with 1 cylinder per side, CGA 540 connections on 72” flexible pigtails with check valves.
VM Series Manifold

Manifold Headers and Heater

VM Series Manifold Shown with Headers and Heater.

VM Series Manifold Shown with Compact Headers

VM 2000 Shown
Medical Version comes standard with duplexed outlet regulators.

Manifolds
VM, HEADERS AND HEATER
VM2000 Series

High Pressure Cylinder Automatic Manifold System

The Victor VM2000 Series is designed to be a fully automatic system for use with high pressure cylinders. The manifold gives an uninterrupted supply of gas as the primary bank of cylinders is depleted. At a preset pressure, the manifold automatically switches to the reserve bank. The system eliminates the need for the operator to change switches or pressure upon cylinder depletion. The manifold comes with Victor’s two-year warranty, while maintaining a five year warranty on the switchover mechanism itself.

Design & Construction Features

- Frame mounted design with removable cover
  - 12.8”W x 14.0”H x 5”D
  - Powder coated steel mounting frame
  - Durable ABS plastic cover
  - Cover draw latch is padlockable for security
  - Wall or stand mount available
  - 1/2” NPT (F) outlet connection
  - Inlet size: 1-111/2” NPS (M)
- Fully automatic changeover
  - Patented switchover unit
  - Does not require power to change over
  - Dual pressure switch design prevents false readings
- Adjustable delivery pressure
  - 0-200 PSIG for Oxygen, Air, Inert, CO2
  - 0-70 PSIG for medical models except Nitrogen
  - Line, supply, reserve and intermediate pressure gauge
- High flow capacity
  - 3500 SCFH air @ 70° F
  - Flow coefficient Cv = .238
- Ease of repair
  - Removeable cover for easy access to internal components
- Electrical requirements
  - 24 VAC service - cabinet lights and alarm
  - 115/24 VAC power supply included
  - In case of power failure system continues to operate.
- 500W or 1000W heaters available
  - (500W standard for CO2 and N2O service)
- Models also available for Helium, Acetylene,
  - LP Gas and Hydrogen/Methane

Safety Standards and Codes

- Compressed Gas Association (Pamphlets V-1, E-1, G-1)
- American National Standards Institute (Pamphlets B-57-1)
- National Fire Protection Association (Pamphlets NFPA-51)
- UL listed component regulators and valves
- Medical units comply with National Fire Protection Association (Pamphlets NFPA-99C)

Performance Specifications

- Maximum Inlet - 3000 PSIG
- Maximum Temperature - 140° F
- Minimum Temperature - 0° F

<table>
<thead>
<tr>
<th>VM2000 SERIES</th>
<th>DESCRIPTION</th>
<th>MODEL</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen Fully Auto Cabinet</td>
<td>VM2000</td>
<td>1125-1133</td>
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</tr>
<tr>
<td>Inert Gas Fully Auto Cabinet</td>
<td>VM2000</td>
<td>1125-1134</td>
<td></td>
</tr>
<tr>
<td>CO₂ Fully Auto Cabinet (w/500W heater)</td>
<td>VM2000</td>
<td>1132-4189</td>
<td></td>
</tr>
<tr>
<td>Medical Oxygen Fully Auto Cabinet</td>
<td>VM2100</td>
<td>1125-1137</td>
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<tr>
<td>Medical Nitrogen Fully Auto Cabinet</td>
<td>VM2100</td>
<td>1125-1138</td>
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<tr>
<td>Medical Compressed Air Fully Auto Cabinet</td>
<td>VM2100</td>
<td>1125-1139</td>
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<tr>
<td>Medical CO₂ Fully Auto Cabinet (w/500W heater)</td>
<td>VM2100</td>
<td>1132-4190</td>
<td></td>
</tr>
</tbody>
</table>
VM1000 Series

Liquid Cylinder

The Victor VM1000 Series is designed to be a fully automatic system for use with liquid cylinders. The manifold gives an uninterrupted supply of gas as the primary bank of cylinders is depleted. At a preset pressure, the manifold automatically switches to the reserve bank. The system eliminates the need for the operator to change switches or pressure upon cylinder depletion. The manifold comes with Victor’s two-year warranty, while maintaining a five year warranty on the switchover mechanism itself. The 1000 Series models include an economizer circuit to help prevent reserve cylinders from wasting gas due to venting to atmosphere.

Design & Construction Features

- Frame mounted design with removable cover
  - 12.8"W x 14.0"H x 5"D
  - Powder coated steel mounting frame
  - Durable ABS plastic cover
  - Cover draw latch is padlockable for security
  - Wall or stand mount available
  - 1/2" NPT (F) outlet connection
  - Inlet size: 1-11/16" NPS (M)
- Fully automatic changeover
  - Patented switchover unit
  - Economizer circuit
  - Does not require power to change over
  - Dual pressure switch design prevents false readings
- Adjustable delivery pressure
  - 0-200 PSIG for Oxygen, Air, Inert, CO2 and N2O
  - 0-70 PSIG for medical models except Nitrogen
  - Higher delivery pressures require higher inlet pressures
  - Line, supply, reserve and intermediate pressure gauge
- High flow capacity
  - 3000 SCFH air @ 70° F
  - Flow coefficient Cv = .238

Note: Flow rate is limited by the withdrawal rate of vaporized gas from liquid containers, as well as the number of containers in the system. Flow rate listed for reference only.

- Ease of repair
  - Removeable cover for easy access to internal components
  - Face seal connections
- Electrical requirements
  - 24 VAC service - cabinet lights and alarm
  - 115/24 VAC power supply included
  - Alarm system optional, not required for manifold to operate.
  - In case of power failure system continues to operate

Safety Standards and Codes

- Compressed Gas Association (Pamphlets V-1, E-1, G-1)
- American National Standards Institute (Pamphlets B-57-1)
- National Fire Protection Association (Pamphlets NFPA-51)
- UL listed component regulators and valves
- Medical units comply with National Fire Protection Association (Pamphlets NFPA-99C)

Performance Specifications

- Maximum Inlet - 500 PSIG
- Maximum Temperature - 140° F
- Minimum Temperature - 0° F

VM1000 SERIES

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MODEL</th>
<th>PART NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen Fully Auto Cabinet</td>
<td>VM1000</td>
<td>1125-1127</td>
</tr>
<tr>
<td>Inert Gas Fully Auto Cabinet</td>
<td>VM1000</td>
<td>1125-1128</td>
</tr>
<tr>
<td>CO₂ Fully Auto Cabinet</td>
<td>VM1000</td>
<td>1125-1129</td>
</tr>
<tr>
<td>Medical Oxygen Fully Auto Cabinet</td>
<td>VM1100</td>
<td>1125-1130</td>
</tr>
<tr>
<td>Medical Nitrogen Fully Auto Cabinet</td>
<td>VM1100</td>
<td>1125-1131</td>
</tr>
<tr>
<td>Medical N₂O/CO₂ Fully Auto Cabinet</td>
<td>VM1100</td>
<td>1125-1132</td>
</tr>
</tbody>
</table>
PDS 600 Switchover Manifold

Applications
The PDS 600 is an automatic switchover manifold system that changes between a primary side, or bank, and the secondary side using the pressure differential between the two sides of high pressure gas supply. The PDS 600 is designed to continuously supply the downstream process with high purity gas from two individual cylinders, or from two entire banks of cylinders manifolded together. The PDS 600 is designed with an outlet regulator to maintain a constant downstream pressure. The PDS 600 is available with brass or with stainless steel bar stock regulators for use with high purity or corrosive gases.

PDS 600 Features
- Metal-to-metal diaphragm seals.
- Helium leak rate of 1x10^-9 scc/sec. All high purity regulators are inboard leak checked with a helium mass spectrometer.
- 2” dual scale gauges.
- Cartridge-type seat assemblies with 10 micron inboard filter.
- 180 degree lever with arrow indicates which side of the manifold is the active side.
- Rotating captured vent for remote venting of process gases (optional).
- Regulator bodies are mounted on rear bracket.
- Audible and visual alarms (optional).
- New control knob allows precise setting for maximum delivery. Locking is easily attained by pressing in the cap.

PDS 600 Specifications
- Maximum inlet pressure - 3000 psig
- Maximum delivery flow rate - See Performance Data
- Outlet pressure ranges
  - 15 (2-15 psig)
  - 40 (2-40 psig)
  - 80 (4-80 psig)
  - 125 (5-125 psig)
- Switchover Pressures
  - Right to Left Bank: 200 psig
  - Left to Right Bank: 165 psig
- Inlet & Outlet ports - 1/4” NPT (F)
- Temperature Operating Range -40 to 140°F (-40 to 60°C)
- Outlet pressure rise - PDS 600: None
- Flow coefficient - Cυ = .05
- Weight - 12 lbs (5.4 kgs)
- Mounting Hole Spacing - 8.5W x 2.5H

Materials of Construction

PDS 600 Brass
- Body - Chrome-plated, Brass bar stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - Brass
- Seat - PCTFE™
- Seals - Viton™
- Poppet - Brass bar stock
- Inboard Filter - 10 Micron Sintered S.S.
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene

PDS 600 Stainless Steel
- Body - 316L S.S. Bar Stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - 316L Stainless Steel
- Seat - PCTFE™
- Seals - Teflon™
- Poppet - 316L Stainless Steel
- Inboard Filter - 10 Micron Sintered S.S.
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene

NOT DESIGNED FOR LIQUID CYLINDERS
Manifolds
PDS 600 SWITCHOVER MANIFOLD

PDS 600 Performance Data

Flow vs Outlet Pressure
Inlet Pressure
(Air @ 70°F)

<table>
<thead>
<tr>
<th>Pressure</th>
<th>2000 psig</th>
<th>200 psig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Flow (SCHF)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

G.P. Outlet Pressure (PSIG)

0 20 40 60 80 100 120 140 160 180

Flow vs Outlet Pressure
Inlet Pressure
(Air @ 70°F)

PDS 600 SWITC
OVER MANIFOLD ORDERING MATRIX

<table>
<thead>
<tr>
<th>CENTER SECTION</th>
<th>DELIVERY PRESSURE</th>
<th>HEADER* (R)</th>
<th>HEADER* (L)</th>
<th>CGA</th>
<th>STAINLESS STEEL PIGTAIL**</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDS 600B</td>
<td>15</td>
<td>1RW</td>
<td>1LW</td>
<td>Brass 580, 320, 590, 346, 350, 540</td>
<td>24”, Flex</td>
</tr>
<tr>
<td>(Brass)</td>
<td>40</td>
<td>2RW</td>
<td>2LW</td>
<td>Stainless Steel 240, 660, 330, 705</td>
<td>36”, Flex</td>
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<tr>
<td>PDS 600S</td>
<td>80</td>
<td>3RW</td>
<td>3LW</td>
<td>240, 660, 330, 705</td>
<td>36”, Flex</td>
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<td>24”, Flex</td>
<td>36”, Flex</td>
<td></td>
<td></td>
<td>36”, Flex</td>
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</tbody>
</table>

* Optional header configurations are available.
** Standard pigtails are stainless steel lined and include a check valve.

Ordering Example:

**PDS-600B-40-1RW-2LW-350-36**
PDS 600B manifold w/ 40 psi delivery pressure, 1 header right, 2 header left, CGA 350 brass inlet, and 36” flex stainless steel pigtail.
PDS 500 Switchover Manifold

Applications
The PDS 500 is an automatic switchover manifold system that uses the pressure differential between each side, or bank, of the manifold to determine which side is active. The PDS 500 is designed to continuously supply the downstream process with high purity gas from two individual cylinders, one primary and one secondary, or from a bank of cylinders manifolded together. The PDS 500 is available with brass or stainless steel bar stock regulators for use with high purity or corrosive gases.

PDS 500 Features
- Metal-to-metal diaphragm seals.
- Helium leak rate of 1x10^-9 scc/sec. All high purity regulators are inboard leak checked with a helium mass spectrometer.
- 2” dual scale gauges.
- Cartridge-type seat assemblies with 10 micron inboard filter.
- 2” brass bar stock body regulators with ports for high and low pressure transducers or alarm switches.
- 180 degree lever with arrow indicates which side of the manifold is the active side.
- 360° rotating captured vent for remote venting of process gases. (optional)
- Regulator bodies are mounted on rear bracket.
- Audible and visual alarms (optional).

PDS 500 Specifications
- Maximum inlet pressure - 3000 psig
- Maximum delivery flow rate - See Performance Data
- Outlet pressure ranges:
  - Right Bank as Primary: 250 psig max.
  - Right Bank as Secondary: 165 psig min.
  - Left Bank Preset: 200 psig
- Switchover Pressures
  - Right to Left Bank: 200 psig
  - Left to Right Bank: 165 psig
- Inlet & Outlet Ports - 1/4” NPT (F)
- Temperature Operating Range -40 to 140°F (-40 to 60°C)
- Outlet pressure rise - .53 psig / 100 psig inlet decay
- Flow coefficient - Cv = .083
- Weight - 8.5 lbs (3.8 kgs)
- Mounting Hole Spacing - 8.5W x 2.5W

NOT DESIGNED FOR LIQUID CYLINDERS

PDS 500 Materials of Construction

PDS 500 Brass
- Body - Chrome-plated, Brass bar stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - Brass bar stock
- Seat - PCTFE™
- Seals - Viton™
- Poppet - Brass bar stock
- Inboard Filter - 10 Micron Sintered S.S.
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene

PDS 500 Stainless Steel
- Body - 316L S.S. Bar Stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - 316L Stainless Steel
- Seat - PCTFE™
- Seals - Teflon™
- Poppet - 316L Stainless Steel
- Inboard Filter - 10 Micron Sintered S.S.
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene
Manifolds
PDS 500 SWITCHOVER MANIFOLD

PDS 500 Performance Data

Flow vs Outlet Pressure
Inlet Pressure
(Air @ 70°F)

- 2000 psig
- 200 psig

PDS 500 SWITCHOVER MANIFOLD ORDERING MATRIX

<table>
<thead>
<tr>
<th>CENTER SECTION</th>
<th>HEADER* (R)</th>
<th>HEADER* (L)</th>
<th>CGA</th>
<th>STAINLESS STEEL PIGTAIL**</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDS 500B</td>
<td>1RW</td>
<td>1LW</td>
<td>Brass</td>
<td>24&quot;, Flex</td>
</tr>
<tr>
<td>(Brass)</td>
<td>2RW</td>
<td>2LW</td>
<td>580, 320, 590, 346, 350, 540</td>
<td></td>
</tr>
<tr>
<td>PDS 500S</td>
<td>3RW</td>
<td>3LW</td>
<td>Stainless Steel</td>
<td>36&quot;, Flex</td>
</tr>
<tr>
<td>(Stainless)</td>
<td>4RW</td>
<td>4LW</td>
<td>240, 660, 330, 705</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6RW</td>
<td>6LW</td>
<td>***</td>
<td>** Standard pigtails are stainless steel lined and include a check valve.**</td>
</tr>
</tbody>
</table>

* Optional header configurations are available.

Ordering Example:

PDS-500B-40-1RW-2LW-350-36
PDS 500B manifold, 1 header right, 2 header left, CGA 350 brass inlet, and 36" flex stainless steel pigtail.
VHP 2100/2000 Switchover Manifold
High Purity Switchover Manifold

Applications
VHP 2100 manifold is a deluxe system for high purity gases. The system is highly recommended for laboratory and process plant applications where depletion of gas supply is unacceptable. The VHP 2100 is designed with an outlet regulator to maintain a constant downstream pressure. The system is available in brass or 316L stainless steel. In service and reserve indicator lights are standard on the VHP 2100 manifold. VHP 2000 manifold is the same manifold without the in service and reserve indicator lights.

VHP 2100/2000 Features
- 500 Series barstock regulators - High Purity for critical applications.
- In service and reserve indicator lights standard.*
- Metal-to-metal seals for low helium leak integrity.
- Adjustable line regulator for constant delivery.
- Line regulator enclosed in box for tamper-resistant protection.
- Easy 180° lever to select primary gas source.
- VHP 2100 Model incorporates pressure switches for remote alarm activation to indicate gas depletion.*

* VHP 2100 model only

VHP 2100/2000 Specifications
- Maximum inlet pressure - 3000 psig
- Outlet pressure ranges
  - 15 (2-15 psig)
  - 40 (2-40 psig)
  - 80 (4-80 psig)
  - 125 (5-125 psig)
- Switchover Pressures
  - Right to Left Bank: 200 psig
  - Left to Right Bank: 165 psig
- Inlet & Outlet ports - 1/4” NPT (F)
- Temperature Operating Range -40 to 140°F (-40 to 60°C)
- Outlet pressure rise - None
- Flow coefficient - Cv = .05
- Weight - 30 lbs

Materials of Construction

VHP 2100/2000S Stainless Steel
- Body - 316L S.S. Bar Stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - 316L Stainless Steel
- Seat - PCTFE™
- Seals - TeflonTM
- Poppet - 316L Stainless Steel
- Inboard Filter - 10 Micron
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene
- Enclosure - 16 Gauge Powder Coated
- Tubing - 1/4” Stainless Steel
- Fittings - Stainless Steel Tube

VHP 2100/2000S Stainless Steel
- Body - 316L S.S. Bar Stock
- Spring housing cap - Chrome-plated Brass
- Diaphragm - 316L Stainless Steel
- Nozzle - 316L Stainless Steel
- Seat - PCTFE™
- Seals - TeflonTM
- Poppet - 316L Stainless Steel
- Inboard Filter - 10 Micron
- Seat Return Spring - 316L Stainless Steel
- Pressure Adjusting Spring - Heat-treated Spring Steel
- Adjusting Knob - Polypropylene
- Enclosure - 16 Gauge Powder Coated
- Tubing - 1/4” Stainless Steel
- Fittings - Stainless Steel Tube

NOT DESIGNED FOR LIQUID CYLINDERS
VHP 2100/2000 Performance Data

Flow vs Outlet Pressure

Inlet Pressure
(Air @ 70°F)

2000 psig

VHP 2100/2000 SWITCHOVER MANIFOLD ORDERING MATRIX

<table>
<thead>
<tr>
<th>CENTER SECTION</th>
<th>DELIVERY PRESSURE</th>
<th>HEADER* (R)</th>
<th>HEADER* (L)</th>
<th>CGA</th>
<th>STAINLESS STEEL PIGTAIL**</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHP 2000B</td>
<td>15</td>
<td>1RW</td>
<td>1LW</td>
<td></td>
<td>Brass</td>
</tr>
<tr>
<td>(Brass)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>580, 320, 590, 346,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>350, 540</td>
</tr>
<tr>
<td>VHP 2000S</td>
<td>40</td>
<td>2RW</td>
<td>2LW</td>
<td></td>
<td>24&quot;, Flex</td>
</tr>
<tr>
<td>(Stainless)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>VHP 2100B</td>
<td>80</td>
<td>3RW</td>
<td>3LW</td>
<td></td>
<td>24&quot;, Flex</td>
</tr>
<tr>
<td>(Brass w/lights)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>240, 660, 330, 705</td>
</tr>
<tr>
<td>VHP 2100S</td>
<td>125</td>
<td>4RW</td>
<td>4LW</td>
<td></td>
<td>36&quot;, Flex</td>
</tr>
<tr>
<td>(Stainless w/lights)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stainless Steel</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>6RW</td>
<td>6LW</td>
<td></td>
<td>240, 660, 330, 705</td>
</tr>
</tbody>
</table>

* Optional header configurations are available.
** Standard pigtails are stainless steel lined and include a check valve.
Manifolds
BRASS HEADERS

HPRB & HPLB Brass Headers

Applications
Victor brass headers are designed for high purity non-corrosive gas applications where two or more cylinders are needed for supply critical processes. The materials of construction will not off-gas and contaminate the gas stream. The design is highly resistant to inboard diffusion of atmospheric conditions. Flexible braided stainless steel pigtails, lined with stainless steel are standard.

HPRB & HPLB Features
• Brazed construction for maximum leak protection.
• 7/8” O.D. brass pipe with bar stock tees.
• DRK packless diaphragm shut off valves.
• Flexible braided stainless steel pigtails, lined with stainless steel, with check valves.
• Rated for hydrogen and helium service.
• Easily connected to PDS and VHP.

Materials of Construction
• Pipe - Brass
• Tees - Brass Bar Stock
• Valves - Packless Diaphragm
• Pigtails
  – Stainless Steel Braided,
  – Stainless Steel Lined

HPRB & HPLB Specifications
• Maximum inlet pressure - 3000 psig
• Inlet connections are standard CGAs
• Outlet connections are standard CGAs

Typical Applications
• Gas Chromatography
• Process Analyzers
• Laser Gas Systems
• High Purity Gas Systems
• Non-Corrosive Gases
• Corrosive Gases

BRASS HEADER ORDERING MATRIX

<table>
<thead>
<tr>
<th>CENTER SECTION</th>
<th>HEADER* (R)</th>
<th>HEADER* (L)</th>
<th>CGA</th>
<th>PIGTAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPRB (Right)</td>
<td>2RW</td>
<td>2LW</td>
<td>580, 346, 590, 540, 350, 320, 4F, 4M</td>
<td>24FSCV</td>
</tr>
<tr>
<td></td>
<td>3RW</td>
<td>3LW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPLB (Left)</td>
<td>4RW</td>
<td>4LW</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6RW</td>
<td>6LW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Optional header configurations are available.
HPRS & HPLS Stainless Steel Headers

Applications
Victor stainless steel headers are designed for corrosive and non-corrosive gas applications where cylinders are needed to supply critical processes. The materials of construction will not off-gas and contaminate the gas stream. The design is highly resistant to inboard diffusion of atmospheric conditions. Victor DRK diffusion resistant shut off valves. Flexible braided stainless steel pigtails, lined with stainless steel are standard.

HPRS & HPLS Features
- Tig welded construction for maximum leak protection.
- 7/8” O.D. stainless steel pipe with forged tees.
- DRK packless diaphragm shut off valves.
- Flexible braided stainless steel pigtails, lined with stainless steel, with check valves.
- Rated for hydrogen and helium service.
- Easily connected to PDS and VHP.

Materials of Construction
- Pipe - 303 Stainless Steel
- Tees - 304 Forged Stainless Steel
- Valves - Packless Diaphragm
- Pigtails
  - Stainless Steel Braided,
  - Stainless Steel Lined

HPRS & HPLS Specifications
- Maximum inlet pressure - 3000 psig
- Inlet connections are standard CGAs
- Outlet connections are standard CGAs

Typical Applications
- Gas Chromatography
- Process Analyzers
- Laser Gas Systems
- High Purity Gas Systems
- Non-Corrosive Gases
- Corrosive Gases

STAINLESS STEEL HEADER ORDERING MATRIX

<table>
<thead>
<tr>
<th>CENTER SECTION</th>
<th>HEADER* (R)</th>
<th>HEADER* (L)</th>
<th>CGA</th>
<th>PIGTAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPRS (Right)</td>
<td>2RW</td>
<td>2LW</td>
<td>580, 540, 590,</td>
<td>24FSCV</td>
</tr>
<tr>
<td></td>
<td>3RW</td>
<td>3LW</td>
<td>660, 350, 240,</td>
<td></td>
</tr>
<tr>
<td>HPLS (Left)</td>
<td>4RW</td>
<td>4LW</td>
<td>705, 330, 4F, 4M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6RW</td>
<td>6LW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Optional header configurations are available.
Manifold Accessories

Pressure Switches

These pressure switches are designed to activate remote alarm systems on Victor manifold systems. Once your minimum pressure is set, the pressure switch will activate your remote alarm upon depletion. These are explosion proof models in 15 amp 125 / 250 / 480 VAC resistive design. Switches can be wired “normally opened” or “normally closed.”

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>PRESSURE RANGE (PSIG)</th>
<th>MAX INLET (PSIG)</th>
<th>DIAPHRAGM MATERIALS</th>
<th>CLASSIFICATION</th>
<th>SWITCH OUTPUT</th>
<th>ELECTRICAL CONNECTION</th>
<th>PRESSURE CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1118-0069</td>
<td>2-50</td>
<td>500</td>
<td>316 SS</td>
<td>Explosion proof</td>
<td>SPDT</td>
<td>3/4” NPT(F)</td>
<td>1/4” NPT(F)</td>
</tr>
<tr>
<td>1118-0070</td>
<td>125-3000</td>
<td>10,000</td>
<td>303 SS</td>
<td>Cleaned for oxygen</td>
<td>SPDT</td>
<td>1/2” NPT(F)</td>
<td>1/4” NPT(F)</td>
</tr>
<tr>
<td>1118-0071</td>
<td>30-575*</td>
<td>2500</td>
<td>Viton</td>
<td>Cleaned for oxygen</td>
<td>SPDT</td>
<td>1/2” NPT(F)</td>
<td>1/4” NPT(M)</td>
</tr>
<tr>
<td>1118-0072</td>
<td>0-300</td>
<td>350</td>
<td>316SS</td>
<td>Cleaned for oxygen</td>
<td>SPDT</td>
<td>7/8”</td>
<td>1/4” NPT(F)</td>
</tr>
<tr>
<td>1118-0074</td>
<td>50-1000</td>
<td>6000</td>
<td>316 SS</td>
<td>NEMA 4,7,9; IPGG</td>
<td>SPDT</td>
<td>3/4” NPT(F)</td>
<td>1/2” NPT(F)</td>
</tr>
<tr>
<td>1118-0075</td>
<td>250-3500</td>
<td>6000</td>
<td>316 SS</td>
<td>NEMA 4,7,9; IPGG</td>
<td>SPDT</td>
<td>3/4” NPT(F)</td>
<td>1/2” NPT(F)</td>
</tr>
</tbody>
</table>

* Factory set at 183 PSIG

Remote Alarms

Victor Alarm Systems are designed to provide a warning of service interruption when used on manifolds. Used in conjunction with a pressure switch, the Victor Alarm System will provide both visual or audio/visual warning of cylinder depletion. The Victor Alarm System is for use with one or two gas manifold systems. Once activated, a visual only alarm will change from a “green” indicator for normal operation to a “red” indicator for depleted cylinders. Once the system is repressurized, the indicator lights will return to the normal “green” position. For systems with the audio/visual feature and audible buzzer (alarm) is rated at 90 DB @ 2ft. Alarm will ring and signal that the primary bank of cylinders is depleted. A reset button conveniently located on the front of the unit will deactivate the buzzer. The “red” light will remain on until the exhausted bank has been replaced. Ideal for Industry, Medical and Specialty Gas use. Easy to wire and helps prevent downtime.

Design & Construction

- Transformer (125 VAC X 15 VDC) w/ 6 foot cord included
- Panels may be flush or back mounted
- 125 VAC/15 VDC
- Durable plastic case
- High intensity LED’s

Dimensions

- Visual: 5”H X 3”L X 2”D
- Audio/Visual: 6”H X 3”W X 2”D
- Two Gas: 6”H X 6”W X 2”D

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>MODEL NO.</th>
<th>TYPE</th>
<th># OF GASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0265-0030</td>
<td>MA24-1V</td>
<td>VISUAL</td>
<td>1</td>
</tr>
<tr>
<td>0265-0031</td>
<td>MA24-1AV</td>
<td>AUDIO/VISUAL</td>
<td>1</td>
</tr>
<tr>
<td>0265-0032</td>
<td>MA24-2AV</td>
<td>AUDIO/VISUAL</td>
<td>2</td>
</tr>
<tr>
<td>0265-0033</td>
<td>MA115-1V</td>
<td>VISUAL</td>
<td>1</td>
</tr>
<tr>
<td>0265-0034</td>
<td>MA115-1AV</td>
<td>AUDIO/VISUAL</td>
<td>1</td>
</tr>
<tr>
<td>0265-0035</td>
<td>MA115-2AV</td>
<td>AUDIO/VISUAL</td>
<td>2</td>
</tr>
</tbody>
</table>
Ball Valves

The Victor Bypass Valve is designed to allow shut-down of primary gas supply without interruption of gas service. These 1/2” and 3/4” bypass assemblies permit the user to shut off the primary supply and access a back-up or temporary gas source. This can be used to perform routine manifold maintenance and repair.

**Design & Construction**
- Forged brass body
- Teflon seat
- Chrome plated ball
- Teflon seals
- Steel handle
- 400 psig rating
- Clean for Oxygen service

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0660-0032</td>
<td>1/2” Ball Valve</td>
</tr>
<tr>
<td>0660-0042</td>
<td>3/4” Ball Valve</td>
</tr>
</tbody>
</table>

---

Hydraulic Flash Arrestors

Required on manifolds with two or more Fuel Gas Cylinders. These units provide flashback protection at the source of the gas. These systems are designed to provide protection via the use of ethylene-glycol in the unit. Ethylene Glycol is provided with all units. Included in each unit is a pressure relief valve which provides additional protection to the system in the event of over-pressurization. Maximum flow is 1000 SCFH for the FB-2A and 300 SCFH for the FB-1A. Hydraulic Arrestors are FM approved.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>MODEL NO.</th>
<th>GAS SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1116-0033</td>
<td>Pigtail-Dry Type</td>
<td>Acetylene</td>
</tr>
<tr>
<td>1116-0038</td>
<td>FB-2A</td>
<td>Acetylene</td>
</tr>
<tr>
<td>1116-0039</td>
<td>FB-2LPG</td>
<td>LPG</td>
</tr>
<tr>
<td>1116-0044</td>
<td>Stand (only)(300)</td>
<td>All Gases</td>
</tr>
<tr>
<td>1116-0045</td>
<td>FB-1A</td>
<td>Acetylene</td>
</tr>
<tr>
<td>1116-0046</td>
<td>FB-1LPG</td>
<td>LPG</td>
</tr>
</tbody>
</table>
Wall Brackets, Floor Stands, & Manifolds Stands

Every Victor system comes equipped with mounting brackets so the system can be permanently mounted to a wall. In the event that wall mounting is not feasible, all Victor systems can be Floor Mounted via our Floor Stand. This stand fits all Victor Manifolds and one is recommended for every 4 cylinders. Just attach the mounting brackets included with the floor stand and you are ready to go. Chaining or bracketing cylinders is required. Therefore, Victor provides the following wall mount brackets or stands for use with your manifold system. Available in single or double cylinder designs, chain included.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>MOUNTS</th>
<th>NO. OF CYLINDERS</th>
<th>TYPES OF GAS</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1421-0045</td>
<td>Wall Mount</td>
<td>Single Cylinder</td>
<td>Oxygen &amp; Inerts</td>
<td>9” wide</td>
</tr>
<tr>
<td>1421-0047</td>
<td>Wall Mount</td>
<td>Two Cylinder</td>
<td>Oxygen &amp; Inerts</td>
<td>9” wide</td>
</tr>
<tr>
<td>1421-0048</td>
<td>Wall Mount</td>
<td>Two Cylinder</td>
<td>Acetylene &amp; Fuel Gas</td>
<td>13” wide</td>
</tr>
<tr>
<td>1106-0100</td>
<td>Stand</td>
<td>Manifold Stand</td>
<td>Oxygen, Inerts, Acetylene &amp; Fuel Gas</td>
<td>60-1/2” Tall</td>
</tr>
<tr>
<td>1106-0016</td>
<td>Wall Mount</td>
<td>Manifold Brackets (1)</td>
<td></td>
<td>--</td>
</tr>
<tr>
<td>1106-0102</td>
<td>Stand</td>
<td>Manifold Stand - VM Series</td>
<td>Oxygen, Inerts, Acetylene &amp; Fuel Gas</td>
<td>80-1/2” Tall</td>
</tr>
</tbody>
</table>

Gas Service Labels

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1415-0356</td>
<td>Oxygen</td>
</tr>
<tr>
<td>1415-0373</td>
<td>Acetylene</td>
</tr>
</tbody>
</table>

Pigtails

Replacement pigtails for Victor manifolds or applications requiring pigtails. Rigid copper and stainless steel braided flexible models available. Dry Flash Arrestor included.

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>CGA</th>
<th>GAS SERVICE</th>
<th>LENGTH</th>
<th>TYPE</th>
<th>CHECK VALVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1123-0020</td>
<td>320</td>
<td>Carbon Dioxide</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0078</td>
<td>300</td>
<td>Acetylene</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes + FA</td>
</tr>
<tr>
<td>1123-0594</td>
<td>326</td>
<td>Nitrous Oxide</td>
<td>24”</td>
<td>Rigid</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0596</td>
<td>346</td>
<td>Breathing Air</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0597</td>
<td>350</td>
<td>Hydrogen Methane</td>
<td>24”</td>
<td>Rigid</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0009</td>
<td>510</td>
<td>Acetylene</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes + FA</td>
</tr>
<tr>
<td>1123-0008</td>
<td>510</td>
<td>Acetylene, LP Gas</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0503</td>
<td>540</td>
<td>Oxygen</td>
<td>24”</td>
<td>Rigid</td>
<td>No</td>
</tr>
<tr>
<td>1123-0504</td>
<td>540</td>
<td>Oxygen</td>
<td>24”</td>
<td>Rigid</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0505</td>
<td>540</td>
<td>Oxygen</td>
<td>36”</td>
<td>Rigid</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0606</td>
<td>540</td>
<td>Oxygen</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0609</td>
<td>540</td>
<td>Oxygen</td>
<td>36”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0600</td>
<td>540</td>
<td>Oxygen</td>
<td>48”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0599</td>
<td>580</td>
<td>Inert Gas</td>
<td>24”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0506</td>
<td>580</td>
<td>Inert Gas</td>
<td>48”</td>
<td>Flexible</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0507</td>
<td>580</td>
<td>Helium</td>
<td>24”</td>
<td>Rigid</td>
<td>Yes</td>
</tr>
<tr>
<td>1123-0014</td>
<td>590</td>
<td>Air</td>
<td>24”</td>
<td>Flexible</td>
<td>No</td>
</tr>
</tbody>
</table>

FA = Dry Flash Arrestor (Included)
Valves

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>DESCRIPTION</th>
<th>INLET</th>
<th>OUTLET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1113-0003</td>
<td>Globe Valve</td>
<td>3/4&quot; NPT(F)</td>
<td>3/4&quot; NPT(F)</td>
</tr>
<tr>
<td>1114-0000</td>
<td>Module Valve - Oxygen</td>
<td>CGA 540</td>
<td>1/2&quot; NPT(M)</td>
</tr>
<tr>
<td>1114-0001</td>
<td>Module Valve - Acetylene / LP Gas</td>
<td>CGA 510</td>
<td>1/2&quot; NPT(M)</td>
</tr>
<tr>
<td>1114-0027</td>
<td>Module Valve - Inert Gas</td>
<td>CGA 580</td>
<td>1/2&quot; NPT(M)</td>
</tr>
<tr>
<td>1114-0010</td>
<td>Station Valve - Oxygen</td>
<td>1/2&quot; NPT(M)</td>
<td>7/8&quot;-14 RH(M)</td>
</tr>
<tr>
<td>1114-0011</td>
<td>Station Valve - Fuel</td>
<td>1/2&quot; NPT(M)</td>
<td>7/8&quot;-14 LH(M)</td>
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<tr>
<td>1114-0033</td>
<td>Station Valve - Inert</td>
<td>1/2&quot; NPT(M)</td>
<td>7/8&quot;-14 RH(F)</td>
</tr>
<tr>
<td>1115-0517</td>
<td>Master Valve</td>
<td>1&quot;-11-1/2&quot; NPS RH(M)</td>
<td>1&quot;-11-1/2&quot; NPS RH(M)</td>
</tr>
<tr>
<td>1115-0515</td>
<td>Master Valve</td>
<td>1/2 NPT(F)</td>
<td>1/2 NPT(F)</td>
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<tr>
<td>1190-0000</td>
<td>Master Valve - Repair Kit</td>
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Union Fittings & Adaptors

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<thead>
<tr>
<th>PART NO.</th>
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<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>0996-0018</td>
<td>Adaptor</td>
<td>3/4&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS RH</td>
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<tr>
<td>0996-0014</td>
<td>Adaptor</td>
<td>1/2&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS RH</td>
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<tr>
<td>0996-0020</td>
<td>Adaptor</td>
<td>1/4&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS RH</td>
</tr>
<tr>
<td>0997-0006</td>
<td>Adaptor</td>
<td>3/4&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS LH</td>
</tr>
<tr>
<td>0997-0007</td>
<td>Adaptor</td>
<td>1/2&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS LH</td>
</tr>
<tr>
<td>0997-0020</td>
<td>Adaptor</td>
<td>1/4&quot; NPT(M) X 1&quot;-11-1/2&quot; NPS LH</td>
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<tr>
<td>0996-0004</td>
<td>Nut</td>
<td>1&quot;-11-1/2&quot; NPS RH (M) 996</td>
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<tr>
<td>0997-0004</td>
<td>Nut</td>
<td>1&quot;-11-1/2&quot; NPS LH (M) 997</td>
</tr>
<tr>
<td>1108-0592</td>
<td>End Plug</td>
<td>w/ 1/4&quot; NPT(F) Port for Pressure Switch</td>
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<tr>
<td>0996-0005</td>
<td>Swivel</td>
<td>1/2&quot; NPT(M) X 996/997</td>
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<tr>
<td>0996-0022</td>
<td>Swivel</td>
<td>1/4&quot; NPT(M) X 996</td>
</tr>
<tr>
<td>0996-0031</td>
<td>Swivel</td>
<td>1/4&quot; NPT(M) X 997 (*special; 125 orifice for Hydrogen)</td>
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## Station Regulators

**Not for Cylinder Use**

<table>
<thead>
<tr>
<th>REGULATOR</th>
<th>PART NO.</th>
<th>MODEL #</th>
<th>MAX. INLET PSIG</th>
<th>DELIVERY PSIG</th>
<th>GAS SERVICE</th>
<th>CONNECTIONS</th>
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<tbody>
<tr>
<td>EST4 Side Entry Bottom Outlet</td>
<td>0781-5194</td>
<td>EST4-15-025</td>
<td>200</td>
<td>2-15</td>
<td>Acetylene</td>
<td>7/8&quot;-14 LH (F)</td>
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<tr>
<td></td>
<td>0781-5195</td>
<td>EST4-80-025</td>
<td>200</td>
<td>4-80</td>
<td>Hydrogen, Methane, Natural Gas, LP Gas</td>
<td>7/8&quot;-14 LH (F)</td>
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<tr>
<td></td>
<td>0781-5196</td>
<td>EST4-125-025</td>
<td>200</td>
<td>5-125</td>
<td>Hydrogen, Methane, Natural Gas, LP Gas</td>
<td>7/8&quot;-14 LH (F)</td>
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<tr>
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<td>0781-5197</td>
<td>EST4-40-024</td>
<td>200</td>
<td>2-40</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
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<tr>
<td></td>
<td>0781-5198</td>
<td>EST4-80-024</td>
<td>200</td>
<td>4-80</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
</tr>
<tr>
<td></td>
<td>0781-5199</td>
<td>EST4-80-024</td>
<td>200</td>
<td>5-125</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
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<tr>
<td></td>
<td>0781-5200</td>
<td>EST4-125-034</td>
<td>200</td>
<td>5-125</td>
<td>Inert (Nitrogen, Argon, Helium)</td>
<td>7/8&quot;-14 RH (M)</td>
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<tr>
<td>EST4 Rear Entry Bottom Outlet</td>
<td>0781-5201</td>
<td>EST4-15-025R</td>
<td>200</td>
<td>2-15</td>
<td>Acetylene</td>
<td>7/8&quot;-14 LH (F)</td>
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<td>0781-5202</td>
<td>EST4-80-025R</td>
<td>200</td>
<td>4-80</td>
<td>Hydrogen, Methane, Natural Gas, LP Gas</td>
<td>7/8&quot;-14 LH (F)</td>
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<tr>
<td></td>
<td>0781-5203</td>
<td>EST4-125-025R</td>
<td>200</td>
<td>5-125</td>
<td>Hydrogen, Methane, Natural Gas, LP Gas</td>
<td>7/8&quot;-14 LH (F)</td>
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<td></td>
<td>0781-5204</td>
<td>EST4-40-024R</td>
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<td>2-40</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
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<td>0781-5205</td>
<td>EST4-80-024R</td>
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<td>4-80</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
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<tr>
<td></td>
<td>0781-5206</td>
<td>EST4-80-024R</td>
<td>200</td>
<td>5-125</td>
<td>Oxygen</td>
<td>7/8&quot;-14 RH (F)</td>
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<tr>
<td></td>
<td>0781-5207</td>
<td>EST4-125-034R</td>
<td>200</td>
<td>5-125</td>
<td>Inert (Nitrogen, Argon, Helium)</td>
<td>7/8&quot;-14 RH (M)</td>
</tr>
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</table>

See page 10 & 11 for station drop data

### CGA Conversions

- CGA 024 = 7/8” - 14 RH(F) Oxygen
- CGA 025 = 7/8” - 14 LH(F) Acetylene & Fuel Gases
- CGA 034 = 7/8” - 14 RH(M) Inert Gases
  - B Size = 9/16” - 18 RH Oxygen
  - B Size = 9/16” - 18 LH Acetylene & Fuel Gases
  - B Size = 5/8” - 18 RH Inert Gas
### Line & Flowmeter Regulators

**Not for Cylinder Use**

<table>
<thead>
<tr>
<th>REGULATOR</th>
<th>PART NO.</th>
<th>MODEL #</th>
<th>MAX. INLET PSIG</th>
<th>DELIVERY PSIG</th>
<th>GAS SERVICE</th>
<th>CONNECTIONS INLET</th>
<th>CONNECTIONS OUTLET</th>
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<tbody>
<tr>
<td>ESL4 Side Entry</td>
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<tr>
<td>0781-5190</td>
<td>ESL4-125-250</td>
<td>3000</td>
<td>5-125</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>1/4” NPT (F)</td>
<td>1/4” NPT (F)</td>
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<tr>
<td>0781-5214</td>
<td>ESL4-125-250X</td>
<td>3000</td>
<td>5-125</td>
<td>Oxygen</td>
<td>1/4” NPT (F)</td>
<td>1/4” NPT (F)</td>
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<tr>
<td>0781-5210</td>
<td>ESL4-80-250F</td>
<td>3000</td>
<td>4-80</td>
<td>Hydrogen, Methane Natural Gas, LP Gas</td>
<td>1/4” NPT (F)</td>
<td>1/4” NPT (F)</td>
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<tr>
<td>0781-5211</td>
<td>ESL4-125-250F</td>
<td>3000</td>
<td>5-125</td>
<td>Hydrogen, Methane Natural Gas, LP Gas</td>
<td>1/4” NPT (F)</td>
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<tr>
<td>0781-5208</td>
<td>ESL4-15-250A</td>
<td>3000</td>
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<td>Acetylene</td>
<td>1/4” NPT (F)</td>
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<td>Heavy Flow Line Regulator</td>
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<tr>
<td>0780-1229</td>
<td>L700C-500</td>
<td>350</td>
<td>4-80</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>1/2” NPT (F)</td>
<td>1/2” NPT (F)</td>
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</tr>
<tr>
<td>0780-1207</td>
<td>L700D-500</td>
<td>350</td>
<td>5-125</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>1/2” NPT (F)</td>
<td>1/2” NPT (F)</td>
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<tr>
<td>0780-1236</td>
<td>Panel Mount - Same as L700D-500</td>
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<td>2-15</td>
<td>Air, Inert Gas, Carbon Dioxide, Nitorus Oxide</td>
<td>1/2” NPT (F)</td>
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<tr>
<td>0780-1231</td>
<td>L700E-500</td>
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<td>10-200</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>1/2” NPT (F)</td>
<td>1/2” NPT (F)</td>
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<tr>
<td>0780-1199</td>
<td>L711D-500</td>
<td>350</td>
<td>5-125</td>
<td>Hydrogen &amp; LP Gas</td>
<td>1/2” NPT (F)</td>
<td>1/2” NPT (F)</td>
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<tr>
<td>0780-1233</td>
<td>L710A-500</td>
<td>350</td>
<td>2-15</td>
<td>Acetylene</td>
<td>1/2” NPT (F)</td>
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<tr>
<td>0780-1222</td>
<td>L700C-750</td>
<td>350</td>
<td>4-80</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>3/4” NPT (F)</td>
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<tr>
<td>0780-1220</td>
<td>L700D-750</td>
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<td>5-125</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>3/4” NPT (F)</td>
<td>3/4” NPT (F)</td>
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<tr>
<td>0780-1222</td>
<td>L700E-750</td>
<td>350</td>
<td>10-200</td>
<td>Air, Inert Gas, CO₂, Nitorus Oxide</td>
<td>3/4” NPT (F)</td>
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<tr>
<td>0781-2808</td>
<td>HRF 1425-034</td>
<td>200</td>
<td>50 CFH Argon</td>
<td>Argon, CO₂, Helium, Argon/CO₂ Mix</td>
<td>CGA 034</td>
<td>5/8”-18 RH(F)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>38 CFH CO₂</td>
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<td></td>
<td>150 CFH Helium</td>
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Flowmeters

Not for Cylinder Use

Victor Flowmeters are precision, gas-flow measuring instruments designed for use in distribution systems, laboratories, MIG/TIG welding and a variety of other applications. Flowtubes and outer covers are made of impact resistant Lexan for maximum durability and service life.

### UNITS WITH SINGLE GAS CALIBRATION

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>MODEL #</th>
<th>FLOW RANGE</th>
<th>INLET FITTING</th>
<th>OUTLET FITTING</th>
<th>FLOWTUBE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-0253</td>
<td>FM133</td>
<td>5-40 SCFH Hydrogen</td>
<td>9/16&quot;-18 LH F</td>
<td>9/16&quot;-18 LH M</td>
<td>1015-0070</td>
</tr>
<tr>
<td>1000-0271</td>
<td>FM153</td>
<td>5-40 SCFH Hydrogen</td>
<td>1/4” NPT M</td>
<td>9/16” LH M</td>
<td>1015-0070</td>
</tr>
<tr>
<td>1000-0254</td>
<td>FM132</td>
<td>15-75 SCFH Hydrogen</td>
<td>9/16&quot;-18 LH F</td>
<td>9/16&quot;-18 LH M</td>
<td>1015-0071</td>
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<tr>
<td>1000-0270</td>
<td>FM152</td>
<td>15-75 SCFH Hydrogen</td>
<td>1/4” NPT M</td>
<td>9/16&quot;-18 LH M</td>
<td>1015-0071</td>
</tr>
<tr>
<td>1000-0264</td>
<td>FM200</td>
<td>30-100 SCFH CO₂</td>
<td>1/4” NPT M</td>
<td>5/8”-18 RH F</td>
<td>1015-0066</td>
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### UNITS WITH TWO GAS CALIBRATION

<table>
<thead>
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<th>PART NO.</th>
<th>MODEL #</th>
<th>FLOW RANGE</th>
<th>INLET FITTING</th>
<th>OUTLET FITTING</th>
<th>FLOWTUBE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-0251</td>
<td>FM130</td>
<td>10-60 SCFH Air &amp; 10-60 SCFH Nitrogen</td>
<td>9/16&quot;-18 RH F</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0060</td>
</tr>
<tr>
<td>1000-0268</td>
<td>FM150</td>
<td>10-60 SCFH Air &amp; 0-60 SCFH Nitrogen</td>
<td>1/4” NPT M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0060</td>
</tr>
<tr>
<td>1000-0255</td>
<td>FM135</td>
<td>4-18 SCFH Argon &amp; 10-50 SCFH Helium</td>
<td>9/16&quot;-18 RH F</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0063</td>
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<tr>
<td>1000-0256</td>
<td>FM145</td>
<td>4-18 SCFH Argon &amp; 0-50 SCFH Helium</td>
<td>5/8&quot;-18 RH F</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0063</td>
</tr>
<tr>
<td>1000-0257</td>
<td>FM155</td>
<td>4-18 SCFH Argon &amp; 10-50 SCFH Helium</td>
<td>1/4” NPT M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0063</td>
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<tr>
<td>1000-0261</td>
<td>FM137</td>
<td>15-65 SCFH Argon &amp; 40-200 SCFH Helium</td>
<td>9/16&quot;-18 RH F</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0064</td>
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<tr>
<td>1000-0262</td>
<td>FM147</td>
<td>15-65 SCFH Argon &amp; 40-200 SCFH Helium</td>
<td>5/8&quot;-18 RH M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0064</td>
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<tr>
<td>1000-0263</td>
<td>FM157</td>
<td>15-65 SCFH Argon &amp; 40-200 SCFH Helium</td>
<td>1/4” NPT M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0064</td>
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### UNITS WITH THREE GAS CALIBRATION

<table>
<thead>
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<th>PART NO.</th>
<th>MODEL #</th>
<th>FLOW RANGE</th>
<th>INLET FITTING</th>
<th>OUTLET FITTING</th>
<th>FLOWTUBE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-0258</td>
<td>FM370</td>
<td>5-40 SCFH CO₂</td>
<td>9/16&quot;-18 RH F</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0057</td>
</tr>
<tr>
<td>1000-0259</td>
<td>FM371</td>
<td>5-50 SCFH Argon &amp; 20-100 SCFH Helium</td>
<td>5/8&quot;-18 RH M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0057</td>
</tr>
<tr>
<td>1000-0182</td>
<td>FM372</td>
<td>1/4” NPT M</td>
<td>5/8&quot;-18 RH F</td>
<td>1015-0057</td>
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</tr>
</tbody>
</table>

**NOTE:** All Victor flowmeters are back pressure compensated to ensure accurate readings at all times, even if line restrictions are present. All flowmeters are calibrated to operate at constant 25 PSIG inlet pressure except the FM 200 which is calibrated to operate at constant 80 PSIG inlet pressure.
### Manifold Regulator Chart

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART NO.</th>
<th>MODEL NO.</th>
<th>DELIVERY (PSIG)</th>
<th>GAS SERVICE</th>
<th>CONNECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 450 Series</td>
<td>0781-0617</td>
<td>SR460MA-997</td>
<td>A 2-15</td>
<td>Acetylene</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1&quot;-11 1/2&quot; NPS(F)</td>
</tr>
<tr>
<td>Heavy Duty, Single Stage</td>
<td>0781-0618</td>
<td>SR461MB-997</td>
<td>B 2-40</td>
<td>LP Gas</td>
<td></td>
</tr>
<tr>
<td>Used in: DUAL, SPLX, SSIN, SAM, LIQ (HP)</td>
<td>0781-0611</td>
<td>SR450MD-996</td>
<td>D 5-125</td>
<td>O₂ &amp; Inerts</td>
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</tr>
<tr>
<td></td>
<td>0781-0613</td>
<td>SR452MD-997</td>
<td>D 5-125</td>
<td>Hydrogen</td>
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<tr>
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<td>0781-0615</td>
<td>SR453MD-996</td>
<td>D 5-125</td>
<td>N₂O, CO₂</td>
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<td>SR461MD-997</td>
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<td>LP Gas</td>
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<td>SR 700 Series</td>
<td>0780-0806</td>
<td>SR710MA-997</td>
<td>A 2-15</td>
<td>Acetylene</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1&quot;-11 1/2&quot; NPS(F)</td>
</tr>
<tr>
<td>High Flow, Single Stage</td>
<td>0780-0807</td>
<td>SR711MB-997</td>
<td>B 2-40</td>
<td>LP Gas</td>
<td></td>
</tr>
<tr>
<td>Used in: SPLX, SSIN</td>
<td>0780-0797</td>
<td>SR700MD-996</td>
<td>D 5-125</td>
<td>O₂ &amp; Inerts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-0798</td>
<td>SR700ME-996</td>
<td>E 10-200</td>
<td>O₂ &amp; Inerts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-0803</td>
<td>SR702ME-997</td>
<td>E 10-200</td>
<td>Hydrogen</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-0805</td>
<td>SR703ME-996</td>
<td>E 10-200</td>
<td>N₂O, CO₂</td>
<td></td>
</tr>
<tr>
<td>SR 4 Series</td>
<td>0781-1457</td>
<td>SR4MF-996</td>
<td>F 50-750</td>
<td>All Except</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1&quot;-11 1/2&quot; NPS(F)</td>
</tr>
<tr>
<td>High Delivery, Single Stage</td>
<td>0781-1437</td>
<td>SR4MG-996</td>
<td>G 100-1500</td>
<td>Hydrogen</td>
<td></td>
</tr>
<tr>
<td>Used in: SPLX</td>
<td>0781-1458</td>
<td>SR4MJ-996</td>
<td>J 200-3000</td>
<td>Methane</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0781-1456</td>
<td>SR4MJ-997</td>
<td>J 200-3000</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0781-1454</td>
<td>SR4TJ-996</td>
<td>J 200-3000</td>
<td>O₂ Transfill</td>
<td></td>
</tr>
<tr>
<td>BSL-700 Series</td>
<td>0780-1200</td>
<td>BSL700-500</td>
<td>E 10-200</td>
<td>CO₂ &amp; Inerts</td>
<td>Inlet 1/2&quot; NPT(F) Outlet 1/2&quot; NPT(F)</td>
</tr>
<tr>
<td>Liquid Cylinder Regulator</td>
<td>0780-1198</td>
<td>LC700-996</td>
<td>E 10-200</td>
<td>O₂ &amp; Inerts</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1/2&quot; NPT(F)</td>
</tr>
<tr>
<td>Used in: LIQ</td>
<td>0780-1396</td>
<td>VTS452MD-997</td>
<td>D 5-125</td>
<td>Hydrogen</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 11 1/2&quot; NPS(F)</td>
</tr>
<tr>
<td>VTS 450 Series</td>
<td>0780-1392</td>
<td>VTS452ME-997</td>
<td>E10-200</td>
<td>Hydrogen</td>
<td></td>
</tr>
<tr>
<td>Two Stage</td>
<td>0780-1006</td>
<td>VTS710MA-997</td>
<td>A 2-15</td>
<td>Acetylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-1007</td>
<td>VTS711MB-977</td>
<td>B 2-40</td>
<td>LP Gas</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1/2&quot; NPT(F)</td>
</tr>
<tr>
<td>VTS 700 Series</td>
<td>0780-0997</td>
<td>VTS700MD-996</td>
<td>D 5-125</td>
<td>O₂ &amp; Inerts</td>
<td>Inlet 1&quot;-11 1/2&quot; NPS(M) Outlet 1/2&quot; NPT(F)</td>
</tr>
<tr>
<td>Two Stage, High Flow up to 7000 SCFH</td>
<td>0780-1004</td>
<td>VTS703MD-996</td>
<td>D 5-125</td>
<td>CO₂</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-0998</td>
<td>VTS700ME-996</td>
<td>E10-200</td>
<td>O₂ &amp; Inerts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0780-1005</td>
<td>VTS703ME-996</td>
<td>E 10-200</td>
<td>CO₂</td>
<td></td>
</tr>
</tbody>
</table>

Special regulators can be requested for your application should the standard be inappropriate for your application.

Please contact Customer Service at 1-800-569-0547 for more information.
Manifold Regulator Flow Data

The following information is provided to show manifold delivery capability (SCFH) with MINIMUM (200 PSIG) cylinder pressure. Tests were conducted using air at 70 degrees Fahrenheit and with no flow restrictions.

**Manifold Regulator Flow Data**

**MA Models**
A Delivery Range

![Graph showing MA Models delivery range]

**MB Models**
B Delivery Range

![Graph showing MB Models delivery range]

**MD Models**
D Delivery Range

![Graph showing MD Models delivery range]

**ME Models**
E Delivery Range

![Graph showing ME Models delivery range]

**Victor Single Stage Regulators**

are recommended for applications where slight delivery pressure changes due to decreasing cylinder pressures would not affect flow/pressure requirements.
Regulator Performance Data

How to read the Flow Data Charts on the following pages:

The regulator flow data is provided to assist in determining the proper regulator for the required application. The data is given for reference purpose only. If additional information is necessary, contact your local distributor or call Customer Service (U.S.) 1-800-569-0547.

The regulator flow data was established by connecting a valve to the regulator outlet. The valve was opened and the flow rates measured. The amount of pressure drop is shown on the curves (p. 22) as the flow increases.

With an inlet pressure of 200 PSIG and an initial setting of 125 PSIG, the regulator will flow 1000 SCFH with a pressure drop to 98 PSIG. At 2000 SCFH flow, the pressure will drop to 78 PSIG. If a delivery pressure other than the ones shown on the flow charts is required, use an average curve rate between the upper and lower pressures shown.

Cylinder Pressure Rise

Single Stage regulators have a rise (increase) in delivery pressure as the cylinder pressure decreases. Listed below is the amount of pressure rise (increase) per 100 PSIG decrease in cylinder (inlet) pressure.

SR 4 Series - G Range 2.4
SR 4 Series - J Range 4.8
SR 450 Series - 0.6
SR 700 Series - 1.2

The change in delivery pressure of a Two Stage regulator from full to empty cylinder (inlet) pressure is negligible.

For Conversion to Other Gases

All flow capacity information is given in SCFH of free air (1.00). For conversion to other gases multiply the air flow by the correction factor listed below.

- Acetylene ........................................... 1.05
- Argon .................................................. 0.85
- Carbon Dioxide .................................... 0.81
- Helium ............................................... 2.69
- Hydrogen ........................................... 3.79
- Mapp® .................................................. 0.82
- Natural Gas ......................................... 1.28
- Nitrogen ............................................ 1.02
- Oxygen ............................................... 0.95
- Propane ............................................. 0.80

For Manifold Questions Call

1-800-569-0547

Manifold Regulators

PERFORMANCE DATA
How Many Cylinders Do I Need?

High Pressure

A typical large high pressure cylinder is 220 CF and actually contains 250 CF of gas due to a 10% overfill allowance. Using the formula below, the required number of cylinders for your application can be determined.

Example of Argon Mix Manifold System at a MIG Welding Shop:

(250 CF/Cylinder) less 20 CF left in Cylinder due to auto changeover leaves 230 CF/Cylinder. 250 CF if it’s a manual changeover system.

(28 CFH/Station) x 6.5 Hours/Day x 50% Duty Cycle = 91.0 CF/Day/Station

91.0 CF/Day/Station x 8 Welding Stations = 728 CF/Day

728 CF/Day

230 CF/Cylinder

= 3.16 Cylinders/Day

12 Cylinders/Header

3.16 Cylinder Day

= 3.8 Days/Header X 2 of Headers = Max 7.6 Days between deliveries

Minimum Gas supply of 1 day required. Thus, in order to get gas delivery once a week (ie. every Wednesday) we need 24 cylinders delivered every seven days in order to have continuous, uninterrupted service with an automatic changeover manifold. Formula on page 4 under “Determining the Right Manifold for your Application.”

How To Select The Correct No. of Acetylene Cylinders

To determine the number of Acetylene cylinders required for proper manifold operation, follow the guidelines below:

- The number of cylinders in the manifold is determined by the volume of gas in cubic feet per hour required. Determine the cubic feet per hour required for the largest tip used and multiply that by the number of torches, or stations, in operation at the same time. This will give you the total volume of each gas required per hour.
- The manifold should have enough cylinders to provide a minimum of one day's requirements.
- Maximum Acetylene withdrawal for continuous operation is 1/7* of each cylinder per hour. This chart is at a continuous withdrawal rate @ 70°F and 250 PSIG.

<table>
<thead>
<tr>
<th>CFH ACETYLENE WITHDRAWAL PER HOUR REQUIRED</th>
<th># OF 300 CF CYLINDERS PER HEADER CONTINUOUS SERVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>2</td>
</tr>
<tr>
<td>120</td>
<td>3</td>
</tr>
<tr>
<td>160</td>
<td>4</td>
</tr>
<tr>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td>240</td>
<td>6</td>
</tr>
<tr>
<td>280</td>
<td>7</td>
</tr>
<tr>
<td>320</td>
<td>8</td>
</tr>
<tr>
<td>360</td>
<td>9</td>
</tr>
<tr>
<td>400</td>
<td>10</td>
</tr>
<tr>
<td>500</td>
<td>12</td>
</tr>
<tr>
<td>600</td>
<td>14</td>
</tr>
<tr>
<td>700</td>
<td>17</td>
</tr>
<tr>
<td>800</td>
<td>20</td>
</tr>
</tbody>
</table>

* CGA Pamphlet G-1

@ 70°F and 250 PSIG
Manifold System Layouts

Whether it's a standard or special configuration, Victor has the system for you. All we need to know is the requirements (ie. sizes, shapes, etc.) and we can build it for you. It is that simple. The following are examples of the most common configuration requirements.

### STANDARD

[Diagram of Standard Layout]

Wall Mount or Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

### “L” SHAPED

[Diagram of “L” Shaped Layout]

Wall Mount or Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

### “U” Shaped

[Diagram of “U” Shaped Layout]

Wall Mount or Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

### Crossover-Stand Mount

[Diagram of Crossover-Stand Mount]

Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

### Staggered or Short

[Diagram of Staggered or Short Layout]

Wall Mount or Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

### Long

[Diagram of Long Layout]

Wall Mount or Floor Stand Option
- 10” Centers O2 & Inerts
- 13” Centers for Fuel Gases

**NOTE:** Special configuration manifolds are built to your specification. Victor will not build a unit unless details of required dimensions are provided by the customer. Should you require assistance please contact Victor Customer Service 1-800-569-0547.
The Victor Equipment Company would like to make the following recommendations when piping your shop. This obviously is a crucial element to the manifold system; listed below are some guidelines for choosing the right size pipe. Consult your contractor, plus your local fire and building codes when making any final decision. The following charts provide a guideline for selecting the correct pipe size for your system. Pressure drop information is on the next page.

### Oxygen Distributing Systems

#### Pipe Sizes

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZES</th>
<th>SCHEDULE NO.</th>
<th>GLOBE VALVE</th>
<th>GATE VALVE</th>
<th>90° STANDARD ELBOW</th>
<th>STANDARD TEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2”</td>
<td>40</td>
<td>17.6</td>
<td>.7</td>
<td>1.6</td>
<td>1.0</td>
</tr>
<tr>
<td>3/4”</td>
<td>40</td>
<td>23.3</td>
<td>.9</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td>1”</td>
<td>40</td>
<td>29.7</td>
<td>1.1</td>
<td>2.6</td>
<td>1.7</td>
</tr>
<tr>
<td>1-1/2”</td>
<td>40</td>
<td>45.5</td>
<td>1.7</td>
<td>4.0</td>
<td>2.7</td>
</tr>
<tr>
<td>2”</td>
<td>40</td>
<td>59</td>
<td>2.2</td>
<td>5.2</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Consult your Contractor or Local Fire and Building Codes for more information pertinent to your particular locale.
Piping Systems Gas Flow and Pressure Data

The performance of gas apparatus supplied by manifold and piping systems is largely dependent upon pressure stability and adequate gas flow. The following charts are provided to assist in determining the minimum size requirements for piping and hose needed to provide sufficient gas flow without excessive pressure drop.

Note: Values may vary ± 10% depending on operating conditions.

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZE</th>
<th>SCFH FREE AIR</th>
<th>LINE PRESSURE - PSIG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>1/2” Schedule 40</td>
<td>500</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>750</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>1,500</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
<td>--</td>
</tr>
<tr>
<td>3/4” Schedule 40</td>
<td>500</td>
<td>.40</td>
</tr>
<tr>
<td></td>
<td>1,000</td>
<td>1.60</td>
</tr>
<tr>
<td></td>
<td>1,750</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>2,500</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>4,000</td>
<td>--</td>
</tr>
<tr>
<td>1” Schedule 40</td>
<td>1,000</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td>1,750</td>
<td>1.30</td>
</tr>
<tr>
<td></td>
<td>2,500</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>3,750</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>5,000</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>7,500</td>
<td>--</td>
</tr>
<tr>
<td>1 1/2” Schedule 40</td>
<td>2,500</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>3,700</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>5,000</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td>10,000</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>12,500</td>
<td>--</td>
</tr>
<tr>
<td>2” Schedule 40</td>
<td>3,750</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td>5,000</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>7,500</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>10,000</td>
<td>1.20</td>
</tr>
<tr>
<td></td>
<td>12,500</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>15,000</td>
<td>--</td>
</tr>
</tbody>
</table>

How to calculate Pressure Drop (Loss) in Pounds for Other Pipe Lengths:

- **Shorter Than 100 Feet**
  - The friction loss in pipe lengths shorter than 100 feet may be calculated proportional to the length.
  - Example: For 50 feet, 1/2 the charted figure.

- **Over 100 Feet**
  - In pipe runs of more than 100 feet, the same proportional method may be used providing the resultant friction loss does not exceed 10 PSIG.
  - Example: For 150 feet, 1-1/2 times the charted figure.
### Technical Support

**CONVERSION CHART**

---

#### Unit Conversions

**Pressure**

- PSI = 14.5 X BAR
- Pa = 6,894.757 x PSI
- KPa = 6,894.757 x PSI
- PSI = \( \frac{Pa}{6894.757} \)
- PSI = \( \frac{KPa}{6.894757} \)

**Flow**

- SCFH = 2.118 x LPM
- SCFH = 60 x SCFM
- LPM = \( \frac{SCFH}{2.118} \)

**Units**

- PSI: Pounds per Square Inch
- Pa: Pascal
- KPa: 1000 Pascal
- SCFH: Standard Cubic Feet per Hour
- SCFM: Standard Cubic Feet per Minute
- LPM: Liters per Minute

---

#### DIMENSIONS FOR CENTER SECTION AND HEADERS

<table>
<thead>
<tr>
<th>MANIFOLD TYPE</th>
<th>CENTER SECTION ONLY</th>
<th>2 HEADERS</th>
<th>4 HEADERS</th>
<th>6 HEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual</td>
<td>N/A</td>
<td>Fuel 26&quot; (65 cm) All other 20&quot; (50 cm)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Simplex (SPLX)</td>
<td>16.0&quot; (40.6 cm)</td>
<td>Fuel 42&quot; (106 cm) All other 36&quot; (91 cm)</td>
<td>Fuel 68&quot; (171 cm) All other 56&quot; (141 cm)</td>
<td>Fuel 96&quot; (236 cm) All other 76&quot; (191 cm)</td>
</tr>
<tr>
<td>Single (SSIN)</td>
<td>16.0&quot; (40.6 cm)</td>
<td>Fuel 42&quot; (106 cm) All other 36&quot; (91 cm)</td>
<td>Fuel 68&quot; (171 cm) All other 56&quot; (141 cm)</td>
<td>Fuel 96&quot; (236 cm) All other 76&quot; (191 cm)</td>
</tr>
<tr>
<td>Non-Cabinet (SAM)</td>
<td>32.0&quot; (81.2 cm)</td>
<td>Fuel 58&quot; (146 cm) All other 52&quot; (131 cm)</td>
<td>Fuel 84&quot; (211 cm) All other 72&quot; (181 cm)</td>
<td>Fuel 110&quot; (276 cm) All other 92&quot; (231 cm)</td>
</tr>
<tr>
<td>Liquid (LIQ)</td>
<td>30.0&quot; (75 cm)</td>
<td>Fuel 42&quot; (106 cm) All other 36.5&quot; (93 cm)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>VM</td>
<td>13&quot; (33 cm)</td>
<td>Fuel 38&quot; (97 cm) All other 33&quot; (84 cm)</td>
<td>Fuel 55&quot; (165 cm) All other 53&quot; (135 cm)</td>
<td>Fuel 91&quot; (231 cm) All other 73&quot; (185 cm)</td>
</tr>
</tbody>
</table>
Customer Care

THE AMERICAS

Denton, TX USA
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Ph: 1-800-426-1888 (tollfree)
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