

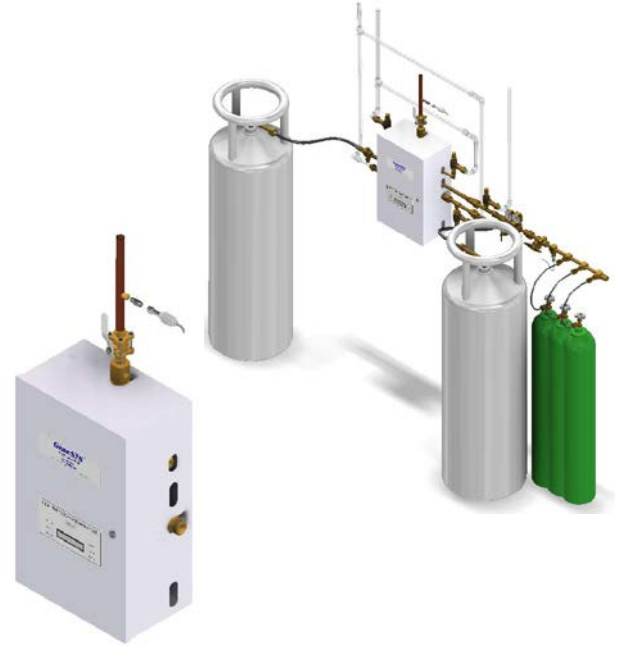
Submittal Data Sheet

Specification

The digital, fully automatic manifold shall be a Tri-Tech Medical Genesys™ LLD series. No manual resetting of valves or levers shall be required. The unit shall switch from Primary to Secondary bank without fluctuation in line delivery pressure. Simultaneously, the Secondary in Use alarm shall be triggered by the manifold microprocessor. The manifold shall continue to provide gas, in the event of a power failure, until both banks are depleted. After the switchover, the secondary bank shall then become the Primary. The manifold circuit board shall also trigger the “Emergency Reserve in Use” and the “Emergency Reserve Low” alarms when used with 14-3001 & 14-3002 transducers (supplied separately). The manifold shall be capable of being converted for lower or higher flow line regulators or for use with high pressure cylinders.

The microprocessor based control panel shall incorporate LED’s and an illuminated text display and shall provide electronic monitoring of circuits with up to 20 error, alarm or information messages displayed for ease of maintenance. The illuminated text display shall be readable even in poor lighting conditions. Analog gauges shall also be provided so that line and both bank pressures may be observed in the event of a power failure. The control panel shall also incorporate a set of LED’s for each bank, green for “Bank in Use”, amber for “Ready” and red for “Empty”.

All manifold regulators, piping and control switching equipment shall be cleaned for use with oxygen service and installed in a steel powder coated cabinet (weatherproof version available) to provide protection and minimize tampering.



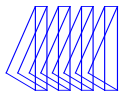
Model LLD120X1L with RWP-Header shown above as a typical installation

Features - Benefits

- **Five-year parts and one-year labor limited warranty***
- Line pressure sensor may be mounted inside the cabinet or remotely located to eliminate the need for a high/low pressure switch for master alarm operation – no need to purchase a high/low pressure switch or DISS union.
- Electronic monitoring of circuits with up to 20 error, alarm or information messages.
- May be field converted for lower or higher flow line regulators or for use with high pressure cylinders.
- Includes 3/4" source or main line ball valve with copper tube extension.
- Reserve Oxygen manifolds (sold separately – RWP series headers) supplied with copper pigtailed (stainless flexible pigtailed supplied for other gas services)
- Double “Z” bracket for one-man installation
- Unit of measure switching (psi, kPa, BAR).
- Dual line pressure regulators
- Cabinet weight 70 lbs.
- Input power 120 to 240 VAC, 50 to 60 Hz – single point connection
- Maximum Inlet Pressure 400 psi

* See Terms and Conditions, Document No. 99-0477, on our Website at: www.tri-techmedical.com. For complete details.

Genesys is a registered trademark of Tri-Tech Medical Inc Patented.

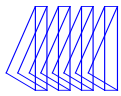


Note: External vaporizers may be required to achieve these flow rates. Typical portable bulk vessels without external vaporizers will provide 250 to 350 SCFH (consult the specifications provided by the vessel manufacturer).
Note: Vaporizers are not included and to be provided by others.

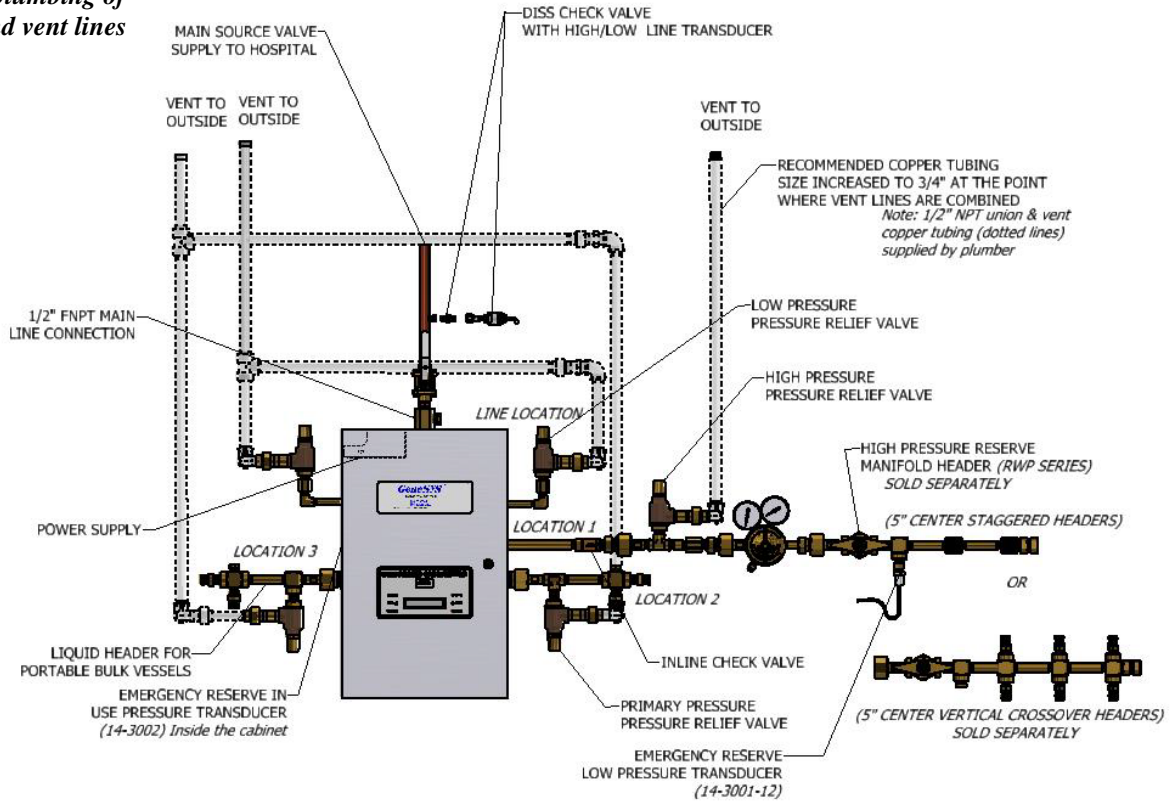
Manifold Cabinet Flow Capacity

| | | | | Manifold Line Regulator Delivery Pressure and Flow Option | | | |
|---|---|--------------------------|---------------------------------|--|---------------------|---------------------|-------------------|
| <i>Vessel Head Pressure Setting PSI</i> | <i>Static Delivery Pressure Setting PSI</i> | <i>Pressure Drop</i> | <i>Pressure Flowing psi</i> | <i>Average Flow Rate in SCFH (l/min)</i> | | | |
| | | | | 1L | 1H | 2H | 3H |
| 150 | 53 | 3 | 50 | 335 (158 l/min) | 595 (281 l/min) | | |
| | | 5 | 48 | 580 (274 l/min) | 1,200 (567 l/min) | | |
| | | 7 | 46 | 720 (340 l/min) | 1,320 (623 l/min) | | |
| | | 10 | 43 | 860 (406 l/min) | 1,380 (652 l/min) | | |
| 150 | 85 | 3 | 82 | | | 325 (153 l/min) | |
| | | 5 | 80 | | | 950 (449 l/min) | |
| | | 7 | 78 | | | 1,090 (515 l/min) | |
| | | 10 | 75 | | | 1,140 (538 l/min) | |
| 150 | 175 | 10 | 165 | | | | N/A |
| | | 20 | 155 | | | | N/A |
| | | 30 | 145 | | | | N/A |
| | | 35 | 140 | | | | N/A |
| | | | | Manifold Line Regulator Delivery Pressure and Flow Option | | | |
| <i>Vessel Head Pressure Setting PSI</i> | <i>Static Delivery Pressure Setting PSI</i> | <i>Pressure Drop</i> | <i>Pressure Flowing psi</i> | <i>Average Flow Rate in SCFH (l/min)</i> | | | |
| | | | | 1L | 1H | 2H | 3H |
| 250 | 53 | 3 | 50 | 520 (246 l/min) | 690 (326 l/min) | | |
| | | 5 | 48 | 890 (420 l/min) | 2,160 (1,020 l/min) | | |
| | | 7 | 46 | 1,115 (526 l/min) | 2,280 (1,076 l/min) | | |
| | | 10 | 43 | 1,330 (628 l/min) | 2,340 (1,105 l/min) | | |
| 250 | 85 | 3 | 82 | | | 1,110 (524 l/min) | |
| | | 5 | 80 | | | 1,620 (765 l/min) | |
| | | 7 | 78 | | | 2,160 (1,020 l/min) | |
| | | 10 | 75 | | | 2,220 (1,048 l/min) | |
| 250 | 175 | 10 | 165 | | | | 1,045 (494 l/min) |
| | | 20 | 155 | | | | 1,095 (517 l/min) |
| | | 30 | 145 | | | | 1,170 (552 l/min) |
| | | 35 | 140 | | | | 1,180 (557 l/min) |

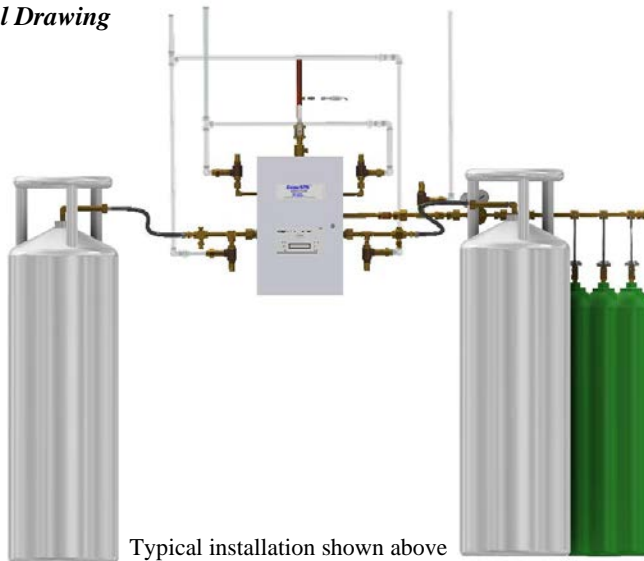
| Ambient Temperature Limits | | |
|-----------------------------------|-----------------|---|
| Maximum Temperature: | 130° F / 54.4 C | <i>Note: N₂O and CO₂ limits are due to diminishing vaporization rates and vapor pressures of cylinders at colder ambient temperatures. Other limits are based on elastomer manufacturer's working temperature limits.</i> |
| Minimum Temperature: | | |
| Nitrous Oxide | 20° F / -6 C | |
| Carbon Dioxide | 20° F / -6 C | |
| All other gases | 0° F / -17 C | |



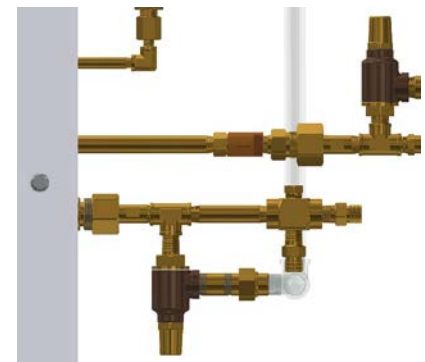
**Recommended plumbing of
Relief Valves and vent lines**



Dimensional Drawing



Typical installation shown above
Cabinet dimensions 26 1/4" H x 17" W x 9" D

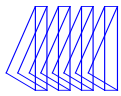


20" header length
(Header pictured above accommodates
2 - 72" flexible pigtails for 2 portable
bulk vessels, plus relief valve)

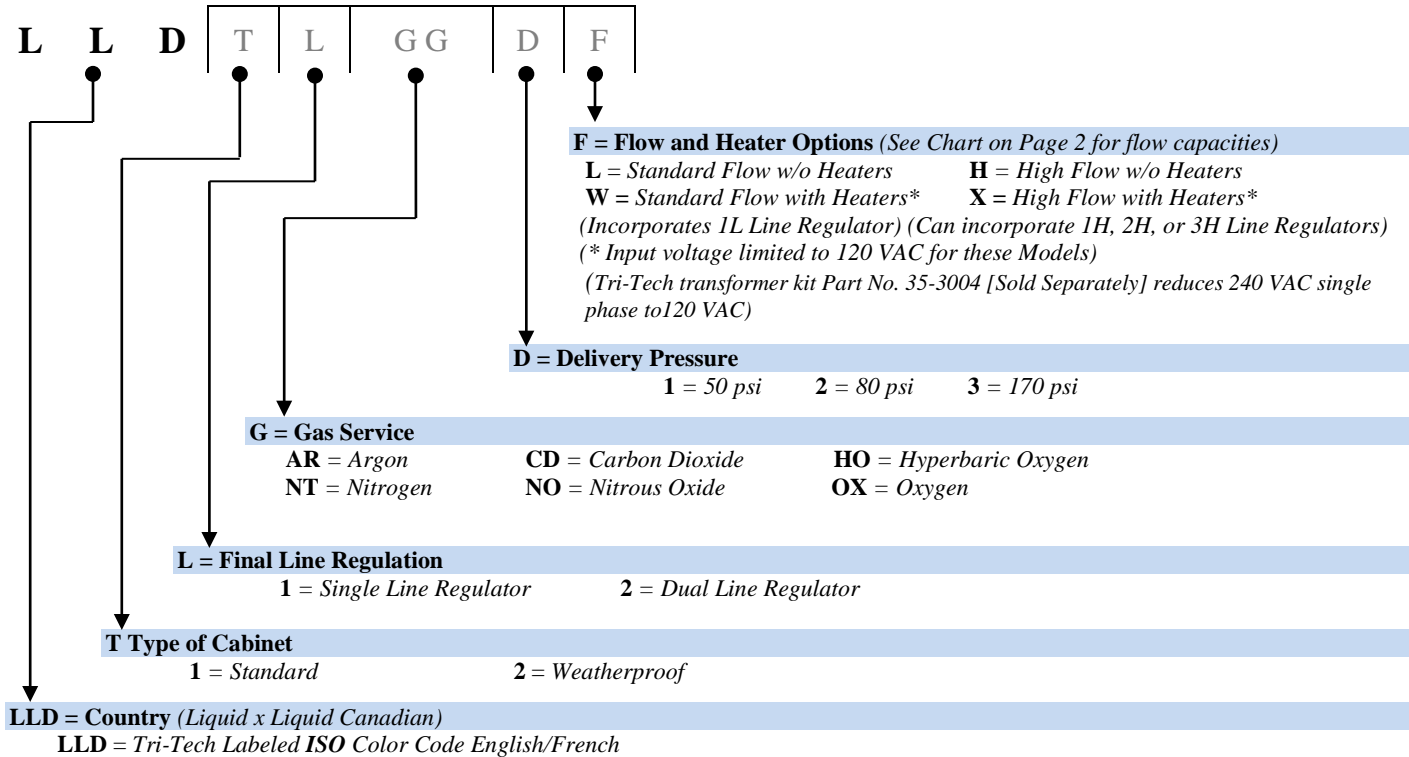
Design Lengths

| TOTAL NUMBER OF CYLINDERS | 2 | 4 | 6 |
|--|-------------------|-------------------|-------------------|
| Cabinet width + left header width + right header width only – no vessels | 4'-9" (1.45 m) | 4'-9" (1.45 m) | 6'-0" (1.72 m) |

For Headers Configuration part numbers, see literatures **RWP series - 99-0325**, **CS/CV series - 99-0466** and **LD series - 99-0636**



How to Order: Easy to use modular ordering system. Fill in the 5 blanks to specify the manifold that meets *your* needs.



Example: LLD22OX1L = Portable bulk vessel x Portable bulk vessel *Genesys™* Manifold, Weatherproof Cabinet, Dual Line Regulators, Oxygen gas service, 50 psi delivery, Standard flow