

Submittal Data Sheet

Applications

Hyperbaric chambers, emergency preparedness, where space is not sufficient for a bulk tank, back-feeding during shut downs. Ideal for applications warranting the use of portable or micro-bulk cryogenic liquid gas vessels.

Design Characteristics

The LD35 series manifold shall be a fully automatic digital design. No manual resetting of valves or levers is required. The unit is designed for use with a liquid primary bank, a liquid secondary bank and an emergency reserve bank of high-pressure cylinders. Liquid is withdrawn (thru the Liquid valves) of the portable bulk vessels into vaporizers and then into the control cabinet. 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 automatically become the “Primary”. The manifold microprocessor shall also trigger the “High Line Pressure” and “Low Line Pressure” alarms without the need for additional pressure switches or transducers. The manifold microprocessor shall also trigger the “Emergency Reserve in Use” and “Emergency Reserve Low” alarms when used with transducers supplied separately. In Oxygen, the manifold shall be capable of providing 3,500 SCFH @ 50 psi with a 5 psi pressure drop from a single portable bulk vessel delivering 95 psi thru a sufficiently sized vaporizer.

The control cabinet shall also incorporate economizer gas circuits for both banks. The economizer circuits will allow the head pressure of the reserve bank to be utilized instead of venting to atmosphere so long as there is sufficient system gas usage. In addition, the system shall incorporate economizer software which recognizes and utilizes small amounts of liquid remaining in vessels that have been depleted.

The control panel shall incorporate a text display, displaying pressures for the Left Bank, the Right Bank, Delivery

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 gauge shall also be provided so that the line and both bank pressures may be observed in the event of a power failure. The control panel shall also incorporate a set of LEDs for each bank, green for “Bank in Use”, amber for “Ready” and red for “Empty”



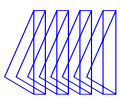
All manifold regulators, piping and control switching equipment shall be cleaned for use with oxygen service and installed in a weatherproof painted aluminum cabinet to provide protection and minimize tampering

Features - Benefits

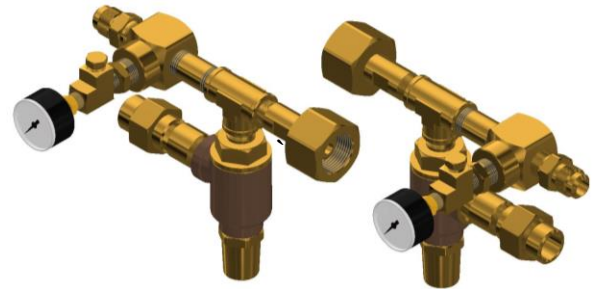
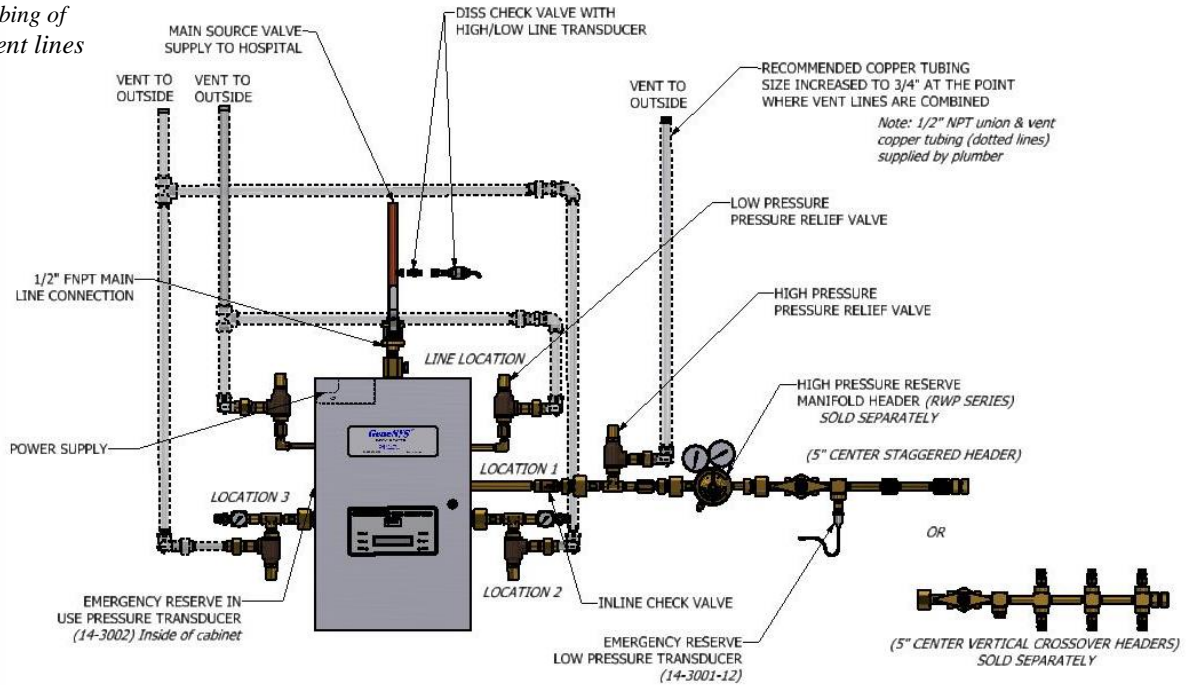
- **Five-year parts and one year labor limited warranty***
- Fully automatic – no resetting of valves or levers
- Input power 120 to 240 VAC, 50 to 60 Hz - single point connection
- 400 psi differential rated solenoid – can't lock up
- Economizer circuits for maximum efficiency of gas use
- Unit of measure switching (psi, kPa, BAR).
- Includes 3/4" source or main line ball valve with copper tube extension.
- Dual line pressure regulators
- Built for expansion by adding header extensions.
- Cabinet weight 89 lbs.
- May be converted from low or medium pressure liquid portable bulk vessel use to use with high pressure cylinders.
- 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.
- Maximum Inlet Pressure 400 psi

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

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*Recommended plumbing of
Relief valve and vent lines*



Typical Bank Liquid Headers:

Inlet Headers on CGA 440 Oxygen, Hyperbaric Oxygen and CGA 295 Nitrogen

881135-XD – Left Bank Inlet Headers

881135-XD – Right Bank Inlet Headers

(For Header part numbers see literature 99-0637)

Flow Information

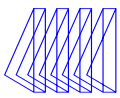
Oxygen

Pressure at Inlet Block to Control Cabinet (just prior to changeover)	Delivery Pressure (Allowing 5 psi drop)	Flow (SCFH / CFM)
95 (psi)	55 – 50	3,500 / 58.3

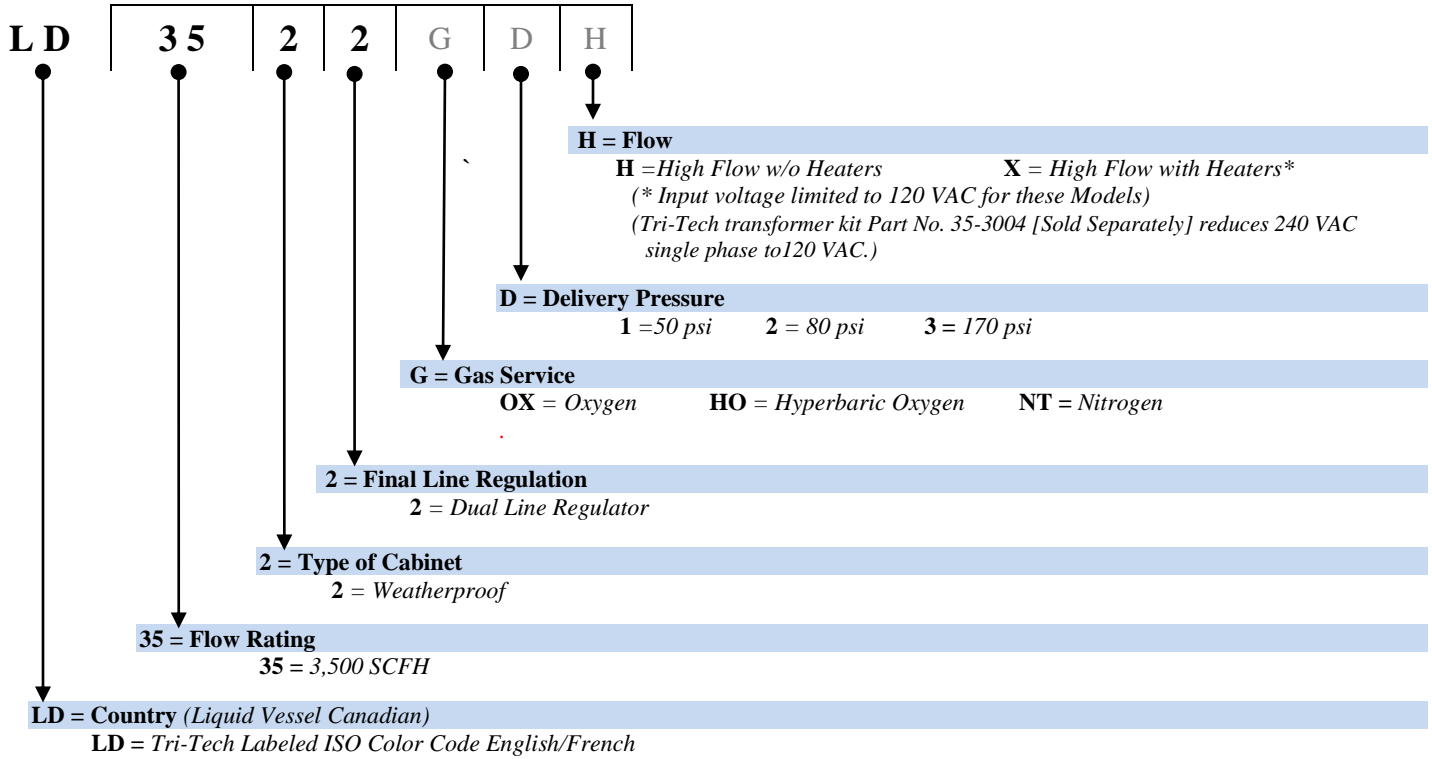
System Requirements

Minimum inlet pressure	For 50 psi and 80 psi delivery pressure – 175 psi For 170 psi delivery pressure – 250 psi (Pressure building circuits should be set @ 250 psi) vessels must have 350 psi relief valves
Physical space requirements (Includes vaporizers & 3 x 3 portable liquid vessels)	Continuous duty rated system – 16' W x 8' H x 45" D Non-Continuous duty rated system – 14' W x 8' H x 40" D
Cabinet Dimensions / Weight	26 1/4" H x 16 3/4" W x 9 1/4" D / 89 pounds Cabinet door is 28 1/2" H x 19 1/4" W
Cabinet Width with 881135-XD Headers Attached	Approximately 36"
Electrical Power Feed / Usage	A single point 120-volt AC 50 – 60 Hz / 45 W (0.4 amps)

Note: Two 3,500 SCFH vaporizers are required to operate this system. Vaporizers are not included and to be provided by others. For Headers Configuration part numbers, see literatures RWP series - 99-0325, CS/ CV series - 99-0466, LD series - 99-0636.



How to Order: Easy to use modular ordering system. Fill in the 3 blanks to specify the manifold that meets **your** needs.



Example: LD3522OX1H = Genesys™ Portable bulk vessel x Portable bulk vessel Manifold, Weatherproof Cabinet, Dual Line Regulators, 3,500 SCFH Oxygen gas service, 50 psi delivery, High flow