



CAUTION: USE LP-GAS CONTAINERS IN PROPER POSITION

Most LP-gas appliances for cooking, heating, lighting, water heating and refrigeration are designed to operate on LP-gas vapor only. Therefore, all LP-gas containers designed for vapor service must be transported, installed and used in the proper position. Do not transport, install or use a vertical cylinder in a horizontal or upside down position. Proper care must be taken to position a horizontal container in the correct position for vapor withdrawal. Liquid LP-gas could enter the system designed for vapor only, possibly creating a hazardous condition.

Always close the valve and install a POL plug on a POL valve or a dust cap on an ACME/Type 1 valve when transporting or storing disconnected containers (full or empty).

Manchester LP-gas containers are permanently marked with "top" stamped on the tab welded to the tank and stamped in the guard or brackets are arrows pointing upward indicating the proper position.

All LP-gas containers must be securely oriented in the proper position for intended use.



COMMON TERMS OF LP-GAS TANKS

1. **POL, ACME and Quick Disconnect Valves** - Types of vapor withdrawal service valves.
2. **Fixed Liquid Level Gauge** - Clear vapor less than 80%; white mist 80% or above. Used to indicate maximum safe fill level of container.
3. **Vapor Withdrawal Tube** - Used on tanks for vapor service where service valve is not located on top of tank.
4. **Base ring, stand legs or mounting brackets.**
5. **Relief Valve** - Discharges LP-gas if the pressure in the container is too high. If LP-gas is discharging, call the Fire Department and get away from the container. The container should always be used and stored in the correct position to ensure the relief valve is in direct communication with the vapor space of the container.
6. **OPD** - Or Overfill Protection Device is a valve, designed to reduce the potential overfilling of LP gas cylinders.
7. **Automatic Stop Fill Valve** - Similar to OPD but used with 1 3/4" ACME.
8. **Visible Sight Gauge** - Available with remote sender. Indicates approximate level of LP gas liquid in container.



BASIC FACTS ABOUT LP-GAS

Pounds Per Gallon	4.24
Specific Gravity of Gas	1.50
Specific Gravity of Liquid	0.504
Cu. Ft. Gas Per Gallon of Liquid	36.38
Cu. Ft. Gas Per Pound	8.66
BTU Per Gallon	91,502
BTU Per Pound	21,548
Boiling Point in Degrees F	-44
Vapor Pressure at 0° F	31
Vapor Pressure at 70° F	127
Vapor Pressure at 100° F	196
Vapor Pressure at 110° F	230

In cold climates, in order to keep vaporization of LP gas at the highest level, keep the fuel level above 50%.

AVERAGE LP GAS CAPACITIES IN CYLINDERS

# Capacity	Gallon Capacity	BTU Capacity
5	1.18	107,903
10	2.36	215,807
11	2.59	237,387
20	4.72	431,613
30	7.08	647,420
40	9.43	863,226

The above capacities allow for the 20% vapor space on each cylinder.

CONVERSIONS

Gallons to Liters (1 Gallon = 3.785 Liters)

F° to C° ($F^{\circ} = 9/5 C^{\circ} + 32^{\circ}$)

11" Water Column = 6 1/4 Ounces Per Square Inch Pressure

27.7" Water Column = 1 Pound Per Square Inch Pressure

Data from NFPA (National Fire Prevention Association) Pamphlet # 58-1998



SOME BASIC PRACTICES TO ENSURE SAFETY AND TROUBLE-FREE USE

Practice safety at all times.

***If you have questions about the operation of your appliance
or LP-gas systems, contact your local LP-gas dealer.***

- 1.** Never allow your LP-gas container to be filled above the maximum safe level as indicated by a scale or the fixed liquid level gauge (ou tage). Do not use the visible gauge for filling.
- 2.** Do not use a wrench or pliers to close the service valve or fixed liquid level gauge. These valves are designed to be closed leak-tight by hand or screwdriver as appropriate. If wrenches are necessary to stop a leak, the valve needs repair or replacement.
- 3.** When tightening the POL Nut (left hand thread) on the service valve, draw it up snug with a proper wrench. This is a machined male brass fitting which seats securely against a female seat in the POL valve - no pipe dope is necessary.
- 4.** Acme/Type 1 valves have right handed threads which are secure when hand tight, and on the Quick Disconnect/Type 2 Valves, the male connection is inserted into the female connection on the cylinder valve. (No wrenches required for the Acme or the Quick Disconnect.)
- 5.** When using container, slowly open service valve all the way. Listen to the regulator. A continuous hiss or "clicking" sound may indicate a leak or an open valve on an appliance.
- 6.** Check all tanks and the line connections periodically to be sure they are tight. When testing for leaks, use an approved ammonia-free leak detector solution, not matches.
- 7.** Make certain your container is properly fastened in place.
- 8.** Turn container with open part of container guard towards trailer (travel trailer installation). This protects valves and regulator against flying rocks and mud. Transport container in the proper position in which it is used, with the valves closed and POL plugs inserted for POL valves or dust caps for ACME valves. Secure the tank against falling or rolling.
- 9.** Check for leaks after connecting. Apply approved leak detector solution to connection, turn off all burners and pilots, and open service valve. Leaks will be detected by the growth of the bubbles. If bubbles grow, tighten or repair the connection as needed. Repeat leak test until problem is corrected.
- 10.** LP-gas is normally non-corrosive; you need not worry about the inside of your container. However, the outside should be kept free from rust by a periodic coat of paint in a light reflective color. It is very important to inspect and maintain the bottom and foot ring on the container.
- 11.** Do not store LP-gas containers indoors or in enclosed areas. Do not expose LP-gas container to heat. Always store with service valve closed and plugged or capped as required.
- 12.** Do not attempt to repair any containers, container valves, regulator or appliances by yourself. Use only trained certified LP-gas service personnel to perform repairs.