

# Liquid vs. Vapor Propane

## What's the difference?

One of the most common questions asked in the propane industry is:

*"Which type of fuel should I use? Liquid or Vapor Propane?"*

Propane is a gas stored under pressure inside of a tank. When propane is stored under pressure, it turns into a liquid. If you were to look inside the tank, the propane would look just like water. As pressure is released (i.e. when an appliance is turned ON), some of the propane vaporizes and turns into a gas.

There are two (2) different ways to get propane from a tank (or cylinder), **vapor** withdrawal or **liquid** withdrawal. The following two examples and illustrations will show you the difference between the two.

**VAPOR WITHDRAWAL** - Vapor withdrawal is simply using the *vaporized gas from the top* of the propane storage tank (see fig. A). As propane vapor is used, the pressure in the tank decreases, which in turn causes the liquid propane in the tank to vaporize, replacing the vapors which have been used. This method is typically used when less than 100,000 btu/h is required and when the air temperature is 50°F or above.

**LIQUID WITHDRAWAL** - Liquid withdrawal is the method which uses the liquid from the bottom of the propane storage tank. This is done with a special valve which is installed on a normal propane cylinder. The liquid withdrawal valve has a tube attached to it. This tube will allow the liquid propane to be removed from the propane storage tank (see fig. B). Because of the pressure in the tank, the liquid propane is forced through the tube whenever the valve is opened. This method is typically used when the required output is more than 100,000 btu/h. However, as the air temperature decreases, it becomes necessary to use liquid withdrawal for lower BTU applications.



**IMPORTANT** - you CANNOT use liquid propane on a vapor propane appliance. Nor, should you ever use vapor propane on a liquid propane appliance. Personal injury and/or death and property damage can occur. Also pre-mature equipment failure will result.



**REMEMBER** - L.P.G. means **Liquified Petroleum Gas** - NOT liquid propane

