

## **2018 INSTALLATION INFORMATION FOR YOUR LARGO STATIONARY NATURAL/LP GAS PRESSURE WASHER**

Refer to your Operators Manual prior to installation/operation of this Equipment.

### **GENERAL:**

Always check local and national codes and follow them.

### **LOCATION:**

Place the Steam Cleaner or Pressure Washer on a level surface, preferably a concrete floor with a drain to sanitary sewer. Allow ample space around the machine for servicing and storing cleaning compounds. The overhead clearance should be at least 5 feet to provide space to install a draft diverter and exhaust vent. Make sure the machine is installed in a heated area to prevent freezing. The machine must be located in an area away from combustible liquids, vapors or other combustible materials and must comply with applicable local ordinances.

Provide a minimum of four square feet ventilation (from the exterior of the room) for each machine used.

The machine must have adequate air supply. Failure to provide adequate air for good combustion in the burner will cause the coil and heating chamber to soot. If ventilation fans are used be sure that drafts are not created that will disturb the burner area.

Machine stands which raise the unit 24 to 36 inches off the floor will help provide air supply in some applications. A power vent and automatic damper may also be required.

## **WATER SUPPLY:**

A water softener must be installed if the water hardness exceeds 3 grains. If local water pressure exceeds 60 psi a water pressure reducing valve must be installed.

## **ELECTRICAL:**

Largo Stationary Hot Water Systems are equipped with 24VAC Controls. The Motor Controls, Relays, Solenoids and Burner Controls including the Gas Control Valve are 24VAC. The Unit is fused both on the incoming high voltage and 24VAC low voltage side of the Transformer.

Three Phase Units may be wired 208/230/460 VAC. If FIELD converted, both the Transformer and the Motor may need to be rewired. Wiring diagrams are on those parts. You must insure that the Overload is sized to the correct amp load and may need to be replaced to correct for the voltage change.

Single Phase Machines can use either 208 or 230 voltage. Note: If Field converted, the Transformer must be configured to the voltage determined at the location. A wiring diagram is located on the Transformer.

Single and Three Phase Units must be installed in accordance with the National Electric Code and local codes. Use a qualified licensed Electrician.

**BURNER SPECS:** ½ PSI, NG - 4.5 inches Water Column (WC), LP - 11 inches WC. Always set regulator with burner on. Minor adjustments may be required for clean burn.

Our Burners range from 325,000 BTU's to 880,000 BTU's on Natural or LP Gas System. Refer to the serial number tag located inside the machine on the control panel for the BTU's of this machine.

**REGULATORS:** The Regulator is one of the most important parts of your Gas System (LP or NG). The purpose of the regulator is to control the flow of gas to your Pressure Washers Burner and also acts as a safety barrier between the incoming gas pressure and the desired gas pressure the machine requires. The Regulator allows you to adjust this gas volume to the burner. The burner must be in operation to correctly set the water column inches.

**NOTE ON LP MACHINES:** Propane tank pressures can range from under 10 psig to over 200 psig. Most of our LP machines generally require 11 inches water column (6.3 ounces). This downstream demand is what determines what type of regulator to be installed and where it is installed in the plumbing. **Have a qualified installer determine the correct regulator for your application. Installing the wrong kind of regulator will damage your machine and create an unsafe condition.**

**GAS LINE RUNS:** The Gas pipe runs start at the Natural Gas Meter or the LP Tank. Have a professional qualified installer connect your unit to your gas supply.

A 1" diameter Pipe x 150 feet long will deliver about 400,000 BTU's on a LP Machine. You would need a 2-1/2" Diameter Pipe if it were Natural Gas.

Propane produces 2500 BTU's per cubic foot. It is denser or heavier than Natural Gas and is 50% heavier than air. Natural Gas on the other hand produces 1050 BTU's per cubic foot and is lighter than air.

**WARNING:** Natural Gas Fumes rise and LP Fumes sink. Bleeding Gas Lines especially with LP Gas in non-ventilated areas can be very dangerous.

### **VENTING:**

It is very important to install a Back Draft Diverter between the machine and the vent stack. The Draft Diverter prevents back drafts that will distort a clean burn and assist in preventing freezing air from entering the burner area. Installing a draft diverter may also help to prevent freezing air to back draft into the Coil and freeze it.

Placing the Washer on a stand raises the unit 24 inches off the floor and greatly increases the draw allowing more oxygen into the burner. Do this to prevent burner issues such as low heat, soot, and poor combustion.

### **NATURAL DRAFT:**

Our machines are Natural Draft Systems. There is no fan to push air and oxygen into the burner chamber.

The natural or updraft burner depends on the natural movement of heated air and flue gases up the stack to draw new air in for combustion. Proper ventilation and a clear stack or flue is essential for this burner to operate correctly. Long flue pipes must be avoided. The longer the vent pipe the more the air cools and the less updraft is created.

Double Wall flue pipe should be used. The air gap between the pipe walls insulates the heated air and flue gases, allowing them to stay hotter longer and provide a better draft.

**You may need to install an automatic damper in a very cold area.**

**DO NOT** install a 90 Degree Elbow in the vent. Avoid long runs. Make sure you Clear Building eaves with the vent pipe cap.

**YOU MAY NEED to install a Power Vent.** A Power Vent allows units to be installed in restricted areas, specifically where ceilings do not permit straight out venting. Call Largo tech support if you are going to consider a Power Vent. We can help.

**Inlet Air:** If installed in an equipment room, insure adequate ventilation. It takes a considerable amount of oxygen to produce a clean burn. Don't restrict the inlet air. Do not stack barrels of detergents or other items around the machine. Do not install directly against a wall (provide an adequate air gap). Do not store combustible materials around machine.

**Inlet Water:** These machines require a minimum of 1 gallon of water more than the Pump operating GPM at 60 psi to operate correctly. High-pressure water may require a water pressure-reducing valve.

Install these machines only with qualified personnel. Use an Electrician, a Plumber, and professional sheet metal exhaust specialist and you will not have problems.

Follow all local and national codes.

**\*\*\*Sweating:** It is not unusual during very humid weather for the new coil to accumulate water vapor and appear to be “leaking” while the burner is on. IT S NOT. Once the black pipe is “seasoned” after several hours of use this will stop.



INSTALLATION WITH POWER VENT

USE THIS METHOD WHEN THE UNIT CANNOT BE  
VENTED STRAIGHT OUT OF THE ROOF

THE PREFERRED VENTING IN STRAIGHT OUT WITHOUT  
ANY 90 DEGREE ELBOWS. 45 DEGREE ELBOWS MAY  
BE USED BUT NO MORE THAN TWO.



THIS IS THE CORRECT WAY TO VENT YOUR  
PRESSURE WASHER. A INLINE DAMPNER MAY BE  
USED TO PREVENT FREEZING OF THE HEARING COIL