

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

Refer to your Operators Manual prior to installation/operation of this Equipment. Use a qualified installer. Installation must comply with all local codes. Contact your electrician, plumber, and certified gas technician or your local distributor for specific details.

### **PLACEMENT:**

1. Set the machine in a level area 20ft away from any flammable materials.
2. Place the machine in an area where it will not freeze.
3. Place the machine at least 2ft from any wall.
4. Allow enough space to service the machine.
5. Place the machine where it can be vented directly outside without any 90 degree elbows.
6. Do not place in a room with exhaust fans in close proximity.
7. Do not place this machine in a wash area that does not have a partition between the machine and the wash area.

### **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 make sure 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 PSIG. NG 4 - 4.5 inches Water Column (WC), LP 11 inches WC. Always set manifold pressure with burner on. Minor adjustments may be required for clean burn.

Our Burners range from 325,000 BTU to 880,000 BTU 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 and 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 and determine what regulator is required at the machine.

A 1" diameter pipe x 150ft long will deliver about 400,000 BTU on a LP machine.

You would need a 2-1/2" diameter pipe if it were Natural Gas.

Propane produces 2500 BTU 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 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. **DON'T BLEED GAS LINES IN ENCLOSED AREAS.**

**CHECK GAS LINE FOR LEAKS – NEVER USE A FLAME TO TEST FOR LEAKS – USE A SOAP SOLUTION ONLY.**

### **EXHAUST VENTING/INLET AIR:**

### **DO NOT REDUCE THE STACK SIZE SMALLER THAN THE MACHINE STACK SIZE.**

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" 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.

Placing the machine in a poorly vented area will cause problems. Your machine will soot up the coil and become a fire hazard. Sufficient combustion can only be obtained when there is a sufficient supply of oxygen available. If placed in an enclosed room or tight area it is recommended that either an outside air supply is provided or construct an air opening both at the top and the bottom area of the room where the washer is installed. Provide 1 square inch of ventilation for each 1000 btu per hour input.

### **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 are 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. See picture on next page.

**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:** Condensation 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 is not. To verify: 1. Place a pressure gauge on the down side of the unloader valve. Run the machine and cycle the trigger gun. Release the trigger gun and observe the gauge, there should be no pressure drop. Or 2. Place a gauge on the pump head, cycle the trigger gun and release. The pressure on the pump head should read and stay at 0.



### **STRAIGHT OUT VENTING**

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



### **INSTALLATION WITH A POWER VENT**

**USE THIS METHOD WHEN THE UNIT CANNOT BE VENTED STRAIGHT OUT OF THE ROOF. THE PREFERRED VENTING IS STRAIGHT OUT WITHOUT ANY 90 DEGREE ELBOWS. 45 DEGREE ELBOWS MAY BE USED, BUT NO MORE THAN TWO.**