



INSTALLATION • OPERATION • MAINTENANCE

LANCASTER MODELS X99A33 & X99A50

AUTOMATIC LAUNDRY TRAY WASTE WATER PUMPS

INTRODUCTION

LANCASTER models X99A33 & X99A50 pumps are designed to remove clean or waste water from a laundry/tub/sink in an area with no floor drains. These pumps can be located below the laundry tray/tub/sink and will pump waste water to an overhead or remote drain line. **No need** to break through the floor for unsanitary sumps and sump pumps. Applications include: laundry tray, wet bar sink, lavatory sink, air conditioning condensate, dehumidifier water removal. Pumps operate automatically.

PREINSTALLATION CHECKLIST & PRECAUTIONS

- 1. Inspect your unit.** Occasionally, products are damaged during shipment. If the unit is damaged, contact your dealer before using.
- 2. Carefully read the literature provided** to familiarize yourself with specific details regarding installation and use. These materials should be retained for future reference.
- 3. To reduce the risk of electrical shock**, a properly grounded receptacle of grounding type should be installed and protected by a ground fault circuit interrupter (GFCI) and in accordance with National Electrical Code and local codes.

WARNING: FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING. Single phase pumps are supplied with a 3-prong grounded plug to help protect you against the possibility of electrical shock. **DO NOT UNDER ANY CIRCUMSTANCES REMOVE THE GROUND PIN.**

- 4. Make certain that the electrical receptacle is within the reach of the pump's power supply cord. DO NOT USE AN EXTENSION CORD.** Extension cords that are too long or too light do not deliver sufficient voltage to the pump motor. But more important, they could present a safety hazard if the insulation would become damaged or the connection end would fall into the laundry tray.
- 5. Check to be sure your power source is adequate for the voltage requirements of the motor.**
- 6. Make sure the pump electrical supply circuit is equipped with fuses or circuit breakers of proper capacity.** A separate branch circuit is recommended sized according to the National Electrical Code for the current shown on the motor name plate.

CAUTION: Pump must be vented.

CAUTION: Check valve must be installed to prevent back-drainage which can cause unnecessary cycling of pump. Spring loaded type check valve *not* recommended.

CAUTION: To prevent foreign matter from entering pump, a strainer must be installed in the laundry tray/tub/sink. In laundry applications, a lint trap must be installed to prevent an excessive build-up of lint in the pump that could interfere with float switch and impeller operation.

CAUTION: Do not use to pump flammable or explosive liquids or liquids with solids, strong acids or caustics. Do not use in explosive atmospheres. **Max. water temperature 130° F.**

INSTALLATION

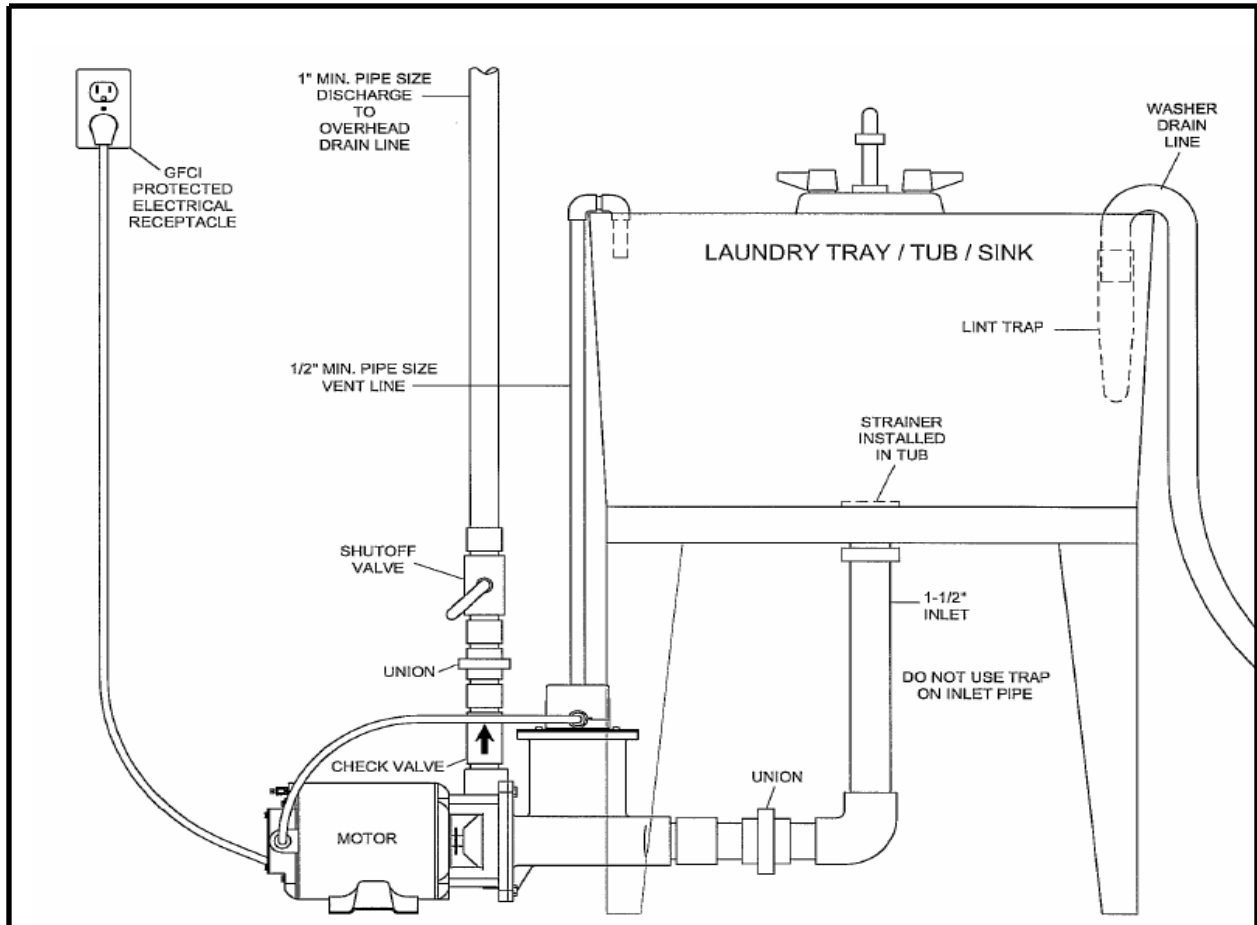
The diagram shows the various connections which must be made for proper operation.

1. Location. The pump must be installed using a **laundry tray/ tub/ sink** to drain water into it. The pump must be installed in a level horizontal position, fully supported from the base. It should never be hung on the inlet or discharge line. Place the pump in the desired location as close to under the tub/sink as possible.

2. Laundry Tray/Tub/ Sink. A **strainer** must be installed in the tub to prevent foreign objects (small buttons, pebbles, etc.) from entering pump and causing internal damage. In laundry applications, a **lint trap** must be installed to prevent an excessive buildup of lint in the pump that could interfere with float switch and impeller operation. A lint trap slips onto the end of the washing machine drain line (discharge hose), secured with a cable tie. Lint traps are available in the retail market. Replace lint traps before half full. (Note: a nylon stocking works well as a lint trap.)

3. Inlet. Install the necessary **1½"** piping to connect the laundry tray/tub/sink drain fitting to the pump inlet. Pitch the piping from tub/sink drain to pump inlet to avoid air traps. Do not use a trap on inlet piping. A union is recommended to facilitate removal if necessary for cleaning or service.

4. Discharge. Do not restrict to sizes below **1"**. Install a **check valve** as close to the pump discharge as possible. The check valve prevents water from draining back to the pump. If there is too much pipe between the pump discharge and the check valve, the water in this line will, after the pump has shut off, run back into the pump and start the pump again. This will cause the pump to keep going on and off after all water has been drained from the laundry tub. Spring loaded type check valve **NOT** recommended. A spring loaded check valve is permissible **IF** the application's discharge height is one half of the pump shut off head (max. feet at 0 gpm) **AND** the spring pressure is equal to, or less than one (1) psi. Install a **union** or other means of separating the discharge line to facilitate removal if necessary for cleaning or service.



Install a **shutoff valve** in the discharge line. The shutoff valve can be used to reduce the pump discharge flow rate, if necessary, to match the inlet flow and prevent short cycling of pump in low head installations. Also, the shutoff valve can be used to service the check valve or pump without draining the discharge line. Install additional **1"** piping to connect the discharge to the building's gravity drain line.

5. Vent. The pump is tapped for a **1/2"** vent line. The pump must be vented. Install a minimum **1/2"** vent line. Run the vent up and over the top and into the tub/sink. This will provide proper venting of the pump suction housing and allow the discharge of excessive soap suds (foam) back into the tub/sink in laundry applications. The vent is essential for proper float switch operation and must not be omitted. **DO NOT USE ONE-WAY QUICK-VENT FITTINGS.**

6. Electrical Connections. Plug the pump into a properly grounded electrical receptacle protected by a ground fault circuit interrupter (GFCI) and in accordance with the National Electrical Code and local codes.

OPERATION

The pump operates automatically. Turn on faucets or water supply, running water into the laundry tub/ sink to be sure the pump is working properly. The laundry tub/sink will drain water into the pump, where it raises the float switch to a preset power "on" point. The water is pumped out the discharge and through the check valve in the drain line. The float switch drops with the water level to a preset power "off" point. There will be a slight delay in the pump starting when water runs into it and in the pump stopping after all water has been drained from the tub/sink. In normal operation, the pump may start once or twice after the tub/ sink has been drained. If necessary, the shutoff valve can be used to reduce the pump discharge flow rate to more closely match the inlet flow and prevent short cycling of the pump in low head installations.

MAINTENANCE

Routine maintenance is not required on the pump, but the associated connections may require occasional attention. Keep foreign objects and lint out of the inlet by using a strainer and lint trap. **Replace lint traps before half full.** The check valve, discharge piping and vent line also contribute to system performance, as previously discussed. The check valve on the discharge should be checked for accumulation and freedom of operation. Tub/ sink use, water conditions, soap and cleaning agents will impact the frequency of maintenance needed.

TROUBLESHOOTING

WARNING: ELECTRICAL PRECAUTIONS. Before servicing a pump, always shut off the main power breaker and then unplug the pump— making sure you are not standing in water and are wearing insulated protective sole shoes. Under flooded conditions, contact your local electric company or a qualified licensed electrician for disconnecting electrical service prior to pump removal.

The following chart (see next page) may be of assistance in correcting possible operating problems.

TROUBLESHOOTING CHART

Problem	Cause	Correction
<p>Pump will not turn on or will not shut off.</p>	<p>A. The pump suction housing has two round chambers divided by a wall. This wall has a small hole close to bottom facing impeller. The switch is actuated by water flowing through this hole. It is possible that lint can build up in one chamber to the point that this hole is clogged up. If this happens, the pump may not start, but, more usually in such circumstances the pump will start but will not shut off.</p> <p>B. Blown fuse/tripped breaker or other interruption of power to the pump.</p> <p>C. Plugged vent line.</p> <p>D. Float switch held down, switch defective, damaged or out of adjustment.</p>	<p>A. Have an authorized installer service pump. Disassembly of pump by persons other than Lancaster Pump authorized installers or Lancaster Pump may void the warranty. TO INSTALLER: Remove switch assy./top plate and clean out chamber. Clean out small hole in side wall near bottom. Make sure vent line is free of debris.</p> <p>INTERNAL SURFACES OF PUMP AND PUMP PARTS MUST BE SUFFICIENTLY CLEAN FOR FREE TRAVEL OF FLOAT.</p> <p>B. Check that the unit is securely plugged in. Have an electrician check all wiring for proper connections and adequate voltage.</p> <p>C. Be sure that an unrestricted vent at least 1/2" in diameter is in use.</p> <p>D. Have an authorized installer service or replace switch. Disassembly of pump by persons other than Lancaster Pump authorized installers or Lancaster Pump may void the warranty.</p>
<p>Unit runs or hums but does not pump.</p>	<p>E. Discharge is restricted.</p> <p>F. Check valve is stuck closed or installed backwards.</p> <p>G. Discharge head exceeds pump capacity.</p> <p>H. Pump impeller is jammed.</p> <p>I. Tub/ sink strainer or inlet piping is clogged.</p>	<p>E. Check the discharge line for blockage, including ice if the line passes through or into cold areas.</p> <p>F. Remove and examine for freedom of operation and proper installation.</p> <p>G. Try to route piping to lower level. If not possible, another pumping station will be required at a level of roughly half the total lift. Do not use spring loaded type check valve.</p> <p>H. Have an authorized installer service or replace impeller. Disassembly of pump by persons other than Lancaster Pump authorized installers or Lancaster Pump may void the warranty.</p>
<p>Pump short-cycles.</p>	<p>C. Plugged vent line.</p> <p>D. Defective switch.</p> <p>F. Check valve was not installed, is stuck open or is leaking.</p>	<p>I. Check the strainer and inlet piping for restrictions.</p> <p>J. Check the discharge line for blockage. If the shut-off valve is partially open, open it more or fully open.</p> <p>K. Repair faucets as required to eliminate dripping.</p>
<p>Water or soap suds come out vent pipe.</p>	<p>C. Vent pipe is too short or too small in diameter.</p> <p>D. Defective switch.</p> <p>J. Rate of inlet flow exceeds pump output.</p>	<p>L. Return the complete assembly to the factory for repair.</p> <p>M. Replace a portion of the discharge piping with rubber hose.</p>
<p>Pump runs periodically when laundry tray is not in use.</p>	<p>F. Check valve was not installed, is stuck open or is leaking</p> <p>K. Faucets are dripping.</p>	<p>M. Replace a portion of the discharge piping with rubber hose.</p>
<p>Unit operates noisily or vibrates excessively.</p>	<p>H. Foreign objects in the impeller cavity or broken impeller.</p> <p>L. Worn motor bearings.</p> <p>M. Piping to house structure is too rigid.</p>	

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