



Installation Manual

7386000F

2448LSG Simplex Grinder System

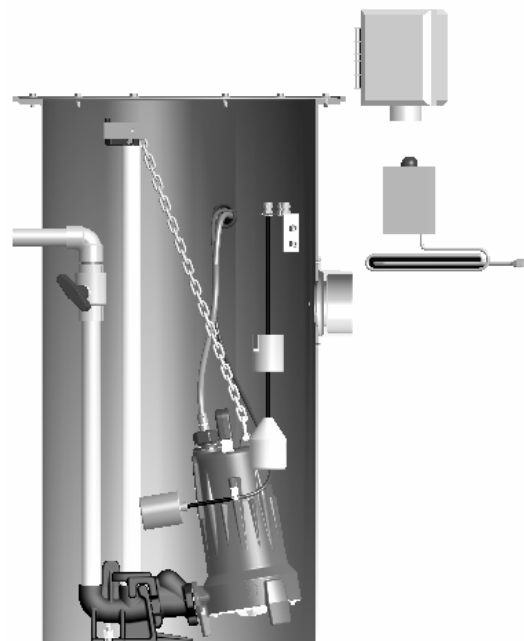
Features

24" diameter X 48" H fiberglass basin

LSG202M Grinder Pump- 2 HP, 208-230V

Guide Rail System

Plugger Box and Alarm



Contents

- 1.) General Information
- 2.) Precautions/Pre-installation
- 3.) Installation
- 4.) Maintenance and Troubleshooting

IMPORTANT:

Prior to installation, record Model, Serial Number, and Code Number from pump nameplate for future reference.

MODEL _____

SERIAL _____

CODE _____



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1. General Information

Before installation, read the following instructions carefully. Each Liberty pump is individually factory tested to insure proper performance. Closely following these instructions will eliminate potential operating problems, assuring years of trouble-free service.

WARNING

- **Risk of electric shock.** Always disconnect the pump from the power source before handling or making adjustments.
- These pumps are not to be installed in locations classified as hazardous in accordance with the National Electric Code, ANSI/NFPA 70.
- The electrical connections and wiring for a pump installation should only be made by qualified personnel.
- This pump is supplied with a grounding conductor or a grounding-type attachment plug. To reduce the risk of electric shock, be certain that the grounding conductor is connected only to a properly grounded control panel or, if equipped with a grounding-type plug, that it is connected to a properly grounded, grounding-type receptacle.
- Do not bypass grounding wires or remove ground prong from attachment plugs.
- Do not remove cord and strain relief, and do not connect conduit to pump.
- Do not use an extension cord.
- This pump requires separate, properly fused and grounded branch circuit. Make sure the power source is properly sized for the voltage and amperage requirements of the motor, as noted on the pump nameplate.
- The installation must be in accordance with the National Electric Code and all applicable local codes and ordinances.

CAUTION

- Do not use these pumps in water over 140° F.
- The Uniform Plumbing Code (UPC) states that sewage systems shall have an audio and visual alarm that signals a malfunction of the system, to reduce the potential for property damage.

GRINDER PUMP SPECIFICATIONS

Model	HP	Volts	Phase	Full Load Amps	Locked Rotor Amps	Discharge	Shut-off Head
SG202M	2	208/230	1	15	51	1¼"	108'

IMPORTANT: The LSG202A grinder pump and the plugger box are supplied with their own separate Installation/Operation/Maintenance manuals. Ensure that you have received these manuals, and that you read and understand them prior to installing this unit. Your familiarity with the grinder pump manual and the control panel manual is critical. This installation manual gives a brief overview of the system, and deals mainly with inspection and installation of the basin, but it does not cover the specifics of the pump operation or the control panel operation. If you have any questions, please call customer service at (800) 543-2550.

2. Precautions/Pre-installation

WARNING

Risk of electric shock. Always disconnect the pump from the power source before handling or making adjustments.

Pre-installation Checklist:

1. Inspect the 2448LSG unit upon arrival to ensure that there is no shipping damage. Pay careful attention to the condition of the fiberglass basin, control floats, pump guide rail brackets, and control panel. Notify the carrier immediately if there is any damage.
2. Read all instructions and familiarize yourself with the unit's operation prior to proceeding with the installation.
3. A qualified licensed electrician should install and test all electrical circuits.
4. Check to ensure that your power source is adequate to handle the pump amperage as noted above and on the pump nameplate. Ensure that the electrical supply circuit is equipped with fuses or breakers of the proper capacity.
5. A separate 115V branch circuit should be installed for the alarm. We do not recommend splitting the incoming pump power circuit to power the control circuit. A separate 115V branch circuit is required for the alarm. Do not split the incoming pump power circuit to power the control circuit.
6. All electrical connections should be tested to ensure that a proper ground has been established

3. Installation

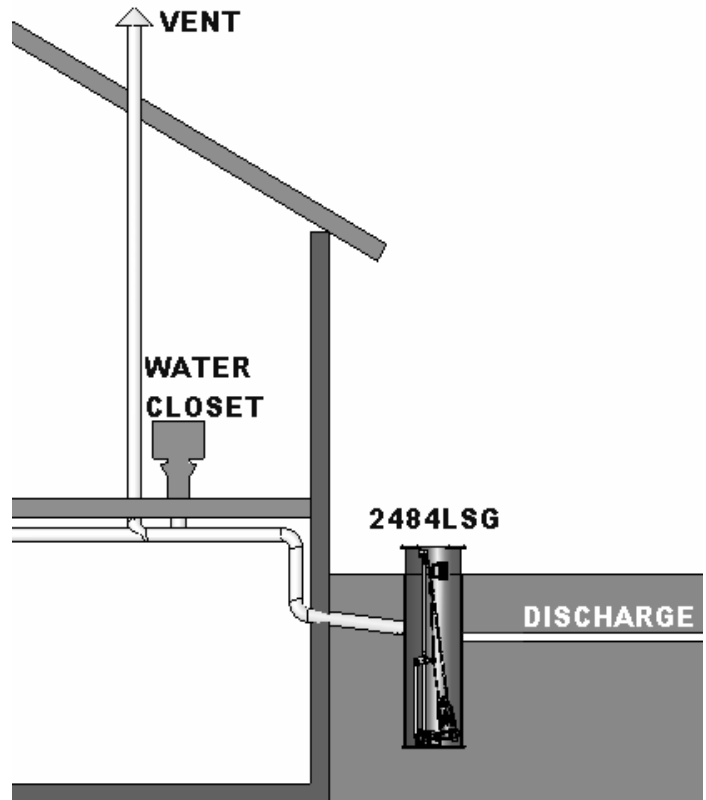
- A. **Excavation:** Excavate the hole for the basin as small as possible, with a minimum base diameter of 38". Never place the basin in direct contact with rocks or other sharp objects. Place enough fine, 1/8" to 3/4" pea gravel or 1/8" to 1/2" washed, crushed stone at the bottom of the excavation to create a minimum of 12 inches stone or gravel after compaction. Do not use sand or native soil as backfill*. Properly compact underneath the basin to provide a solid, level base that can support the weight of the filled basin. If a concrete pad will be used under the basin, the compacted stone sub-base can be reduced to 6 inches.
- B. **Connections & Backfill:** Pour enough concrete over and around the anti-floatation flange to anchor the basin and prevent upward movement. Connect 1 1/4" schedule 80 PVC pipe to the pump discharge. Do not reduce the size of the discharge piping, and do not increase the discharge piping to larger than 2". The remainder of the discharge line should be as short as possible with a minimum number of turns. Connect the inlet line to the 4" cast iron inlet hub using oakum and lead or with a rubber donut. Connect the electrical coupling to 2" electrical conduit and run the power and float cords through the conduit to the control panel. The remaining backfill should be only fine, 1/8" to 3/4" pea gravel or 1/8" to 1/2" washed, crushed stone. Do not use sand or native soil as backfill*. *Other backfill options may be available – consult the factory for special instructions relative to your situation



Do not exert heavy pressure or run heavy equipment on the backfill material as this could cause the tank to collapse.

- C. **Venting:** The fiberglass basin provided with the 2448LSG must be completely sealed and properly vented in order to meet health and plumbing code requirements. The 2448LSG is designed to be vented through the inlet to an existing building vent stack. In order to accomplish this, there must be no traps between the 2448LSG inlet and the nearest building vent stack connection. See fig. 1 for an example. If this is not possible or desirable in your application, a vent flange or grommet can be installed in a hole cut into the solid fiberglass cover.

Fig. 1 – Inlet Venting



- D. **Alarm:**



- **Risk of Electric shock:** This pump is supplied with a grounding conductor. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded earth wire.
- All electrical circuitry should be installed in accordance with the National Electric Code (NEC) and all applicable local codes or ordinances.

IMPORTANT: The alarm panel that is an integral part of this complete unit is supplied with its own separate Installation/Operation/Maintenance manual. Ensure that you have received this manual, and that you read and understand it prior to installing this unit. Your familiarity with the control panel manual is critical.

A separate 115V branch circuit is required for the alarm circuit. Do not split the incoming pump power circuit to power the control circuit.

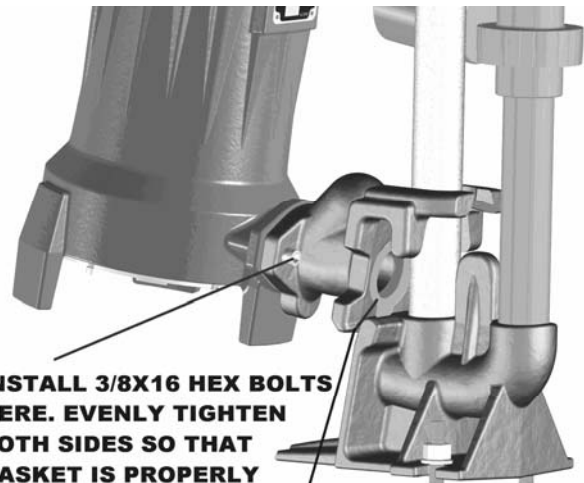
Connect the grinder pump leads and the float switch leads to the control panel in accordance with the instructions included with those units.

- E. **Float Switches:** The float switch for the alarm is internally weighted and does not have to be clamped. The pump cycle is pre-set at the factory at 12" (approximately 25 gallons). The pump cycle can be adjusted by loosening the cord grip and moving the "on" float up or down. We do not recommend adjustments of more than 3" in either direction – please call the factory if you need to adjust the pump cycle beyond this recommended level.
- F. **Testing and Startup:** Follow the testing and startup procedures found in the LSG202 and control panel manuals.
- G. **GR20 Assembly:** The GR20 quick disconnect assembly provided with your grinder package system is designed to allow easy installation and removal of the pump. When installed correctly it will seal and provide a check valve to prevent back flow into the tank. Please ensure that installation is done as per the diagrams below.

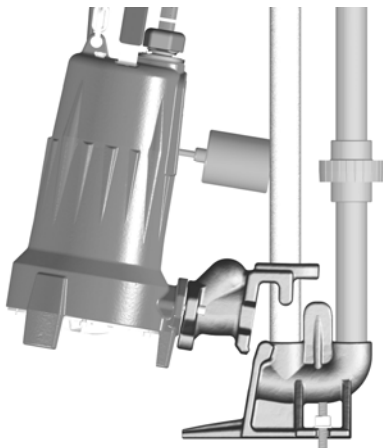
**ENSURE THAT CHECK BALL
AND GROMMET ARE PROPERLY
INSTALLED HERE.**



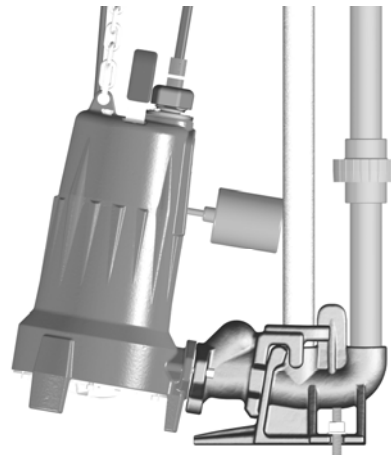
**INSTALL 3/8X16 HEX BOLTS
HERE. EVENLY TIGHTEN
BOTH SIDES SO THAT
GASKET IS PROPERLY
SQUEEZED.**



**ENSURE THAT RUBBER GROMMET
IS PROPERLY INSTALLED HERE.**



DISCONNECTED POSITION



OPERATING POSITION

4. Maintenance and Troubleshooting

IMPORTANT: The LSG202 grinder pump and control panel are supplied with their own separate Installation/Operation/Maintenance manuals. Ensure that you have received these manuals, and that you read and understand them prior to installing this unit. Your familiarity with the grinder pump manual and the control panel manual is critical. Please follow the Maintenance and Troubleshooting procedures provided in those manuals

2 Year Limited Warranty Liberty Pumps, Inc. warrants that pumps of its manufacture are free from all factory defects in material and workmanship for a period of 2 years from the date of purchase. The date of purchase shall be determined by a dated sales receipt noting the model and serial number of the pump. The dated sales receipt must accompany the returned pump if the date of return is more than 2 years from the "CODE" (date of manufacture) number noted on the pump nameplate. The manufacturer's obligation under this Warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the part or assembly is returned freight prepaid to the manufacturer or its authorized service center, and provided that none of the following warranty-voiding characteristics are evident: The manufacturer shall not be liable under this Warranty if the product has not been properly installed; if it has been disassembled, modified, abused or tampered with; if the electrical cord has been damaged or improperly spliced; if the pump discharge has been reduced in size; if the pump has been used in hot water or water containing sand, lime, cement, gravel or other abrasives; if the product has been used to pump chemicals or hydrocarbons; if a non-submersible motor has been subjected to excessive moisture; or if the label bearing the serial and code number has been removed. Liberty Pumps, Inc. shall not be liable for any loss, damage or expenses resulting from installation or use of its products, or for consequential damages, including costs of removal, reinstallation or transportation. **There is no other express warranty. All implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two years from the date of purchase.** This Warranty contains the exclusive remedy of the purchaser, and, where permitted, liability for consequential or incidental damages under any and all warranties are excluded.