



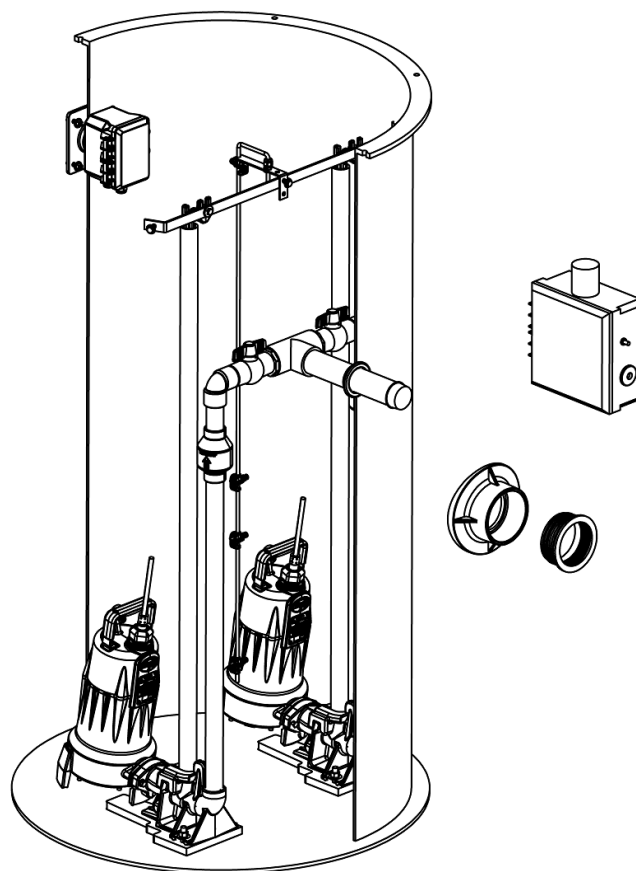
Installation Manual

7353000F

D3600- Series Duplex Grinder Systems

Features:

- 36" Diameter Fiberglass Tank
- Available in 48", 60", 72", 84", and 96" heights
- LSG Single or LSGX 2 Stage 2HP Grinder Pumps
- Factory Installed Guide Rail System
- Quick Tree™ pre-mounted float system
- NEMA 4X Junction Box
- NEMA 4X Duplex Alternating Control Panel



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IMPORTANT:

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

MODEL _____

SERIAL _____

CODE _____

INSTALLATION
DATE _____

1 General Information

GRINDER PUMP SPECIFICATIONS

MODEL	H P	VOLTAGE	POWER CYCLE (Hz)	PHASE	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	SHUT -OFF HEAD	CORD LENGTH (FT)	DISCHARGE (NPT)
LSG202A	2	208/230	60	1	15	53	105°C 221°F	B	108'	25	1-1/4"
LSG202M	2	208/230	60	1	15	53	105°C 221°F	B	108'	25	1-1/4"
LSG202M-C*	2	208/230	60	1	15	53	105°C 221°F	B	108'	35	1-1/4"
LSG203M	2	208/230	60	3	10.6	61	N/A	B	108'	25	1-1/4"
LSG204M	2	440/460	60	3	5.3	31	N/A	B	108'	25	1-1/4"
LSG205M	2	575	60	3	4.9	31	N/A	B	108'	25	1-1/4"
LSGX202A	2	208-230	60	1	15	53	105°C 221°F	B	185'	25	1-1/4"
LSGX202M	2	208-230	60	1	15	53	105°C 221°F	B	185'	25	1-1/4"
LSGX202M-C*	2	208-230	60	1	15	53	105°C 221°F	B	185'	35	1-1/4"
LSGX203M	2	208/230	60	3	10.6	61	N/A	B	185'	25	1-1/4"
LSGX204M	2	440/460	60	3	5.3	31	N/A	B	185'	25	1-1/4"
LSGX205M	2	575	60	3	4.9	31	N/A	B	185'	25	1-1/4"
LSG202M-3E	2	220	50	1	9.7	53	135°C 275°F	B	85'	35	1-1/4"
LSG204M-3E	2	380	50	3	4.2	31	N/A	B	85'	35	1-1/4"
LSGX202M-3E	2	220	50	1	12.6	53	135°C 275°F	B	131'	35	1-1/4"
LSGX204M-3E	2	380	50	3	4.3	31	N/A	B	131'	35	1-1/4"

***Note:** LSG202M-C & LSGX202M-C are for external capacitor applications and require the use of control panels fitted with properly matched capacitors and start relays.

Maximum fluid temperature: 140°F (60°C)

⚠ CAUTION The grinder pump and the 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. 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, 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.
- These pumps are not to be installed in locations classified as hazardous in the National Electric Code, ANSI/NFPA 70, IEC 60079, or EN 60079, for countries in accordance with any of these standards.
- The electrical connections and wiring for a pump installation should only be made by qualified personnel.
- This pump is supplied with an earth grounding conductor or a grounding-type attachment plug. To reduce the risk of electric shock, be certain that the earth grounding conductor is connected only to a properly earth 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 system requires separate, properly fused and grounded branch circuit. Make sure the power source is properly sized for the voltage and amperage requirements of the system, as noted on the nameplate.

- The installation must be in accordance with the all applicable national (NEC, IEC, EN, etc.) and local electrical codes and ordinances.
- Sump and sewage pumps often handle materials which could cause illness or disease. Wear adequate protective clothing when working on a used pump or piping.
- Never enter a pump basin after it has been used. Sewage and effluent can emit several gases which are poisonous.

Pre-installation checklist:

1. Inspect the 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 electrical circuit should be installed for the control circuit. We do not recommend splitting 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 Instructions

1. **Excavation:** Excavate the hole for the basin as small as possible, with a minimum base diameter of 50". 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.
2. **Connections & Backfill:** Pour enough concrete over and around the anti-floatation flange to anchor the basin and prevent upward movement. Connect 2" 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 3". 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" inlet hub with a rubber donut (Liberty #6112000). 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*. **Do Not** exert heavy pressure or run heavy equipment over the backfill material, as it may cause tank collapse.

*Other backfill options may be available – consult the factory for special instructions relative to your situation.

3. **Venting:** The fiberglass basin provided with the system must be completely sealed and properly vented in order to meet health and plumbing code requirements. The system 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 system inlet and the nearest building vent stack connection. See Figure A 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.

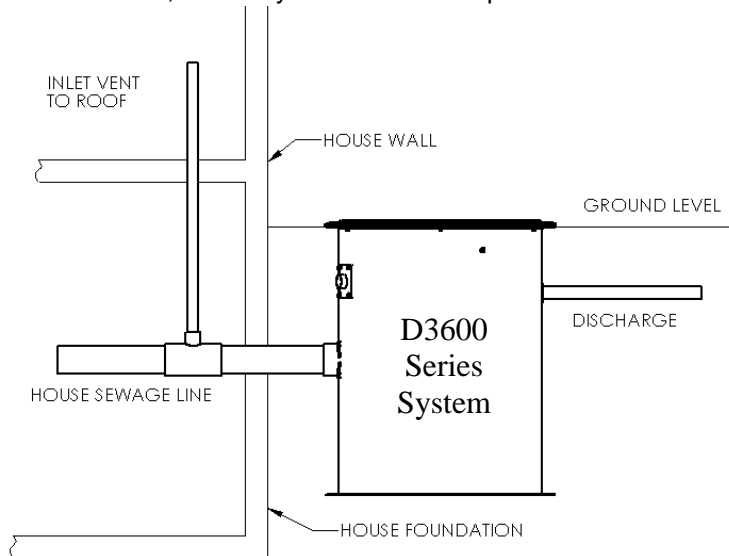


Figure A – Inlet Venting

4. Control Panel:

⚠ WARNING

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 all applicable national (NEC, IEC, EN, etc.) and local electrical codes and ordinances.

⚠ CAUTION

The control 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 electrical circuit should be installed for the control circuit. We do not recommend splitting 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.

- 5. Float Switches:** The float switches are pre-mounted on a quick tree. For quick tree removal, loosen the cord nut and pull the tree straight out of the tank. The pump cycle is pre-set at the factory at 12" for D3648 (approximately 53 gallons) and 18" for D3672 (approximately 79 gallons). The pump cycle can be adjusted by loosening the cord clamp 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.

*Please note that D3696 systems utilize a float bracket in lieu of a quick tree assembly.

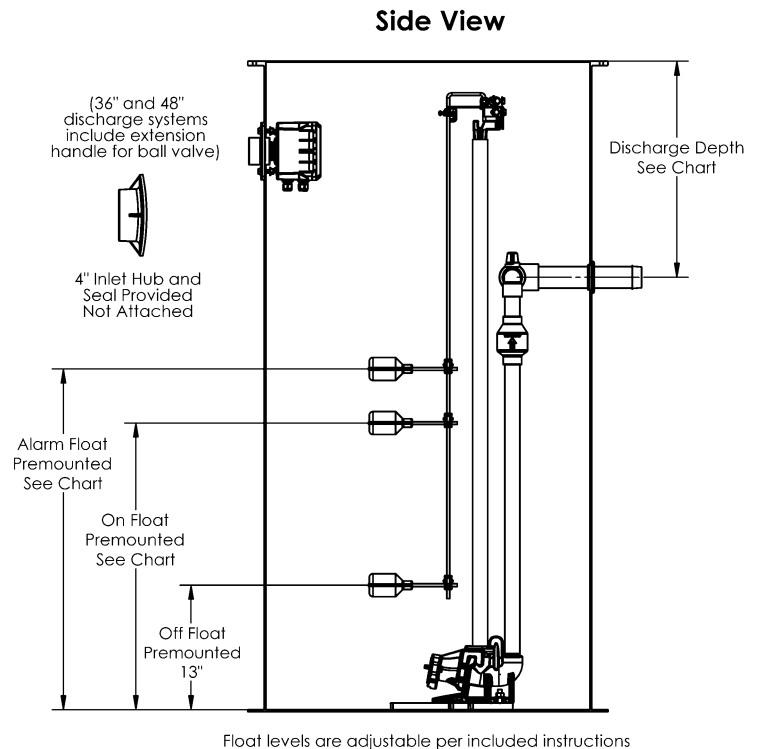
- 6. Testing and Startup:** Follow the testing and startup procedures found in the grinder pump and control panel manual.

4 Maintenance and Troubleshooting

⚠ CAUTION

The 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.

Model	Off Level	On Level	Alarm level	Volume/cycle
D3648	13" (33 cm)	25" (64 cm)	31" (79 cm)	62 gal. (235 liters)
D3660	13" (33 cm)	28" (71 cm)	34" (86 cm)	75 gal. (284 liters)
D3672	13" (33 cm)	31" (79 cm)	37" (94 cm)	88 gal. (333 liters)
D3684	13" (33 cm)	34" (86 cm)	40" (102 cm)	101 gal. (382 liters)
D3696	13" (33 cm)	37" (94 cm)	43" (109 cm)	115 gal. (435 liters)

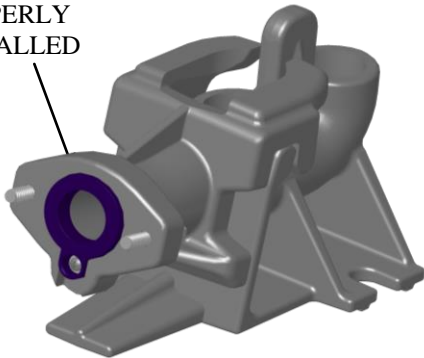


5 GR20 Quick Disconnect Assembly

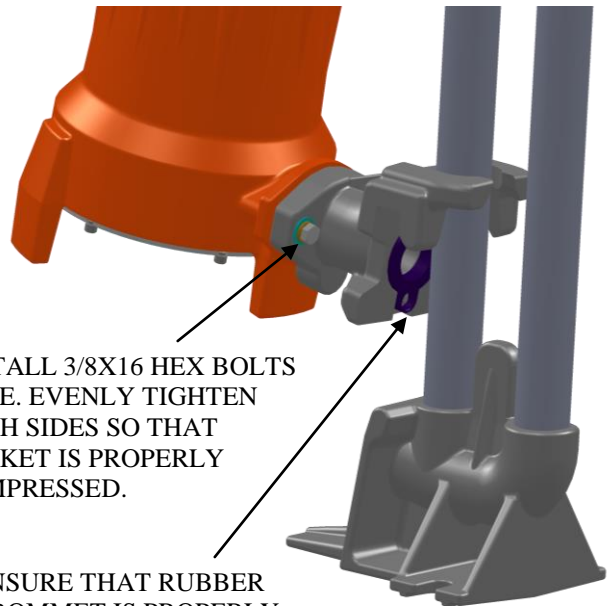
GR20 Assembly

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 means to lift the pump without disconnecting any of the discharge piping. Please ensure that installation is done as per the diagrams below.

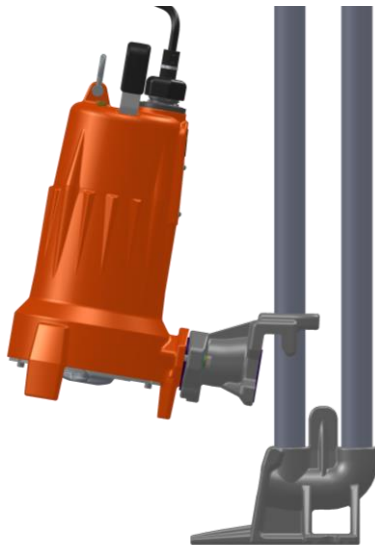
ENSURE THAT GROMMET IS PROPERLY INSTALLED



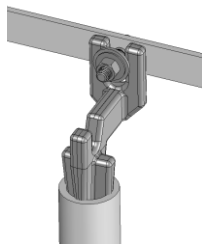
INSTALL 3/8X16 HEX BOLTS HERE. EVENLY TIGHTEN BOTH SIDES SO THAT GASKET IS PROPERLY COMPRESSED.



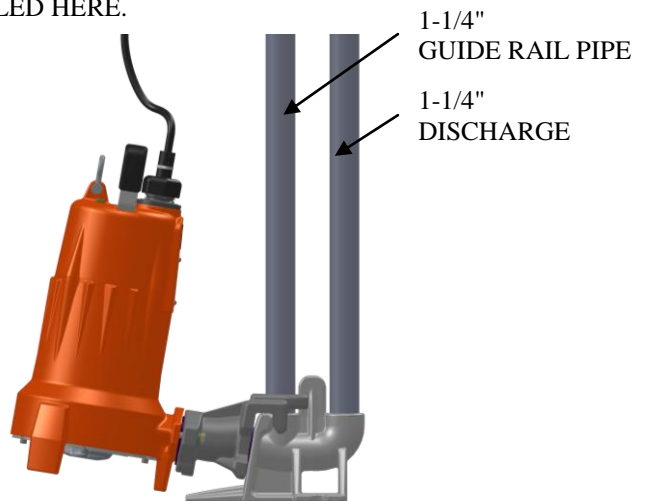
ENSURE THAT RUBBER GROMMET IS PROPERLY INSTALLED HERE.



DISCONNECTED POSITION



PIPE GUIDE ASSEMBLY



OPERATING POSITION

3 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 3 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 3 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 cut, damaged or spliced; if the pump discharge has been reduced in size; if the pump has been used in water containing sand, lime, cement, gravel or other abrasives; if the pump has been used in water above the advertised temperature rating; 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, model 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 three 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.



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