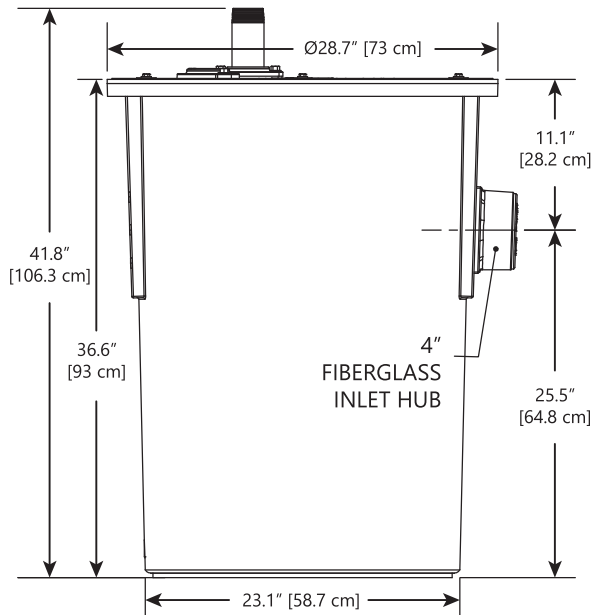
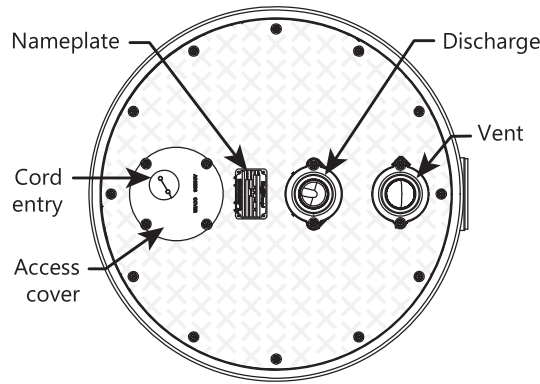


In-Ground Basin Installation



NOTICE

- ◆ 700-Series systems are **not** suitable for outdoor applications.
- ◆ Pro370 and vertical discharge systems Pro380 and ProVore 380-Series systems require an Access Riser for outdoor use. Consult Liberty Pumps for ordering information.
- ◆ Unless specifically noted, covers are **not** traffic rated.
- ◆ Do not exert heavy pressure or run heavy equipment on the backfill material as this could cause the tank to collapse.

ProVore and Pro-Series basins can be installed in both indoor and outdoor applications. The 700-Series basins can only be installed indoors.

Excavation

Excavate the hole as small as possible, with a minimum recommended 8" diametrical clearance around the tank. Never place the basin directly in contact with rocks or other sharp objects. Place only fine, 1/8" to 3/4" pea gravel or 1/8" to 1/2" washed, crushed stone as bedding between the basin and the hole walls. 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.** It is recommended that the top lip of the basin be level with the finished floor.

Initial Backfill

Use only fine, 1/8" to 3/4" pea gravel or 1/8" to 1/2" washed, crushed stone around the bottom of the basin to hold it in place. Do not use sand or native soil as backfill. Make the inlet connection as required for particular basin.

Inlet Connection

Pro-Series basins have a 4" inlet molded to the side of the tank. This inlet is sized to accept a 4" no-hub type coupling. Connect the gravity drainage line from the fixtures to this hub.

Final Backfill

Large rocks, clods, and foreign objects must be kept out of the backfill material. Only fine, 1/4" to 3/4" pea gravel, or 1/8" to 1/2" washed, crushed stone is recommended. Do not use sand or native soil as backfill. Mound the backfill slightly and allow for natural settling. Provide access to the basin cover for maintenance and service.

Installation

⚠️ WARNING ⚡ RISK OF ELECTRIC SHOCK

- All installation and maintenance of pumps, controls, protection devices, and general wiring shall be done by qualified personnel.
- All electrical and safety practices shall be in accordance with the National Electrical Code®, the Occupational Safety and Health Administration, or applicable local codes and ordinances.

NOTICE

- ◆ 700-Series systems are **not** suitable for outdoor applications.
- ◆ Pro370 and vertical discharge systems Pro380 and ProVore 380-Series systems require an Access Riser for outdoor use. Consult Liberty Pumps for ordering information.
- ◆ Unless specifically noted, covers are **not** traffic rated.
- ◆ Do not **increase** 702/PRG system discharge pipe size **above 2"** as adequate flow rates may not be achieved for proper operation. Contact Liberty Pumps with questions regarding proper pipe sizes and flow rates.

Electrical Connections

With mains power disconnected, complete pump and control wiring connections per manufacturer's wiring diagrams included with the control panel as applicable. Check all wires for unintentional grounds after the connections are made.

Discharge

NOTICE

- ◆ **ProVore grinder systems including ProVore 700-Series:** discharge size can be reduced to 1-1/4".
- ◆ **Pro-Series and 700-Series non-grinder systems:** discharge size must not be smaller than 2".

Using an adapter, connect the discharge pipe to the threaded 2" or 3" port provided on the cover (or the 2" PVC nipple used on side discharge models).

In some applications, it may be necessary to increase the pipe size to reduce friction losses. Contact Liberty Pumps with questions regarding proper pipe sizes and flow rates.

Install the remaining discharge line. In vertical discharge applications, a union should be installed just above the cover to facilitate pump removal if necessary (side discharge applications are equipped with an in-basin union).

For both vertical and side discharge systems, a check valve is required after the union to prevent the backflow of liquid after each pumping cycle. A gate or ball valve should follow the check valve to allow periodic cleaning of the check valve or removal of the pump. The remainder of the discharge line should be as short as possible with a minimum number of turns, to minimize friction head loss. Larger pipe sizes may be required to eliminate friction head loss over long runs. Contact Liberty Pumps or other qualified person if there are questions regarding proper pipe size and flow rates.

Figure 1 shows a typical installation. Variations may apply to actual installation.

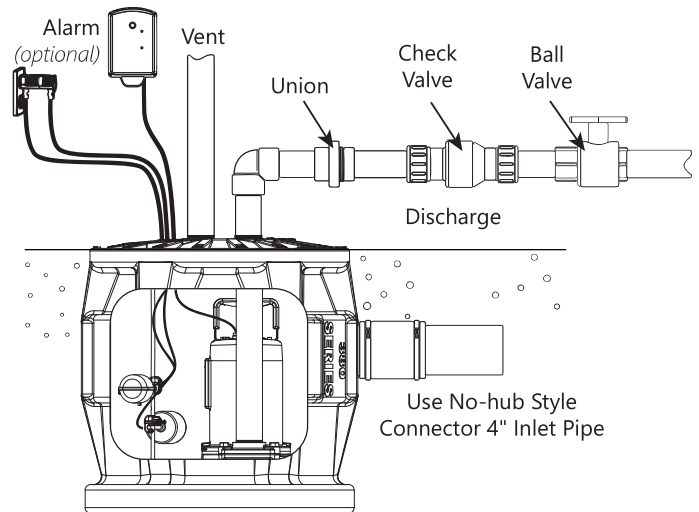


Figure 1. Typical Installation (Pro380-Series shown)

Vent

For both side and vertical discharge systems, the vent size must be in accordance with applicable codes, but not less than the discharge size.

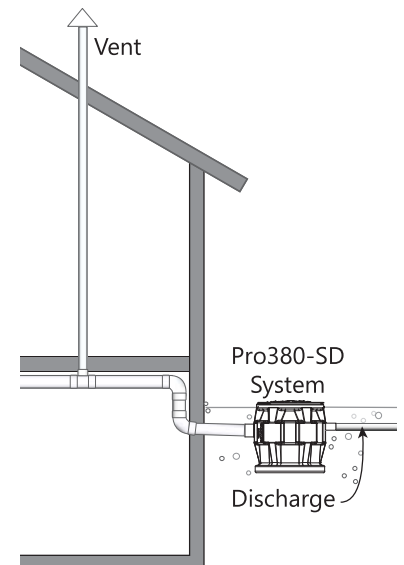
On vertical discharge models, a threaded 2" or 3" connection is provided on top of the cover. The vent must be piped to the existing building vent, or extended outside on its own standpipe.

On side discharge models, venting is accomplished through the inlet. See example figure for Pro380-SD venting example through the inlet pipe as an alternative solution.

Pro-Series systems shipped with steel pipe option have a rubber grommet seal on the discharge instead of female NPT connections.

Inlet

Connect the inlet line to the inlet hub per engineer's specifications. **700-Series** basins use a hub with a 4" seal for inlet connection.

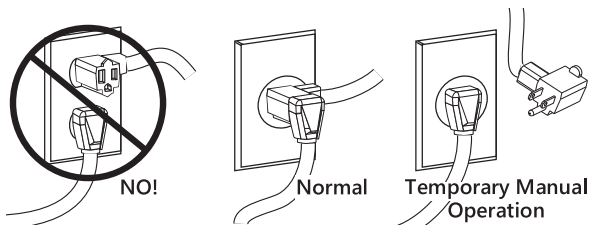


Piggyback Switch Operation

⚠️ WARNING RISK OF ELECTRIC SHOCK

- Single-phase 208/230V pumps shall only be operated without the float switch by using the circuit breaker or panel disconnect.
- Some products may have internal capacitors that could cause shock. Avoid contact with plug ends after removing from energy source.

All Pro370 and vertical discharge Pro380-Series models come factory-equipped with the float switch mounted on the QuickTree assembly. These models come with two cords—one to the float switch and the other to the pump motor. The switch cord has a series (piggyback) plug enabling the pump (motor) cord to be plugged into the back of it. The purpose of this design is to allow manual operation of the pump.



For automatic operation, the two cords should be interconnected and plugged into a separately fused, grounded outlet of proper amp capacity for the selected pump model. Both cords are equipped with 3-prong plugs and must be plugged into a properly grounded 3-wire receptacle. **Do not remove the ground prongs.**

For manual operation, or in the event of switch failure, the pump cord can be separated and plugged into the electrical outlet directly, bypassing the switch and using the circuit breaker or panel disconnect to operate the pump.

Automatic Pump Direct Wiring

⚠️ WARNING RISK OF SERIOUS INJURY OR DEATH

- In 208/230V installations, one side of the line going to the pump is always “hot”, whether the float switch is on or off. To avoid hazards, install a double pole disconnect near the pump installation.

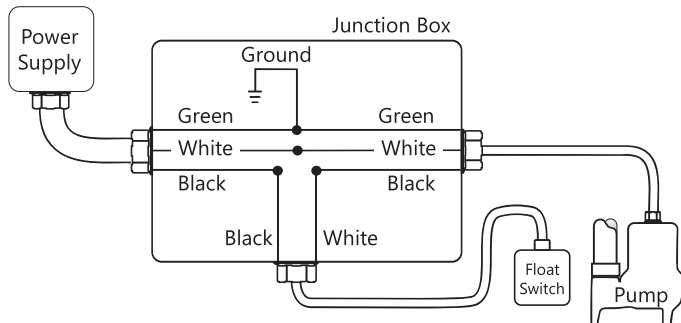


Figure 2. Direct Wiring of 115V or 208/230V, 1-Phase, Automatic

If a 1-phase pump will be wired directly into a junction box, and it is necessary to remove the plug, a certified electrician shall complete the wiring in accordance with the National Electric Code and applicable local codes. A disconnecting means for the pump shall be located in sight from the pump/basin location. See Figure 2 for direct wire installation of 1-phase, automatic pumps.

Access Cover and Float Switch Control

370/380-Series Vertical Discharge

Liberty Pumps Pro370 systems and vertical discharge 380-Series systems feature QuickTree technology. Floats for both pump activation and alarm (if equipped) are mounted on the QuickTree, separate from the pump.

The QuickTree float system uses a stainless steel mounting rod (tree) and specially designed cord clamping brackets to affix the pump float and (optional) alarm float in the system. **All floats are preset at the factory at optimum operating levels and should not be adjusted.** Field adjusting floats may cause improper activation or turn OFF of the pump and optional alarm.

QuickTree removal and float inspection

The QuickTree system is located under the separate access cover to help ease inspection, service, and replacement of a float. To inspect the float(s), simply unbolt the access cover and lift out the QuickTree assembly from its holder. There is no need to disconnect plumbing or remove the pump. Vertical discharge systems feature a manual pump (with no switch attached directly to the pump). Operation of the pump is accomplished by the QuickTree system.

Re-inserting the QuickTree

After service or inspection of the floats, re-insert the QuickTree into its holder. It is important that cords from the pump motor, float switch, and optional alarm float are properly sealed in the specially designed rubber sealing channels under the access cover. Proper sealing is required to keep sewer gas from leaking from the system. Place the cords securely in the rubber channels as shown in Figure 3 [left], being careful to remove excessive cord “slack” from inside the system.

IMPORTANT: Three cord channels are provided. For systems without the alarm option, only two channels are used and the third must be “plugged” with an attached rubber plug seal. See Figure 3 [right]. If the alarm cord is present, all three channels will be used. All rubber cover gaskets are permanently attached and do not require replacement.

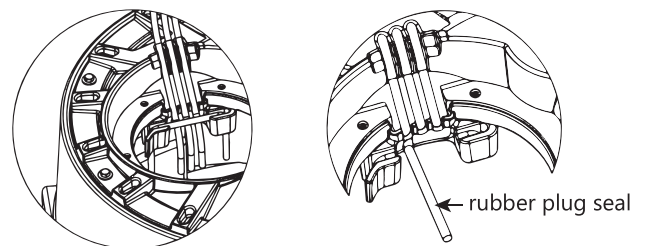


Figure 3. Proper Cord Sealing Behind QuickTree Rod

Re-securing the Access Cover

Tighten/torque the access cover in the following sequence. With the imprinted "cord seal" on the left, tighten the two bolts furthest away (furthest to the right), the two middle bolts next, and the two closest bolts last. Torque each bolt to 40 in-lbs.

QuickTree Settings

When servicing the QuickTree, place the switch cord into the trough or channel and then slip the stainless steel rod through the clamp. Tighten the screw with a Phillips screwdriver, being careful not to over-tighten. Flats have been stamped on the rod to designate float position, and the screw should be tightened onto the flat. Tether length is the amount of cord between the clamp and float. Example QuickTree settings shown.

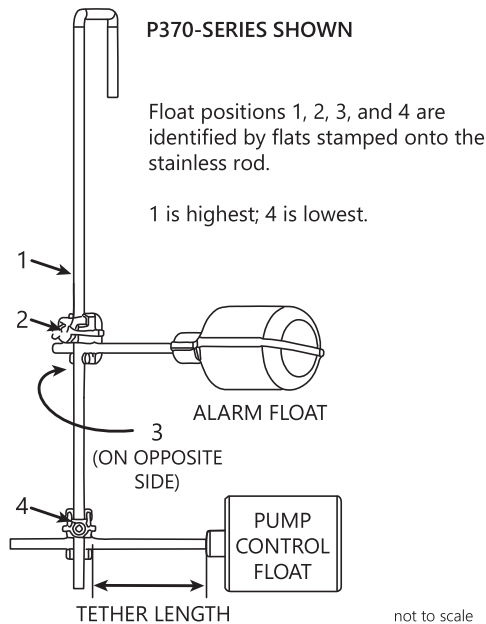


Table 1. Tether Length (Switch Position to Clamp)

Rod Position	Pro370-Series		Pro380-Series	
	Alarm	Control	Alarm	Control
1			3-1/2"	
2	3-1/2"			
3				3"
4		3-1/2"		

380-Series Side Discharge

The 380-Series Side Discharge cover provides access to the float and alarm cord entry/exit seals. QuickTree is not available on 380-Series Side Discharge systems. Side discharge 380-Series systems are equipped with an automatic pump that has the control float attached to the pump while the alarm float (if equipped) is on the discharge pipe.

700-Series

The 700-Series cover provides access to the float and alarm cord entry/exit seals. QuickTree is not available on 700-Series systems. 700-Series systems are equipped with an automatic pump that has the control float attached to the pump while the alarm float (if equipped) is on the discharge pipe.

Supplemental Installation Instructions

Pro370XL/Pro380XL-Series 10' Stack Test Basins

XL-Series sewage ejector basins are designed to withstand the 10' stack test required by some municipalities. Proper installation of the specified cover flange is essential to ensure that the test is met. Strict adherence to these instructions is required. Under no circumstances should the cover be installed in a manner inconsistent with these instructions.

Types of Systems

XL-Series basins are available as fully assembled systems complete with pump and discharge piping, as basin and cover assembly kits with no pump or plumbing, and as basins only. Follow the instructions below, as applicable, to correspond to the specific type of system.

Basin Installation

For all systems, refer to the primary instructions supplied with this ejector system or basin for excavating the pit, plumbing connections, and backfilling.

If the top of the basin is below grade, an Access Riser (model ARC18) is required. The maximum burial depth is 18" with respect to the top of the basin. 370-Series and top discharge 380-Series systems require an Access Riser for outdoor use. Consult Liberty Pumps at 1-800-543-2550 or a local distributor for more information on ARC Series Access Risers.

Installing the Pump in XL-Series Basin or XL Basin and Cover Assembly Kit

1. Liberty Pumps XL-Series basins, purchased separately, will require the appropriate 16-bolt Pro-Series cover assembly to make an effectively sealed ejector system. Contact Liberty Pumps customer service for the proper cover for the application.
2. Size the length of the discharge piping to reach from the discharge of the pump to be within the discharge pipe socket with integral lip seal on the underside of the Pro-Series cover. Liberty Pumps sewage pumps will use threaded-one-end (TOE) nipples of 23-3/4" length for Pro370XL-Series basins, or 17-1/2" long for Pro380XL-Series basins. Install the pipe into the threaded discharge of the pump.
3. Lower the pump into the basin, fitting the pump legs into the torque stops.
4. Insert power cord for the pump—and the piggyback switch cord, if so equipped—through the underside of the inspection cover hole and position cover over pipe nipple

while aligning the bolt holes. Sealant (such as silicone) can be applied on both sides of the rubber gasket surface to ensure proper sealing. Use sixteen 1/4-20 UNC bolts and washers to secure cover to the basin. Tighten bolts to 40 in-lbs. **Do not over-tighten bolts.** The soft, integral gasket will conform to the top of the tank. The bolts may be re-torqued up to 60 in-lbs to seal any leaks that may occur during a 10' stack test.

5. Liberty Pumps recommends the use of manual type pumps and the appropriate Liberty Pumps QuickTree Switch Kit for mounting of pump control and alarm floats. Contact customer service for ordering information. Install the QuickTree Kit per instructions included. Liberty Pumps automatic type pumps with piggyback float switches may also be used. Lay the power cable and switch cable in the grooves in the inspection cover recess as shown in the primary instructions included with this system. Attach the inspection cover to the main cover using supplied bolts and washers. Sealant (such as silicone) can be applied on both sides of the rubber gasket surface to ensure proper sealing. Tighten the bolts furthest away from the power cord grooves first, torquing to 40 in-lbs. **Do not over-tighten bolts.** The soft, integral gasket will conform to the top of the cover and power cords. The bolts may be re-torqued up to 60 in-lbs to seal any leaks that may occur during a 10' stack test.



Pro370XL and Pro380XL Series Basins IAPMO listed, # 4361

Operation

Refer to the Startup and Operation sections provided in the supplied pump, control panel, alarm manuals as applicable.

Maintenance and Troubleshooting

⚠ WARNING **RISK OF ELECTRIC SHOCK**

- Always disconnect pump(s) from power source(s) before handling or making any adjustments to either the pump(s), the pump system, or the control panel.

Refer to the Maintenance and Troubleshooting sections provided in the supplied pump, control panel, alarm manuals as applicable. For further questions, contact customer service at 1-800-543-2550 or support@LibertyPumps.com.

Warranty

Liberty Pumps Wholesale Products Limited Warranty

Liberty Pumps, Inc. warrants that Liberty Pumps wholesale products are free from all factory defects in material and workmanship for a period of three (3) years from the date of purchase (excluding* batteries and "Commercial Series" models). 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 three years from the date of manufacture noted on the pump nameplate.

The manufacturer's sole 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, operated, or maintained per manufacturer instructions; 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 temperatures above the advertised rating; if the pump has been used in water containing sand, lime, cement, gravel, or other abrasives; if the product has been used to pump chemicals, grease, or hydrocarbons; if a non-submersible motor has been subjected to moisture; or if the label bearing the model and serial 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 indirect, incidental, and 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.

*Liberty Pumps, Inc. warrants StormCell® batteries for 1 year from date of purchase, and warrants that pumps of its Commercial Series are free from all factory defects in material and workmanship for a period of 18 months from the date of installation or 24 months from the date of manufacture, whichever occurs first, and provided that such products are used in compliance with their intended applications as set forth in the technical specifications and manuals.