



PHCC Pro Series Sewage Pumps Instruction Manual & Safety Warnings

Specifications

Model No.	HP	Volts	Discharge Diameter	Max Amps @ 10'	Solid Handling	GPM / GPH @ 10'	Switch Included
E7055-NS	1/2	120	2"	7.3	2"	78 / 4680	No Switch
E7055-VS	1/2	120	2"	7.3	2"	78 / 4680	Vertical Switch
E7055-USC3	1/2	120	2"	7.3	2"	78 / 4680	Ultimate Sensor
E7100-NS	1	120	2"	12.8	2"	114 / 6840	No Switch
E7100-VS	1	120	2"	12.8	2"	114 / 6840	Vertical Switch
E7100-USC3	1	120	2"	12.8	2"	114 / 6840	Ultimate Sensor



E7055

Important Safety Instructions and Warnings

SAVE THESE INSTRUCTIONS. This manual contains important SAFETY WARNINGS and OPERATING INSTRUCTIONS for the PHCC Pro Series pumps. You will need to refer to it before attempting any installation or maintenance.

ALWAYS keep these instructions with the unit so that they will be easily accessible. Failure to read and follow these warnings and instructions could result in property damage, serious injury, or death.

⚠ WARNING

Risk of electric shock.
To reduce this risk, observe the following precautions.

- **ALWAYS** disconnect the pump from the power source before servicing or making adjustments.
- **NEVER** handle the pump or motor with wet hands or when standing on a wet or damp surface while the pump is plugged into the power source.
- **MAKE SURE THERE IS A PROPERLY GROUNDED RECEPTACLE AVAILABLE.** This pump is wired with a 3-prong grounded plug. To reduce the risk of electric shock, be certain that it is only connected to a properly grounded, 3-prong receptacle (preferably with ground fault circuit interrupt). If you have a 2-prong receptacle, have a licensed electrician replace it with a 3-prong receptacle according to local codes and ordinances.
- **NEVER** bypass grounding wires or remove the ground prong from the plug.
- **DO NOT** use an extension cord. The electrical outlet should be within the length of the pump's power cord, and at least 4 feet above the floor level to minimize potential hazards from flood conditions.
- **DO** protect the electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord.
- **MAKE SURE** the supply circuit has a fuse or circuit breaker rated to handle the power requirements noted on the nameplate of the pump.
- **NEVER** install the pump in locations classified as hazardous in accordance with the National Electrical Code, ANSI/NFPA 70.

- **DO NOT** remove the power supply cord and strain relief or connect the pump directly to the conduit.
- **ALWAYS** install the pump in accordance with the National Electric Code and all applicable local codes and ordinances. All wiring should be performed by a licensed electrician.

⚠ CAUTION

To reduce the risk of hazards that can cause injury or property damage, observe the following precautions.

- **DO NOT** use the power cord or strain relief to carry the pump. Use the pump handle.
- **DO NOT** expose the control unit to rain or snow.
- **DO NOT** operate the pump or control unit if it has been damaged in any way.
- **DO NOT** drill an air bleed hole in the discharge pipe when a check valve is used. Drill the hole at an upward angle from the bottom of the pit to avoid splashing water outside the sump pit. If a hole is not drilled above the pump, an air lock may prevent the pump from operating. The best location for the hole is about 3" above the discharge outlet on the pump. The hole must be drilled below the check valve. Drill a 3/16" (4.76mm) hole in the discharge pipe for the E7 Series pumps.
- **DO NOT** disassemble the pump or control unit. When service is required, contact Glentronics technical support at 800-991-0466, option 3. Return the product to the manufacturer for any repairs at the following address:

Glentronics, Inc.
645 Heathrow Drive, Lincolnshire, IL 60069

NOTICES

- Sewage pumps will not provide protection during a power outage.
- After the initial installation, be sure to check the operation by filling the pit with water and observing the pump operation through one full cycle.
- For continuous duty operation, the pump must be submerged at least ¾ of the depth of the pump at all times.
- In instances where the discharge line is exposed to freezing temperatures, the pipe must be sloped downward so any remaining water will drain out. Failure to do so will prevent water from exiting the pit and damage the pump if the line freezes.

Installation Instructions

Prior to Installation

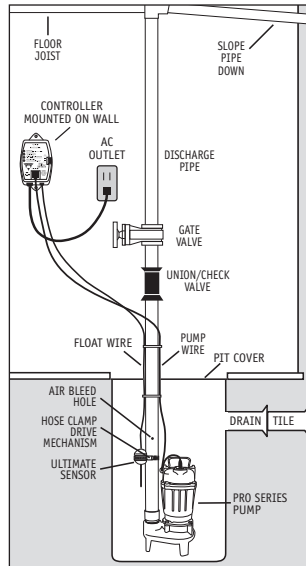
1. Visually inspect your pump. Products may be damaged during shipping. If the product has been damaged, contact your place of purchase or Glentronics, Inc. before installation.
2. Thoroughly read the instructions provided to learn specific details regarding installation and use. This manual should be retained for future reference.

Installing the Pump

⚠ WARNING

This installation must be in accordance with the National Electric Code and all applicable local codes and ordinances.

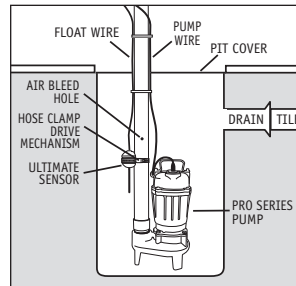
1. Use a pit that conforms to all local codes and is large enough to accommodate the pump and float switch. Larger pits are preferred, since they will extend the discharge cycle and reduce the number of times the pump turns on.
2. Clean the pit of all debris.
3. The pump should not be set directly onto a clay, earthen, or sand base.
4. The pump should be level. You may install bricks or blocks under the pump to provide a solid base.
5. Install discharge plumbing according to local, regional and state codes. Rigid PVC pipe is recommended.
6. The size of the discharge outlets on the pumps are 2". Match the size of the discharge pipe to the size of the outlet on the pump to maintain the optimum pumping capacity.
7. An in-line check valve is recommended to prevent back-flow. *Note: When using a check valve, an air bleed hole of 3/16" (4.76mm) for the E7 Series needs to be drilled in the discharge pipe. The best location is about 3" above the top of the discharge outlet. The hole must be drilled below the check valve. A small stream of water will escape through this air bleed hole when the pump is running, so the hole should be drilled on an angle toward the bottom of the pit.*
8. Install a gate valve or ball valve as required by any codes.
9. Secure the power cord to the discharge pipe with wire ties or clamps to prevent interference with the float assembly.
10. A cover is required in all sewage pump installations with gas-tight seals to contain gases and odors. A vent pipe should be added in any sewage installation.
11. In instances where the discharge line is exposed to freezing temperatures, the pipe must be positioned in a downward slope so any remaining water will drain away. Failure to do this will prevent water from exiting the pit and damage the pump if the line freezes.



Installing the Ultimate Sensor

The Ultimate Sensor is easy to install by using the enclosed stainless steel hose clamp.

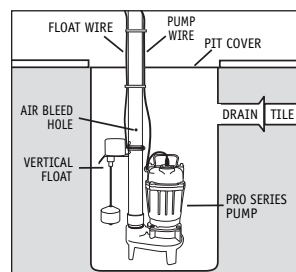
1. Hold the ball shaped sensor to the discharge pipe so that the sensor rod is below the ball. The sensor wire includes a connector that can be separated from the controller when the wire needs to be threaded through small openings.
2. Secure the sensor rod to the pipe with the enclosed hose clamp, but do not completely tighten the clamp at this time. Be sure to place the drive mechanism of the clamp on the adjacent side of the sensor. This will allow the extra material of the clamp to be as close as possible to the sensor once it is completely tightened.
3. Position the sensor to a level where the bottom of the sensor rod is no lower than 3" above the bottom of the pump. To avoid debris pouring onto the sensor, it should be positioned on the side opposite the drain tile. *Note: It is important to mount the sensor below the drain tile that empties into the pit. Mounting it above the drain tile would allow water to fill the drain tile before the pump is activated to pump out the water.*
4. Once the sensor is in the desired position, tighten the clamp. Do not over tighten.



Installing the Vertical Float

The vertical float switch contains a single large float. Sewage will lift the float to the top of the lift rod which will raise the lift rod and activate the pump. As the pump evacuates the sewage from the pit the float will drop, lowering the lift rod and turning off the pump.

1. Fully open the metal hose clamp and insert it through the slots in the mounting bracket of the float switch.



2. Place the hose clamp over the discharge pipe so that the gripping tabs are against the pipe and select the desired activation level of the pump.
3. The pumping range can be adjusted by moving the float stop up or down the lift rod.
4. To avoid debris from pouring onto the float, it should be positioned on the side of the discharge pipe opposite the drain tile.
5. Once the float switch is in the desired position, securely tighten the hose clamp. *Note: The cable from the switch must remain outside the hose clamp.*

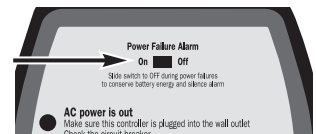
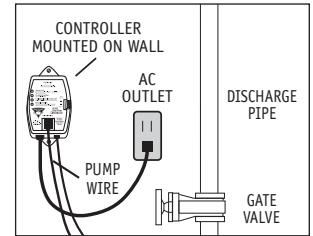
Connecting the Pump and Controller

⚠ WARNING

Make sure the outlet is single phase, 115V and 60HZ for all the pump installations.

Ultimate Solid State Controller

1. Mount the controller to the foundation, drywall or a stud through the 2 holes on the cabinet using the proper mounting hardware for the application. The controller should be mounted at least 4' from the floor and within 4' of the outlet.
2. Open the plastic door on the top of the unit and using a flat head screwdriver adjust the dial to select the number of seconds that the pump will run after the water falls below the sensor. The dial can be adjusted from 5-45 seconds. The manufacturer default is about 10 seconds. Install a 9V alkaline battery and replace the plastic door.
3. Plug the control box into a properly grounded, 3-prong receptacle (preferably with ground fault circuit interrupt). Then, plug the pump into the receptacle on the control box. Do not use an extension cord.
4. Make sure the Power Failure Alarm slide switch is in the **ON** position. *Note: Do not attempt to use sensors or float switches other than the Ultimate Sensor with this controller.*

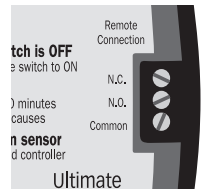


Vertical Float Switch

1. Insert the vertical switch's piggy-back plug into a properly grounded 3-prong receptacle (preferably with a ground fault circuit intercept).
2. Insert the pump plug into the piggy-back plug.

Connecting to a Security System (USC3)

The Ultimate Solid State Controller (Model USC3) includes a terminal on the right side of the control box to connect to a security system or other alarm devices. There are (3) three positions for wire connections on this terminal: N.O. - normally open, N.C. - normally closed, and Common.



1. Check your security system to determine whether an open (no contact) or closed (making contact) connection is needed to activate the alarm.
2. The security system will provide (2) two connection terminals to extend wires to the control terminal. Strip two wires 1/4" each. Connect either wire to the common terminal. To secure the wire into the terminal, insert the exposed wire into the hole on the side of the terminal next to the screw marked common. Turn the screw a few turns to lock-in the wire.
3. If the security system requires a closing of a contact to activate the alarm, secure the other wire into the terminal hole labeled N.O. (normally open). If the security system requires an opening of a contact, secure the wire into the terminal hole labeled N.C. (normally closed). *Note: Only the "AC power out" and "Float raised for 10 minutes" alarms will activate the remote terminal signal.*

Completing the Installation (all models)

1. After the initial installation, be sure to check the pump operation by filling the pit with water and observing the pump through one full cycle. When using the vertical float the pump should shut off after the float drops. *Note: When the pump activates, it should have a "normal pumping" sound. Any abnormal sound, vibration, or lack of output is the signal of a problem. Stop the pump and refer to the troubleshooting guide.*
2. Replace the pit cover making sure not to pinch or crimp the pump wire with the cover. The pit cover either has a 'hole punch' that will allow the cord to be passed through or one can be drilled.

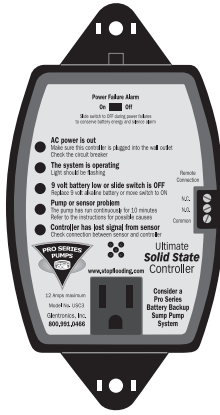
Product Operation

Operating the Pump in a Continuous Duty Application

The PHCC Pro Series pumps are rated for continuous duty and may be used in applications requiring continuous pumping including fountains, ponds, etc. For use in any continuous duty application the pump should be plugged directly into the wall outlet without the use of a controller. The outlet must be a single phase properly grounded 3-prong receptacle, 115V, 60HZ (preferably with ground fault circuit interrupt). For continuous duty operation, the pump must be submerged at least 3/4 of the depth of the pump at all times.

Ultimate Solid State Controller (USC3)

The benefit of this controller is that it will sound an alarm when problems exist regarding the ability of the pump to keep the basement dry. The controller will also run the pump once a week for approximately four (4) seconds. This test will exercise the pump and help ensure the pump is working properly. The Ultimate Solid State Controller features a series of warnings (audible and visual) that pinpoint potential problems with the pump, sensor and power conditions. The controller will sound an alarm when power has been interrupted, when the pump has run for more than 10 minutes continuously, when the 9V battery is low or if the controller detects a weak or no signal from the sensor. The 9V battery (sold separately) runs the controller during a power outage, allowing it to sound an alarm if the circuit breaker trips, the controller is not plugged in securely, or the homes power is interrupted. *Note: The 9V battery will only power the controller, not the pump.*



Understanding the Warnings and Alarms

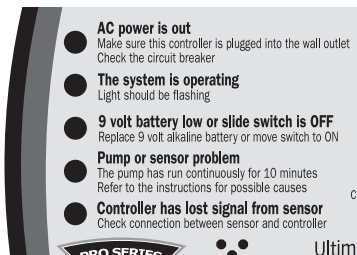
AC power is out

There are several causes for power failure. The most common are a power outage by the electric company or a tripped circuit breaker. Although the Ultimate Controller can not run the pump, it will sound an alarm indicating the loss of power. This will allow the homeowner to address the problem. If this warning light and alarm are on, the control box is not receiving AC power for one of several reasons:

1. The control box is not plugged in.
2. The power to the house is out.
3. The circuit breaker to that outlet has been tripped.
4. The ground fault interrupter has been tripped for that outlet.
5. A power brownout is taking place.

Power Failure Alarm slide switch

When the controller is not receiving AC power, the monitoring features and the audible alarms are powered by the 9-volt battery. This type of battery will power the controller for many hours, but not indefinitely. Once the source of the AC power alarm is determined, it is



suggested that the Power Failure Alarm slide switch be turned to the **OFF** position until the power is restored. This will preserve the battery and silence the alarm. When AC power is restored, slide this switch back to the **ON** position. *Note: If the AC power is restored and the slide switch is in the OFF position, the alarm and light for the 9-volt battery warning will activate, even if the battery is good. This is a reminder to reset the alarm. Slide the switch to the ON position. If the battery is good, the light will go out. If the alarm continues to sound, replace the battery.*

The system is operating

This light should be **ON** and flashing at all times. It is included to indicate that the system is monitoring the sump conditions. This light will not illuminate when:

1. The power is out and the Power Failure Alarm slide switch is in the **OFF** position
2. The power is out and the 9V battery is discharged
3. The controller is not functioning. Contact Glentronics service department

The 9-volt battery is low

1. The 9-volt battery located in the top of the control box is coming to the end of its useful life. Replace it with a new 9-volt alkaline battery.
2. The Power Failure Alarm switch is in the **OFF** position. It must be in the **ON** position at all times, except when silencing an actual power failure condition.

Pump or sensor problem

This key feature monitors the time that the sensor has been activated. It is unusual for a pump to run for 10 or more minutes continuously. This can occur for many different reasons. Either the sensor has a large amount of debris stuck to it, there is a mechanical problem with the pump, or there is a problem with the plumbing connections. Please refer to the Troubleshooting Guide on the following page.

Controller has lost signal from sensor

This alarm will sound if the controller has detected a weak signal or has lost the signal from the sensor. Check for a secure connection between the controller and sensor wire or clean the sensor rod.

Maintenance Check List

Maintenance should be performed 1-2 times per year.

1. Remove all debris from the pit.
2. Remove all debris floating in the water.
3. Remove all debris from the float switch or sensor rod.
4. Fill the pit with water. Make sure the pump turns on at the intended level.
5. While the pump is running, make sure the pump is evacuating fluid at a good pace.
6. While the pump is running, make sure a stream of water is escaping from the air bleed hole. If not, clear the hole of any deposits or debris.

Visit our website www.stopflooding.com for more information about the PHCC Pro Series AC pumps and battery backup sump pump products.

Warranty

GLENTRONICS, INC. warrants to the end purchaser that all of its pumps, switch and control unit products are free from defective materials and workmanship for the periods indicated below: All parts (excludes installation) for a period of:

- 3 years from the date of purchase for the E7 Series
- 1 year from the date of purchase for any of the above pumps when used in a continuous duty operations such as fountains or ponds

The defective product must be returned directly to the factory, postage prepaid with the original bill of sale or receipt to the address listed below. GLENTRONICS, INC., at its option, will either repair or replace the product and return it postage prepaid.

Conditions

The unit must be shipped, freight prepaid, or delivered to GLENTRONICS, INC. to provide the services described hereunder in either its original carton and inserts, or a similar package affording an equal degree of protection.

The unit must not have been previously altered, repaired or serviced by anyone other than GLENTRONICS, INC., or its agent; the serial number on the unit must not have been altered or removed; the unit must not have been subject to accident, misuse, abuse or operated contrary to the instructions contained in the accompanying manual.

The dealer's dated bill of sale, or installers invoice must be retained as evidence of the date of purchase and to establish warranty eligibility.

This warranty does not cover product problems resulting from handling liquids hotter than 104 degrees Fahrenheit, handling inflammable liquids, solvents, strong chemicals or severe abrasive solutions; user abuse; misuse, neglect, improper maintenance, commercial or industrial use; improper connection or installation, damages caused by lightning strikes; excessive surges in AC line voltage; water damage to the controller; other acts of nature, or failure to operate in accordance with the enclosed written instructions.

GLENTRONICS, INC. WILL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTIES ON THIS PRODUCT. SOME STATES DO NOT ALLOW FOR THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL OR INDIRECT DAMAGE. THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS EXPRESS WARRANTY SHALL BE EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS CUSTOMER'S EXCLUSIVE REMEDY FOR BREACH OF THIS WARRANTY, OR OF ANY IMPLIED WARRANTY NOT EXCLUDED HEREIN, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT.

For information or service contact:

Glentronics, Inc., 645 Heathrow Drive, Lincolnshire, IL 60069 800-991-0466

Model No. _____

Serial No. _____

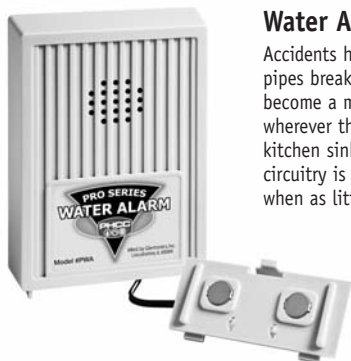
Purchase Date _____

Troubleshooting (Always unplug the pump from the controller before performing any maintenance)

The pump will not start or run	Pump is not plugged in	Plug pump in properly (see instructions)
	Water is not high enough to activate the pump	Make sure float switch is positioned properly
	Open circuit	Check circuit breaker or fuse, and GFI reset button
	Poor power source	Check circuit line wires and cable*
	Low voltage	Check line wires and source voltage*
	Bad power cable	Replace with new cable*
	Locked impeller	Remove strainer and clear obstruction
	Defective float switch	Replace float switch with new float switch
Thermal protector tripping or not functioning	Defective pump	Replace pump with new pump
	Locked impeller	Remove strainer and clear obstruction
	Incorrect power supply	Check power supply source and voltage
	Overburdened due to heavy sand content in the water	Use water filter or replace with a higher wattage pump
Pump starts and stops too frequently	Pump running continuously with no water present	Check sensor rod
	Sensor mounted too low	Raise sensor or adjust timer
	Water flowing back from pipe	Install or replace check valve
Pump will not shut off	Malfunctioning sensor	Replace sensor
	Clogged or frozen discharge	Clear blockage or thaw frozen line
	Blocked intake strainer	Clear debris from intake strainer
	Check valve installed with no air bleed hole in pipe or pump	Drill a bleed hole in the discharge pipe, or clean debris from the existing hole in the pipe or pump
	Check valve is stuck or installed upside down	Reverse or replace check valve. Make sure the check valve is installed with the flow arrow pointing up and out of the pit.
Insufficient or no water volume	Sensor rod is obstructed with large amount of debris	Clean debris from sensor rod
	Check valve on secondary pump will not close and water re-circulates within the system	Replace the check valve on the secondary pump
	Worn impeller	Replace impeller & adjust spacing between impeller and cover
	Partially blocked impeller	Remove strainer and clear obstruction
	Clogged or frozen discharge	Clear blockage or thaw frozen line
	Broken or leaking pipe	Repair piping
	Low power voltage	Check power voltage, wires and cable condition
	Check valve installed with no air bleed hole in pipe or pump	Drill a bleed hole in the discharge pipe, or clean debris from the existing hole in the pipe or pump
Abnormal sound or vibration	Check valve is stuck or installed upside down	Reverse or replace the check valve. Be sure check valve is installed with flow arrow pointing up and out of the pit
	Pump is air locked	Remove debris from the air bleed hole
	Check valve on secondary pump will not close and water re-circulates within the system	Replace the check valve on the secondary pump
Pump unexpectedly turns off for 5 seconds (USC3 Only)	Blocked intake screen	Clear debris from intake screen
	Broken impeller	Replace impeller with new one
	Pump is experiencing an anti air lock safety feature	Pump is frequently cycling on and off. The controller has a safety feature that turns the pump off for 5 seconds if it detects a possible air lock. This is normal. No action is required.

*Consult a licensed electrician.

If the above solutions do not solve the problem, contact Glentronics customer service 800-991-0466, option 3.



Water Alarm

Accidents happen.....water heaters rust and leak, laundry tubs overflow, pipes break, and pumps seize. You can detect these leaks before they become a major problem by placing a PHCC Pro Series Water Alarm wherever there is a risk of water damage.....in the utility room, under the kitchen sink, in the bathroom, or at the sump pit. The solid state circuitry is reliable and extremely sensitive. The 110db alarm will sound when as little as 1/32" of water reaches the sensor pad.