



# Instruction Manual & Safety Warnings

## Sump Pump Model BWSS100



### Important Safety Instructions

**SAVE THESE INSTRUCTIONS.** This manual contains important SAFETY WARNINGS and OPERATING INSTRUCTIONS for the Basement Watchdog 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. 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 dedicated fuse or circuit breaker rated to handle the power requirements noted on the nameplate of the pump.

**⚠ 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** pull on the float switch cord.
- **DO NOT** expose the control unit to water, rain or snow.
- **DO NOT** place the controller on the floor. The electrical outlet should be within the length of the pump's power cord and at least 4 ft above the floor.
- **DO NOT** operate the pump or control unit if it has been damaged in any way.
- **DO NOT** use sump pumps in pits handling raw sewage, salt water, or hazardous liquids. This product is rated for ground water use only.
- **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**

- When installing or replacing a primary sump pump you should also install a battery backup sump pump system.

#### Specifications 1 HP Model BWSS100

GPH @ 10'	4440
Volts	115V, 60Hz
Amps	6.3

#### Items included:

- Pump
- Dual float and controller
- Stainless steel hose clamp
- 2 inch x 1½-inch reducer adapter

#### You may also need:

- 1½-inch or 2-inch rigid PVC pipe to connect to the existing plumbing
- A check valve or union
- PVC pipe cleaner and cement



**Note:** The pump will accommodate a 2-inch discharge pipe. However, most homes have 1½-inch pipes. Therefore we have included a 2-inch x 1½-inch reducer adapter with this pump. You may replace your 1½-inch discharge pipe with a 2-inch discharge pipe, and a 2-inch adapter to obtain the optimum gallons per hour.

## NOTICES

- When a check valve is used, a  $\frac{3}{16}$  inch (4.7mm) air bleed hole must be drilled in the PVC pipe above the pump. Drill the hole at a 45° angle toward the bottom of the sump to avoid splashing water outside the sump pit. Make sure the hole is above the water line, and below the check valve. If a hole is not drilled above the pump, an air lock may prevent the pump from operating.
- The control unit must receive 115V AC +/- 5% and 60 Hz from the AC outlet.
- Primary pumps will not provide protection during a power outage. With the risk of property damage from high water levels, the addition of a Basement Watchdog battery backup sump pump system is highly recommended.
- After the initial installation, be sure to check the operation by filling the sump with water and observing the pump operation through several full cycles.
- For continuous duty operation, the pump must be submerged at least  $\frac{3}{4}$  of the depth of the pump at all times. **DO NOT** use the float switch or controller in this configuration.
- 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 sump and damage the pump if the line freezes.

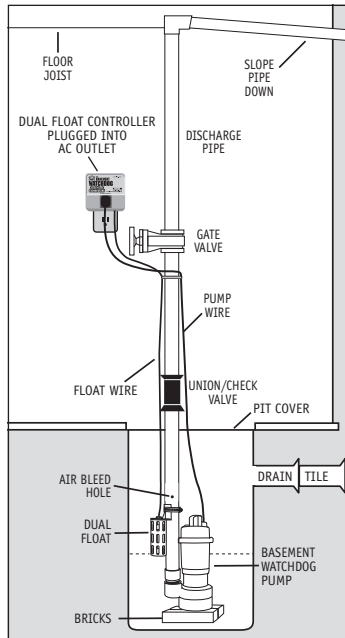
## Installation Instructions

### Prior to Installation

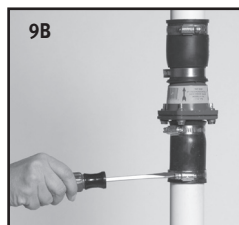
1. Visually inspect your pump. Products may be damaged during shipping. If the product has been damaged, contact your place of purchase or Glentronics, Inc. before installation.
2. Thoroughly read the instructions provided to learn specific details regarding installation and use. This manual should be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

**⚠ 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. **However, larger sump 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. The pump's strainer must be kept clear.
3. The pump should not be set directly onto a clay, earthen, or sand base. Install bricks or blocks under the pump to provide a solid base.
4. The pump should be level.
5. Install discharge plumbing according to local, regional and state codes. Rigid PVC pipe is recommended.
6. An in-line check valve is recommended to prevent back-flow. This check valve is mandatory when sharing a discharge line with another pump (i.e. a back-up pump or a second primary pump).
  - (a) **When a check valve is used, a  $\frac{3}{16}$  inch (4.7mm) air bleed hole must be drilled in the PVC pipe above the pump. Drill the hole at a 45° angle toward the bottom of the sump to avoid splashing water outside the sump pit. Make sure the hole is above the water line, and below the check valve. If a hole is not drilled above the pump, an air lock may prevent the pump from operating.**



7. Install a gate valve or ball valve if required by any codes.
8. 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.
9. If you are replacing an old sump pump:
  - (a) Unplug the pump from the outlet.
  - (b) Loosen the check valve or rubber union by unscrewing the bottom hose clamp. (If the existing system is installed without a check valve or rubber union, saw the pipe apart above the sump pit).
  - (c) Remove the old pump and unscrew the pipe and adapter.



- (d) If the adapter fits into the new pump, screw the pipe into the pump. If not, cut a piece of rigid PVC pipe and connect it to the new adapter by cleaning and cementing the two pieces together. (Follow the instructions on the PVC cleaner and cement.)
- (e) Loosen the enclosed stainless steel hose clamp by turning the screw counterclockwise and slip it over the pipe on top of the pump.
- (f) Hold the float switch against the discharge pipe so the cage is below the bracket.
- (g) Position the bottom of the float at the height you want the pump to activate and turn the screw clockwise to tighten the hose clamp, but do not tighten it completely at this time. *Note: Position the float switch to a level where the bottom of the float cage is no lower than 50% of the maximum height of the pump.*
- (h) Lower the pump into the sump by the handle.
- (i) To avoid debris pouring into the float, it should be positioned on the side of the discharge pipe opposite the drain tile. *Note: It is desirable to mount the float 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. (See diagram).*
- (j) Once the switch is in the desired position, tighten the hose clamp.
- (k) Connect the pipe on the pump to the existing discharge pipe with a rubber union or check valve and tighten the hose clamps securely.

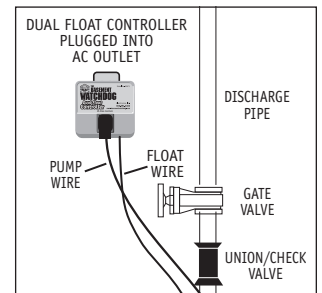
## Connecting the Pump and Controller

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

### Dual Float Controller

Plug the control box into a properly grounded, 3-prong receptacle, then insert the pump plug into the receptacle on the control box.

For a neater installation, secure the power cord and the float switch cord to the discharge pipe with wire ties or hose clamps. Keep the cords separated from each other on opposite sides of the pipe.



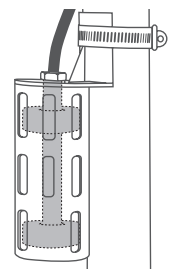
### Completing the Installation

1. After the initial installation, be sure to check the pump operation by filling the sump with water and observing the pump through several full cycles. The pump should run for 10 seconds after the lower 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 in the cover.

## Product Operation

### Dual Float Switch

The dual float switch contains two large floating rings enclosed within a protective cage. Water will lift the bottom float by a  $\frac{1}{4}$  inch, which will activate the pump. If for any reason the lower float does not activate the pump, the water will rise and activate the second switch. As the pump evacuates the water from the pit the floats will drop. The pump will run for an additional 10 seconds to extend the cycle after the lower float drops. *Note: When mounting the float switch, position the bottom of the cage at the height you want the pump to activate.*



## Dual Float Controller

The Dual Float Controller will activate the pump when either float is lifted, and then shuts off automatically 10 seconds after the float drops. Plug the pump cord into the piggyback switch on the control unit.

Dual Float Controller



## Operating the Pump in a Continuous Duty Application

The BWSS100 sump pump is rated for continuous duty and may be used in applications requiring continuous pumping including fountains and ponds. For use in any continuous duty application the pump should be plugged directly into the wall outlet without the use of the controller. The outlet must be a single phase properly grounded 3-prong receptacle, 115V, 60HZ. For continuous duty operation, the pump *must* be submerged at least ¾ of the depth of the pump at all times.

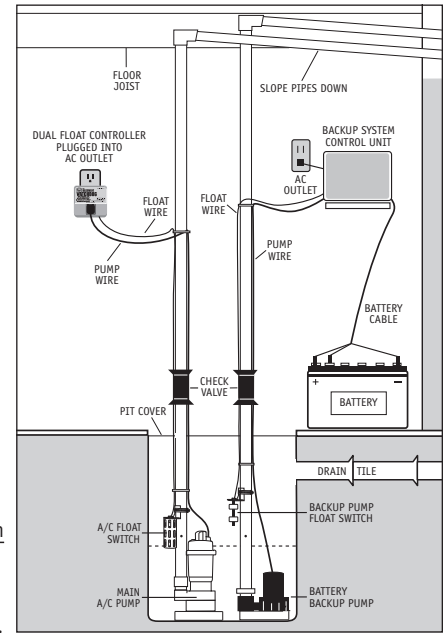
## Maintenance Check List

Maintenance should be performed 1-2 times per year.

1. Remove all debris from the bottom of the pit and the pump strainer.
2. Remove all debris floating in the water.
3. Remove all debris from the float switch cage.
4. Fill the pit with water. Make sure pump turns on at the intended level.
5. While the pump is running, make sure pump is evacuating water 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.

## Backup Installation

When the power goes out, the Basement Watchdog AC sump pumps will not operate. For protection during a power outage, a Basement Watchdog battery backup system can be installed. There are three systems with matching batteries that will provide protection. The illustration at right is an example of a typical battery backup installation.



Visit our website [www.basementwatchdog.com](http://www.basementwatchdog.com) for more information about the Basement Watchdog AC sump pumps and battery backup sump pump products.

## 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
	No AC power	Check circuit breaker or fuse
	Poor power source	Check circuit line wires and cable*
	Low voltage	Check line wires and source voltage*
	Locked impeller	Remove strainer and clear obstruction
	Defective float switch	Replace float switch with new float switch
	Defective pump	Replace pump with new pump
Thermal protector tripping or not functioning	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 float switch
	Float switch mounted too low	Raise float switch
	Water flowing back from pipe	Install or replace check valve
Pump will not shut off	Malfunctioning float switch	Replace float switch with new float switch
	Clogged or frozen discharge	Clear blockage or thaw frozen line
	Blocked intake strainer	Clear debris from intake strainer
	One or both of the floats is obstructed and cannot drop down	Clear debris from inside the float cage (Loosen nut on top of float, then remove c-clip on bottom of float. Remove debris. Tighten nut on top of float, then replace c-clip on bottom of float.) When reassembling the float, the magnetic strip on the inside of the float should be facing down.
	Defective float switch	Replace float switch with new float switch
	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
Insufficient or no water volume	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.
	Check valve on secondary pump will not close and water re-circulates within the system	Replace the check valve on the secondary pump
	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
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	
Abnormal sound or vibration	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
	Blocked intake screen	Clear debris from intake screen

\*Consult a licensed electrician.

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

## Limited Warranty

By opening this package and using this GLENTRONICS, INC. product, you are agreeing to be bound by the terms of the GLENTRONICS, INC. limited warranty ("warranty") as set out below. Do not use your product until you have read the terms of the warranty. If you do not agree to the terms of the warranty, do not use the product and return it within the return period stated on your purchase receipt from the retail store or authorized distributor where you purchased it for a refund.

To the extent permitted by law, this warranty and the remedies set forth are exclusive and in lieu of all other warranties, remedies and conditions, whether oral, written, statutory, express or implied. GLENTRONICS, INC. disclaims all statutory and implied warranties, including without limitation, warranties of merchantability and fitness for a particular purpose and warranties against hidden or latent defects, to the extent permitted by law. GLENTRONICS, INC. will not be liable for any incidental, special or consequential damages for breach of any express or implied warranties on this product. In so far as such warranties cannot be disclaimed, GLENTRONICS, INC. limits the duration and remedies of such warranties to the duration of this express warranty and, AT GLENTRONICS, INC.'s option, the repair or replacement services described below. Some states (countries and provinces) do not allow limitations on how long an implied warranty (or condition) may last, so the limitation described above may not apply to you.

Any and all causes of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be governed by and construed under the laws of the State of Illinois. Any cause of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be filed only in the Circuit Court of the 18th Judicial District, Lake County, Waukegan, Illinois, or in the Northern District of Illinois if filed in Federal Court. The maximum liability for any product described in this warranty shall be the cost of product replacement only.

If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

### What is Covered by this Warranty?

GLENTRONICS, INC. warrants to the end purchaser that its pumps, switch and control unit products are free from defective materials and workmanship for the periods indicated below:

All parts and labor (excluding installation) for a period of:

- 3 years from the date of purchase, when used intermittently as a sump pump
- 1 year from the date of purchase when used in 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.

### What is NOT Covered by this Warranty?

This warranty does not cover the cost or value of damaged property, including expressly any property that has been affected by water overflow, seepage or flooding. If GLENTRONICS, INC. determines that a product is deemed defective under this warranty agreement, it will repair or replace the PRODUCT ONLY. GLENTRONICS, INC. will not cover the cost to reinstall the product, nor will GLENTRONICS, INC. pay the cost of having a plumber or contractor repair or replace the product.

GLENTRONICS, INC. will not repair or replace a product that was installed incorrectly. A product shall be considered "installed incorrectly" when it deviates in any way from the instructions described in this manual.

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.

### How to Obtain Warranty Service

Within thirty (30) days of the product's defective performance, 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. Products not received by GLENTRONICS, INC. at the address indicated below within thirty (30) days of the product's defective performance will not be considered for warranty service. Products received after the above mentioned timeframe, fall outside of the timeframe for warranty service and will not be eligible for warranty service. The product must be returned to GLENTRONICS, INC. for inspection in order to be considered for warranty service. If the product is not returned to GLENTRONICS, INC. or the product is inspected by any person, plumber, contractor or business other than GLENTRONICS, INC., this warranty shall no longer be valid. Prior to defective operation, 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 installer's invoice must be retained as evidence of the date of purchase and to establish warranty eligibility.

### Where are Products Sent for Warranty Service?

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

### How Can I Obtain More Information?

By calling 800-991-0466.