

# UltraSump4<sup>™</sup>

Battery Backup Sump Pump System



## Installation Instructions

### Pre-Installation Checklist

- 1) Inspect UltraSump4<sup>™</sup> components to check for damage in shipping. If the unit is damaged, contact Basement Systems before installing.
- 2) Plug the UltraSump4<sup>™</sup> Charger into a properly grounded 220V outlet that is within 6 feet of the control box.
- 3) Ensure the 220V electrical supply being used with UltraSump4<sup>™</sup> is equipped with fuses or circuit breakers of proper capacity.
- 4) Test each electrical outlet with a UL listed circuit analyzer, to ensure the power, neutral and ground wires are correctly connected. If they are not contact a qualified licensed electrician prior to installation of UltraSump4<sup>™</sup>.
- 5) For added safety, pumping and other electrical equipment should be connected to a three-prong grounded receptacle with integral ground fault circuit interrupter. (GFCI).

### Cautions and Warnings

UltraSump4 is designed to pump clear water only. Do not use to pump water containing mud or debris. It is the owner's responsibility to check the battery at least every 6 months. Batteries contain acid and caution should be used when handling. For your safety, always disconnect the power supply before handling components of the UltraSump4<sup>™</sup>.

### Description

UltraSump4 is a battery-operated, back-up pumping system designed to be a secondary, stand-by pump that operates when the AC power is interrupted or if the primary pump fails. UltraSump4<sup>™</sup> is designed to be used with Basement Systems Triplesafe<sup>™</sup>, SuperSump<sup>™</sup> and SmartSump<sup>™</sup>, but it can be modified for use with other sump liners and with other primary pumps. The system consists of 3 components - the pump assembly, the charging unit assembly and the battery.

- **The Pump Assembly** - consists of a 12.0-volt DC pump, check valve, 1-1/2" PVC tee and pipe section for mounting to discharge line and float switch assembly.
- **The Charger Unit Assembly** - consists of a charger control box, 6-pin cord to battery, power cord, mounting brackets (may be mounted on 1-1/2" pipe or on a wall).
- **The Battery** - specifically designed for long term stand by use in a "float charge" application.

### System Operation

When water rises to approximately the level of the top of the float switch housing, the pump will automatically switch on and the alarm will sound to indicate UltraSump4<sup>™</sup> back-up operation. UltraSump4<sup>™</sup> operation indicates that the primary and/or secondary pump is not operational or is not keeping up with the inflow of water into the sump liner. UltraSump4<sup>™</sup> will operate until the water level falls below the float switch or the battery runs out of charge. When the UltraSump4<sup>™</sup> automatically switches on, it will operate for a minimum of 3 seconds or until the water level falls below the float switch. The UltraSump4<sup>™</sup> will continue cycling in this manner until the primary pump operation is restored which will draw the water down below the float switch. The alarm may be muted/unmuted by pressing and holding the audible alarm button for 3 seconds. The alarm will return to an unmuted state automatically 18 hours after the alarm was originally muted.

UltraSump4<sup>™</sup> operates using a sealed battery. The UltraSump4<sup>™</sup> charger will recharge the battery, as indicated by the lights in the front of the unit. In the event AC power is lost, an emergency LED light located at the bottom of the charger will illuminate the Sump system.

### Additional Features

#### System Test Feature

On the charging unit there is a test button. When the button is pressed the UltraSump4<sup>™</sup> pump will operate using battery power and the alarm will sound, therefore testing the pump and the battery. If there is not enough water in the sump, the pump will operate but no water will come out of the discharge line.

#### Batteries

The UltraSump4<sup>™</sup> comes with a 120Ah sealed lead acid battery designed to work best with the system. The recommended replacement battery is a 12v sealed lead acid battery in the range of 120Ah-130Ah that is supplied by Basement Systems Inc. Only one battery should be used at a time. Please note that a battery less than 120Ah will reduce performance. Automotive or other vehicle type batteries are not recommended. The battery is a sealed unit and needs no maintenance and does not need to be installed in a plastic box. All batteries lose capacity over time. It is recommended that the battery be replaced every three years and no later than 5 years. See your Basement Systems dealer for service.

#### Recharge Times

The battery is a 120-ampere hour model and is completely depleted from UltraSump4<sup>™</sup> operation, it will take 40 hours to fully recharge the battery. The pump draws 19 amperes per hour from the battery. Therefore, if the battery runs for 1 hour, it would take 6.3 hours to fully recharge the battery at 3 amperes per hour.

#### Home Alarm Connectivity

The UltraSump4<sup>™</sup> can be added to most wired home alarm systems. The data cable has a 2-wire connection for that purpose and should be connected by the homeowner's alarm provider. The 2-wire connection is a 0V Normally Open configuration.

#### Data Logger Port

There is a 10-Pin Data port located on the top of the UltraSump4<sup>™</sup> charger box to connect an optional TimeMachine Data Logger.

### Installation Instructions

The UltraSump4<sup>™</sup> was made specifically for use with TripleSafe<sup>™</sup>, SuperSump<sup>™</sup> or SmartSump<sup>™</sup> using a Zoeller M53 1/3 hp primary AC operated pump. The section of pipe glued into the bottom of the tee is the length necessary to fit into a check valve screwed into the Zoeller M53.

If another pump or check valve is being used, the length of pipe coming from the bottom of the tee may have to be altered so the UltraSump4<sup>™</sup> can sit directly above the primary pump. Specifically, the UltraSump4<sup>™</sup> pump is designed to rest directly on top of the Zoeller M53 to relieve stress on the plumbing from the weight of the UltraSump4<sup>™</sup>. Screw the check valve (included) securely into the Zoeller M53 pump and insert the PVC pipe section on the UltraSump4<sup>™</sup> pump. Position the UltraSump4<sup>™</sup> so the bottom of the DC pump touches

and rests on the shoulder of the cast iron Zoeller pump. Tighten hose clamps on check valve securely. Place the assembly of both pumps into the sump liner and glue the pipe section from the top of the PVC tee on the UltraSump4® to extend out of the sump liner at least 4 inches. UltraSump4® pump should be in a location away from the drainage system outlet. Water pouring directly on or near the UltraSump4® pump may affect pump performance. Install sump lid by pulling the primary pump AC power cord(s) and the 9-pin cable UltraSump4® cord from the pump assembly through the electrical hole in the sump. Ensure none of the cords interfere with any pump switch. Install pipe grommet, electrical cord grommet, sump lid bolts, and no-hub rubber fitting on the end of the PVC discharge pipe. Complete installation of the discharge pipe to the exterior.

Install the charging unit on the discharge line by tightening the included pipe clamps tightly around the discharge pipe at a height of 5 feet from the floor. Alternatively, the pipe mounting brackets on the back of the charger box can be removed and the box can be mounted on the wall with the flanges on the top and bottom of the box.

Set the battery on the floor next to the sump liner in a desirable position. Connect the battery lugs along the UltraSump4® 6-pin cable to the battery, taking care to connect the red cable to the positive (+) battery terminal, and the black cable to the negative (-) terminal. Be sure the battery terminals are installed, and the bolts are TIGHT! A loose connection can cause a short and excessive heat, possibly posing a fire risk.

Finally, plug the 9-pin pump cable and 6-pin battery cable into the charger unit. Then plug the UltraSump4® charging unit AC cord into the proper receptacle. The primary AC pump can be plugged into the lit piggy-back cord on the UltraSump4®.

WaterWatch Alarms may be installed with UltraSump4® without modification.

**NOTE** – Batteries come with 80% charge, the UltraSump4® will run, but not have enough power to pump the 12,000-gallon capacity as a fully charged battery. Allowing the battery to fully charge after initial installation may take 8-12 hours.

### **Pumping Times and Performance**

Since the pump runs intermittently, how long the battery will last depends on how much water is coming into the sump liner. The UltraSump4® will pump over 12,000 gallons of water on a fully charged 120 ampere hour battery.

At a 10-foot head (the pump has to pump the water 10 feet high to get it out of the basement) the pump will pump out 2000 gallons of water per hour through a 1-1/2" discharge line. Lowering the vertical head of the discharge line below 10 feet will improve the gallon per hour capacity of the pump. Raising the head above 10 feet will reduce the gallon per hour capacity of the pump.

The purpose of an UltraSump4® is not to guarantee that your basement will never flood even if the AC pump(s) fail. But, UltraSump4® will alert you of AC pump(s) failure and will pump water until the battery is depleted.

### **Trouble Shooting Information**

1. Battery is charged, and pump won't run.
  - a. Check to see that the float switch moves freely under the float switch housing.
  - b. Check to see that the pump and battery cables are plugged in tightly to the charger unit.
  - c. Check to make sure the battery connections are tight at the terminals.
2. Pump runs but pumps very little or no water.

- a. Check for a low battery. Battery will recharge if green AC power ON light is lit and pump is off.
  - b. If immediate use is required, disconnect battery and replace with a new, fully charged battery.
  - c. Check the red UltraSump4® strainer along the bottom of the pump to see if it is clogged with debris.
  - d. Check to be sure discharge line and check valve are clear.
3. UltraSump4® is operating even though AC power has not been lost.
    - a. Check the primary pump. Ensure the primary pump is plugged in securely. If it will not function, it may need to be replaced.
    - b. Annual maintenance is recommended to ensure optimal operation of your UltraSump4® battery back-up system.

### **Carbon Monoxide (CO) Detectors**

Batteries can emit gaseous by-products when charging. Some of these by-products can cause a CO detector to falsely alert. In order to help prevent false alerts, Basement Systems recommends moving the battery as far away from the CO detector as possible. Basement Systems provides the previous recommendation only as a suggestion to help prevent false alerts by the CO detector. They are not meant to supersede instructions from the CO detector manufacturer and all manufacturer instructions should be followed.

Call your Local Basement Systems dealer for service.

**Warranty** – Basement Systems Inc. warrants to the purchaser and subsequent owner that the UltraSump4 will be free from defect in material and workmanship under normal use and service, when properly installed, used and maintained, for a period of one year from date of installation (the "Warranty Period").

Parts that fail within the Warranty Period that are determined to be defective in material or workmanship will be repaired, replaced or remanufactured at Basement Systems Inc.'s option. No allowance will be made for shipping charges, damages, labor or other charges that may occur due to UltraSump4® failure, repair or replacement. This warranty does not apply to any part which 1) has been disassembled without prior approval of Basement Systems Inc.; 2) has been subjected to misuse, misapplication, neglect, alteration, accident or act of God; 3) has not been installed, operated or maintained in accordance with Basement Systems Inc. installation instructions; 4) has been exposed to abrasive or corrosive substances including, but not limited to, sand, gravel, cement, mud, tar, hydrocarbons or hydrocarbon derivatives (oil, gasoline, solvents, etc.). This Warranty is in lieu of all other warranties, expressed or implied, and Basement Systems, Inc. does not authorize any representative or dealer or other person to assume any other liability for Basement Systems, Inc. in connection with our products. Basement Systems Inc. expressly disclaims liability for special, consequential, or incidental damages or breach of expressed or implied warranties, any implied warranty of fitness for a particular purpose and merchantability.

For information pertaining to this warranty or service, contact: Basement Systems Inc., 60 Silvermine Road, Seymour CT, 06483 or call us at 1-800-640-1500.

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