

Hydropump Model RH1400 Installation Instructions

Please read all the instructions before attempting to install this pump. There are two installation configurations to select from and you need to use the one that works best for your application. See details on pages 2 and 3.

Specifications

Pump Motor:	12 VDC, 21 Amps
Battery Charger:	1.0 AH @ 12 VDC, 0.4 Amp Load
Charger Service:	120 VAC, 60 HZ, GFCI Outlet
Float Switch:	Vertical Style, with mounting clamp
Water Alarm:	Separate, 9 Volt battery powered (included)
Battery Requirements:	12 Volt Marine Deep Cycle, Sealed Lead Acid, AGM, or Gel: Size 27
Battery NOT included	Use Highest Quality, Maintenance-Free in Size 27, Best Warranty

** Extra battery case is available as an add-on kit to double pumping time; not pumping capacity

Physical Size:

Pump Length:	9 1/2"	Width:	6"	Height:	6"
Battery case L:	17"	W:	9-1/2"	H:	11"
Pump weight:	(without battery): 10 Lb				
Total shipping weight:	20 Lbs.				
	1-1/2" PVC Connection				

Included Parts:

Motorized Pump with SS Bracket	(1) PVC Check Valve, (1) Suction Screen
Battery Case with Cover and Cables	(1) PVC Tee, (2) PVC Adapters
Battery Charger with cables	(4) Feet Discharge Hose (2) black barbed adapters
Vertical Float Switch with clamp	18" Long PVC Pipe ; (1) 90° Street Elbow
(3) Cable ties, (2) Hose Clamps	Installation Instructions
(2) 20 Amp Inline Glass Tube Fuses	(1 in fuse holder, 1 spare)

Average Pumping Capacity:

Inside Sump:	1800/2600 Gallons Per Hour
Outside Sump:	1400/1800 Gallons Per Hour
Max Lift	15 Feet

Pumping Time:	1 minute cycles	12 Hours
	5 minute cycles	48 Hours
	15 minute cycles	96 Hours

Additional Parts & Tools Needed:

Check valve for primary sump pump (existing?)
 PVC Primer and Cement (small cans) for PVC connections
 Teflon Tape or Pipe Sealant for threaded connections

Hand saw or PVC cutting tool
 Phillips and slotted screwdrivers
 Utility knife, tape measure, large adjustable pliers

<p>⚠ WARNING ELECTRICAL SHOCK HAZARD</p> <p>Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.</p>	<p>⚠ WARNING EXPLOSION OR FIRE HAZARD</p> <p>Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.</p>
<p>Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.</p>	

30 Day Customer Satisfaction Guarantee and Two Year Limited Warranty

Within 30 days of purchase, if you are not completely satisfied with your new Hydropump, we will refund your money, in full, excluding shipping charges. Pump must be returned unused and in re-salable condition. Please contact the dealer where you purchased your Hydropump to obtain refund. If purchased directly from Base Products Corporation (The Company), you must call us at 800 554 1426 to receive authorization to process return or to receive Technical Assistance. If you choose to return it **after installation** call for return approval; there may be parts that cannot be credited. The Company is not responsible for any cost incurred with installation, removal, or pump repairs. Proper packaging of the returned product is the customer's responsibility and goods damaged while in transit as a result of improper packaging will not be considered for credit.

Base Products Corporation (the "Company") warrants the Hydropump (the "Product") against defects in material and workmanship for a period of Two Years from the date of the shipment. In the event of any defect within the warranty period, the Company will, at its option, replace or recondition the Product without charge providing the Product is returned, prepaid to our offices in Buffalo, New York. The replacement or reconditioning of the Product shall constitute the exclusive remedy for any alleged defect.

CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR OR REPLACEMENT AS PROVIDED HEREIN. CLAIMS BASED ON IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR, OR THE SHORTEST PERIOD ALLOWED BY LAW, BUT NOT LESS THAN ONE YEAR. THE LIABILITY OF THE COMPANY SHALL NOT IN ANY CASE EXCEED THE COST OF REPLACEMENT OF THE PRODUCT, AND IN NO CASE, SHALL THE COMPANY OR ANY OF ITS DISTRIBUTORS BE LIABLE FOR ANY INCIDENTAL, INDIRECT, CONTINGENT OR CONSEQUENTIAL LOSS OR DAMAGES SUCH AS PROPERTY DAMAGE OR EXPENSES RESULTING FROM THE FAILURE OF THE PRODUCT, DELAYS, LOSS OF USE, NEGLIGENCE, DAMAGE FROM PECULIAR WATER CONDITIONS, CHEMICALS OR FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE COMPANY'S NEGLIGENCE OR FAULT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, EXCEPT AS PROVIDED IN THIS LIMITED WARRANTY. THIS WARRANTY BECOMES VOID BY ANY MISAPPLICATION, MISUSE, ABUSE, OR IMPROPER INSTALLATION OF THE PRODUCT. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE. WARRANTY IS APPLICABLE IN THE USA AND CANADA, ONLY.

This warranty does not cover defects in the Product resulting from: (a) abuse or mishandling of the Product; (b) modification, alteration, repair or service of the Product by anyone other than Base Products Corporation; (c) improper or neglect in maintenance. This warranty does not cover any water damages caused by defects in the Product as such defect should have been identified during periodical testing. The owner's use of these Products confirms the understanding that these Products **do not constitute an insurance policy** and they are only loss mitigation products used to reduce the risk of water damage, however not eliminating such risk.

Inside the Sump Installation

Advantage: Pump is normally dry; mounted above water line; no priming necessary. Pumps an average of 1800 GPH.

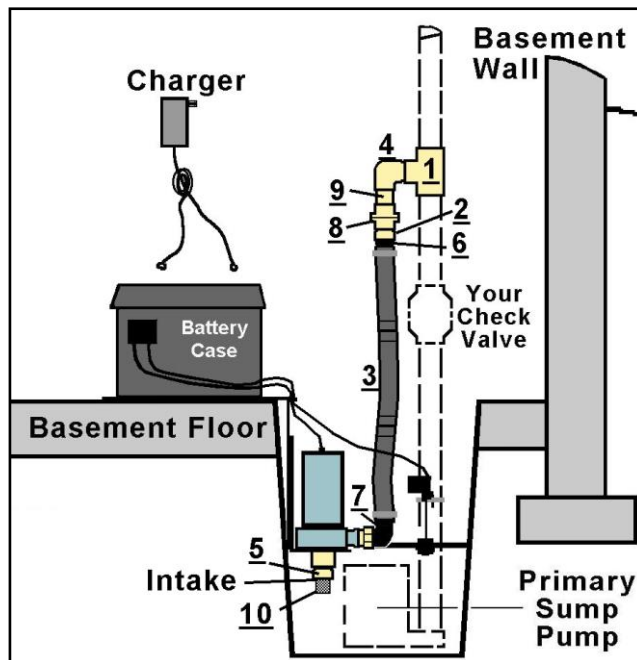
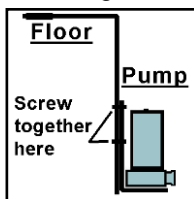
Disadvantage: May not fit into very small sumps.

Refer to installation drawing throughout installation. Use PVC cement to connect all PVC parts and always allow time to dry. Use Teflon tape on all threaded parts.

Step 1 Pump Placement:

- Measure the distance from the floor down to the high water level in the sump. Select the proper holes on the long, "L" shaped floor bracket to place pump at high water level.
- Remove screws from white corner brace on pump bracket and use them to assemble floor and pump brackets together as shown to the right.
- Position pump to hang just above the high water level; it may be positioned lower than this, if necessary. It can only pump as low as the intake. (See drawing.)

NOTE: You may turn the pump on its bracket to create space in the sump. Remove the screws that hold the pump to the bracket, turn the pump to the new position, and re-install the screws.



Step 2 Install Suction:

- Cement PVC Adapter (#5) into PVC intake of pump.
- Screw Suction Screen (#10) into adapter (#5).

Step 3 Install discharge:

- Unplug primary pump and drain discharge pipe. A working check valve **MUST** be present above the main sump pump and below the tee (#1), as shown, or the backup pump will send water back down into the sump.
- Screw black barbed elbow (#7) into PVC fitting on discharge of pump. Turn elbow upward as shown.
- Slip hose clamp onto one end of hose (#3) and push hose end onto black barbed elbow (#7). Tighten clamp securely.

Important: Drill a 1/8" hole into the white dot on the side of the black barbed elbow (#7) as a vent hole.

- Now slide pump into sump till free leg of floor bracket lays flat on the floor. Adjust position as needed.
- Cut a section of PVC pipe (#9). This length may vary; see drawing and cut length as needed (min 4" – 18")
- Cement pipe (#9) into female opening of elbow (#4).
- Cement check valve (#8) onto pipe (#9) with arrow pointing upward in direction of water flow.
- Cement adapter (#2) into bottom opening of check valve (#8).
- Screw straight black barbed adapter (#6) into adapter (#2).
- Dry-fit male end of elbow (#4) (**DO NOT CEMENT NOW**) into branch opening of tee (#1).

• Use the discharge hose to help you determine the position of the tee (#1) on your main sump pump discharge pipe.

Remember the hose may only be connected at one of the cuffs, so be careful how you measure. Mark the position of the tee (#1) on the vertical pipe (shown) or the horizontal pipe (if necessary).

- Carefully cut and remove a 2" section from your main pump discharge pipe where the center of the tee (#1) will fit.
- Cement tee (#1) into the new opening (cement and insert one end at a time for best results). (If pipe is 1-1/4" you will need bushings to fit.)
- Slide a hose clamp onto the upper end cuff of the discharge hose (cut to fit if needed) and attach upper end of the hose (#3) to the black barbed adapter (#6) on tee assembly. Tighten the hose clamp securely.
- **Now** you may remove the elbow (#4) from the tee (#1) and cement it in place in the correct position.

Step 4 Float Switch:

- Open clamp on Float Switch and wrap it around discharge pipe of primary sump pump in position to turn **ON** the backup pump if the water rises 2-4" above normal and **OFF** before the water pumps down to the intake opening.

If you are finished with this part of the installation, skip page 3 and go to Page 4.

Outside the Sump Installation

Advantage: Ideal for small or congested sumps.

Disadvantage: Pump is always full of water. Pumps average of 1400 GPH.

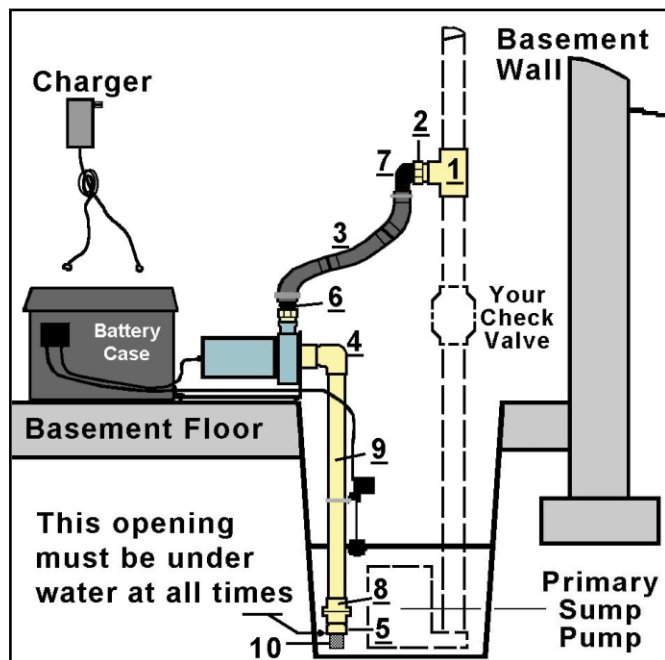
Step 1: Pump Placement:

- Position battery box and pump on the floor as shown.
- Place empty battery case near pump, on floor or a shelf.

Step 2: Install Suction Pipe:

- Cement check valve (#8) onto PVC pipe (#9) with arrow on check valve pointing up. Cement adapter (#5) into bottom of check valve (#8) and screw in suction screen (#10).
- **DO NOT CEMENT:** Dry-fit until instructed- Insert the street elbow (#4) into the fitting on suction opening of pump.
- Place the check valve/suction screen assembly with the pipe attached, down into the sump and determine its best location. The final position of the suction screen should be 2" above the bottom so mud is not drawn into the pump. Allow for insertion and mark that position, cut the pipe to fit into the street elbow, and check for proper positioning.
- **Cement** the elbow (#4) to the top of the pipe first.
- **Then** cement elbow (#4) into fitting on pump.

Avoid unnecessary stress against the pump by setting the check valve to just touch the side of the sump wall.



Step 3 Install discharge:

- Unplug primary pump and drain discharge pipe. A working check valve MUST be present above the main sump pump and below the tee (#1), as shown or the backup pump will send water back down into the sump.
- Use the discharge hose (cut to fit at cuff, if needed) to help you determine the position of the tee (#1) on your main sump pump discharge pipe. Mark the Tee (#1) position on the vertical pipe (shown) or the horizontal pipe (when necessary).
- Carefully cut and remove a 2" section from your main pump discharge pipe where the center of the tee (#1) will fit. Cement tee into the new opening one end at a time for best results. If pipe is 1-1/4" you will need bushings to fit.
- Cement adapter (#2) into branch opening of tee (#1) then screw the black barbed elbow (#7) into adapter (#2).
- Screw the straight black barbed adapter (#6) into the PVC fitting on the discharge of the pump.
- Slide a hose clamp onto each end cuff of the discharge hose and attach one end of the hose to the black barbed adapter (#6) on the pump and the other end to the black barbed adapter (#7) on Tee assembly. Tighten the hose clamps at both ends.

Step 4 Float Switch:

Attach float switch to the suction pipe using the attached hose clamp so that the pump will turn **ON** if the water rises 2-4 inches above normal and turn **OFF** before the water drops below the foot valve opening as shown.

SUCTION AND DISCHARGE PIPE MUST BE FULL OF WATER AT ALL TIMES IN ORDER TO OPERATE IN THIS CONFIGURATION. DO NOT ALLOW EITHER PUMP TO DRAIN THE SUMP WATER BELOW THE WATER ENTRY OPENING OF THE FOOT VALVE. ADJUST MAIN PUMP IF NECESSARY TO PREVENT THIS. NATURAL DRYING OF THE SUMP SHOULD NOT AFFECT THIS. FOOT VALVE IS DESIGNED TO KEEP IT FULL EVEN IF THE SUMP WATER DRIES UP, BUT DON'T ALLOW EITHER PUMP TO PUMP IT BELOW THAT POINT.

Lift primary sump pump float by hand or by filling sump with water and operate the main pump for approximately 5 seconds. Do this 2 or 3 times to sufficiently prime backup pump with sump water and to purge out any trapped air (Do not run pump dry). Verify that all joints are sealed. Unplug primary pump and fill sump with water. Simulate the rising water by lifting the float by hand, but don't empty the sump below water intake. Confirm that the position of the float is correct and it moves freely. Adjust the float so that pumping will begin when water rises 2-4" above normal and will shut off before water surface is below the Water Intake. Repair any leaks now during this process. If a small drip develops at the front of the pump over time, it is normal and should not cause a problem. The water should either evaporate or find its way into the sump, harmlessly. If a larger leak occurs, tighten the screws on the green base plate, which may be reached through the large round opening in the front of the stainless steel bracket. This should resolve the issue.

Battery Connections:

Do not plug in the charger until you are finished with all wiring connections. Connect **all Red (+) Pos** wires from charger **and** junction box together to positive (+) battery terminal. Connect **all Black (-) Neg** wires from charger **and** junction box together to negative (-) battery terminal using wing nuts on terminals. Tighten wing nuts securely. Plug charger into a GFCI protected wall outlet. Consult with a licensed electrician, if necessary. Alligator clips are provided for odd types of terminals and are rarely used. (See "Charger Instructions")

Note: One battery may need 24 – 36 hours to fully charge, even when it is new; Double the time for two batteries.

Optional Dual Battery Case Instructions: Make all these connections with the battery charger **UNPLUGGED**.

When connecting a second battery, all the **Red Wires** go to the **Positive (+) Terminals** and all the **Black Wires** go to the **Negative (-) Terminals**. Connect each terminal of the first battery to the matching terminals of the second battery. The batteries will be in "parallel" and the charger can maintain both batteries. Plug charger in when finished.

******* Don't forget to plug in the primary pump when you are finished!! *******

Start Up: For both configurations, fill sump with water high enough for the float switch to operate. Pump starts when float reaches the top and stops when float reaches the bottom of the rod. Grommets on the float rod may be adjusted.

Water Alarm: Mount the alarm either on one of the pipes in the sump, or on a nearby wall. Set the alarm float at a level to sound off when the backup pump operates, to let you know there is a high water situation. You may choose the position for the alarm so that you are alerted to the high water at the point where you desire. Alarm must be manually reset when it alarms. See alarm instructions.

Maintenance Procedures:

Every 3 months, lift the float by hand to the top; confirm pump operation, water removal, and that the float is allowed to move freely. Check battery age and charger status lights: **RED** light means the charger is **powered** from the wall outlet; **YELLOW** light means it's **charging**; **GREEN** light means the charger is in the "**Float Mode**". The charger will switch back and forth between the **Yellow** and the **Green**. Charger is automatic; no adjustments or maintenance are required. See Separate Charger Instructions for details. **Write down your test date and results; keep it with the pump.**

Troubleshooting:

Pump is running but no water is being removed from sump:

- **Pump may have lost its prime (Outside the Sump Installations only):** Fill the sump with water and run the main sump pump on/off a few times. If necessary, open the hose clamp at the top of the discharge hose and pull the hose off the black barbed fitting. Pour water into hose till full to restore its prime. Reconnect hose and start pump.
- **Clogged** suction or discharge piping: clear obstruction and restart.

Pump is removing low volumes of water.

- Suction or discharge piping may be **partially clogged**: clear obstruction.
- **Excessive discharge pipe length** and/or configuration can produce a large pressure drop; accept the lower flow or change the piping layout, direction, length, etc.
- **Battery may need charging or replacing.** Open wet cell type batteries **MUST** be regularly serviced. **Sealed** batteries are your **BEST** choice and need no maintenance.
- **Check all PVC joints** and confirm that they are cemented and leak-tight. Air leaks reduce pumping capacity.

Pump will not turn on or off properly.

- **Float** must be fully **down for off** and fully **up for on**. Adjust float by hand to each position to test pump, re-position clamp on suction pipe, or move stopper on the float rod to assure proper operation. If this doesn't work, call the factory.
- **Battery terminals** may be connected improperly: correct and tighten securely.
- **Check fuse in yellow fuse holder.** Replace with 20 Amp glass-tube fuse and re-try pump.

