

SUBMERSIBLE SUMP PUMP

INTRODUCTION

This instruction sheet provides you with the information required to safely own and operate your product. Retain these instructions for future reference. The product you have purchased is of the highest quality workmanship and material, and has been engineered to give you long and reliable service. This product has been carefully tested, inspected, and packaged to ensure safe delivery and operation. Please examine your item(s) carefully to ensure that no damage occurred during shipment. If damage has occurred, please contact the place of purchase. They will assist you in replacement or repair, if required.

READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL, OPERATE, OR SERVICE YOUR PRODUCT. KNOW THE PRODUCT'S APPLICATION, LIMITATIONS, AND POTENTIAL HAZARDS. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

DESCRIPTION

This pump is recommended for use in basins or lift stations, and is suitable for pumping effluent, wastewater, and other non-explosive, non-corrosive liquids. It can handle spherical solids up to 3/4". Accessories such as check valves, and float switches are available separately.

PRE-INSTALLATION CHECKLIST – ALL INSTALLATIONS

⚠ CAUTION: Purpose and importance of vent hole. The bottom intake design to reduce seal failures and clogging is important and necessary for all submersible sump, effluent, and sewage pumps to handle various sizes of solid wastes. When using a check valve, drill a vent hole (1/8" or 3/16" diameter) in the discharge pipe below the check valve and pit cover to purge the unit of trapped air which is caused by water agitation or a dry pit. You should check and clean the vent hole periodically to avoid clogging. You may be reluctant to drill vent hole on a high head application because of severe vibration. If so, must be sure that the pump case and impeller are covered with liquid before connecting the discharge pipe to the check valve in case inlet air carries to the pump intake. **NOTE: VENT HOLE MUST BE BELOW THE PIT COVER.** You can see water stream from vent hole when pump runs.

INSTALLATION



⚠ CAUTION: This pump is intended to pump water only, with a maximum temperature of 105°F (40°C). Do not pump heated liquids.

⚠ CAUTION: The motor housing transfers heat to the volute. This pump is capable of operating with the motor housing partially exposed for extended periods, while still providing sufficient motor cooling and bearing lubrication. However, for the best cooling and longest motor life, the level of the liquid being pumped should normally be above the top of the motor housing.

1. Place the pump on a hard, level surface in a suitable, water-tight basin that is at least 11" (28 cm) diameter and 18" (46 cm) deep. Never place pump directly on clay, earth, or gravel surfaces.
2. Install the pump with ABS, PVC, polyethylene, or galvanized steel pipe. Use the proper adapters to connect plastic pipe to the pump.
3. Install a check valve in the discharge line to prevent the backflow of liquid into the basin. The check valve should be a free-flow valve that will easily pass solids.

⚠ CAUTION: For best performance when handling solids, install the check valve horizontally or at an angle of no more than 45°. Do not install the check valve vertically because solids may settle in the valve and prevent it from opening on start-up.

4. When using a check valve, drill a 1/8" or 3/16" diameter relief hole in the discharge pipe below the floor line between the pump discharge and the check valve. Otherwise, the pump could air lock and will not pump water even though it will run.

Product Specifications

Discharge size	1 1/2" FNPT	WATTS	520	5' (1.5 m)	GPH 4200
HP	1/2	Motor Type	PSC	10' (3 m)	GPH 3300
PH	1	Shut Off	32' (9.7 m)	15' (4.6 m)	GPH 2700
VOLTS	115	Power Cord	9' (2.7 m)	20' (6.1 m)	GPH 1800
HZ	60	Weight	22 lbs (9.9 kilos)	25' (7.6 m)	GPH 1200
AMPS	5			30' (9.1 m)	GPH 360

SAFETY GUIDELINES



⚠ RISK OF ELECTRICAL SHOCK: This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle. A separate branch circuit is recommended. Do not remove the third prong from the plug.

⚠ RISK OF ELECTRICAL SHOCK: This pump has not been certified for use in swimming pool areas where people are present in the water. Do not use the pump for this purpose.

⚠ WARNING: Do not use to pump flammable or explosive liquids such as gasoline, fuel oil, kerosene, etc. This pump should only be used with liquids compatible with pump component materials. Failure to follow this warning can result in property damage, personal injury, or death. The pump motor is equipped with an automatic resetting thermal protector and may restart unexpectedly.

Do not handle a pump or pump motor with wet hands or when standing on a wet or damp surface, or in water. Do not stand in water while changing fuses or insert your finger into the fuse socket.

Disconnect the pump from the power source, drain all liquids, and release all pressure within the system before attempting to service the pump.

This pump has no user-serviceable parts. The motor housing of the pump is completely sealed and requires no service. Disassembly of the motor housing or alteration of the power cord will void all warranties.

The power cord on this pump cannot be replaced. If it becomes damaged, the entire pump must be replaced.

all fountain pumps, pool pumps, and other pond equipment.

All wiring and electrical work should be done by a qualified electrician.

Secure the discharge line before starting the pump. An unsecured discharge line will whip, possibly causing personal injury and/or property damage.

Do not operate the pump in a dry basin. This will cause the pump to become extremely hot, causing burns if touched and/or damage to the pump.

Do not lift or carry the pump by the power cord; use the handle.

TESTING



NOTE: When the pump is installed in a basin with a sealed cover, you cannot observe the operation of the float switch. The cover usually will have a spare hole that is blocked with a rubber plug. Remove this plug to observe switch operation during testing

.1. Check the pump label for proper voltage required.

▲ WARNING: Do not connect pump to voltage other than that shown.

2. Plug the power cord directly into an electrical outlet.
3. Run water into the basin until pump starts
4. Be sure the check valve in the discharge line is open.
5. Allow the pump to operate through several on-off cycles. If the pump does not operate properly, consult the TROUBLE-SHOOTING INFORMATION table. If the trouble cannot be located, consult your pump dealer or take the pump to an authorized service center.

TROUBLE SHOOTING CHECK LIST

WARNING: Before servicing a pump, always shut off the main power breaker and then unplug the pump-making sure you are wearing insulated protective sole shoes and not standing in water. Under flooded conditions, contact your local electric company or a qualified licensed electrician for disconnecting electrical service prior to pump removal. Submersible pumps contain oils which becomes pressurized and hot under operating conditions - allow 2½ hours after disconnecting before attempting service.

PROBLEM	PROBLEM CAUSES	SOLUTION
Pump does not turn on	Pump not plugged in	Plug in pump
	Circuit breaker shutoff or fuse removed	Turn on circuit breaker or replace fuse
	Accumulation of trash on float	Clean float
	Float obstruction	Check float path and provide clearance
	Defective motor	Have pump serviced by authorized service center
Pump will not shut off	Float obstruction	Check float path and provide clearance
	Pump is air locked	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump
	Liquid inflow matches pump capacity	Larger pump required
Pump runs but does not discharge liquid	Check valve installed backwards	Check flow indicating arrow on check valve body to insure it is installed properly
	Check valve stuck or plugged	Remove check valve and inspect for proper operation
	Lift too high for pump	Check rating table
	Inlet to impeller plugged	Pull pump and clean
Pump does not deliver rated capacity	Pump is air locked	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump
	Lift too high for pump	Check rated pump performance
	Low voltage, speed too slow	Check for proper supply voltage to make certain it corresponds to nameplate voltage
Pump cycles continually	Impeller or discharge pipe is clogged	Pull pump and clean. Check pipe for scale or corrosion
	No check valve in long discharge pipe allowing liquid to drain back in sump	Install a check valve in discharge line
	Check valve leaking	Inspect check valve for correct operation
	Basin too small for inflow	Install larger basin

LIMITED WARRANTY

Warrants that the products specified in this warranty are free from defects in material or workmanship of the Brand. During the time periods and subject to the terms and conditions hereinafter set forth, the Brand will repair or replace to the original user or consumer any portion of this product which proves defective due to materials or workmanship of the Brand. At all times the Brand shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. The Brand has the option to inspect any product returned under warranty to confirm that the warranty applies before repair or replacement under warranty is approved. This warranty sets forth the Brand's sole obligation and purchaser's exclusive remedy for defective product. Return defective product to the place of purchase for warranty consideration.

WARRANTY PERIOD - PRODUCTS: 36 months from date of purchase by the user (No warranty on brushes, impeller or cam on models with brush-type motors and/or flex-vane impellers.) In the absence of suitable proof of the purchase date, the effective period of this warranty will begin on the product's date of manufacture.

LABOR, ETC. COSTS: The Brand shall IN NO EVENT be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or affixing any product, part, or component thereof.

PRODUCT IMPROVEMENTS: The Brand reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such change or improvement.

GENERAL TERMS AND CONDITIONS: This warranty shall not apply to damage due to acts of God, normal wear and tear, normal maintenance services and the parts used in connection with such service, lightning or conditions beyond the control of the Brand, nor shall it apply to products which, in the sole judgment of the Brand, have been subject to negligence, abuse, accident, misapplication, tampering, alteration; nor due to improper installation, operation, maintenance or storage; nor to excess of recommended maximums as set forth in the instructions.

Warranty will be VOID if any of the following conditions are found:

1. Product is used for purposes other than those for which it was designed and manufactured
2. Product not installed in accordance with applicable codes, ordinances, and good trade practices
3. Product connected to voltage other than indicated on nameplate
4. Pump used to circulate anything other than fresh water at approximately room temperature
5. Pump allowed to operate dry (fluid supply cut off)
6. Sealed motor housing opened or product dismantled by customer
7. Cord cut off to a length less than three feet

DISCLAIMER: Any oral statements about the product made by the seller, the Brand, the representatives, or any other parties do not constitute warranties, shall not be relied upon by the user, and are not part of the contract for sale. Seller's and Brand's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the Brand of the product as described above.

NEITHER SELLER NOR THE BRAND SHALL BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS), ARISING OUT OF THE USE OR THE INABILITY TO USE THE PRODUCT, AND THE USER AGREES THAT NO OTHER REMEDY SHALL BE AVAILABLE TO IT.

Before using, the user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith.

THE WARRANTY AND REMEDY DESCRIBED IN THIS LIMITED WARRANTY IS AN EXCLUSIVE WARRANTY AND REMEDY AND IS IN LIEU OF ANY OTHER WARRANTY OR REMEDY, EXPRESSED OR IMPLIED, WHICH OTHER WARRANTIES AND REMEDIES ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT EITHER APPLIES TO A PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESSED WARRANTIES GIVEN ABOVE.

Some states and countries do not allow the exclusion or limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.