

## 5-APCP POOL COVER 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!**

#### SAFETY GUIDELINES



**WARNING:** Your pump is an electrical product. Use caution when handling the pump or its electrical cord. Small children or pets may require restraining devices to prevent them from entering wet areas surrounding the pump or its power supply connections.

1. This pump is provided with a three-prong grounding plug to reduce the risk of electrical shock. When the pump is in operation, make sure it is properly connected to a grounded outlet. For additional safety, a GFCI device is recommended at either the outlet supplying power to the pump or at the circuit breaker panel box.
2. DO NOT pump chemicals or corrosive liquids with this pump. This could damage the integrity of the enclosure and cause an electrical short.
3. DO NOT run this pump dry. If the switch fails or the pump is used manually, always be certain that water is available. Running this pump without water may damage the integrity of the enclosure and cause an electrical short.
4. If service is required, proceed carefully. The pump and surrounding areas may be covered with water. DO NOT plug or unplug the device while standing on wet or damp surfaces. If necessary, remove power at the breaker panel or have certified electrician

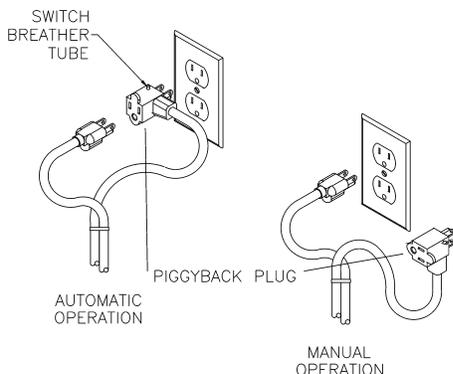


FIGURE 1

remove power before attempting to service. Serious or fatal shocks could result if proper procedures are not followed:

- a. Disconnect the power at the main electrical service box by switching the appropriate circuit breaker or removing the fuse. In applications where screw type fuses are used, remove only with one hand while other hand or torso are free from contact with anything. DO NOT stand in water and DO NOT touch any other conductive surfaces.
  - b. Remove the pump cord plug only after the power to the supply outlet has been removed. See Service Instructions before proceeding.
5. Remove the pump when conditions will cause water to freeze. Freezing water may result in rupture to the pump and/or switch enclosure, and could result in possible electrical short.
  6. DO NOT pump gasoline or other low flash point fluids with this pump. Explosion or fire could result.

#### SPECIFICATIONS

VOLTS	AMPS	WATTS	HP	GALLONS PER HOUR						
				1'	3'	5'	10'	15'	20'	26'
115	5	380	1/6	1200	1170	1100	1000	840	520	0

#### CAPACITY SIZING INFORMATION

The 1200 GPH performance was obtained through a one inch I.D. tube, with friction losses neglected. Using a 5/8" garden hose, 60 feet long, reduces this performance to approximately 300 gallons per hour due to friction losses in the garden hose. If your area frequently has heavy rainfalls (1 to 2 inches per hour), it may be necessary to use 1-inch tubing (available in most pool supply stores). The gallons of water a pool cover collects in a rainfall of one inch per hour can be determined by multiplying cover length (feet) x cover width (feet) x .6234. (**NOTE:** This is cover dimension, NOT pool dimension)

**Examples:** A 16' x 32' pool cover collects 319 gallons in one hour, in one-inch-per-hour rain ( $16 \times 32 \times .6234 = 319$ ). A 20' x 40' pool cover collects 499 gallons in one hour, in one-inch-per-hour rain ( $20 \times 40 \times .6234 = 499$ ).

#### INSTALLATION



Refer to Figure 3 and the following instructions for installation:

1. Be certain that the electrical outlet to be used meets the requirements of the National Electric Code, as well as local electrical codes, including grounding and GFCI protection. Also verify that the outlet is properly sized and located for this pump. Your installation may require a certified electrician or plumber (see ELECTRICAL CONNECTIONS section).
2. If necessary, check your local plumbing codes to verify that the final installation will be in compliance with their requirements.
3. Secure the two power cords together using the four cable ties (21). Spiral these around the two cords approximately every five feet. Connect a garden hose to the hose adaptor, or use a 1 inch nipple and flexible PVC tubing secured to the pump discharge. **NOTE:** If flexible 1 inch PVC tubing is used, secure the free end so that it cannot blow back onto the pool cover in high wind.

- Remove the screen (16) and base plate (8) from the carton, and install them using the 1/4–20 nylon screws (9). Torque the screws to 8 - 10 in-lbs.

**CAUTION:** If the base plate is not installed, the pump may tip over. This can result in switch malfunction and possible damage to the pump if the switch causes the pump to run without water being present (see SAFETY GUIDELINES). The plate is an integral part of the safety design of the pump, and failure to attach it properly voids this important safety feature.

- Gently lower the pump onto the pool cover by holding the garden hose. Be certain you do not pull the power cord plug onto the pool cover. It is recommended that two people position the pump. One person should hold electrical cord plugs while second person positions the pump at the desired location on the pool cover. Position the pump so that it remains upright to allow proper switch operation. The pump is equipped with a 25', 18 AWG power cord, and has a 3-prong, grounding-type attachment plug. Once the pump is in position and proper electrical connections have been made, the pump is ready for testing (see ELECTRICAL CONNECTIONS section).

**NOTE:** Become familiar with the SAFETY GUIDELINES section. During the rainy season, you should check daily to see that your pump is functioning properly. Also, if you experience high winds, or excessive movement of the pool cover, be certain the power supply cord has not been pulled onto the cover, and that the pump is still upright, with the discharge hose properly positioned. If you will be away from your pool for an extended period, have someone periodically check your pump and verify that everything is still functioning properly. Be sure to review the SAFETY GUIDELINES and ELECTRICAL CONNECTIONS sections with them.

#### ELECTRICAL CONNECTIONS



**WARNING:** Disconnect the electrical power before touching the pump, discharge, or electrical plug when water is present in the area. Failure to do so can result in serious bodily injury and/or property damage. Always connect pump to grounded receptacle (see SAFETY GUIDELINES).

**WARNING:** This pump is supplied with a 3-prong electrical plug. The diaphragm switch is supplied with a 3-prong piggyback plug/receptacle on the cord. The third prong grounds the pump to prevent possible electrical shock hazard. Do not remove the third prong from the plugs.

- For automatic operation, plug the pump plug into the piggyback receptacle, then plug the piggyback plug into a properly grounded outlet. For manual operation, plug the pump plug directly into properly grounded outlet. These connections are illustrated in Figure 1.
- A separate branch electrical circuit is recommended. The electrical power required is 5 amps at 115 VAC.
- Be sure that electrical connection cannot be reached by rising water. Under no circumstances should the connection be located where it may become flooded or submerged by water.
- The switch cord contains a small, white breather tube that extends out of the switch plug (Figure 1). Be sure the switch cord is not pinched and that air flow in the breather tube is not restricted. DO NOT allow water to enter into breather tube. Non-restricted air flow is required for proper switch operation.
- Test the pump after all electrical connections have been made. Run water into area where pump is to be placed. Do not attempt to run the pump without water; this could cause damage to the pump. Fill the area to a normal ON level and allow the pump to remove water to a normal OFF level.

#### OPERATION



**WARNING:** This pump is intended to remove water from your pool cover to help prevent damage, but is not intended to be a life-saving device to prevent drowning in cover water. Accumulated water does present a potential drowning hazard and pool owner must take actions to prevent this should the pump fail to operate.

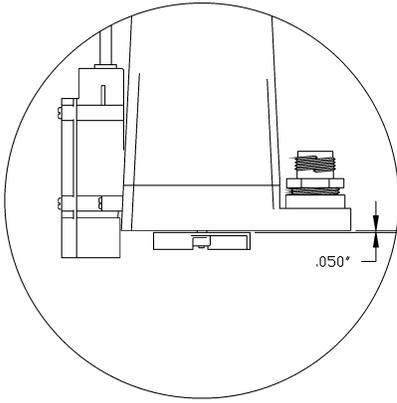
**AUTOMATIC OPERATION:** The water level switch, rated at 10 amps, is activated by pressure against a diaphragm. This is caused by water rising around the switch housing with the pump resting upright on the base plate. This switch relies upon air to flow through a breather tube. The switch causes the pump (plugged into piggyback plug) to come on when the water level is approximately 2 - 3 inches deep. The pump should remain running until the water level is approximately 1/2 to 1-1/2 inches deep. **NOTE:** Temperatures near freezing may cause the ON level to go as high as 4 inches, and the OFF level to be as high as 2 inches.

**MANUAL OPERATION OR OTHER USES:** This pump can be operated manually by plugging its power cord directly into an outlet. (See SAFETY GUIDELINES #3.) If the pump is used for something other than pool cover water removal, the base plate can be removed by removing the four screws that attach it to the pump base. Remove the screen and then replace the screws to secure the screen to the pump base. Keep the base plate; it is an important item, which helps prevent the pump from tipping and causing malfunctions to the switch, and must be in place when pump is used on a pool cover. See SAFETY GUIDELINES and ELECTRICAL CONNECTIONS before converting the pump for other applications.

#### SERVICE INSTRUCTIONS



- CAUTION:** Before servicing the pump, disconnect it from electrical service, unplug the power cord, remove the fuse, or turn off the disconnect box.
- The motor housing of the pump is completely sealed and requires no service. Disassembly of the motor housing or alteration of the power cord voids all warranty.
- The motor is a continuous duty type sealed in oil with an automatic thermal overload protector device.
- The pump can run against a restricted discharge such as a fountain without damage to the pump.
- Keep pump clean and in a well maintained condition at all times. Pump should be thoroughly cleaned for summer storage. If the pump becomes clogged, remove the four screws that secure the plate to the pump and clean out the debris.
- If necessary, remove the 6 screws holding the volute base to the motor housing and clean the volute. These screws are located under the base plate (item 7 on the replacement parts page). If the impeller is removed make sure that a spacing of .050" with shaft pushed toward housing is maintained when reassembling (Figure 2).
- When reassembling be certain seal surfaces are clean and install the seal ring between the volute base and the motor housing. The base plate is a safety feature for pool cover applications to prevent pump from falling over and causing switch malfunctions. Make certain that the plate is in good condition and is properly secured to the pump base. Torque the plate mounting screws to 8 in-lbs.
- This pump does not require lubrication inside the motor enclosure. The motor housing is filled at the factory with a dielectric oil for motor heat transfer, and lifetime lubrication of the bearings. Use of any other oil could cause damage and will void the warranty. If oil escapes from the enclosure, disconnect power to the pump and remove pump from application.



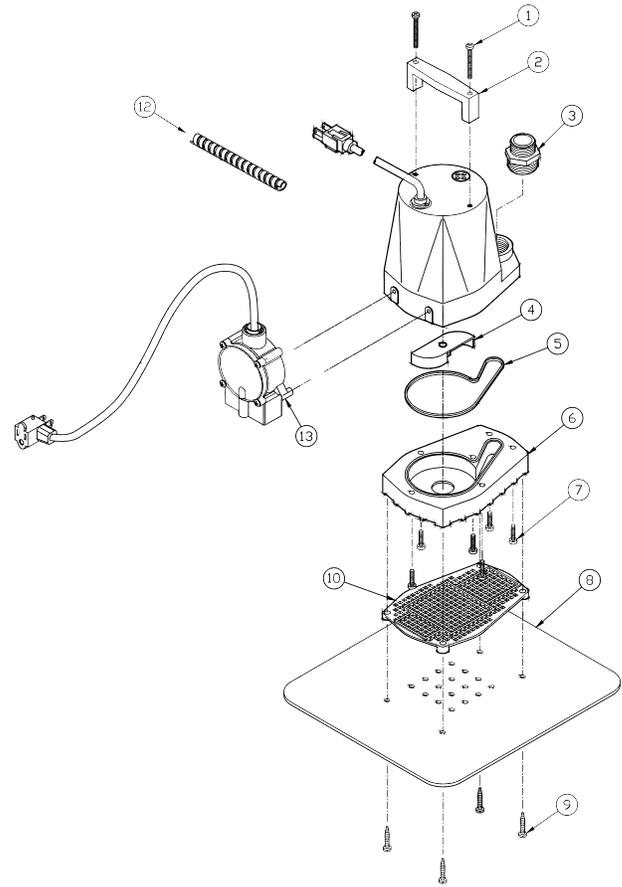
**Figure 2**

**TROUBLESHOOTING**

<b>PROBLEM</b>	<b>PROBABLE CAUSES</b>	<b>CORRECTIVE ACTION</b>
Pump will not shut off.	Plugged vent tube in power cord.	Clear vent tube of any obstruction
	Sediment lodged between retainer ring and rubber diaphragm causing contacts to remain closed.	Clean area around rubber diaphragm.
	Pump plugged directly into outlet.	See Figure 1
	Defective switch	Operate pump manually (see figure 1). Replace switch if necessary. Disconnect switch, check w/ohmmeter. Open-infinite resistance, closed-zero. With no water present switch should be open. Replace switch.
	Weak rubber diaphragm.	Replace diaphragm.
	Pump is air locked.	Shut power off for approximately 1 minute, then restart. Repeat several times to clear air from pump. If system includes a check valve, a 3/16" hole should be drilled in discharge pipe approximately 2" above discharge connections.
	Liquid inflow matches or exceeds pump capacity.	Larger pump required, or multiple pumps. See capacity sizing information.
	Frozen water in discharge hose.	Thaw hose or replace hose.
Pump runs but does not discharge liquid.	Check valve installed backwards. Note: Check valve is accessory item.	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 is air locked.	See above.
	Frozen water in discharge hose.	Thaw hose or change out.
Pump does not deliver rated capacity.	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.
	Impeller or discharge pipe is clogged.	Pull pump and clean. Check pipe for scale or corrosion.
	Impeller wear due to abrasives.	Replace worn impeller.
Pump cycles continually.	No check valve in long discharge pipe allowing liquid to drain back onto cover.	Install a check valve in discharge line.
	Check valve leaking.	Inspect check valve for correct operation.
Pump will not operate.	Blown fuse.	Replace fuse.
	Switch failed.	Disconnect switch plug and plug pump only into electrical socket. If pump operates then replace switch. If pump does not operate, have pump serviced.
	Volute clogged.	Clean screen and basket.
	Breather tube clogged.	Clear vent tube of any obstruction.
	Diaphragm passage clogged.	Clear passage of any obstruction.
	Motor failure.	Have pump serviced.
	Thermal protector activated.	Allow pump to cool.
	GFCI device activated.	Inspect all electrical connections and reset GFCI.

REPLACEMENT PARTS LIST			
ITEM	PART NO.	DESCRIPTION	5-APCP 505600
1	902441	Screw, #8-18 x 1-5/8"	2
2	105918	Handle	1
3	941044	Adaptor	1
4	105310	Impeller	1
5	928024	Seal ring	1
6	105908	Volute base	1
7	902434	Screw, #8-18 x 3/4"	6
8	105600	Base plate	1
9	909036	Screw, 1/4-20 x 3/4"	4
10	105909	Screen	1
11	950902	Ty-rap (not shown)	1
12	950985	Cable tie (heli-tube)	1
13	599019	Switch assembly	1

Figure 3



**LIMITED WARRANTY**

Your product is guaranteed to be in perfect condition when it leaves our Factory. It is warranted against defective materials and workmanship for a period of 24 months from date of purchase by the user.

Any product that should fail for either of the above two reasons and is still within the warranty period will be repaired or replaced at the option of Little Giant Pump Company, Inc. dba Franklin Electric Water Transfer Systems (hereafter "the Manufacturer") as the sole remedy of buyer. For our customers in the CONTINENTAL UNITED STATES: Please return the defective unit, postage paid, to the factory at 301 N. MacArthur, Oklahoma City, OK 73127-6616. All defective product returned under warranty will be fully inspected to determine the cause of failure before warranty is approved.

For our customers located elsewhere; it is not economical, due to duties and freight, to return the pump to the factory for inspection. Please return the defective unit to any authorized distributor or dealer with a brief written explanation of the problem. If there are no apparent signs of customer abuse, unit will be repaired or replaced. If dispute arises over replacement of the pump, the distributor or dealer is to segregate such items and hold for inspection by a representative of Little Giant Pump Company or notify factory with details of the problem for factory disposition and settlement of warranty claim.

**DISCLAIMER:**

**THE FOREGOING WARRANTY IS AN EXCLUSIVE WARRANTY IN LIEU OF ANY OTHER EXPRESS WARRANTIES. ANY IMPLIED WARRANTIES (INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) TO THE EXTENT EITHER APPLIES TO A PUMP SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESS WARRANTIES GIVEN ABOVE.**

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

1. Sealed motor housing opened.
2. Product connected to voltage other than indicated on name plate.
3. Cord cut off to a length less than three feet.
4. Pump allowed to operate dry (fluid supply cut off).
5. Pump used to circulate anything other than fresh water, light oils, or other mild liquids at approximately room temperature.
6. Product abuse by customer.

Any oral statements about the product made by the seller, the manufacturer, 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 manufacturer's only obligation, and buyer's only remedy, shall be the replacement and/or repair by the manufacturer of the product as described above. NEITHER SELLER NOR THE MANUFACTURER 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 the intended use, and user assumes all risk and liability whatsoever in connection therewith.

Some states and countries do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions 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.

The National Electric Code (in the USA) and similar codes in other countries require a Ground Fault Circuit Interrupter (GFCI) to be installed in the branch circuit supplying fountain equipment rated above 15 volts. 115 volt GFCI's (with various cord lengths) are in stock, and we recommend each pump be used with a GFCI.

For parts or repair, please contact . . . . .1-888-572-9933  
 For technical assistance, please contact . . . . .1-888-956-0000

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