

### INTRODUCTION

The Little Giant Model RFSN-20 Liquid Level Control is designed to be used with Little Giant manual sump, effluent and sewage pumps or other pumps rated within electrical limits noted below. This control uses a non-mercury switch sealed in a plastic float cylinder. The switch is activated when the fluid level in the basin causes the cylinder to float to an approximate 45° angle. This causes the switch to activate and in turn causes the pump to start.

Little Giant products are carefully inspected and packaged to insure safe operation and delivery. When you receive your switch, examine it carefully to determine that there are no broken or damaged parts that may have occurred during shipment. If damage has occurred, make notation and notify the firm from which you purchased the switch. They will assist you in replacement or repair of the switch.

### SAFETY GUIDELINES



<b>⚠ WARNING</b>	<b>ELECTRICAL SHOCK HAZARD</b> Disconnect power before installing or servicing this product. A licensed plumber, contractor or electrician must install and service this product according to applicable electrical and plumbing codes.	<b>⚠ WARNING</b>	<b>EXPLOSION OR FIRE HAZARD</b> Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.
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READ INSTRUCTIONS AND SAFETY GUIDELINES THOROUGHLY. FAILURE TO FOLLOW THESE COULD RESULT IN SERIOUS INJURY OR PROPERTY DAMAGE!

DURING NORMAL OPERATION THE SWITCH AND PUMP ARE IN CONTACT WITH WATER. ALSO, WATER MAY BE PRESENT IN THE SURROUNDING AREA OF THE SWITCH AND PUMP. EXERCISE EXTREME CAUTION WHEN WORKING NEAR THESE AREAS!

1. Make certain that electrical connections cannot be reached by rising water. Refer to the National Electrical Code and local requirements. A separate branch circuit is recommended for each pump. Do not use an extension cord.
2. Always turn off the circuit breaker prior to touching, servicing or repairing the switch or pump.
3. Do not stand in water while changing fuses, resetting circuit breakers or repairing the switch.

### ELECTRICAL



#### RATED:

125 VAC, 50/60Hz, Single Phase

Maximum pump running current 20 amps

Maximum pump starting current 120 amps

Recommended for use on pumps of 1.5 HP or less, provided pump draw does not exceed 20 running amps or 120 starting amps.

#### RATED:

250 VAC, 50/60Hz, Single Phase

Maximum pump running current 20 amps

Maximum pump starting current 120 amps

Recommended for use on pumps of 3 HP or less, provided pump draw does not exceed 20 running amps or 120 starting amps.

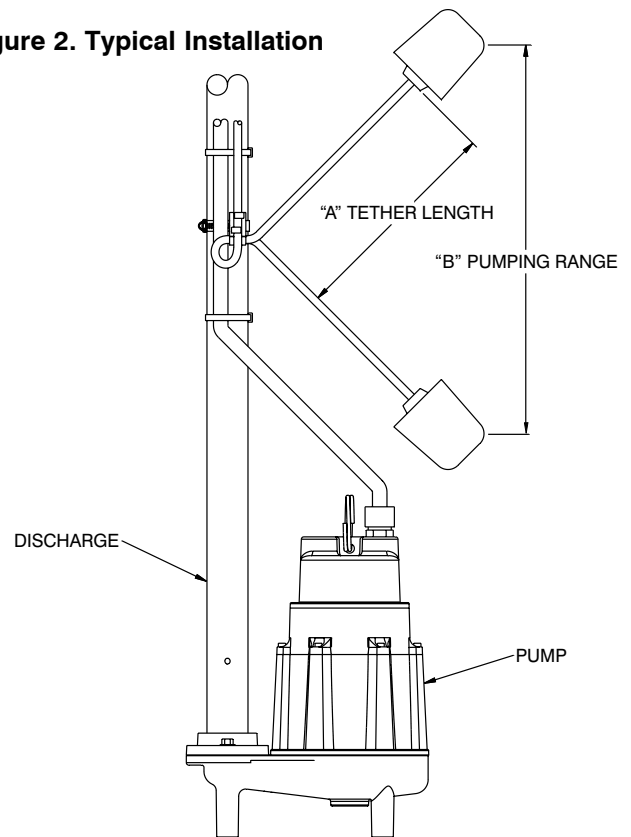
### INSTALLATION

1. Determine the pumping range for your installation (see Figures 1 and 2).  
TETHER LENGTH: Do not tether switch less than 5" (12,7 cm) or more than 22" (55,9 cm) from pipe. Switch will not function properly if tethered outside of recommended length.
2. Place cord into mounting clip and secure the clip to the discharge pipe with hose clamp as shown in Figure 3. **NOTE:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Wire switch to power source and pump according to wiring diagrams.
5. Check installation. Cycle system several times to insure proper operation.

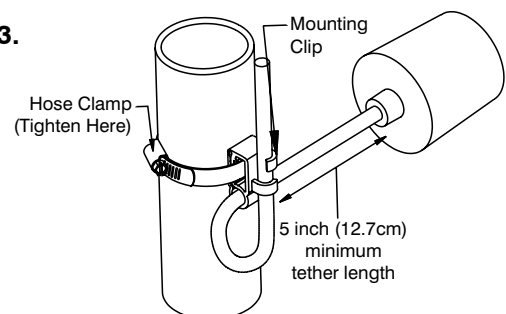
**PUMPING RANGE – FIGURE 1**  
Approximate measurements, in. (cm)

Tether Length (Dim "A")	5 (12,7)	10 (25,4)	14 (35,6)	18 (45,7)	22 (55,9)
Pumping Range (Dim "B")	9 (22,9)	13 (33,0)	17 (43,2)	21 (53,3)	24 (60,9)

**Figure 2. Typical Installation**



**Figure 3.**



## 125/250 VAC DIRECT WIRING

FOR 125/250 VAC DIRECT WIRING INSTALLATION, REFER TO FIGURE 4 (SCHEMATIC).

**WARNING:** In a 250V direct wire installation, one side of the line going to the pump is always “HOT”. This condition exists whether the float switch is “ON” or “OFF”. To avoid hazards when installing or servicing, install a double-pole disconnect near pump installation.

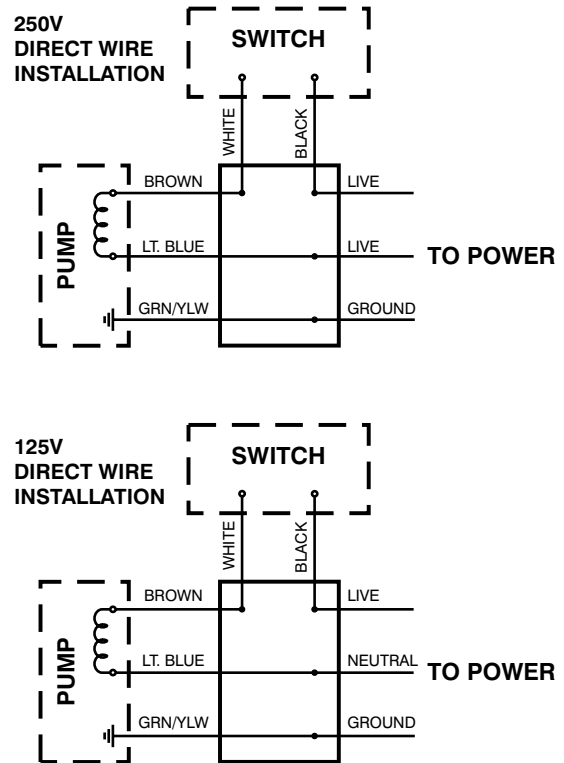
Check local electrical and building codes before installing. This installation must be in accordance with their regulations as well as the most recent edition of the National Electrical Code Handbook (NEC).

**NOTE:** Little Giant cannot be responsible for damages caused by the faulty or negligent installation of this control. If you feel that you may encounter problems in installing this device, we respectfully suggest you engage the services of a competent plumber, electrician or qualified service person.

### ADDITIONAL INFORMATION

**CAUTION:** To prevent damage to pump, do not set switch turn-off level below 2 inches above bottom of pump base. Also be sure that the pump is secured in it’s position so the float will not become stuck between the pump and the basin, which could prevent the pump from turning “ON” or “OFF”. Be sure the cable tie is secure so the switch cord does not accidentally slip and change the pre-set ON/OFF levels.

Figure 4.



### LIMITED WARRANTY

Your Little Giant 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 12 months (90 day warranty on Models: 1-AA-OM, GKPK-SC, PP-1, PPS-1, PP-12, PPS-12, PP-230 and Cooler King) from date of purchase by the user. No warranty on brush wear in Model 35-OM and impeller or cam in Models PP-1, PP-12, and PP-230.

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 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 nameplate.
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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