

# OWNER'S MANUAL

## Swimming Pool and Spa Pump



### READ THIS MANUAL CAREFULLY BEFORE USING THE SPECK PUMP

**NOTE:** All wiring should be done by a qualified electrician in accordance with the National Electrical Code and all Local Codes.

**NOTE:** Before installation, inspect all equipment, plumbing and wiring for damage that may have occurred. The shipping container has been specifically designed to prevent damage, however, any indications of damage should be carefully noted on the delivery ticket and a claim needs to be filed with the carrier.

**All pumps are water tested on a test stand to ensure that they meet specifications.**

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## IMPORTANT SAFETY INSTRUCTIONS

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When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

### 1. READ AND FOLLOW ALL INSTRUCTIONS.

**2. WARNING** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

**3. WARNING** - Risk of Electrical Shock. Connect only to a branch circuit protected by a ground-fault circuit interrupter (GFCI). Contact a qualified electrician if you cannot verify that a circuit is protected by a GFCI.

**4. WARNING** - To reduce the risk of electric shock, replace any damaged cord immediately.

**5.** Do not install within an outer enclosure or beneath the skirt of a hot tub or spa.

**6. CAUTION** - This pump is for use with permanently-installed pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

**7.** The unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

**8. TO REDUCE RISK OF ELECTRICAL SHOCK,** A copper bonding connector (8 AWG) is provided for bonding the motor to all metal parts of the swimming pool, spa, or hot tub structure and to all electrical equipment, metal conduit, and metal piping within 5 feet of the inside walls of a swimming pool, spa, or hot tub, when the motor is installed within 5 feet of the inside walls of the swimming pool, spa, or hot tub.

**NOTE:** To installer and/or operator of the Speck Swimming Pool Pump; the manufacturer's warranty will be voided if the pump is improperly installed and/or operated.

### 9. SAVE THESE INSTRUCTIONS!

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## SECTION 1 EQUIPMENT OPERATION AND MAINTENANCE

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### 3/1 LOCATION

**1.** Locate the pump as close to the pool as practical. Consult local codes for minimum distance between pool and pump.

**2.** The piping should be as direct and free from turns or bends as possible, as elbows and other fittings greatly increase friction losses.

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## SECTION 1 EQUIPMENT OPERATION AND MAINTENANCE

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### 3/1 LOCATION - CONTINUED

**3.** Place pump on a solid foundation which provides a rigid and vibration-free support so that it is readily accessible for service and maintenance.

**4.** Protect the pump against flooding and excess moisture, and prevent foreign objects from clogging air circulation around motor.

**5. DO NOT** store or use gasoline or other flammable vapors or liquids in the vicinity of this pump. **DO NOT** store pool chemicals near the pump.

**6. DO NOT** remove any safety alert labels such as **DANGER**, **WARNING**, or **CAUTION**. Keep safety labels in good condition and replace missing or damaged labels.

### 3/2 INSTALLATION

**1.** Adaptors and/or quick disconnect unions provided are made of ABS plastics. Use multi-purpose PVC glue for plumbing connections and allow 24 hours to cure.

**2.** When installing the pump, care should be taken to see that the suction line is below water level to a point immediately beneath and in front of the pump to ensure quick priming. When using 6" pipe, finish the remaining plumbing from the water line to the pump in 4" pipe. The height between the pump and the water level should not be more than four (4) feet. *(Does not apply to Model 21-80/.. G for flooded suction.)*

#### **Model G for Flooded Suction**

**3.** It is advisable to install a gate valve in both the suction and discharge line in the event that the pump must be removed for servicing.

**4.** Suction and discharge line should be independently supported at a point near the pump to avoid strains being placed on the pump.

#### **Model GS**

**5.** Before starting the pump for the first time, remove the filler plug. Fill the pump body with water until the water is level with the suction inlet. Replace the plug, hand tighten, making sure the o-ring is not damaged. *(Does not apply to Model 21-80/.. G for flooded suction.)* Due to the large volume of air that can be present in the vertical portion of the suction above the water line, initial priming time may be longer than with regular pool filtration pumps. It may take up to ten (10) minutes. This will not damage the mechanical seal. If prime is not achieved in ten (10) minutes, stop the pump, re-fill the pump body and re-start.

#### **Model BS**

Before starting the pump for the first time, remove the see-through lid.

#### **Model BS - continued**

*(Unscrew each of the four (4) lid knobs a little at a time, and continue this process until the whole lid comes off evenly, not tilted.)* Fill strainer tank with water until level with the suction inlet. Replace lid, making sure the o-ring is not damaged. Screw the four (4) lid-knobs down evenly, hand tighten.

**6.** When installing and using the motor, basic safety precautions should be done by a licensed electrician in accordance with local codes. Be certain that the motor frame is grounded. Motor name plate has voltage, phase, ampere draw and other motor information as well as wiring connection instructions.

**BONDING:** As required by National Electrical Code Article 680-22, the pump motor must be electrically bonded to the pool structure (reinforced bars, etc.) by a solid copper conductor not smaller than 8 AWG (8.4 mm<sup>2</sup>) wire via the external copper bonding lug on the pump motor.

**GROUNDING:** Permanently ground the pump motor using a conductor of appropriate size. Connect to the #10 green headed ground screw provided inside the motor terminal box,

**NOTE:** Do not connect to electric power supply unit the unit is permanently grounded

### 3/3 MAINTENANCE

The pump requires little or no service other than reasonable care and periodic cleaning of the strainer basket. The mechanical seal may come worn and/or loose during the course of time, depending on the running time and water quality. If water continually leaks out, a new mechanical seal should be fitted. To replace the mechanical seal, remove the eight (8) bolts holding the casing to the aluminum flange. Slide the motor part including the seal housing out. Remove the terminal cover from the rear of the motor and secure the center motor shaft with a wrench. Remove impeller nut by turning it counter-clockwise when facing it. Pull the impeller from the motor shaft noting the position of the seal. Remove the seal from the impeller shaft. To re-assemble, reverse the process. Use only water as a lubricant to install both sides of the seal. Make sure both sides of the seal (ceramic and spring portion) are clean. Gently wipe polished faces with soft and dry cotton cloth. Surfaces can easily be damaged by dirt and scratching. *(Use a drop of loc-tite to secure the impeller nut.)*

### 3/4 WINTERIZING

In areas subject to freezing winter temperatures, protect by removing drain plug(s). Do not replace plug(s). For Model BS only: Store plug(s) in strainer basket for winter.

An alternative is to remove the pump and motor from plumbing and store indoors in a warm and dry location.

## SECTION 2 SERVICING INFORMATION

When calling the manufacturer regarding a question or problem with your pump, please have the serial number available.

The serial number is located on the pump either on the flange or motor labels. Replacement parts may be available from your installer. Call, fax, or write:

**Speck Pumps - Pool Products, Inc. • 8125 Bayberry Rd • Jacksonville • Florida • 32256**  
**Phone (904) 739-2626 • Fax (904) 737-5261 • e-mail: info.usa@speck-pumps.com**

## SECTION 3 TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES	SOLUTION
1. Pump will not prime.	<p>a. Suction air leak.</p> <p>b. No water in pump.</p> <p>c. Closed valves or blocked lines.</p> <p>d. Low voltage to motor.</p>	<p>Make sure the see-through lid and o-ring are clean and properly positioned. Tighten see-through lid (hand tight). Tighten all pipes and fittings on suction side of the pump. Be sure water in the pool is high enough to flow through skimmer.</p> <p>Make sure strainer tank is full of water.</p> <p>Open all valves in system. Clean skimmer and strainer tank. Open pump and check for clogging of impeller.</p> <p>Check voltage at motor. If low, pump will not come up to speed.</p>
2. Motor does not turn.	<p>a. No power to motor.</p> <p>b. Pump jammed.</p>	<p>Check that all power switches are on. Be sure fuse or circuit breaker is properly set. Time set properly? Check motor wiring at terminals.</p> <p>With power off, turn shaft. It should spin freely. If not, disassemble and repair.</p>
3. Low flow.	<p>a. Dirty filter.</p> <p>b. No water in pump.</p> <p>c. Closed valves or blocked lines.</p> <p>d. Low voltage to motor</p>	<p>Back wash filter when filter pressure is high, or clean cartridges.</p> <p>Clean skimmer and pump strainer basket.</p> <p>See problem 1.</p> <p>See problem 1.</p>
4. Noisy operation of motor.	<p>a. Bad bearings.</p>	<p>Noise when shaft is turned up by hand. Motor is hot in bearing area when running. Replace bearing.</p>
5. Motor runs hot.	<p>These motors will run hot to the touch, however, this is normal. They are designed that way. Thermal overload protector will function to turn them off if there is an overload or high temperature problem. Excessive heat can be cause by:</p> <p>a. Low voltage.</p> <p>b. Installed in direct sun.</p> <p>c. Poor ventilation.</p>	<p>Increase size of electrical wire. Be sure motor is operating on correct voltage.</p> <p>Shield motor from sun's rays.</p> <p>Do not tighten cover or enclosure motor.</p>

## SECTION 3 TROUBLESHOOTING GUIDE - continued

PROBLEM	POSSIBLE CAUSES	SOLUTION
6. Noisy operation of pump.	<p>a. Air leak in suction line. Bubbles in water returning to pool at inlet.</p> <p>b. Restricted suction line due to blockage or under size pipe. Indicated by high vacuum reading at pump suction.</p> <p>c. Foreign matter (gravel, metal, etc.) in pump impeller.</p> <p>d. Cavitation.</p>	<p>Repair leak. Check suction pipe, see-through lid in place? O-ring clean?</p> <p>Remove blockage or increase suction pipe size. Make sure strainer tank is clean. Are all suction valves fully open?</p> <p>Disassemble pump and remove foreign matter from impeller.</p> <p>Improve suction conditions. (Reduce suction life, reduce number of fittings, increase pipe size.) Increase discharge pressure and reduce flow by throttling discharge valve.</p>
7. Motor overload protection "kicks out".	<p>a. Motor is not connected properly.</p> <p>b. Low voltage due to under size wire or low incoming voltage.</p> <p>c. Wrong size heaters in protective device.</p> <p>d. Overload due to binding in pump or wrong size impeller.</p>	<p>Check wiring diagram on motor.</p> <p>Check with volt meter. Increase size of supply wire. Reports low supply voltage to power company. Voltage at motor must be within 10% of motor nameplate voltage.</p> <p>Heaters should be one size larger than full load amps shown on motor nameplate.</p> <p>Indicated by high amperage readings on motor, binding shaft. Disassemble unit and correct.</p>

## SECTION 4 LIMITED WARRANTY

The manufacturer supplies a limited warranty to the original consumer purchaser of the pump and the motor on the following terms and conditions:

- The pump and motor are warranted to be free of defects in material and workmanship for a period of twenty-four (24) months from the date that the pump is originally installed.
- Notwithstanding any provisions herein to the contrary, the warranties and obligations hereunder shall not in any event extend for more than three (3) years beyond the date of shipment of the motor and the pump from the factory in Jacksonville, Florida.
- Warranty is void in the following cases: damages which result in whole or in part from: (a) careless or improper installation of the pump or motor; (b) improper or negligent use and maintenance of the pump or motor; (c) tampering with the pump or motor by unauthorized repair personnel.
- The manufacturer's sole obligation hereunder shall be to replace or repair any defective pump or motor. The manufacturer reserves the absolute right to determine whether any defective pump or motor should be replaced or repaired.
- Any customer who wishes to make a claim under this Limited Warranty shall notify Speck Pumps, of such claim by telephone or by mail. After the customer has been authorized to return a defective pump or motor, the customer must return the pump or motor to the manufacturer at 8125 Bayberry Road, Jacksonville, Florida 32256. Any goods returned to the manufacturer without prior authorization will be returned to the shipper unopened. The manufacturer shall not bear any costs or risks incurred in shipping a defective pump or motor to the manufacturer or in shipping a repaired or replaced pump or motor to a customer.

**6.** The manufacturer will charge customers for all non-warranty work which it may perform. Non-warranty work will not be performed until the customer has accepted the price quoted.

**7. EXCEPT AS SPECIFICALLY SET FORTH ABOVE, NO OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE BY THE MANUFACTURER. IN NO EVENT WILL THE MANUFACTURER BE LIABLE FOR ANY LOSS, INCLUDING TIME, MONEY, GOODWILL, LOST PROFITS AND CONSEQUENTIAL DAMAGES BASED ON CONTRACT, TORT OR OTHER LEGAL THEORY, WHICH MAY ARISE HEREUNDER OR FROM THE USE, OPERATION OR MODIFICATION OF THE PUMP, MOTOR OR ASSOCIATED PARTS. THE MAXIMUM LIABILITY OF THE MANUFACTURER HEREUNDER SHALL NOT EXCEED THE AMOUNT ACTUALLY PAID BY THE CUSTOMER FOR THE PUMP, MOTOR AND ASSOCIATED PARTS.**

**8.** Some states do not permit limitations on the terms of implied warranties or on the recovery of incidental or consequential damages. Accordingly, the limitations contained in paragraph 7, may not apply to certain customers.

**9.** This warranty gives customers specific legal rights. Customers may have other rights which vary from state to state.

Date of installation: \_\_\_\_\_

Installed by: \_\_\_\_\_

For service call: \_\_\_\_\_