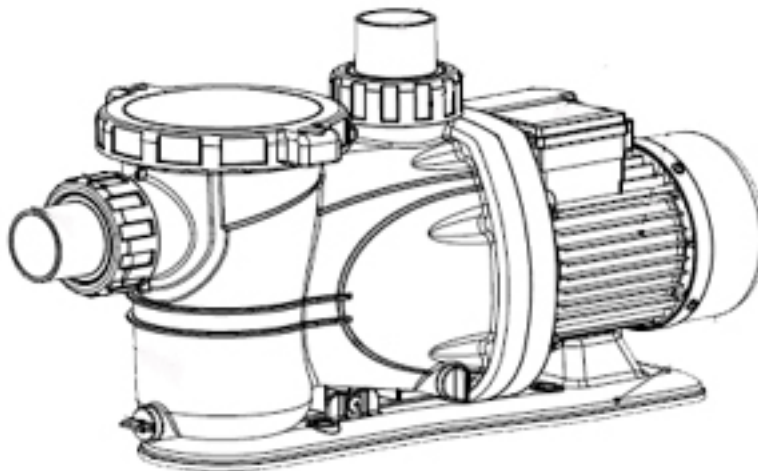




**QUICK START GUIDE**  
**OWNER'S MANUAL**  
INSTALLATION, OPERATION & PARTS  
**POOL PUMPS**  
**SINGLE SPEED & 2-SPEED**



**WARNING**

This equipment must be installed and serviced by a qualified technician in accordance with all applicable codes and ordinances. Improper installation can create hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.

**The NOTICE label indicates special instructions that are important but not related to hazards.**



**Notice to Installer**

This manual contains important information about the installation, operation and safe use of this product. Once installation is complete, this manual must be given to the owner/ operator of this equipment.

## **Description**

The self-priming pool pump is designed for high efficiency and easy installation and maintenance. It is constructed for years of trouble-free service. This swimming pool pump is designed for use with permanently installed swimming pools only.

## **Unpacking**

After unpacking the unit, carefully inspect for any damage that may have occurred during transit. Check for loose, missing or damaged parts

## **INSTALLATION**

**Only qualified, licensed personnel should install pump and wiring.**

The pump mount must be located away from corrosive or flammable chemicals.

## **IMPORTANT SAFETY INSTRUCTIONS**

**Always follow basic safety precautions with this equipment, including:**

To reduce the risk of injury, do not allow children to use product unless supervised at all times.

This pump is for use with permanently installed pools. Do not use with portable pools. A permanently installed pool is constructed in or on the ground or in a building and is not intended to be disassembled or moved.

Provide sufficient ventilation to maintain air temperature below the maximum ambient temperature rating shown on the motor nameplate. Any enclosure or pump house must allow adequate ventilation to assure the ambient temperature remains below the motor rating when the pump is operating.

Locate pump on a non-combustible surface as close to the pool/spa as possible. The surface should be hard, level, dry, and well ventilated. The surrounding area should provide protection from the elements and allow sufficient space for maintenance and service. Ensure the drainage will flow away from the pump. To reduce vibration and pipe stress, use anchor bolts to secure the pump base to the surface.

Design the piping system to allow the pump suction inlet height to be as close to the water level as possible. Mount the pump below water level for easy priming. If the pump must be located above the filled water level, keep the vertical distance to a minimum. Use short, direct piping to the suction to minimize friction loss.

**Fire and burn hazard.** Motors run at high temperatures. Do not allow leaves, debris, or foreign matter to collect around the pump motor. Allow the motor to cool before handling.

Use rigid or flexible PVC pipe. Ensure pipe ends are clean and free of any flash caused by cutting. Use proper glue for the type of pipe selected.

**NOTE:** Use a supplier recommended primer to ensure glued joints are secure. Many local codes require primer with a purple tracer to verify primer use.

Consider climatic conditions when applying adhesives. Atmospheric conditions with high humidity will make the adhesive action of certain glues less effective. Follow the manufacturer's instructions.

## THREADED CONNECTIONS

Use only Teflon® tape or equivalent on threaded plumbing connections. Other pipe compounds may damage threads. Do not use silicone or petroleum based compounds. Do not over tighten. Hand tightening plus 1/2 turn is sufficient.

## PUMP PLUMBING

Suction pipe should be as large as or larger than discharge pipe. Avoid using a suction pipe smaller than the pump connection. The pump is designed to accept 1-1/2" suction piping.

1. Keep the piping as straight and short as possible, and of suitable size.
2. Avoid connecting an elbow directly into the pump inlet. A length of straight pipe will allow proper entry of the water to the pump.
3. Slope horizontally, and run upward to the pump to prevent trapping air.
4. Use independent piping supports to reduce strain on the pump.
5. Keep as much of the suction line as possible below the water level to reduce priming time.
6. Install valves and unions in the pump suction and return the lines to facilitate servicing. Valves are also essential for pump maintenance, if the system is installed below deck level.

**NOTICE:** Use Teflon® tape or Plasto-Joint Stik for making threaded connections to the pump. Do not use pipe dope.

### Teflon® Taping Instructions:

Use only new or clean PVC pipe fittings. Wrap male pipe threads with one to two layers of Teflon® tape. Cover entire threaded portion. **Do not** over tighten. If leaks occur, remove pipe, clean off old tape, rewrap with one to two additional layers of tape and remake the connection.

### Fittings:

Fittings restrict flow; for best efficiency use the fewest number of possible fittings. Avoid fittings which could cause an air trap. Pool fittings must conform to International Association of Plumbing and Mechanical Officials (IAPMO) standards. Use only non-entrapping suction fitting or double suction.

## POOL PUMP SUCTION REQUIREMENTS

**Pump suction is hazardous and can trap, drown, or disembowel bathers. Do not use or operate swimming pools, spas, or hot tubs if a suction outlet cover is missing, broken, or loose.** Follow the guidelines below for a pump installation which minimizes risk to all users of pools, spas, and hot tubs.

### Entrapment Protection

The pump suction must be designed to eliminate the possibility of suction entrapment or hair entrapment/entanglement.

### Suction Outlet Covers

All suction inlet covers must be maintained and replaced if cracked, broken, or missing. See Figure \* for outlet cover certification requirements.

### Testing and Certification

All suction inlet covers must comply with ASME/ANSI specifications for suction fittings for use in swimming pools, spas, hot tubs, and whirlpool bathtub applications. The product must be tested for compliance with the standards, and the certification must be included with the components.

Suction inlets must be designed so that water is drawn simultaneously. A vacuum relief device can be installed in line leading to the pump suction.

All suction outlet covers must conform to ASME/ANSI A112.19.18M; or must be a minimum 18 x 23 grate or larger; or must have an approved channel drain system. Skimmers are exempted. All pool and spa single or multiple outlet circulation systems shall be equipped with an atmospheric vacuum relief system. The system must be ASME/ANSI A112.19.17 Rated.

Any pool or spa shall immediately be closed if the cover or grate is damaged or missing.

Suction outlet covers/grates shall be tested and listed by a nationally recognized testing laboratory as conforming to ASME/ANSI A112.19.8

## **ELECTRICAL**

**Ground the motor before connecting to electrical power supply. Failure to ground the motor may cause severe or fatal electrical shock hazard. Never ground to a gas supply line.**

**To avoid dangerous or fatal electrical shock, turn OFF power to motor before working on electrical connections.**

**Ground Fault Circuit Interrupter (GFCI) tripping indicates an electrical problem. If GFCI trips and will not reset, have a qualified electrician inspect and repair electrical system.**

**Verify that supply voltage matches the nameplate voltage. Incorrect voltage can cause fire or seriously damage motor and voids warranty.**

### **Voltage**

Voltage at motor must be within 10% of the motor nameplate rated voltage or motor may overheat, causing overload tripping and reduced component life. If voltage does not fall within the specified range during operation consult the power company.

### **Grounding/Bonding**

Install, ground, bond and wire motor according to local or National Electrical Code requirements. Permanently ground the motor. Use the ground terminal provided in the terminal box on the back of the motor. Use size and type wire required by local codes. Connect motor ground terminal to electrical service ground.

Bond motor to pool structure. Use a solid copper conductor, size No. 8 AWG or larger. Run wire from external bonding lug to reinforcing rod or mesh.

Connect a No. 8 AWG solid copper bonding wire to the pressure wire connector provided on the motor housing and to all metal parts of the swimming pool, spa, or hot tub and to all electrical equipment, metal piping or conduit within 5 feet of the inside walls of swimming pool, spa, or hot tub.

### **Wiring**

Follow all national and local wiring codes. If unsure of the code requirements, consult a professional electrician. Pump must be permanently connected to circuit. See Figures \*\* for wiring connection diagrams. Match wire and circuit breaker sizes to correct fusing and wiring data chart. If other lights or appliances are also on the same circuit, be sure to add their amp loads to pump amp load. If unsure, consult a licensed electrician.

A Ground Fault Circuit Interrupter (GFCI) is required in the circuit. For size of GFCI required and test procedures for GFCI, please see manufacturer's instructions.

## **OPERATION**

**Avoid running the pump dry. Fill the pump with water before starting motor. Before removing the trap cover:**

- 1. STOP PUMP before proceeding.**
- 2. CLOSE GATE VALVES in suction and discharge pipes.**
- 3. RELEASE ALL PRESSURE from pump and piping system.**
- 4. NEVER tighten or loosen clamp while pump is operating!**

**If pump is being pressure tested, be sure pressure has been released before removing trap cover. Do not block pump suction. To do so with body may cause severe or fatal injury. Small children using pool must ALWAYS have close adult supervision.**

**Fire and burn hazard.** Motor runs at high temperatures, to reduce the risk of fire, do not allow debris, or foreign matter to collect around the pump motor. Allow the motor to cool prior to handling or performing maintenance.

The motor is equipped with an internal thermal protection circuit to guard against overheating. The maximum ambient temperature for the motor operation must not exceed rating on motor model plate.

### **Priming Pump**

Release all pressure from filter, pump, and piping system; see the filter owner's manual. In a flooded suction system (water source higher than pump), pump will prime automatically during suction and discharge valves are opened. If the pump is located above the normal pool water level, remove ring and cover assembly, and fill basket and pump with water. Clean and inspect o-ring; then reinstall on trap. Replace ring and cover assembly, then rotate clockwise to tighten cover.

**NOTICE:** Tighten ring and cover assembly by hand - do not use tools. Pump priming time will depend on the vertical distance and length of the suction line. The pump is designed to prime at 10 ft or less. If the pump does not prime, make sure that all valves are open, and that the suction pipe is submerged. Verify there are no leaks in the suction lines.

### **Routine Maintenance**

The only routine maintenance needed is the inspection and cleaning of the trap basket. Debris or trash that collects in the basket will choke off water flow through the pump.

Before attempting to clean the basket:

- A. Stop pump, close valves in suction and discharge, and **release pressure from system.**

**Hazardous suction can trap hair or body parts, causing severe injury or death.** Do not block suction.

- B. Remove the ring and cover assembly by turning counterclockwise. If necessary, tap handles gently with a rubber mallet.
- C. Remove the basket and clean. Inspect holes in basket for blockage. Clean the basket with water and replace in trap. Verify that the basket is oriented correctly in pump housing.
- D. Clean and inspect lid o-ring; then reinstall the ring and cover assembly.

E. Prime the pump (see priming instructions).

### **Draining the Pump**

A. Pump down water level below all inlets to the pool.

**To avoid dangerous or fatal electrical shock hazard, turn OFF power to the motor before draining pump.**

B. Remove the basket cover

C. Drain the basket housing and pump housing through the drain plugs

D. Clean the pump and basket, then replace cover assembly.

**NOTICE:** Tighten trap cover by hand only

E. Be sure motor is kept dry and covered.

### **Storage/Winterizing:**

**Explosion hazard. Purging the system with compressed air can cause components to explode, with risk of severe injury or death to anyone nearby.** Use only a low pressure (below 5 PSI), high volume blower for purging the pump, filter, or piping.

**NOTICE:** Allowing pump to freeze will damage pump and void warranty!

**NOTICE:** Use only non-toxic antifreeze. Do not use automotive antifreeze. It is highly toxic and may damage plastic components in the system.

### **PUMP SERVICE TROUBLESHOOTING GUIDE**

**Read and understand safety and operating instructions in this manual before doing any work on pump!**

**Only qualified personnel should electrically test the pump motor!**

### **FAILURE TO PUMP; REDUCED CAPACITY OR DISCHARGE PRESSURE**

#### **Suction leaks/lost prime:**

1. Pump must be primed. Make sure that pump body and basket body are full of water. See priming instructions.
2. Make sure there are no leaks in suction piping.
3. Make sure suction inlet is well below the water level to prevent pump from sucking air.
4. Pump is designed to prime at a vertical distance of 10 ft or less. Verify suction lift is 10 ft or less. Lower pump closer (vertically) to water source.

#### **Clogged Pipe/Trap/Impeller, Worn Impeller:**

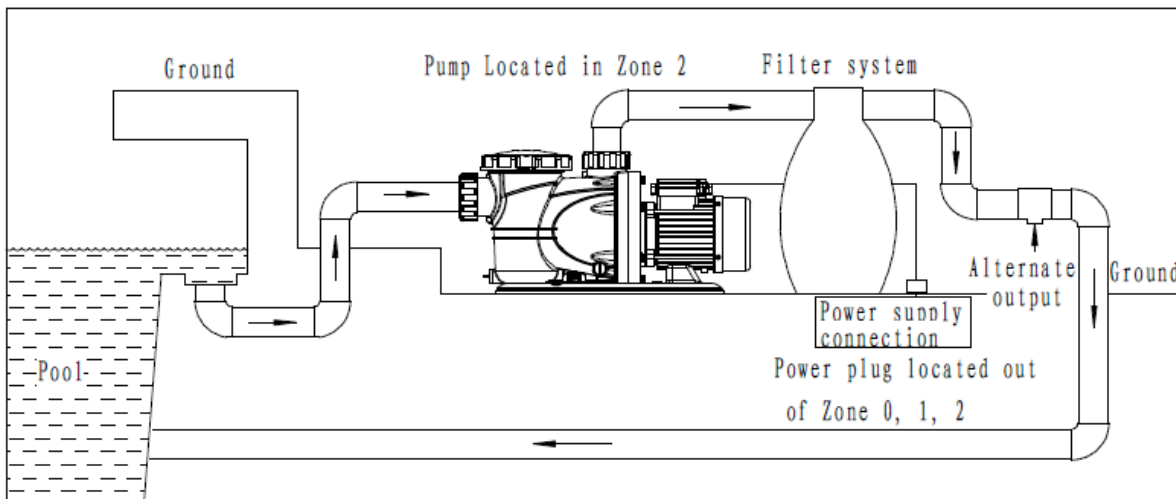
5. Make sure suction trap is not clogged; if it is, then clean trap and strainer.
6. Make sure the impeller is not clogged
7. Impeller and diffuser may be worn. If so, order replacement parts from Repair Parts List, Pages 14-15.
8. The pump may be trying to push too high a column of water. If so, a "higher head" pump is needed.

#### **Electrical:**

9. Pump may be running too slowly; check voltage at motor terminals and at meter while pump is running. If low, see wiring instructions or consult power company. Check for loose connections.
10. Pump may be too hot.
  - A. Check line voltage; if less than 90% or more than 110% of rated voltage consult a licensed electrician.
  - B. Increase ventilation.
  - C. Reduce ambient temperature.
  - D. Tighten any loose connections.

## MECHANICAL TROUBLES AND NOISE

1. If suction and discharge piping are not adequately supported, pump assembly will be strained. See "Installation".
2. Do not mount the pump on a wooden platform! Securely mount on a concrete platform for quietest performance before working on pump or motor.



## ***Limited Warranty***

For one (1) year from the date of purchase, manufacturer will repair or replace, at its option, for the original owner any parts of its pumps ("Product") which are found upon examination to be defective in materials or workmanship. Please call 1-877-278-2797 for instructions. Be prepared to provide a receipt, the model number, and serial number when exercising this limited warranty.

Purchaser must pay all transportation charges on Products or parts submitted for repair or replacement. All non-warranty service charges are the responsibility of the original owner. Failure to pay for non-warranty service charges will void this Limited Warranty.

This Limited Warranty does not cover Products that have been damaged as a result of accident, freezing, abuse, misuse, neglect, improper installation, improper maintenance or failure to operate in accordance with written instructions. All maintenance and service must be performed by approved service agents. Any unauthorized alteration or repairs will void this Limited Warranty.

**THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE (1) YEAR FROM THE DATE OF PURCHASE. THIS IS THE EXCLUSIVE REMEDY AND ANY LIABILITY FOR ANY AND ALL INDIRECT OR CONSEQUENTIAL DAMAGES OR EXPENSES WHATSOEVER IS EXCLUDED.**

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

In no event, whether as a result of breach of contract warranty, tort (including negligence) or otherwise, shall its suppliers be liable for any special, consequential, incidental or penal damages including, but not limited to loss of profit or revenues, loss of use of the products or any associated equipment, damage to associated equipment, cost of capital, cost of substitute products, facilities, services or replacement power, downtime costs, or claims of buyer's customers for such damages.

This Limited Warranty does not include freight charges for equipment or component parts, to and from the factory, services such as maintenance or inspection, repair or damage due to negligence such as freezing conditions, incorrect installation, nor acts of God. The liability shall not exceed the repair or replacement of defective parts under this Limited Warranty. This Limited Warranty also does not include unnecessary service calls due to erroneous operational reports, or electrical service. If a non-warranty service call is made, and the homeowner is unwilling to pay for the service call, this Limited Warranty will be voided. This Limited Warranty is voided if the product is repaired or altered by any persons or agencies other than those authorized. This Limited warranty applies only within the continental USA. For warranty outside the continental USA please contact Aquapro Systems customer service.

You **MUST** retain your purchase receipt along with this form. In the event you need to exercise a warranty claim, you **MUST** present a **copy** of the purchase receipt at the time of service. Please call 1-877-278-2797 for service or return authorization and instructions.

**DO NOT MAIL THIS FORM.** Use this form only to maintain your records.

MODEL NO. \_\_\_\_\_ SERIAL NO. \_\_\_\_\_ INSTALLATION DATE \_\_\_\_\_