



**ADVANTAGE**  
MANUFACTURING



**ADVANTAGE**  
POOL PUMPS



## OWNER'S MANUAL INSTALLATION, OPERATION & PARTS

To prevent potential injury and to avoid unnecessary service calls, read this manual carefully and completely.

**⚠ CAUTION – We highly recommend a qualified professional install and service this product.**

**⚠ WARNING – This manual contains important safety information that must be furnished to the end user of this product. FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.**

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**SAVE THIS INSTRUCTION MANUAL**

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**ADVANTAGE**  
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## PRODUCT REGISTRATION

(Retain For Your Records)

DATE OF INSTALLATION \_\_\_\_\_

INITIAL PRESSURE GAUGE READING (CLEAN FILTER) \_\_\_\_\_

PUMP MODEL \_\_\_\_\_ HORSEPOWER \_\_\_\_\_

FILTER MODEL \_\_\_\_\_

## IMPORTANT SAFETY INSTRUCTIONS

**When installing and using this electrical equipment, basic safety precautions should always be followed, including the following: Failure to follow instructions may result in injury.**

**READ AND FOLLOW ALL INSTRUCTIONS  
IN THIS OWNER'S MANUAL AND ON EQUIPMENT.**

**KEEP SAFETY LABELS IN GOOD CONDITION  
AND REPLACE IF MISSING OR DAMAGED.**

 **WARNING** – To reduce risk of injury, do not permit children to use or climb on this product. The ANSI/NSPI 4 Standard (above-ground and on-ground pools) advises that components such as the filtration system, pumps, and heaters be positioned to prevent their being used as a means of access to the pool by young children. Closely supervise children at all times.

 **CAUTION** – The Advantage Above Ground Pump is intended for use on permanently installed above-ground swimming 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.

Though this product is designed for outdoor use, it is strongly advised to protect the electrical components from the weather. Select a well-drained area, one that will not flood when it rains. It requires free circulation of air for cooling. Do not install in a damp or non-ventilated location.

Bond motor to pool structure. Use a solid copper conductor, size or larger. Run wire from external bonding lug to reinforcing rod or mesh. Connect a No.8 AWG (8.4 mm<sup>2</sup>) solid copper bonding wire to the pressure wire connector provided on the motor housing and to all metal parts of swimming pool, spa, or hot tub, and to all electrical equipment, metal piping or conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub. (In Canada use No.6 AWG bonding wire.)

# SAVE THESE INSTRUCTIONS

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*NOTE: The National Electrical Code (NEC) permits use of a cord with a maximum 3 ft.*

(1 m) length. If your pump is equipped with a cord complying with the NEC, the following three (3) items apply.



**! WARNING – Risk of Electric Shock.** Connect only to a grounding type receptacle protected by a Ground Fault Circuit Interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.

**! WARNING –** To reduce the risk of electric shock replace damaged cord immediately. Do NOT bury cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers and other equipment.

**! WARNING –** To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply. Provide a properly located outlet. Qualified personnel MUST do all electrical wiring.



**! CAUTION –** All suction and discharge valves **MUST be OPEN** when starting the filter system. Failure to do so could result in severe personal injury and/or property damage. All drains and suction covers **MUST** have properly installed covers securely attached with the screws supplied with the covers. If screws are lost, order replacement parts from your supplier.

**! DANGER – Suction Entrapment Hazard.** Never use the pool or spa if a drain cover is damaged, cracked, missing, or not securely attached. Suction in drains and suction outlets can cause drowning, disembowelment, hair or body entrapment, severe injury, and death. Disembowelment, entrapment, or drowning is possible when body parts or hair come in contact with damaged, broken, cracked, missing, or unsecured drain covers and suction outlets. Suction from pumps with only one drain or suction outlet can cause disembowelment, entrapment, or drowning. Pumps for pools and spas require two (2) functioning suction outlets at least three (3) feet apart, on two (2) walls or on the floor and one (1) wall of the pool or spa. Installation of pump and suction outlets must be in compliance with all applicable local building codes. Replace damaged, broken, cracked, missing, or unsecured drain covers and suction outlets immediately.

**! WARNING – Hazardous Pressure.** Pumps, filters, and other equipment/components of a swimming pool filtration system operate under pressure. Incorrectly installed and/or improperly tested filtration equipment and/or components may fail resulting in injury and/or property damage. A qualified pool professional **MUST** conduct all pressure tests.

This product is intended for above-ground/on-ground swimming pool applications only. Do NOT connect to a high-pressure system such as a municipal water main. To prevent explosion caused by entrapped air in the filtration system use provided air relief valve to bleed air from the system.

Confirm that ALL filtration system component clamps, bolts, and covers have been tightened to the manufacturer's recommendations.

**! WARNING –** Never operate or test the filtration system at more than 30 PSI.

# GENERAL INFORMATION

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## Introduction

This manual contains information for the proper installation and operation of the Advantage™ pump. The instructions in this manual **MUST** be followed precisely.

### Product Features

- Heavy duty, high performance motor with integrated automatic thermal overload protector for years of operation
- Durable, corrosion-proof housing for years of dependable service and all-weather performance
- Heat resistant, double-sized seal for long, lasting efficiency
- Integral drain plug for easy winterization of pump

## INSTALLATION INSTRUCTIONS

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### Pump Location

For best pump performance, locate the system below the pool water line.

Install pump on a firm, level base or pad to meet all local and national codes. The field supplied base or pad must be level and vibration-free.

Though the pump is designed for outdoor use, it is strongly advised to protect the electrical components from the weather. Select a well-drained area, one that will not flood when it rains.

### Pump Mounting

Fasten pump to base or pad with screws or bolts to further reduce vibration and stress on pipe or hose joints.

***NOTE: Allow adequate access for servicing pump and piping.***

# INSTALLATION INSTRUCTIONS (CONT.)

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## Plumbing

To facilitate servicing of pump and to allow for indoor storage during the winter months, installing union connections at the suction and outlet ports is recommended.

Use Teflon tape to seal threaded connections on molded plastic components. All plastic fittings must be new or thoroughly cleaned before use. **NOTE: Do NOT use Plumber's Pipe Dope as it may cause cracking of the plastic components.**

When applying **Teflon tape** to plastic threads, wrap the entire threaded portion of the male fitting with one to two layers of tape. Wind the tape clockwise as you face the open end of the fitting, beginning at the end of the fitting.

The pump suction and outlet ports have molded-in thread stops. Do **NOT** attempt to force hose connector fitting past this stop. It is only necessary to tighten fittings enough to prevent leakage. Tighten fitting by hand and then use a tool to engage fitting an additional 1-1/2 turns. Use care when using Teflon tape as friction is reduced considerably; do **NOT** over-tighten fitting or you may cause damage. If leaks occur, remove connector, clean off old Teflon tape, rewrap with one to two additional layers of Teflon tape, and re-install connector.

## Electrical



 **WARNING – Ground motor before connecting to electrical power supply. Failure to ground pump motor can cause serious or fatal electrical shock hazard.**

 **WARNING – Do NOT ground to a gas supply line.**

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

 **WARNING – Ground Fault Circuit Interrupter (GFCI) tripping indicates electrical problem. If GFCI trips and won't reset, consult electrician to inspect and repair electrical system.**

 **WARNING – Fire Hazard. Match supply voltage to motor nameplate voltage.**

Insure that the electrical supply available agrees with the motor's voltage, phase, and cycle, and that the wire size is adequate for the H.P. (KW) rating and distance from the power source.

**NOTE: All electrical wiring MUST be performed by a qualified professional, and MUST conform to local codes and regulations.**

# INSTALLATION INSTRUCTIONS (CONT.)

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## Electrical (cont.)

### Voltage

Voltage at motor **MUST NOT** be more than 10% above or below motor name plate rated voltage, or motor may overheat, causing overload tripping and reduced component life. If voltage is less than 90% or more than 110% of rated voltage when motor is running at full load, consult power company.

### Grounding/Bonding

Install, ground, bond, and wire motor according to local or national electrical code requirements.

Permanently ground motor. Use green ground terminal provided under motor canopy or access place; use size and type wire required by code. Connect motor ground terminal to electrical service ground.

Bond motor to pool structure. Use a solid copper conductor, size 8 or larger. Run wire from external bonding lug to reinforcing rod or mesh. Connect a No.8 AWG (8.4 mm<sup>2</sup>) solid copper bonding wire to the pressure wire connector provided on the motor housing and to all metal parts of swimming pool, spa, or hot tub, and to all electrical equipment, metal piping or conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub.

### Wiring

If other lights or appliances are also on the same circuit, be sure to add their amp loads before figuring wire and circuit breaker sizes. (***NOTE: If unsure how to do this or if this is confusing, consult a licensed electrician.***) Use the load circuit breaker as the Master On-Off switch.

Install a Ground Fault Circuit Interrupter (GFCI) in circuit; it will sense a short-circuit to ground and disconnect power before it becomes dangerous to pool users. For size of GFCI required and test procedures for GFCI, see manufacturer's instructions.

In case of a power outage, check GFCI for tripping, which will prevent normal pump operation. Reset if necessary.

***NOTE: If you do not use conduit when wiring motor, be sure to seal wire opening on end of motor to prevent dirt, bugs, etc., from entering.***

# NEW INSTALLATION – START-UP & OPERATION

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## Prior to Start-Up

Fill strainer housing with water to suction pipe level. **NEVER operate the pump without water.** Water acts as a coolant and lubricant for the mechanical shaft seal.

 **WARNING – NEVER run pump dry. Running pump dry may damage seals, causing leakage and flooding. Fill strainer housing with water before starting motor. Running pump dry or without constant water flow will void warranty.**

 **CAUTION – Do NOT add chemicals to pool/spa system directly in front of pump suction. Adding undiluted chemicals may damage pump and voids warranty.**

 **CAUTION – Before removing strainer cover:**

1. **STOP PUMP** before proceeding
2. **CLOSE VALVES** in suction and outlet pipes
3. **RELEASE ALL PRESSURE** from pump and piping system



 **WARNING – If pump is being pressure tested, be sure pressure has been released before removing strainer cover.**

 **WARNING – Do NOT block pump suction. To do so with body may cause fatal injury. Small children using pool MUST always have close adult supervision.**

## Priming Pump

- Open all valves before starting system
- Release all air from filter and piping system. See filter owner's manual
- When water source is higher than the pump, pump will prime itself when suction and outlet valves are opened
- Clean and lubricate strainer cover o-ring with “Jack’s 327” each time it is removed
- Clean and inspect o-ring; re-install on strainer cover
- Replace strainer cover on strainer housing

If pump does NOT prime within ten minutes, stop motor and determine cause.

# NEW INSTALLATION – START-UP & OPERATION (CONT.)

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## Storage/Winterization

 **WARNING – 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 when air purging the pump, filter, or piping.

 **CAUTION –** Allowing the pump to freeze will void the warranty.

 **CAUTION –** Do NOT use anti-freeze solutions (except propylene glycol) in your pool/spa system. Propylene glycol is non-toxic and will not damage plastic system components; other antifreezes are highly toxic and may damage plastic components in the system.

Drain all water from pump and piping when expecting freezing temperatures or when storing pump for a long time (see instructions below).

Gravity drain system as far as possible.

Keep motor dry and covered during storage. To avoid condensation/corrosion problems, do NOT cover or wrap pump with plastic film or bags.

## Storing Pump For Winterization

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



1. Drain water level below all inlets to the pool
2. Remove drain plug from bottom of strainer body
3. Disconnect pump from base
4. Once the pump is removed of water, re-install the strainer lid and strainer plug
5. Store pump in a dry enclosure

## Start-up For Winterized Equipment

1. Securely mount pump to base
2. Install all intake and output fittings and piping
3. Refill pool to proper water level
4. Prime pump according to instructions

# TROUBLESHOOTING

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## **Motor Will NOT Start – Check For:**

1. Improper or loose wiring connections; open switches or relays; tripped circuit breakers, GFCI's, or blown fuses.
2. Manually check rotation of motor shaft for free movement and lack of obstruction. (See steps 4 & 5 of “Shaft Seal Change Instructions” in this manual.)
3. If you have a timer, be certain it is working properly. Bypass it if necessary.

## **Motor Shuts OFF – Check For:**

1. Undersized wiring; loose connections; etc.
2. Low voltage at motor or power drop (frequently caused by undersized wiring or extension cord use).
3. Mechanical binding and electrical overload.

**NOTE:** Your Advantage Pump motor is equipped with an “automatic thermal overload protector.” The motor will automatically shut off if power supply drops before heat damage can build up causing windings to burn out. The “thermal overload protector” will allow the motor to automatically restart once the motor has cooled, provided the power source is again up to proper levels. It will continue to cut On/Off until the problem is corrected. **Be sure to correct cause of overheating.**

## **Motor Hums, But Does NOT Start – Check For:**

1. Centrifugal switch stuck in OPEN position.
2. Binding of motor shaft.

## **Pump Won't Prime**

1. Make sure pump/strainer housing is filled with water and the cover O-ring is clean, also be sure it is properly seated in the cover O-ring groove. Make sure strainer cover is locked firmly in position and lubricated with “Jack's 327.”
2. Make sure all suction and discharge valves are fully open and not blocked, that pool water level is at proper level, and that skimmer wire is not hung up or binned on skimmer wall.
3. Block off to determine if pump will develop a vacuum. You should have 5”-6” of vacuum at the strainer cover (**Only your pool dealer can confirm this with a vacuum gauge**). You may be able to check by removing the skimmer basket and holding your hand over the bottom port with skimmer full and pump running. If no suction is felt, check for line blockage.
  - a. If pump develops a vacuum, check for blocked suction line or dirty strainer basket, an air leak in the suction piping may be the cause.
  - b. If pump does not develop a vacuum and pump has sufficient “priming water”:
    - i. Re-check strainer housing cover and all threaded connections for suction leaks. Check if all hose clamps are tight.
    - ii. Check voltage to ensure that the motor is rotating at full RPM's.
    - iii. Open housing cover and check for clogging or obstruction in suction. Check impeller for debris.
    - iv. Remove and replace shaft seal only if it is leaking.

# TROUBLESHOOTING (CONT.)

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## **Low Flow – Generally, Check For:**

1. Clogged or restricted strainer or suction line; undersized pool piping.
2. Plugged or restricted discharge line of filter, valve partially closed (high gauge reading).  
How to correct: Sand filters – backwash as per manufacturer’s instructions; D.E. filters – backwash as per manufacturer's instructions; Cartridge filters – clean or replace cartridge.
3. Air leak in suction (bubbles issuing from return fittings). Re-tighten using Teflon tape.
4. Plugged or restricted impeller or impeller sheared off. Replace including new seal assembly.

## **Noisy Pump – Check For:**

1. Air leak in suction piping causing rumbling in pump.
2. Cavitation due to restricted or undersized suction line or leak at any joint, low water level in pool, and unrestricted discharge return lines. Correct suction condition or throttle return lines, if practical. Holding hand over return fitting will sometimes prove this point or putting in a smaller eyeball fitting.
3. Vibration due to improper mounting, etc. Put a rubber pad under metal mounting feet.
4. Foreign matter in pump housing. Loose stones/debris hitting impeller could be cause, remove any of the above.
5. Motor bearings noisy from normal wear, rust, overheating, or concentration of chemicals causing seal damage which will allow chlorinated water to seep into bearings wiping out the grease causing bearing to whine. All seal leaks should be replaced at once.
6. Equipment base vibrating.

## **Maintenance**

- Clean strainer basket regularly. Do NOT strike basket to clean. Inspect strainer cover gasket regularly and replace as necessary
- Advantage pumps have self-lubricating motor bearings and shaft seals. No lubrication is necessary
- Keep motor clean. Insure air vents are free from obstruction
- Occasionally, shaft seals must be replaced, due to wear or damage