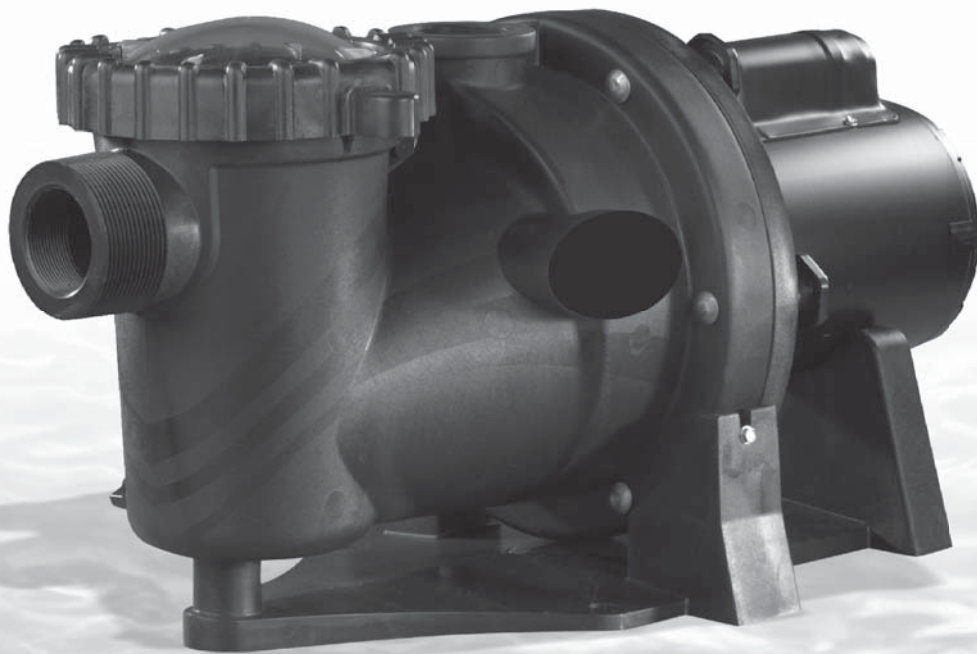


# **SWIMMING POOL PUMP FOR POOLS AND SPAS**

## **OWNER'S MANUAL**



**58704-XXXX, 58703-XXXX, 58702-XXXX, 58701-XXXX, 58700-XXXX, 59919-XXXX,  
59920-XXXX, 59921-XXXX, 59922-XXXX & 59923-XXXX**

**877.278.2797 fax 888.610.3839**

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

# IMPORTANT SAFETY INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS

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

**⚠ WARNING** Risk of Electric shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the receptacle is protected by a GFCI.

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.

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

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## Description

The self priming pool pump is designed for high efficiency, and easy maintenance, with an oversized strainer basket. It is constructed of durable thermoplastic for years of trouble free service. This swimming pool pump is designed for use with permanently installed swimming pools and spas only. Do not use with storable pools.

### Unpacking

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

## Safety Guidelines

This manual contains information that is very important to know and understand. This information is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help recognize this information, observe the following symbols.

**Danger indicates an**

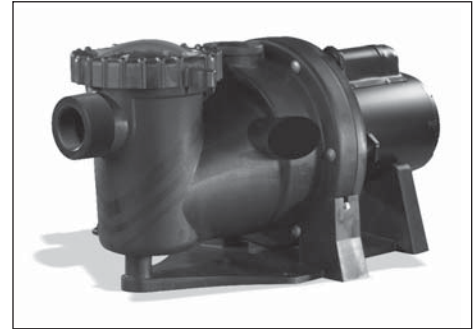


Figure 1 - Swimming Pool Pump

**⚠ DANGER** imminently hazardous situation which, if not avoided, will result in death or serious injury.

**⚠ WARNING** Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ CAUTION** Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**NOTICE** Notice indicates important information, that if not followed, may cause damage to equipment.

**NOTE:** Information that requires special attention.

## General Safety Information

As a user, you are important to us. Thus, one copy of the Operating Instructions and Parts Manual is included with each pump shipped from our factory. This manual contains important sections relative to user safety, use, maintenance, warranty, etc. It is a good idea to ask for extra copies for other installers/users. Extra copies, free of charge, are available.

### CALIFORNIA PROPOSITION 65

**⚠ WARNING** This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

### GENERAL SAFETY

Do not use pump for any purpose other than pool/spa application. Components have not been designed for other applications. Severe pump failure, may result. Any unapproved use will void warranty.

**REMINDER: Keep your dated proof of purchase for warranty purposes! Attach it to this manual or file it for safekeeping.**

## General Safety Information (Cont.)

Always follow basic safety precautions with this equipment, including:

- Provide sufficient ventilation to maintain air temperature below the maximum ambient temperature rating shown on the motor nameplate. 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. The surface should be hard, level, dry, well ventilated, out of direct sunlight. 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 pump base to surface. Support the suction and discharge piping.
- Design the piping system to allow the pump suction inlet height to be as close to water level as possible. Mount 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 this will minimize friction loss.

**▲ WARNING** *Fire and burn hazard. Motors run at high temperatures. Do not allow leaves, debris, or foreign matter to collect around the pump motor. Keep ventilation holes open. Allow motor to cool before handling. Keep flammable liquids away.*

- If the thermal overload protection

in the motor trips or if the GFCI trips determine the reason and correct the problem before re-starting pump.

- Use rigid or flexible PVC pipe. Ensure pipe ends are clean and free of any flash caused by cutting. Use the 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.

## Pool Safety Guidelines

### RESPONSIBLE ADULT SUPERVISION

Constant and responsible adult supervision is mandatory in the pool or spa environment. Always supervise children around pools and spas. Never allow a child to play in a way that could permit the child's hair to come near the drain cover.

### DRAINS, SUCTION FITTINGS, AND JETS

Keep hair and clothing away from the suction fitting drain cover. Wear a bathing cap or pin hair up if you have long hair. Current grates and covers help prevent body or hair entrapment. Make sure that drain covers meet the ANSI/ASME A112.19.8 standard. Safety doors should be installed in all pool cleaner wall suction lines. Pools or spas with drain covers that are broken, missing, or not adequately secured should not be used until the proper replacement has been installed.

### ELECTRICAL HAZARDS

A licensed electrician, experienced in swimming pools and spas, should inspect your equipment to make sure everything is properly grounded, bonded, and protected by proper GFCI circuits according to Article 680 of the National Electric Code.

### DROWNING PREVENTION

Install and routinely inspect fences, self-closing and latching gates, baby barrier fences, and alarms. Eliminate incidental routes to pool including machinery or equipment that provides a route over fencing into pool area.

### INDOOR INSTALLATIONS

Pools and spas located indoors must comply with ANSI/ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) standard 62-2001 to ensure adequate ventilation and safe use.

### WARNING SIGNS

Protect your family and guests. Make sure that all warning signs provided by the manufacturer, builder, or installer are displayed according to the manufacturer's specifications.

## Installation

**▲ DANGER** *Shock Hazard! Only qualified, licensed personnel should install pump and wiring.*

**▲ WARNING** *A professional trained and familiar with pool pump installation must perform pressure tests.*

The pump mount must be located away from corrosive or flammable chemicals. Do not connect the pump to a municipal

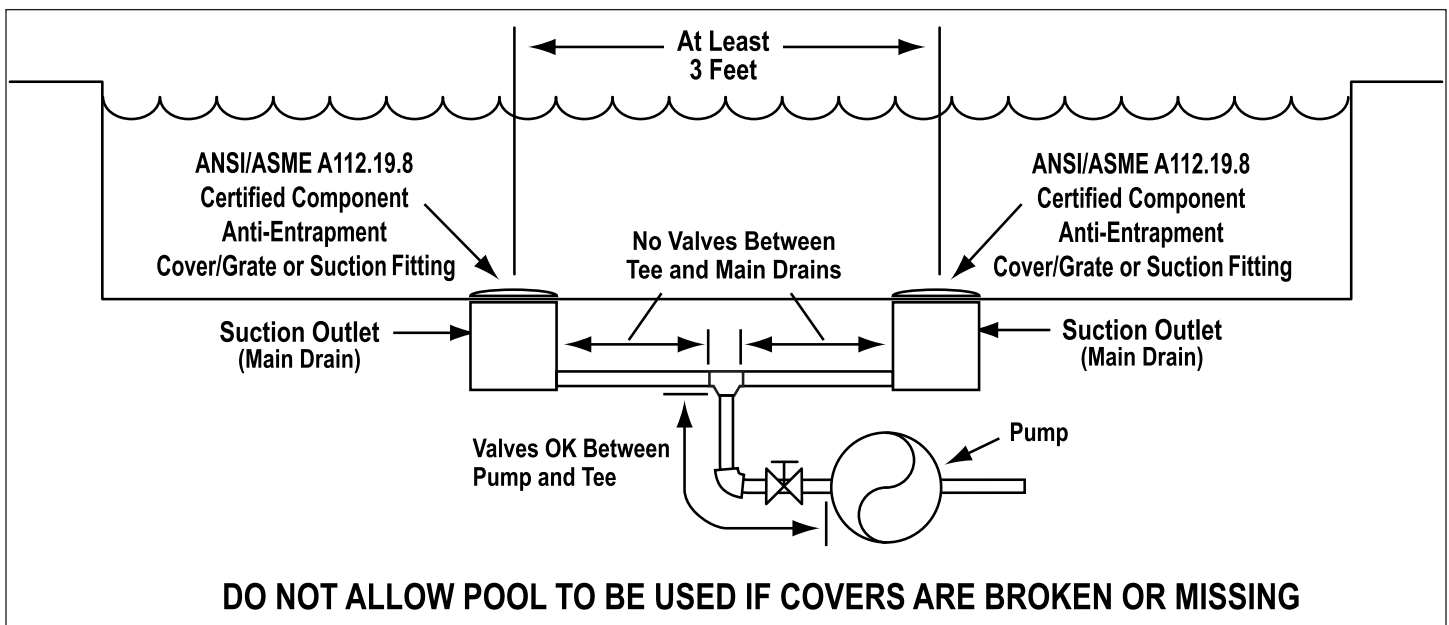


Figure 2

## Installation (Cont.)

water system. The pump is only designed for pool or spa installation. The pump must be installed with at a minimum of 2 main drains equipped with certified anti-entrapment covers that comply with ASME/ANSI A112.19.8B standard (see Figure 2). All air must be removed from piping system before operating or testing equipment (see filter manual).

### THREADED CONNECTIONS

Use only Plumber's Seal tape or equivalent on threaded plumbing connections. Other pipe compounds may damage threads. Do not use silicone or petroleum based compounds.

### PUMP PLUMBING

Suction pipe should be as large as or larger than discharge pipe. Avoid using a suction pipe smaller than pump connection. The pump is designed to accept either 2 or 3 inch suction piping. Larger diameter pipes reduce noise and improve performance.

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 horizontal runs 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 lines to facilitate servicing. Valves are also essential for pump maintenance if the system is installed below pool water level.
7. Keep all valves fully open during operation. Partially closed valves waste energy!

**Use Plumber's Seal tape for making threaded connections to the pump. Do not use pipe dope.**

### PLUMBER'S SEAL TAPING INSTRUCTIONS

Use only new or clean PVC pipe fittings. Wrap male pipe threads with one to two layers of Plumber's Seal 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.

#### NOTICE

**Internal - 2 in. NPT are available for direct**

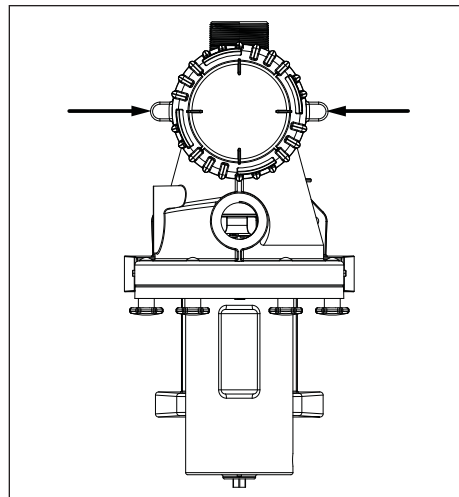
**connection to pipe. The suction line is also designed to accept 3 in. NPT external threaded connection. For best results use the larger diameter suction line.**

### FITTINGS

Fittings restrict flow; for best efficiency use fewest 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.

### PRIOR TO PRESSURE TESTING

- Securely tighten knobs, drain fittings, lid, and system accessories
- Air may collect at the highest point in the plumbing system. Normally an air purge valve is provided with the pool filter. Consult pool filter instruction manual for air purging instructions.
- Basket lid must be rotated and locked into position as indicated in Figure 3.
- Test system at a water pressure of 25 psi or less



**Figure 3 - Clamp rings**

- Water Temperature for test must be less than 100° F
- After 24 hours visually check system for leaks.

### POOL PUMP SUCTION REQUIREMENTS

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

**⚠ DANGER** *Ground the motor before connecting to electrical power supply. Failure to ground the motor may cause severe or fatal electrical shock hazard.*

### ENTRAPMENT PROTECTION

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

### SUCTION COVERS

All suction inlet covers must be maintained and replaced if cracked, broken, or missing. See Figure 2 for outlet cover certification requirements.

### TESTING AND CERTIFICATION

All suction inlet covers must comply with ASME/ANSI A112.19.8B specifications for suction fittings for use in swimming pools, spas and whirlpool bathtub applications. The product must be tested for compliance with the standards and the certification must be included with the components.

Single or Multiple Pump Circulation Systems must be provided with a minimum of 2 (two) suction inlets of the approved type.

Do not install multiple pumps in one hydraulic circuit. The pump is not designed to accept output flow from another pump. Do not allow water to back flow through the pump. Water flowing in the discharge and out the suction during an upset condition can cause the motor to rotate backwards. Never attempt to start pump if shaft is rotating due to a hydraulic turbine action, this could cause pump to operate in reverse and damage internal components.

**⚠ DANGER** *Any pool or spa should immediately be closed if the cover or grate is damaged or missing.*

### OUTLETS PER PUMP

Provide at least two hydraulically balanced main drains, with covers for each swimming pool pump suction line. The centers of the main drains suction fitting must be at least three feet apart (see Figure 2). The system must be built so that it cannot operate with the pump drawing water from only one main drain. Two main drains must be connected to the pump whenever it is running. If two main drains run into a single suction line, the single suction line can be equipped with a single valve that shuts off both main drains from the pump. **A valve in each suction line is not allowed.**

## Electrical

A Ground Fault Circuit Interrupter (GFCI) is required in the circuit. For size of GFCI required see manufacturer's instructions.

- Never ground to a gas supply line.
- To avoid dangerous or fatal electrical shock: turn OFF, disconnect the power at its source, lock out power to motor, and place a tag on the dedicated GFCI circuit breaker indicating the power is to remain OFF before working on electrical connections.

Ground Fault Circuit Interrupter (GFCI) tripping indicates an electrical problem. If GFCI trips, determine the reason for tripping. If you are uncertain, have a qualified electrician inspect and repair the electrical system. Verify 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. Verify voltage is correct before applying power. If voltage does not fall within the specified range during operation consult the power company.

The pumps are shipped with motors wired for 208-230 volt operation. The 3/4, 1 and 1-1/2 HP models are equipped with a voltage change device for 115/208-230 operation. Refer to the motor nameplate for 115 Volt hook-up.

### GROUNDING/BONDING

Install, ground, bond and wire motor according to local or National Electrical Code requirements. Permanently ground the motor. Use 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. 6 AWG or larger. Run wire from external bonding lug to reinforcing rod or mesh.

Use solid copper bonding conductor not smaller than 6 AWG (13 mm<sup>2</sup>) from the accessible wire connector on the motor to all metal parts of the swimming pool or spa structure and to all electrical equipment, metal conduit, and metal piping within 5 feet (1-1/2 m) of the inside walls of the swimming pool or spa.

### WIRING

Follow all national and local wiring codes. If unsure of code requirements consult a professional electrician. Pump must be permanently connected to a dedicated circuit. If unsure consult a licensed electrician.

**NOTE:** All electrical wiring and components must be selected and installed in conformance with the latest NEC requirements and local codes. If you are unsure about the requirements consult a licensed electrician familiar with the requirements.

## Operation

Do not run pump dry. Fill pump with water before starting motor.

Before removing trap cover:

1. CLOSE GATE VALVES in suction and discharge pipes
2. RELEASE ALL PRESSURE from pump and piping system

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.

**▲ WARNING** *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 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 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 when suction and discharge valves are opened. If pump is located above the normal pool water level remove ring and cover assembly and slowly fill basket and pump with water. Clean and inspect o-ring; reinstall on trap. Replace ring and cover assembly rotate clockwise to tighten cover (see Figure 3).

Clamp ring must engage with pump body. Push down and rotate until internal stops are felt. Properly aligned tabs shown above in Figure 3, assure lid is securely clamped.

Failure to tighten clamp ring as indicated will reduce product strength, resulting in failure of components, and bodily injury.

### NOTICE

**Pump prime time will depend on vertical distance and length of suction line. If pump does not prime, make sure that all valves are open, suction pipe is submerged. Verify there are no leaks in suction lines. See Troubleshooting Guide for further assistance.**

## Maintenance

All of our pumps are shipped from the factory with DANGER and/or WARNING labels already on the pump. These labels contain a series of basic, yet extremely important safety messages for the user and bystander. Regardless of how well these labels are attached or how scratch resistant or wear-resistant they may be, it is possible that, in time, the wording may become illegible with normal use. Whenever you are repairing the pump, performing routine maintenance, or have the opportunity to inspect the pump, make sure the label is readable. If the label is not legible, replace the label with an adhesive version that is available at no charge by calling 1-877-278-2797. 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.

Use only parts supplied by manufacturer. Similar looking parts may not have sufficient strength for safe operation.

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

Before attempting to clean basket:

- A. Stop pump, disconnect power at its source, lock out power, place tag on the dedicated GFCI circuit breaker indicating the power is to remain OFF, close valves in suction and discharge, and release pressure from system.

## Maintenance (Cont.)

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

- B. Remove ring and cover assembly by turning counterclockwise. If necessary, tap handles gently with a rubber mallet.
- C. Remove basket and clean. Inspect holes in basket for blockage. Clean basket with water and replace in basket housing. Do not hit basket to clean. Verify basket is oriented correctly in housing.
- D. Clean and inspect lid o-ring; reinstall ring and cover assembly.
- E. Prime pump (see priming instructions).

### DRAINING PUMP

**⚠ DANGER** *To avoid dangerous or fatal electrical shock hazard, turn OFF power to motor before draining pump. Disconnect power at its source, lock out the power, and place a tag on the dedicated GFCI circuit breaker indicating the power is to remain off.*

- A. Close suction discharge valves to isolate pump.
- B. Drain the basket housing and pump housing through the drain plugs.
- C. Be sure motor is kept dry and covered.

### STORAGE/WINTERIZING

**⚠ DANGER** *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 anti-freeze. Do not use automotive antifreeze. It is highly toxic and may damage plastic components in the system.*

### PUMP SERVICE

If the pump mechanical seal (reference numbers 8a and 8b on page 9) starts leaking replace it immediately to avoid damage to motor or other components. Pump should only be serviced by qualified personnel. Use only our factory parts.

#### BEFORE REMOVING CLAMP ON BASKET HOUSING:

- STOP PUMP ELECTRICALLY: Disconnect the power at its source, lock out the power, and place a tag on the dedicated GFCI circuit breaker

- indicating the power is to remain OFF.
- CLOSE GATE VALVES in suction and discharge pipes.
- RELEASE ALL PRESSURE from pump and piping system. Refer to the filter manual for method.
- NEVER tighten or loosen clamp while pump is operating!

**⚠ DANGER** *To avoid dangerous or fatal electrical shock hazard, turn OFF and lock out power to motor before working on pump or motor.*

### REPAIR

#### DISASSEMBLY

1. Disconnect power at its source, lock out the power, and place a tag on the dedicated GFCI circuit breaker indicating the power is to remain OFF.
2. Drain pump by removing drain plugs on bottom of pump body and basket body.
3. Disconnect electrical connections at motor.
4. Remove six knobs holding seal plate to pump body.
5. Slide motor/seal plate assembly out of the back of the pump.
6. Remove three screws holding diffuser to seal plate.
7. Remove motor shaft cover on rear of motor on all models except 59923-XXXX as you can fit a screw driver in the hole without removing back cover. (see Figure 4). Use a wrench or a large screw driver to stop motor shaft rotation.

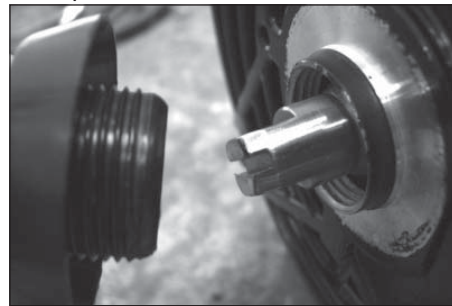


Figure 4

8. Remove screw from center of impeller. The threads are reversed. Turn clockwise to loosen screw (Figure 5).

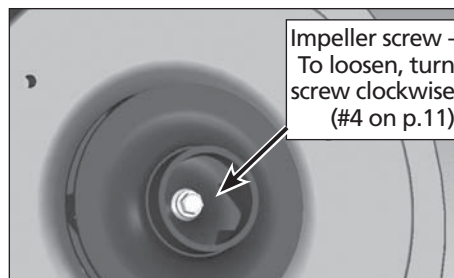


Figure 5

9. Then grasp impeller and rotate counterclockwise to remove impeller from shaft.
10. Pull mechanical seal rotating assembly from motor shaft.

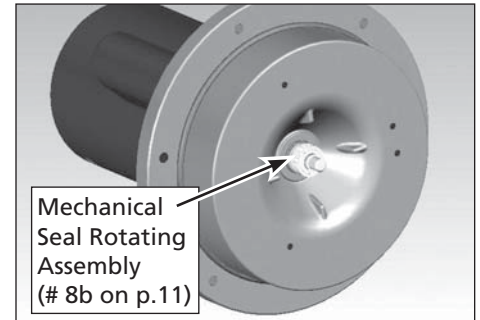


Figure 6

11. With a screw driver carefully pry old stationary seat from seal plate (see Figure 7). DO NOT SCRATCH SEAL BORE.

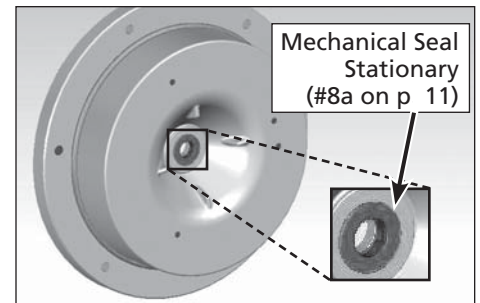


Figure 7

12. If shaft is corroded or dirty motor will need to be removed from seal plate so that the shaft can be effectively cleaned.
13. If necessary use a 9/16 socket with a 6 inch extension to remove four screws holding motor to seal plate. If seal has been leaking for a long time the motor bearing may be compromised, if excessive corrosion or shaft end play can be detected motor will need to be replaced.

#### REASSEMBLY

1. Obtain a new mechanical seal rotating assembly and seat (reference numbers 8a and 8b on page 11). Seal parts must be replaced as a set. Do not mix old and new parts. Lubricate seal stationary o-ring with a very small amount of dish soap. Do not allow soap, dirt, grease, or any contaminate on the polished seal face (see Figure 8). Install seal with 2 dimples toward motor or seal will fail.

## Maintenance (Cont.)

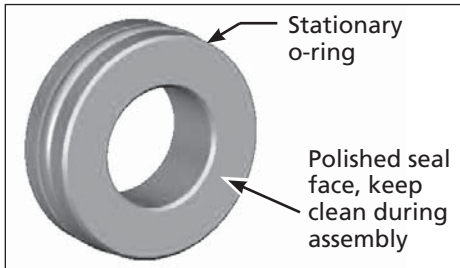


Figure 8

Clean bore for seal, then press seal stationary into bore. Cover seal face with cardboard or other suitable material to avoid touching polished seal face. Verify seal is fully seated in the bottom of the bore.

2. Reinstall motor if removed, lubricate clean motor shaft with a small amount of dish soap. Slide the new rotating seal assembly on to the motor shaft until it is even with the shaft shoulder. Polished carbon face must mate with polished stationary face. Make certain seal is properly seated in housing.
3. Screw impeller on to motor shaft. Install left handed retaining screw and washer.
4. Install floating wear ring on impeller. Be careful to install with flange pointing out (see Figure 9).

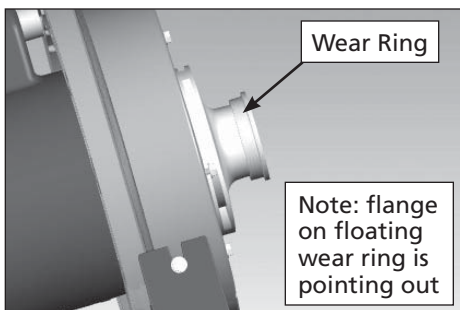


Figure 9

5. Replace diffuser o-ring (reference part #5 on page 11) if it is damaged. Clean o-ring groove before installing a new o-ring.
6. Install diffuser with 3 screws, coat o-ring with a small amount of dish soap to make assembly into pump body easier.

7. Replace main seal plate o-ring with a new one. Clean the surface before installing.
8. Slide rotating assembly back into pump housing.
9. Tighten six knobs in a staggered pattern so all screws are tightened evenly.
10. Pump is now ready to return to service.

**⚠ DANGER** *Voltage can shock, burn, or cause death. Disconnect power before working on pump or motor. Disconnect power at its source, lock out the power, and place a tag on the dedicated GFCI circuit breaker indicating the power is to remain off.*

## Troubleshooting Guide

Read and understand safety and operating instructions in this manual before doing any work on pump! Only qualified personnel should electrically test pump motor!

### WATER LEAKING AROUND MOTOR:

A water leak in the area of the motor to pump connection indicates a mechanical seal failure and a shock hazard. Take pump out of service and replace seal immediately to avoid damage to other components and to reduce risk of electric shock. Refer to pump maintenance section.

### 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. Lower pump closer (vertically) to water source or install check valve in suction line.

**⚠ WARNING** *Some safety vacuum release system (SVRS) devices are not compatible with installation of check valves. If the pool has an SVRS device, be sure to confirm that it will continue to safely operate when any check valves are installed.*

#### CLOGGED PIPE/TRAP/IMPELLER, WORN IMPELLER:

5. Make sure suction trap is not clogged; if it is, clean trap and strainer. See Maintenance section.
6. Make sure impeller is not clogged (follow steps 1 through 7 under "DISASSEMBLY", Page 6; check impeller for clogging; follow steps 7 through 10 under "REASSEMBLY", Pages 6 - 7, for reassembly).
7. Impeller and diffuser may be worn. If so, order replacement parts from "Repair Parts List", on pages 10 and 11.
8. Pump may be trying to push too high a column of water. If so, a "higher head" pump is needed. Call 1-877-278-2797.

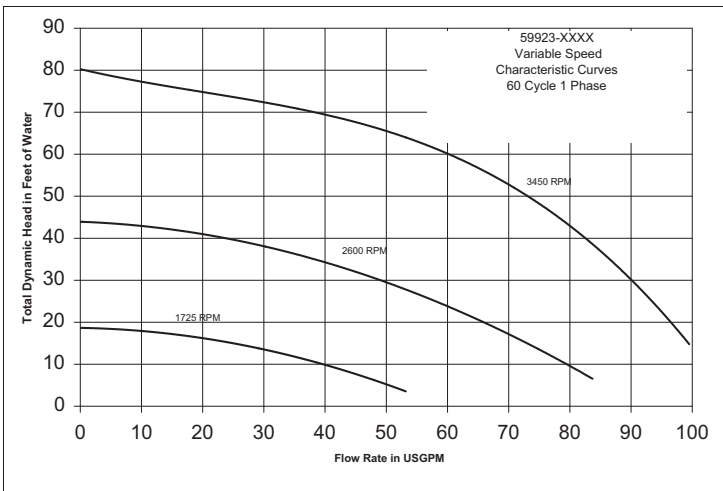
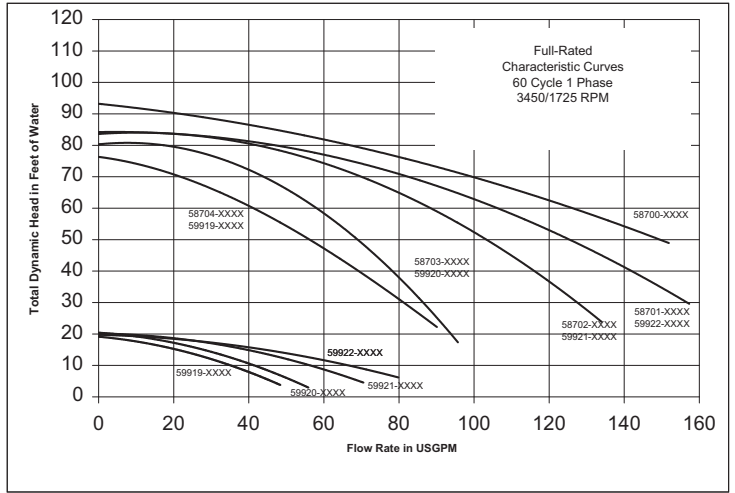
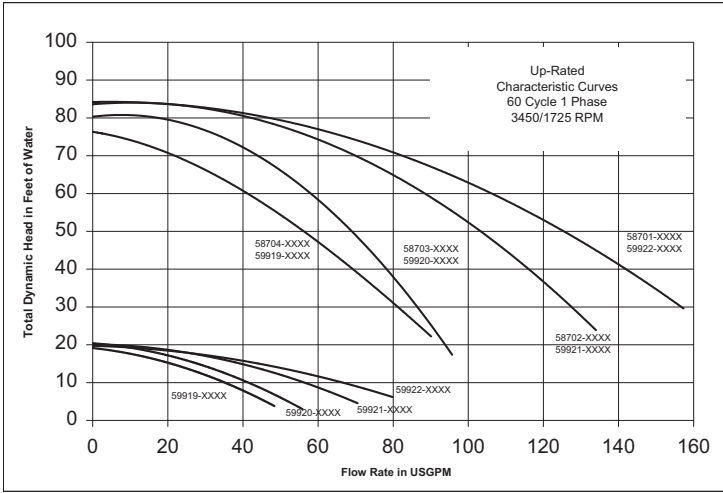
#### ELECTRICAL:

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", Page 3 - 4.
2. Do not mount pump on a wooden platform! Securely mount on concrete platform for quietest performance. Use anchor holes provided in pump base.

# Swimming Pool Pump Flow Rates

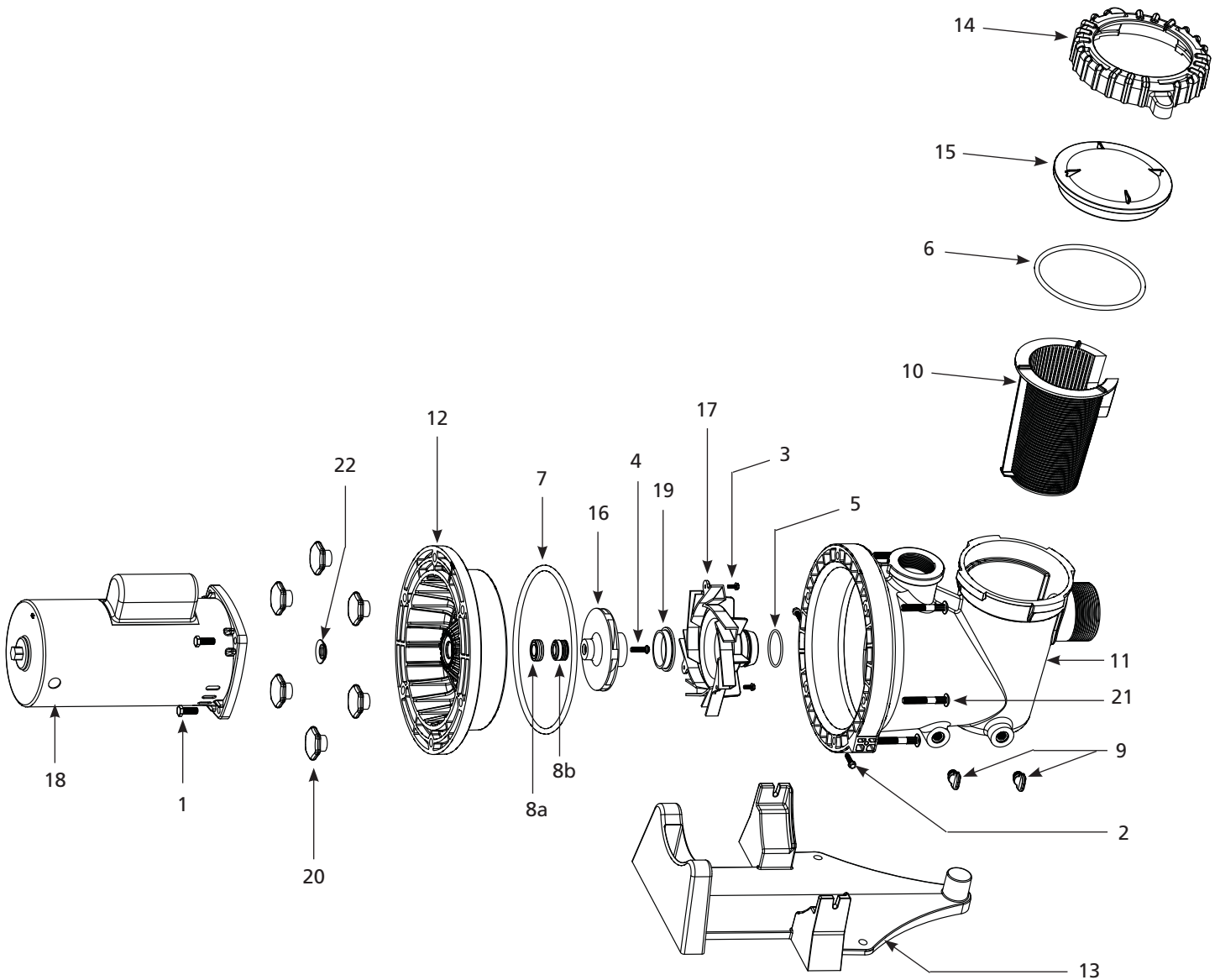




# For replacement parts or technical assistance, call 1-877-278-2797

Please provide following information:

- Model number
- Serial number
- Part description and number as shown in parts list



## Replacement Parts List

Ref. No.	Description	Part Number	Qty.
1	Machine Screw 3/8-16 x 1.00 UNC 2A	4383	4
2	Base Screw	4951	2
3	Machine Screw 10-32 x 1/2 UNC 2A	08831	3
4	Machine Screw 1/4-20 x 1 UNC 2A Left Handed	14052	1
5	Diffuser O-Ring	19014-001	1
6	Strainer Basket O-Ring	19084-001	1
7	Housing O-Ring	19087-002	1
8a	Seal Stationary	21212-001	1
8b	Bellows Assembly	21212-002	1
9	Drain Plug	14421	2
10	Filter Basket	28570-001	1
11	Pump Housing	28571-002	1
12	Seal Plate	28572-001	1
13	Pool Pump Base	28573-001	1
14	Locking Ring	29595-001	1
15	Clear Basket Cover	29596-001	1
16a	3/4 HP Impeller (58704-XXXX, 59919-XXXX, 59923-XXXX)	29860-001	1
16b	1 HP Impeller (58703-XXXX, 59920-XXXX)	29859-001	1
16c	1-1/2 HP Impeller (58702-XXXX, 59921-XXXX)	29861-001	1
16d	2 HP Impeller (58701-XXXX, 59922-XXXX)	29862-001	1
16e	3 HP Impeller (58700-XXXX)	29858-001	1
17a	Diffuser 5 Vane (58704-XXXX, 59919-XXXX, 59923-XXXX)	29864-001	1
17b	Diffuser 7 Vane (58703-XXXX, 58702-XXXX, 58701-XXXX, 59920-XXXX, 59921-XXXX, & 59922-XXXX)	29863-001	1
17c	Diffuser 3 HP (58700-XXXX)	29863-002	1
18a	3/4 HP Motor (58704-XXXX)	32166-001	1
18b	1 HP Motor (58703-XXXX)	32165-001	1
18c	1-1/2 HP Motor (58702-XXXX)	32164-001	1
18d	2 HP Motor (58701-XXXX)	32163-001	1
18e	3 HP Motor (58700-XXXX)	32162-001	1
18F	1 HP Variable Speed Motor	32198-001 (59923-XXXX)	1
18G	2 HP 2 Speed Motor	32197-001 (59922-XXXX)	1
18H	1.5 HP 2 Speed Motor	32196-001 (59921-XXXX)	1
18I	1 HP 2 Speed Motor	32195-001 (59920-XXXX)	1
18J	3/4HP 2 Speed Motor	32194-001 (59919-XXXX)	1
19	Floating Wear Ring	46066-001	1
20	Knob	67121-001	6
21	Rib Neck Bolts	67122-001	6
22	Slinger	(Included with Motor, parts 18a-j)	1

### REPLACEMENT PART KITS

Seal Kit	69013-001	(Parts 6 & 7)
Motor Kit		
3/4 HP (58704-XXXX)	69014-001	(Parts 7, 8 & 18a)
1 HP (58703-XXXX)	69015-001	(Parts 7, 8 & 18b)
1-1/2 HP (58702-XXXX)	69016-001	(Parts 7, 8 & 18c)
2 HP (58701-XXXX)	69017-001	(Parts 7, 8 & 18d)
3 HP (58700-XXXX)	69018-001	(Parts 7, 8 & 18e)
3/4 HP 2 Speed (59919-XXXX)	66314-001	(Parts 7, 8 & 18J)
1 HP 2 Speed (59920-XXXX)	66315-001	(Parts 7, 8 & 18I)
1.5 HP 2 Speed (59921-XXXX)	66316-001	(Parts 7, 8 & 18H)
2 HP 2 Speed (59922-XXXX)	66317-001	(Parts 7, 8 & 18G)
1 HP Variable Speed (59923-XXXX)	66318-001	(Parts 7, 8 & 18F)
Impeller Kit		
3/4 HP (58704-XXXX, 59919-XXXX, 59923-XXXX)	69019-001	(Parts 4, 7, 16a & 19)
1 HP (58703-XXXX, 59920-XXXX)	69020-001	(Parts 4, 7, 16b & 19)
1-1/2 HP (58702-XXXX, 59921-XXXX)	69021-001	(Parts 4, 7, 16c & 19)
2 HP (58701-XXXX, 59922-XXXX)	69022-001	(Parts 4, 7, 16d & 19)
3 HP (58700-XXXX)	69023-001	(Parts 4, 7, 16e & 19)
Diffuser Kit		
3/4 HP (58704-XXXX, 59919-XXXX, 59923-XXXX)	69025-001	(Parts 5, 7 & 17a)
1, 1-1/2, 2 HP (58703-XXXX, 58702-XXXX, 58701-XXXX, 59920-XXXX, 59921-XXXX, & 59922-XXXX)	69024-001	(Parts 5, 7 & 17b)
3 HP (58700-XXXX)	69026-001	(Parts 5, 7 & 17c)
Wet End Kits		
3/4 HP (58704-XXXX)	69133-001	(Parts 18a, 16a, 17a, 1, 3, 4, 5, 7, 8a, 8b, 12, 19, 22)
1 HP (58703-XXXX)	69132-001	(Parts 18b, 16b, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19, 22)
1-1/2 HP (58702-XXXX)	69131-001	(Parts 18c, 16c, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19, 22)
2 HP (58701-XXXX)	69130-001	(Parts 18d, 16d, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19, 22)
3 HP (58700-XXXX)	69129-001	(Parts 18e, 16e, 17c, 1, 3, 4, 5, 7, 8a, 8b, 12, 19, 22)
3/4HP 2 Speed (59919-XXXX)	66332-001	(Parts 18I, 16a, 17a, 1, 3, 4, 5, 7, 8a, 8b, 12, 19 & 22)
1 HP 2 Speed (59920-XXXX)	66331-001	(Parts 18I, 16b, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19 & 22)
1.5 HP 2 Speed (59921-XXXX)	66330-001	(Parts 18H, 16c, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19 & 22)
2 HP 2 Speed (59922-XXXX)	66329-001	(Parts 18G, 16d, 17b, 1, 3, 4, 5, 7, 8a, 8b, 12, 19 & 22)
1 HP Variable Speed (59923-XXXX)	66328-001	(Parts 18F, 16a, 17a, 1, 3, 4, 5, 7, 8a, 8b, 12, 19 & 22)
Seal Plate Kit	69027-001	(Parts 7, 8 & 12)

**Limited Warranty**

For one (1) year from the date of purchase, the manufacturer will repair or replace, at its option, for the original owner any parts of its pumps ("Product") which are found upon examination by the manufacturer to be defective in materials or workmanship.

Please call the manufacture at 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 labor and 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 the manufacturer's written instructions. All maintenance and service must be performed by service agents approved by the manufacturer. 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 the manufacturer or 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 of the manufacturer 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, external valve positions, 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 by the manufacturer. This Limited warranty applies only within the continental USA. For warranty outside the continental USA, contact the manufacturer.

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 the manufacturer at 1-877-278-2797 for service or return authorization and instructions.

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

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