



QUICK START GUIDE
OWNER'S MANUAL
INSTALLATION, OPERATION & PARTS
SAND FILTRATION TECHNOLOGY



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

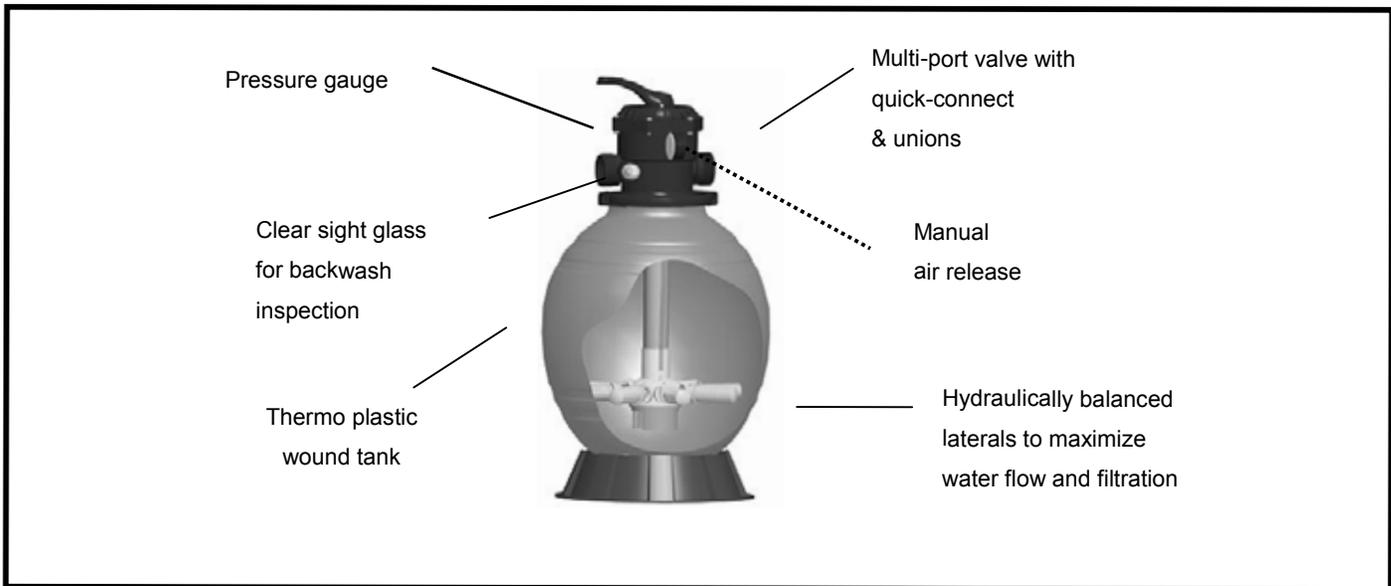
This manual contains important information about the installation, operation and safe use of this product. Once installation is complete, this manual must be given to the owner/ operator of this equipment.

SAFETY INFORMATION

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1. Sand Filters are designed to work with water at a temperature > than 32° F and < than 113°F.
The filter should never be operated outside of these temperatures or damage may occur.
2. The installation should be carried out in accordance to the safety instructions of swimming pools and the specific instructions for each facility.
3. The user should make sure that the installation is carried out by qualified authorized persons and that these persons have first carefully read the following instructions.
4. The operating safety of the filter is only guaranteed if the installation and operation instructions are correctly followed.
5. To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
6. Incorrectly installed equipment may fail, causing severe injury or property damage.
7. Chemical spills and fumes can weaken Swimming Pool/ Spa. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.
Any modification of the filter requires the prior consent from the supplier's original replacement parts and accessories authorized by the manufacturer ensure a high level of safety. The supplier assumes no liability for the damage and injuries caused by unauthorized replacement parts and accessories.
9. In the event of defective operation or fault, contact the supplier or it's nearest authorized service agent

SAND FILTER BREAKDOWN



Sand Filtration

Incoming water from the piping system is automatically directed by the Multiport Valve to the top of the filter bed. As the water is pumped through the filter sand, dirt and debris are trapped by the filter bed, and filtered out. The filtered water is returned from the bottom of the filter tank, through the Multiport Valve and back through the piping system

INSTALLATION

1. Position the filter as close to the Swimming Pool/ Spa as possible.
2. Position the filter so that it is free from flooding, away from sumps, guttering, garden hollows, etc.
3. Position the filter so that the piping connections, Multiport Valve and winter drain is convenient and accessible for operation, servicing and winterizing.
4. Ensure that the compliance label is facing the front to allow easy identification in the case of service difficulties.
5. The filter should be placed on a level concrete slab, very firm ground, or equivalent. Ensure that the ground will not subside, preventing any strain from the attached plumbing.
6. Ensure that there is no movement of the filter during operation of the Multiport Valve.

Filling the Filter Media

1. Before filling the filter media into the filter vessel, do a visual check of the laterals. Look for broken or loose laterals. Replace if necessary.
2. To eliminate stress on the laterals, fill the filter vessel with enough water to provide a cushioning effect when the filter sand is poured in.
3. The Sand Filter is supplied with a perforated plastic locator, which centers the stem and prevents media from entering the stem pipe. Place the perforated plastic locator on the centre stem of the filter and carefully pour in the filter media via the perforated holes of the plastic locator. Remove the plastic locator once completed.

NOTE: If a template is not provided or is lost you must center the stem and cover the stem opening to prevent non-alignment and media entering the stem pipe.

Plumbing

1. Check that the incoming water pressure is within the filter's recommended working pressure and ensure that a pressure limiting valve is installed if using mains water or a high pressure pump.
2. Ensure that a foot valve (non return valve) is installed if the pump is installed 10 ft. above the water level.

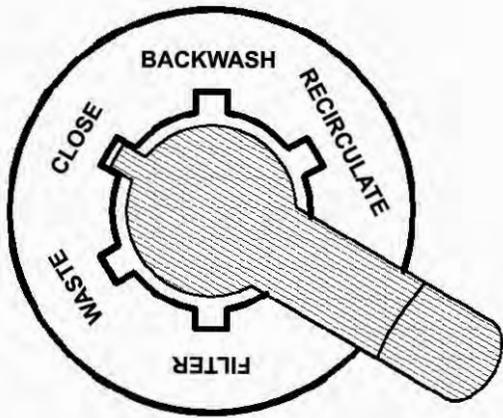
3. If the sand filter is installed below the water level or connected to mains water, isolation valves should be installed before the filter and after the valve. This will prevent water flow during any routine maintenance that may be required.
4. Minimize the length of pipe and the number of fittings to minimize friction loss to ensure maximum efficiency.
5. Connect all plumbing to the Multiport Valve taking care that all joints are glued or tightened securely to prevent leaking.
6. To prevent breakage and damage to the pump and Multiport Valve, use only pipe sealants specifically formulated for plastics.
7. Ensure solvents are not excessively applied to fittings as this could run into o-rings and create sealing problems.
8. Do not over tighten fittings or adapters.

Installation of the Multiport Valve

Top Mount Sand Filters are supplied with a screw down Multiport Valve. Supplied with the Multiport Valve are Flange clamp, screws and O-ring.

1. Screw the barb fittings-Hose kit & tighten onto the threaded ports on the Multiport Valve.
2. When rotating the Multiport Valve into position on a Top Mount Filter, leave some leeway for better alignment of plumbing.
3. Once the Multiport Valve is in position and the plumbing is aligned apply the thread tape to barb fitting.
4. Using the roll of Teflon tape wrap the Teflon tape around the thread (tail) of barb fitting in a clock wise direction.
5. Screw the barb fitting into the thread of the Multiport Valve and hand tighten
6. Once you have done this tighten the fitting with an appropriate tool until it is tight.
7. Repeat steps until all connects are firmly onto the Multiport Valve.
8. Test the filter and check for leaks around the threads. If leaking occurs disconnect plumbing and repeat the steps 2 to 6 until the leak has stopped.

INITIAL STARTUP OF FILTER



1. Filter - Position for filtering the body of water.

Incoming water from the piping system is automatically directed by the Multiport Valve to the top of the filter bed. As the water is pumped through the filter sand, dirt and debris are trapped by the filter bed, and filtered out. The filtered water is returned from the bottom of the filter tank, through the Multiport Valve and back through the piping system.

2. Backwash - Position for cleaning the filter media.

Water flow is reversed by the Multiport Valve through the filter bed so that water flow is directed to the bottom of the tank and up through the filter bed, flushing the previously trapped dirt and debris out the waste line.

3. Rinse - Position for flushing the filter system.

The water flow is directed by the Multiport Valve through the filter bed and out the waste line. This process settles the filter media bed into place and ensures any dirt or debris is rinsed out of the filter, preventing possible return to the Swimming Pool/ Spa.

4. Waste - Position for bypassing the filter bed to Waste.

The water flow is directed by the Multiport Valve straight to the backwash outlet, bypassing the entire filter bed. This Multiport Valve position is used lower the water level or for vacuuming water with high dirt loads.

5. Re-circulate - Position for bypassing the filter bed to the Swimming Pool/ Spa.

The Multiport valve recirculates water flow directly back to the Swimming Pool/ Spa, bypassing the filter.

6. Closed – Position for closing all flow to the filter.

This position is not to be used with the pump operating.

CAUTION: Operation of the Multiport Valve or mode selection is to be always done with the pump switched off.

Be sure correct amount of filter sand media is in tank and that all connections have been made and are secure.

1. Depress Multiport Valve handle and rotate to the BACKWASH position.

NOTE: To prevent damage to control valve seal, always depress handle before turning.

2. Switch on the Pump/ Open the Inlet Valve allowing the filter tank to fill with water.

CAUTION: All suction and discharge valves must be open when starting the pump.

Failure to do so could cause severe personal injury and/or property damage.

NOTE: If a pump is installed, switch the pump on and off, instead of closing and opening the Inlet Valve.

3. Once water flow is steady out the waste line, run the pump for at least 1 minute. The initial backwashing of the filter is recommended to remove any impurities or fine sand particles in the sand media.

4. Turn the pump off, Multiport Valve to the RINSE position. Switch on the Pump/ Open the Inlet Valve until water in sight glass is clear — approximately 10 to 15 seconds.

5. Switch off the Pump/ Close the Inlet Valve, set the Multiport Valve to the FILTER position and Switch on the Pump/ Open the Inlet. Your filter is now operating in the normal filter mode.

6. Adjust pool suction and return valves to achieve desired flow. Check the plumbing and filter for water leaks and tighten connections, bolts, and nuts, as required.

NOTE: During initial clean-up of the pool water, it may be necessary to backwash frequently due to the unusually heavy initial dirt load in the water.

7. Record the pressure gauge reading (start up pressure) during initial operation. After a period of time, the accumulated dirt and debris in the filter causes a resistance to flow, and the flow diminishes. The pressure will start to rise and the flow of water will start diminishing. When the pressure gauge reading is 10psi higher than the initial "Start up" pressure, it is time to backwash (clean) the filter (see Backwashing).

BACKWASHING

The function of backwashing is to separate the deposited particles from filter media grains and flush them from the filter bed. Backwashing is achieved by reversing the flow of water through the filter bed at a fairly high flow rate. This high flow rate expands the filter bed and the water collects the debris taking it to waste.

Conditions for Backwashing:-

Time for backwashing is determined by the following conditions:

1. The flow rate through the filter bed decreases until it is insufficient to meet the demand.
2. The removal efficiency of the filter bed decreases to the point where the effluent quality deteriorates and is no longer acceptable.
3. When the pressure gauge reading is 10psi higher than the start up pressure.
4. If the filter is connected to mains water, pressure rise is not an accurate indicator as mains pressure tends to fluctuate. It is best to rely on the actual flow rate.

NOTE: We recommends that you backwash a swimming pool sand filter in a residential installation at least once a month.

Importance of Backwashing

The importance of backwashing cannot be overstated. Dense filter media can become "packed" without proper and frequent enough backwashing. Debris will remain trapped and create channeling within the filter bed. This will result in the filter bed exhausting early. Moreover, if debris is not flushed from the media grains, the filter bed will become dirtier and dirtier as time goes on until the filter operation fails.

Backwashing Instructions:-

Switch off the Pump/ Close the Inlet Valve.

NOTE: If a pump is installed, switch the pump on and off, instead of closing and opening the Inlet Valve.

2. Release the filter's pressure by loosening Pressure Release Valve until the Pressure Gauge needle drops to zero <0>.
3. Retighten Pressure Release Valve.
4. Depress and turn Handle 180° to the BACKWASH position. In the BACKWASH position, the water flow is automatically reversed through the filter so that it is directed to the bottom of the filter vessel, up through the sand, flushing the previously trapped dirt and debris out the waste line.
5. Switch on the Pump/ Open the Inlet Valve. Backwash water will flow out through drain pipe.
6. When the backwash water in the sight glass appears clear, Switch off the Pump/ Close the Inlet Valve.
7. Depress and turn the handle to the RINSE position. In the RINSE water flow is directed through the filter bed and out of the filter through the backwash outlet.

This process settles the filter media bed into place and ensures any dirt or debris is rinsed out of the filter, preventing possible return to the pool.

8. Switch on the Pump/ Open the Inlet Valve. Rinse water will flow out through the drain pipe.

9. When the rinse water in the sight glass appears clear. Switch off the Pump/ Close the Inlet Valve.

10. Depress and turn the handle to the Filter position and Switch on the Pump/ Open the Inlet Valve for normal operation.

MAINTENANCE

The filter media will only require replacement once it has reached the limits of its designated life. Refer to the product information of the particular filter media used.

To ensure the maximum life of the selected filter media, please follow the procedures below:

1. Backwash the filter regularly according to the instructions set under "Backwashing".

2. Refer to the specifications of the filter media used and implement regeneration procedures accordingly.

3. Maintain a correct chemical balance your pool/spa water. The chemical balance of water is a relationship between its Ph, total alkalinity, calcium hardness and water temperature.

The water must be maintained at all times to the following:

PH LEVEL: BETWEEN 7.2 & 7.8.

TOTAL ALKALINITY: BETWEEN 80 & 150ppm.

CALCIUM HARDNESS: BETWEEN 150 & 300ppm.

And within these tolerances be balanced to the Langelier Saturation Index within a range of -0.2 to +0.2.

NOTE: Testing kits are available to test the water yourself or alternately bring a sample of the water to a professional pool and spa shop.

4. Mains water and rural water supplies need to be monitored. Saturation (life) in mains water or bore (rural) will vary depending on water quality.
5. To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

TROUBLE SHOOTING

<p>Above normal or excessive force to operate the Multiport Valve</p>	<p>Scoring or jamming with foreign matter or debris. If this condition persists after rinsing, disassemble the valve to clear. Continued operation of the valve may result in a non-sealing condition (damage to spider gasket). This will lead to water loss to the backwash line or to inefficient filtration.</p>	<p>Filter Media in the backwash</p>	<ol style="list-style-type: none"> 1. Excessive quantity of media in the filter. 2. Excessive water flow. 3. Incorrect sized or grade of filter media.
<p>Dirty Water</p>	<ol style="list-style-type: none"> 1. Insufficient filtration time. 2. Heavy contaminants or dirt load. 3. Dirty filter, requires backwashing. 4. Air leaking on suction. 5. Pump impeller vanes blocked. 6. In sufficient water supply (water level low, blockage). 7. Pump not primed. 8. In correct water chemistry. 9. Excessive flow of water for filter size. Foreign matter or debris forced through filter bed and through the under drain. 10. Other restrictions including (pool suction cleaners) resistance from other inline equipment such as strainers. Operating the filter on recirculate will determine if the restriction is in the filter. 11. Clogged or channeled filter media. Perform backwash or regeneration. <p>Refer to maintenance section.</p>	<p>Filter Media returning to Swimming Pool/ Spa</p>	<ol style="list-style-type: none"> 1. Filter is on recirculate. 2. Verify it is the filter media and not from another source. 3. Damage to the under-drain laterals. 4. Damage or incorrect fit of Multiport Valve are correct. 5. Incorrect or mixed grades of media in the filter.
		<p>Short filtration cycles</p>	<ol style="list-style-type: none"> 1. Presence of algae or a scale builds up. 2. Check water chemistry. 3. Excessive water flow, check pump size, mains water flow. 4. Filter blocked through calcium etc. clean filter media.



Limited Warranty

For one (1) year from the date of purchase, will repair or replace, at its option, for the original owner any parts of its filters ("Product") which are found upon examination to be defective in materials or workmanship. This Limited Warranty covers parts only for a period of one (1) year.

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 service agents approved. 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, 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. This Limited warranty applies only within the continental USA. For warranty outside the continental USA.

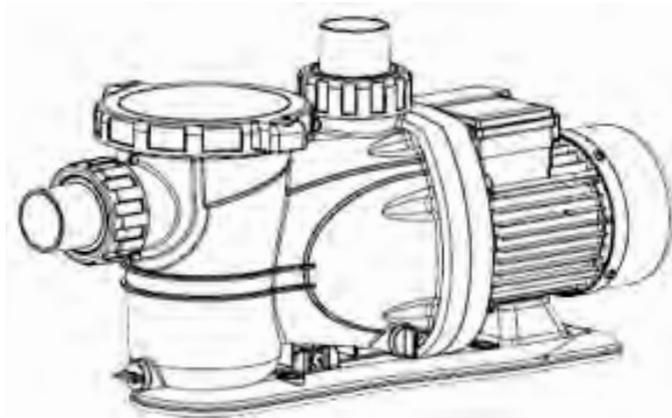
You MUST retain your purchase receipt along with this form. In the event you need to exercise a warranty claim, you MUST present a copy of the purchase receipt at the time of service. Please call 1-877-278-2797 for service or return authorization and instructions.

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

MODEL NO. _____ SERIAL NO. _____ INSTALLATION DATE _____



**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:

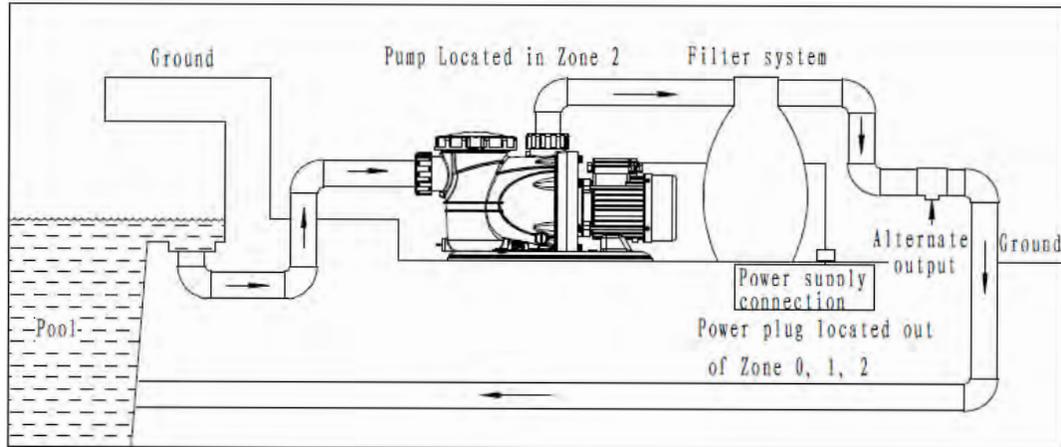
5. Make sure suction trap is not clogged; if it is, then clean trap and strainer.
6. Make sure the impeller is not clogged
7. Impeller and diffuser may be worn. If so, order replacement parts from Repair Parts List, Pages 14-15.
8. The pump may be trying to push too high a column of water. If so, a "higher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