



# Owner's Manual



**For Swim Spas Manufactured After January 2004**

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Since manufacturing our first swim spa in 1995, we have seen the popularity of this mini fitness and massage pool grow in leaps and bounds year after year.

Hydropool swim spas are not only fun and relaxing, they can even add value to your home.

The minimal space and maintenance requirements of swim spas, combined with the year-round use potential, safety and better swim, will ensure the future of swim spas as "the pool of the future".

This manual contains valuable information and pointers that will save you both time, money and help simplify upkeep and maintenance.

**Please take the time to carefully read and understand all the safety, installation and operating instructions in this manual before adding water or electrically connecting your swim spa.**

Enjoy.



**Dale Papke**  
President



**David Jackson**  
Vice President



# SAVE THESE INSTRUCTIONS

## IMPORTANT USER SAFETY INSTRUCTIONS

Your physiological response to hot water is very subjective and depends on your age, health, and medical history. If you don't know your tolerance to hot water, or if you get a headache, or become dizzy or nauseous when using your hot tub, get out and cool off immediately.

### WARNINGS



- 1 Children should NOT use a swim spa without alert adult supervision.
- 2 Children should not enter a swim spa where water temperature exceeds body temperature (37°C / 98.6°F).
- 3 As prolonged immersion in water temperatures in excess of 38°C (100°F) may be injurious to your health, we recommend measuring the water temperature with an accurate thermometer before entering the swim spa. We also recommend establishing lower temperatures and shorter use periods for young children and/or those users potentially affected by hot temperatures.
- 4 Do not allow children to submerge their head under water.
- 5 Do not use a swim spa unless all suction guards are installed to prevent body and hair entrapment. Do not sit in front of, or on top of the suction fittings or skimmer, as this will obstruct proper circulation and may result in personal injury.
- 6 Never operate the swim spa pump at high speed without having all suction and return lines open.
- 7 Always keep the hardcover installed and locked when the swim spa is not in use.
- 8 People using medications and/or having any adverse medical history should consult a physician before using a swim spa.
- 9 People with infectious diseases should not use a swim spa.
- 10 Exercise caution when entering or exiting a swim spa. Where practical, install a safety grab bar or handrail. Turn off the jets before entering the swim spa to improve visibility of the steps or flat entry area.
- 11 To avoid unconsciousness and possible drowning, do not use drugs or alcohol before or during the use of a swim spa.
- 12 Pregnant woman should consult a physician before using a swim spa.

- 13 Do not use a swim spa immediately following strenuous exercise.
- 14 Do not permit or use electric appliances (such as light, telephone, radio or television) within 1.5 m (5 ft) of this hot tub, unless such appliances are rated at 12VDC or less.
- 15 Test the GFCI (Ground Fault Circuit Interrupter) monthly.
- 16 Post emergency phone numbers for Police, Fire Dept., and Ambulance at the nearest phone.

### HYPERTHERMIA

Since your swim spa can be set to reach temperatures of 40°C (104°F), users should be aware that extended submersion in water that exceeds normal body temperature can lead to hyperthermia.

The causes, symptoms and effects of hyperthermia may be described as follows:

Hyperthermia occurs when the internal temperature of the body reaches several degrees above the normal body temperature of 37°C (98.6°F). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- Unawareness of impending hazard
- Failure to perceive heat
- Failure to recognize the need to exit the hot tub
- Physical inability to exit the hot tub
- Fetal damage in pregnant woman
- Unconsciousness resulting in the danger of drowning

**If you sense any of the symptoms of hyperthermia, safely exit the swim spa immediately.**

### WARNING



THE USE OF ALCOHOL, DRUGS OR MEDICATION CAN SIGNIFICANTLY INCREASE THE RISK OF FATAL HYPERTHERMIA.

**RECOMMENDED WATER TEMPERATURE 80 – 84°F (26 – 29°C)**

**NEVER ALLOW DIVING OR JUMPING  
IN YOUR POOL**

## GENERAL INSTALLATION CONSIDERATIONS

Your Hydropool swim spa is pre-plumbed so that only minimal on-site plumbing connections are required. Simply place the pool in the desired location and install as outlined in the following pages.

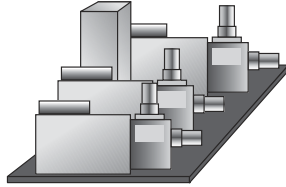
- 1 Your swim spa may be either hand carried/rolled by 10 to 16 able-bodied adults, trailered, or craned to its final installation site. If rollers are to be utilized, we recommend at least five 4" pipes, 8' long, be placed under the shell to move it across a soft lawn, down a path, etc.
- 2 Some installations require the use of a crane. When a crane is used for lifting, place the straps under the swim spa, and whenever possible, in between the plumbing and the shell (to avoid damaging the plumbing). The straps should be tied off so that they will not slip in any direction.
- 3 Your swim spa will usually arrive on a common carrier closed box trailer. It may be necessary to arrange with a local towing co. for a tilt and load flatbed truck, with a winch system, to pull the unit from the box trailer to the flatbed. The swim spa can then be gently slid off the flatbed truck or lifted by a crane into place.
- 4 Do not lift your swim spa by the plumbing or fittings as you may cause leaks.
- 5 Your swim spa can be installed above grade, in the floor or ground, or half-and-half.
- 6 Ensure that your Hydropool swim spa is properly supported by either a level concrete pad, or a properly constructed deck capable of supporting 925 kg/m<sup>2</sup> (200 lbs./ft.<sup>2</sup>). If there is a possibility that the pad could shift by freezing/thawing ground movement (such as in clay regions, and/or areas with high water tables) sono-tubes extending below the frost line should be used.
- 7 Decking should be chosen and constructed in a manner that minimizes the chance of slipping or falling.
- 8 Level your swim spa using a 2" to 3" sand bed when necessary. Ensure that the sand is enclosed to prevent erosion from splashing water etc.
- 9 In an indoor installation and when the swim spa is covered with a safety insulating hard cover, virtually no humidity is generated. Most owners typically use their swim spa for about 1 hr./day, and during this time, only approximately 1/2 gallon of water is released into the air. To remove this humidity you can either install an exhaust fan controlled by a humidistat, or simply install a residential dehumidifier in the room rated to remove 4 gal/day. With a dehumidifier, all of the excess humidity will be removed within approximately 2 1/2 hours. In many cases you may not have to do anything since the amount of water released into the air is so minimal. A home can actually benefit from the humidity as it can alleviate dry air conditions from home heating systems.
- 10 If you are installing the optional knockdown cabinet, building your own custom cabinet or decking, please consider the following:
  - a Your Hydropool swim spa, with steel support legs, is self-supporting on its base. The cabinet should be decorative only, not for support.
  - b Never suspend the unit from a deck or cabinet.
  - c Always provide a convenient access door for servicing the equipment.
  - d Decking should be constructed to allow repair access around the entire unit.
  - e You can add extra insulation, but the equipment area must have adequate ventilation.
- 11 The equipment and all electrical plugs, outlets and lights within 1.5 meters of the pool must be G.F.C.I protected. **The steel support legs must be grounded.** Consult your electrician for further details.
- 12 Access to the swim spa should be secured. Outdoor installations by an approved fence with a self-closing gate and a safety hardcover, indoor installations by a lockable door and a safety hard cover. **Refer to local codes and bylaws concerning pool fencing.**
- 13 Installation of a safety grab rail or reachable support for use when entering or exiting the swim spa is recommended.
- 14 A nearby garden hose connection is recommended for filling and "topping up" your swim spa.
- 15 Additional support of the unit is not required when installed with our steel support legs. Swim spas installed in the ground and properly backfilled, will not require the steel support package, however, some installers prefer to add these in all installations.

### CAUTION



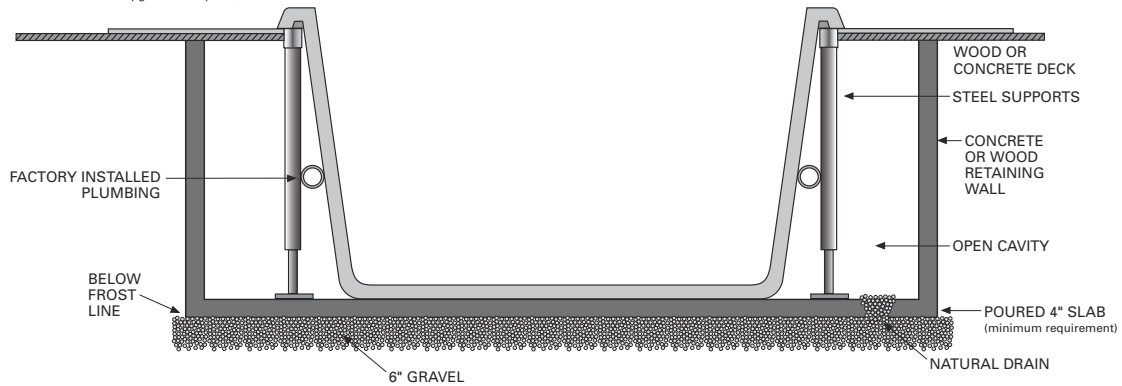
ANTI-ENTRAPMENT DEVICES MAY BE REQUIRED IN SOME REGIONS. PLEASE CHECK YOUR LOCAL BUILDING CODES.

## INSTALLATION SUGGESTIONS

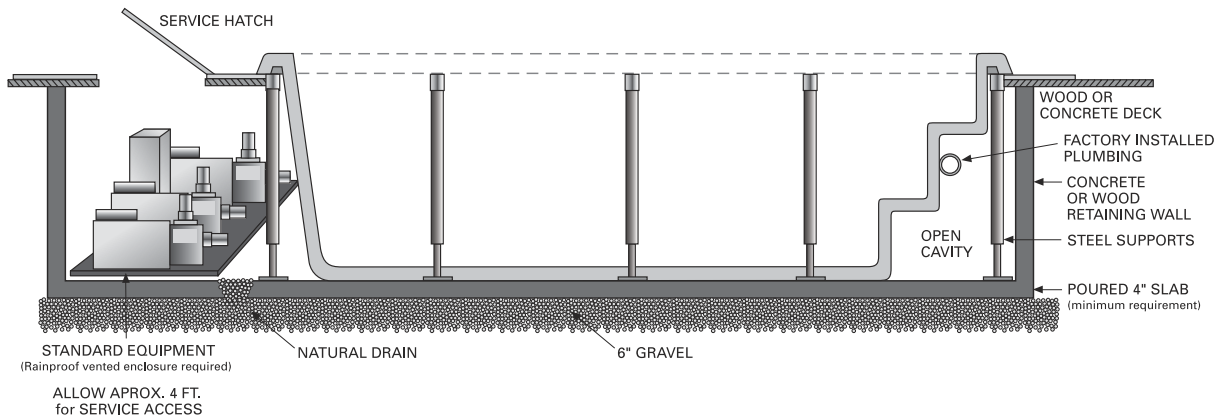


**PLAN 1 - Inground Structured Open Pit, Below Frost Line With Above-Grade Equipment**

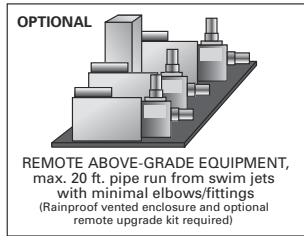
REQUIRES OPTIONAL REMOTE EQUIPMENT,  
max. 20 ft. pipe run swim jets  
with minimal elbows/fittings  
(Rainproof vented enclosure and optional  
remote upgrade kit required)



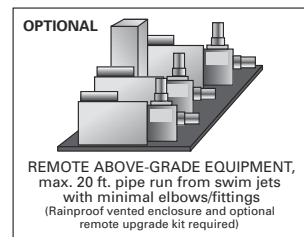
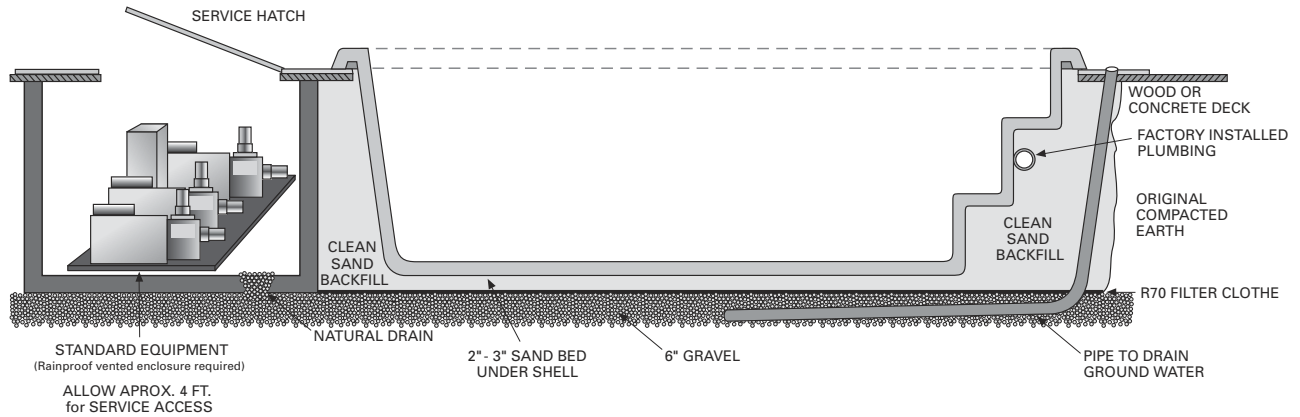
**PLAN 2 - Inground Structured Open Pit, Below Frost Line with Submerged Equipment**



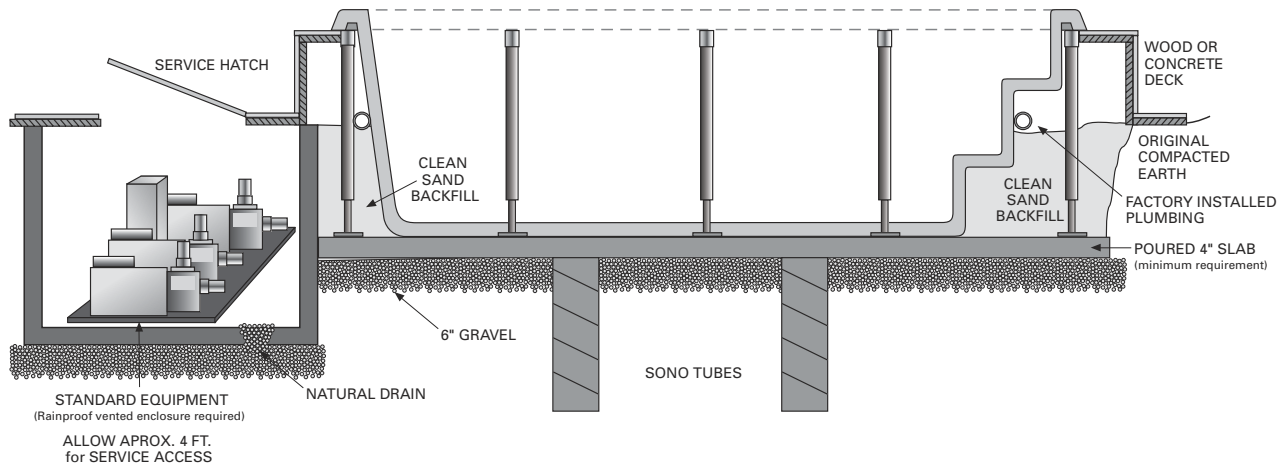
## INSTALLATION SUGGESTIONS



**PLAN 3 - Inground Backfilled Pit with Submerged Equipment**



**PLAN 4 - For Partially Submerged Installations  
Not Going Below Frost Level**





## SPECIAL CONSIDERATIONS FOR...

### OUTDOOR INSTALLATIONS

- Contact your local building department to determine if a building permit is necessary and for information on any applicable bylaws (distance from property lines, buildings, fencing requirements, etc). In some instances remember that the shallow depth of the unit could result in the swim spa being classified as a hot tub by building regulations (as opposed to a pool).
- If you are doing any digging, your local gas, hydro and cable companies should be consulted to ensure that there are no submerged lines.
- Locate the swim spa, where practical, within close distance of a door to the house to maximize potential winter use.
- Ensure that your pump(s), controls, drain valve and thermal probe are easily accessible and protected.
- The swim spa equipment is generally designed for indoor use. If your Hydropool swim spa is equipped with a factory designed knockdown cabinet, and installed as per the guidelines, the equipment will be adequately protected. If the pool is shipped without a cabinet, your custom cabinet or other structure should be designed to supply sufficient protection for the spa pack from rain, snow, splash water, etc.
- Ensure there is easy, adequate access to all equipment for service and maintenance.
- If your equipment is to be remotely located, a remote upgrade kit and additional plumbing will be required.
- Surrounding decking should slope away from the pool allowing splash-out water to run away from swim spa.

### INDOOR INSTALLATIONS

- Where the swim spa is to be installed indoors, and where ceiling height is 10' or less, we recommend that the swim spa be fully or partially submerged (in-floor). This will prevent the unit from dominating the room, and to allow sufficient headroom for safe entry or exit to and from the swim spa.
- It is beneficial to have the room located near a washroom and shower facility.
- The room should have a floor drain to handle any splash water and a window or outside exhaust fan complete with humidistat for ventilation. Where this is not practical, the use of indoor/outdoor carpeting or a tile floor and the opening of a window while the pool cover is removed should suffice. Use of a dehumidifier is recommended.
- Always provide adequate ventilation for the support equipment
- Consult your local dealer for further information

### REMOTE ABOVE WATER EQUIPMENT

The following should be considered to ensure easy access for service and maintenance where the equipment is being installed in a remote location:

- The distance from the unit should never exceed twenty (20) feet (6.09 m) of pipe length otherwise jet strength will be affected.
- Piping diameter on swim pump lines must be three (3) inches on suction pipe, two (2) inches on discharge with minimal use of elbows.
- Piping diameter on circulation pump is two (2) inch on both suction and return.
- In cold weather climates; all piping should be insulated to minimize heat loss.
- All air tubing, control cables and light wires should be run through a protective pipe/conduit to avoid problems associated with ground settling, etc.
- If the swim spa is shipped without a cabinet, your custom cabinet or other structure should be designed to supply sufficient protection for the spa pack from rain, snow, splash water, etc.



## REMOTE EQUIPMENT PLUMBING DIAGRAMS ABOVE-GROUND

In the event that you are plumbing your equipment in a remote location you should have purchased the Remote Upgrade Kit consisting of:

- 1 Self-priming pumps with strainer basket
- 2 Top-side control extension with booster
- 3 Sensor probe extension
- 4 Light extension

The provision of any required extra plumbing or fittings is the responsibility of the installer.

- The equipment cannot be located further than twenty (20) feet (6.09 m) from the swim jets and must be placed in a dry, vented area, easily accessible for service.

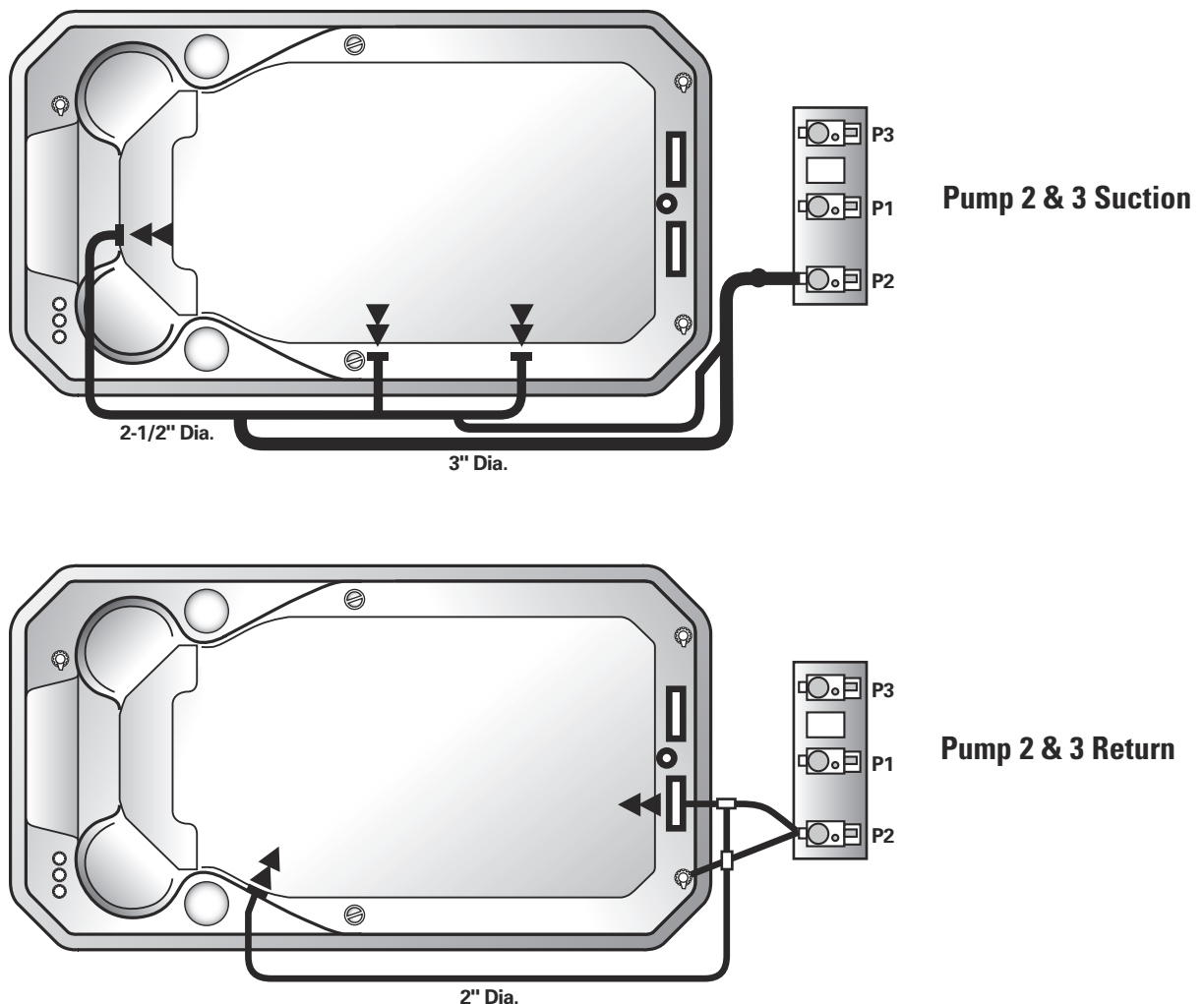
- The equipment should not be installed more than 12 inches (30 cm) higher than the swim spa's water level.
- Any plumbing installed must adhere to the sizes outlined below to conform to regulated standards that ensure safe intake and outlet flows. If required please call your dealer for more detailed drawings.
- Ensure that all top-side, light and sensor cables are protected before backfilling. Locating these extensions inside a dry pipe or conduit is recommended.

**Please note:** the hair and lint strainers on the two jet pumps can be removed for improved flow.

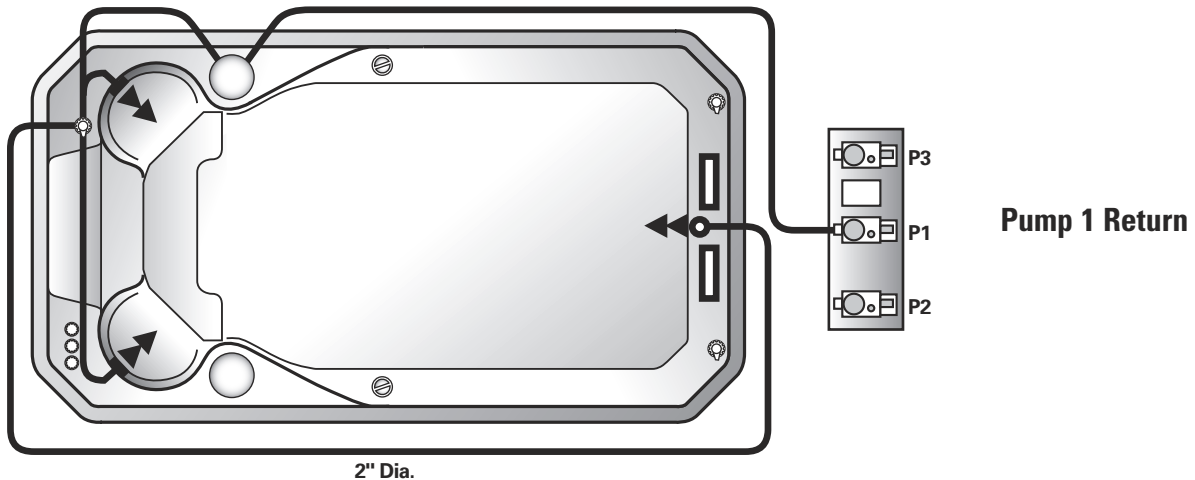
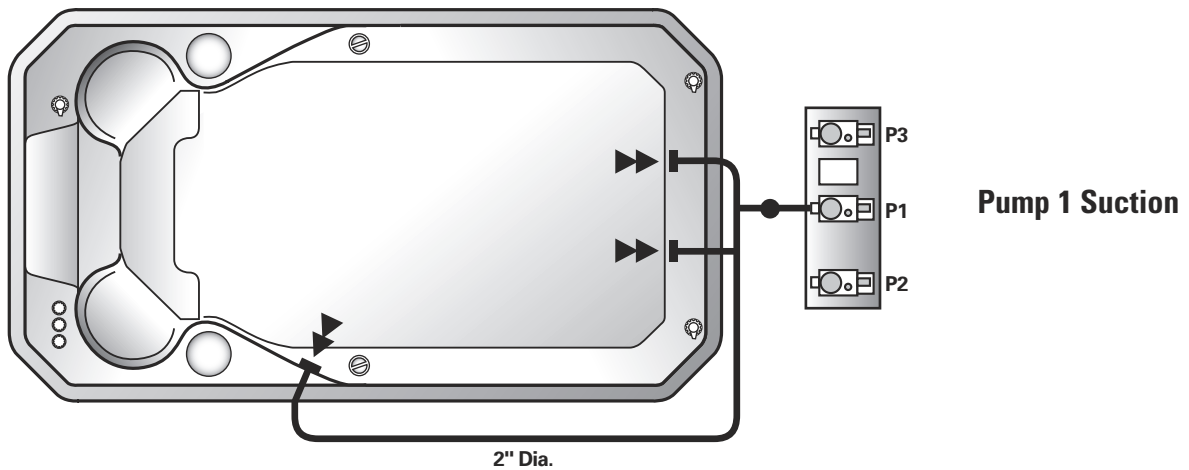
The strainer should not be removed from the dual speed circulating pump.

### REMOTE EQUIPMENT PLUMBING DRAWINGS

All remote equipment may be plumbed up to 20 feet (6.09 m) away from jet end if upgrade remote package purchased.



## PLUMBING REMOTE EQUIPMENT CONTINUED



## SITE PREPARATION

## EQUIPMENT ACCESSIBILITY

The equipment must be located in an area where it will remain dry and will not be exposed to rain, snow or ground water.

- When your swim spa is to be installed above ground, the optional cabinet is designed for both protection and accessibility
- When your swim spa is to be installed fully or partially in the ground, if you are relocating the equipment remotely from the swim spa, or if you have ordered a swim spa without a cabinet: **it is necessary that the equipment is installed in an area that is dry, protected from the elements, has proper ventilation and is easily accessible for service**
- Always ensure that the equipment is mounted on a raised base or platform to prevent water damage to the motor, equipment or controls
- Ensure that any opening to the equipment and the working area around the equipment is large enough to accommodate a service person

Whenever possible, install the pump below water level to ensure easy priming. Where above-grade equipment location is necessary, please ensure that your swim spa is equipped with the Remote Above-Grade Option Package.

Install protective waterproof pipe to house any applicable cords or line extensions such as the sensor and top-side control cables, light wires or ozone tubing. In climates where freeze / thaw occurs we suggest that remote piping be buried below the frost line and that pipe insulation is applied over all pipes that run from the swim spa to the remote equipment to maintain energy efficiency.

## SITE PREPARATION CONTINUED

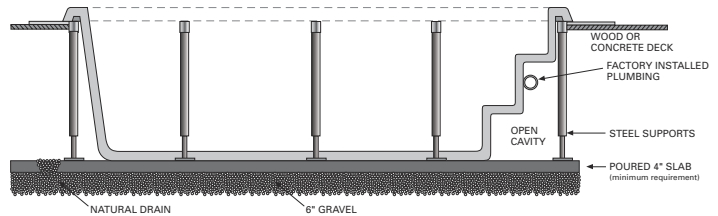
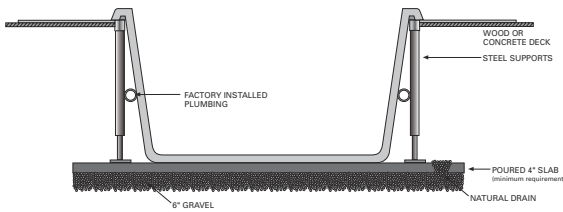
### ABOVE-GROUND INSTALLATIONS

Where the swim spa is a "stand-a-lone" above-ground installation to be installed in regions where freeze/thaw occurs, a patio stone or pre-formed paver type pad may be sufficient if there is no abutting deck(s) to be damaged during potential seasonal movement of the ground. The drawback to this type of base is that splash water could eventually de-stabilize the ground under the pad, with the resulting support base shift, causing damage to the structure.

For best results, we suggest the installation of a level concrete pad:

- Dig out and level the ground 8-12 inches (20-30 cm) below your desired base level
- Install 4-6 inches (10-15 cm) of crushed stone
- Next, install 4-6 inches (10-15 cm) of poured concrete
- Level the concrete and apply a broom-type finish
- We recommend that the pad be made 6 inches (15 cm) larger than the swim spa on three sides, and 3 feet (1 m) larger on the side where the access steps and/or planters will be installed

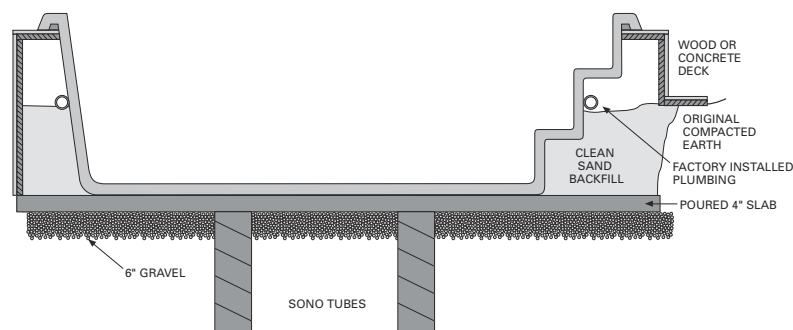
In regions where freeze/thaw occurs, or where there will be custom decking abutting the swim spa we recommend the installation of sono-tubes beneath the pad to prevent future shifting.



### PARTIAL IN-GROUND INSTALLATIONS

For units being installed fully or partially in the ground, the type of support will again vary based on whether or not the pool is being installed in an area with freeze/thaw conditions.

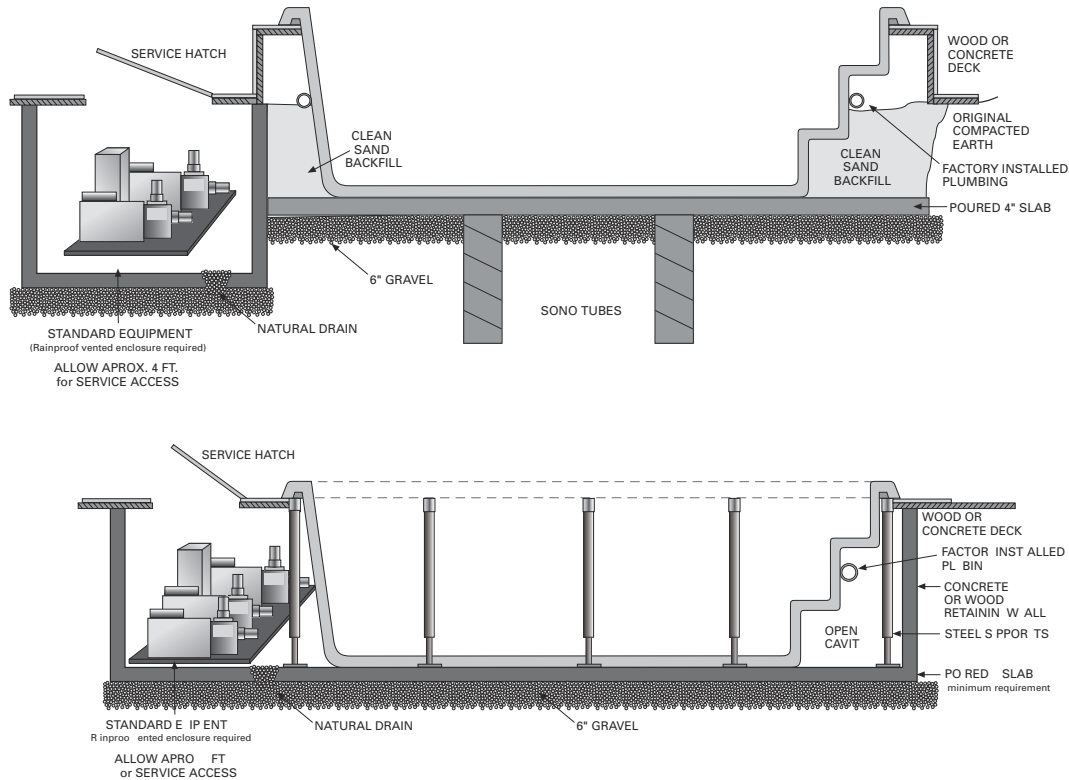
- **Non-freezing climates** – it is sufficient to ensure that the base of the hole or cavity created for the pool simply has a stable, compacted base. Where the climate permits, should you choose to backfill directly against the swim spa, a clear sand backfill is suggested and therefore, the steel support legs are not required
- **Climates where freeze/thaw occurs** – it is necessary that a proper poured concrete base, complete with sono-tubes, be installed as outlined in the section, ABOVE-GROUND INSTALLATIONS
- **Areas with a high ground water table** – the concrete base, as well as a concrete or wood retaining wall to hold back the earth, is suggested. This forms a box or 'crib', in which the swim spa is placed
- ALWAYS ensure that there is good drainage, via a properly designed French (gravel) drain system and/or a sump pump, to prevent ground water flooding damage to the support equipment or structure
- Install protective waterproof pipe to house any light, sensor, or topside control cables that could be buried
- Access for future service must be considered at the time of design and installation. Difficult access can result in supplemental service labour charges. Consider easily removable deck materials



## SITE PREPARATION CONTINUED

### IN-GROUND INSTALLATIONS

- When submerging the swim spa all or part way below ground level, a concrete base along with a concrete or wood retaining wall to hold back the earth is suggested. This forms a box or 'crib', in which the swim spa is placed
- Where the climate permits, should you choose to backfill directly against the swim spa, a clear sand backfill is suggested
- Install protective waterproof pipe to house any light, sensor, or topside control cables that could be buried
- ALWAYS ensure that there is adequate drainage via a properly designed gravel drain system and/or a sump pump to prevent ground water flooding damage to the support equipment
- Access for future service must be considered at the time of design and installation. Difficult access can result in supplemental service labour charges or damage to your decking



## UNLOADING / HANDLING YOUR SWIM SPA

All Hydropool swim spas are shipped with a protective combination layer of bubble wrap, cardboard and plastic film. Each swim spa is factory strapped onto a wood skid. If your swim spa is to be delivered by your local dealer, it will generally arrive on a flat bed truck or low profile trailer. Most dealers are equipped with the necessary equipment to maneuver the swim spa from the truck to the dolly or cart that will be used to move your swim spa to the installation location.

Should your swim spa arrive on a common closed box trailer, it may be necessary to arrange with a local towing company for a tilt and load tow truck, with a pulley winch system, to pull the skid from the larger trailer to the lower profile tilt 'n load flat bed. The swim spa can be gently slid off the low profile trailer and positioned on its side on a cart or dolly.

Hydropool swim spas require a clearance width of at least 95" x 50" (241.3 cm x 127 cm) to allow movement of the unit (on its side) through alley-ways, fence openings, etc. Where this is not possible, the use of a crane to lift the swim spa from the truck or trailer over the house to the patio or yard is often a simple option.

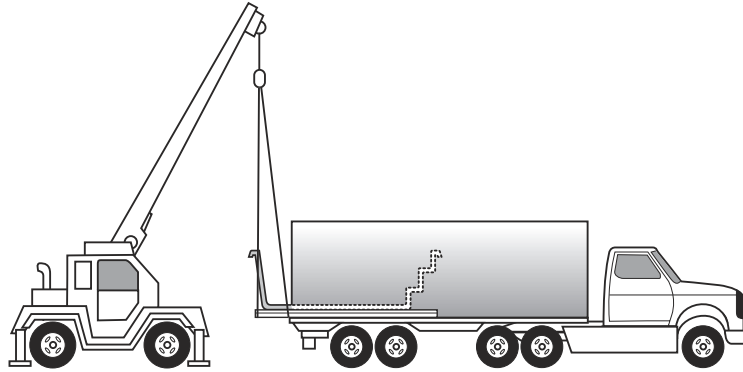
### CAUTIONS



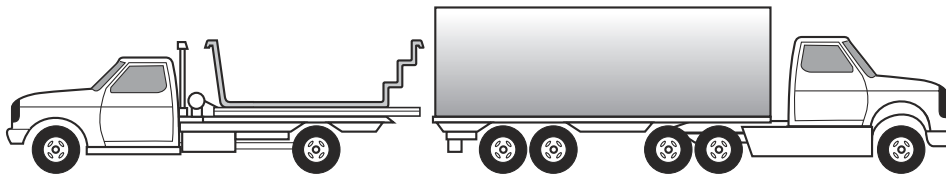
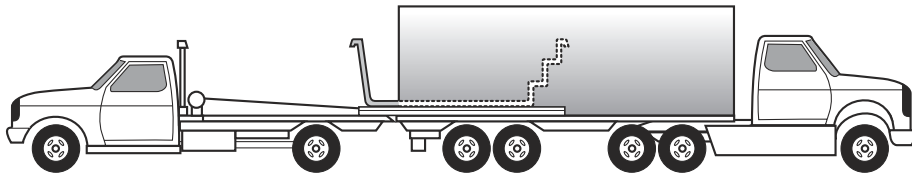
off the dolly or cart to the support base without any damage

- Do not move or place the swim spa on its sides or ends as damage could occur
- Never lift or handle the swim spa by the plumbing
- Make sure that there is sufficient assistance to gently slide the swim spa off the dolly or cart to the support base without any damage

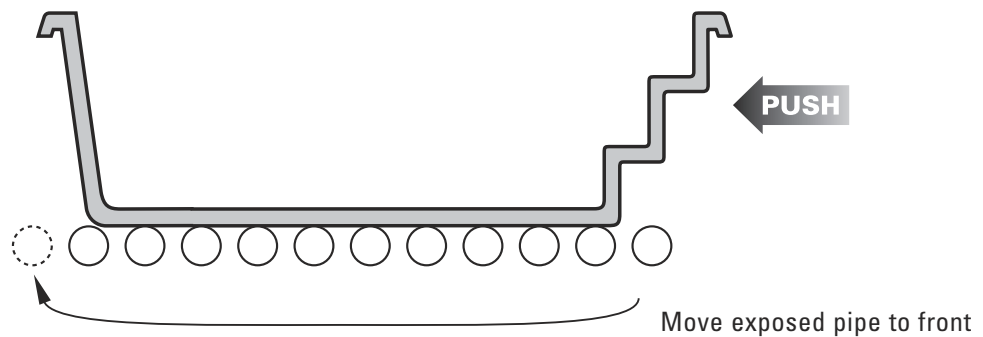
## UNLOADING / HANDLING YOUR SWIM SPA CONTINUED



Option 1



Option 2



Option 3

## LEVELING YOUR HYDROPOOL SWIM SPA

After the swim spa is properly positioned on the support base, the entire unit should be checked and leveled as necessary. Should you find that the unit sloped or otherwise uneven, **level your swim spa using a 2" – 3" sand**

**bed.** This will ensure contact with the support substructure to appropriately distribute the weight of the unit. Do not just shim under the outside edge, as this will cause structural stress on the unit, potentially causing damage to the swim spa structure and/or shell.

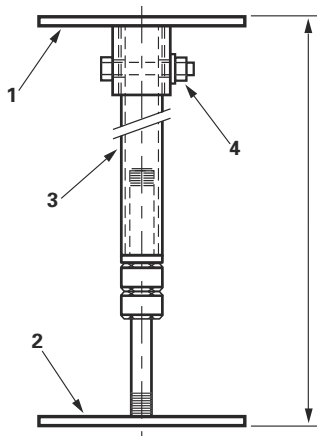
## SWIM SPA SET-UP

The Set-up of your swim spa will vary depending on whether you have purchased a unit with large jet pumps and swim jets (Aquatrainer) or the commercial Aquatrainer model.

Once your swim spa is set in place you are ready to connect the equipment package and install the steel support legs.

### Step 1 – Aquatrainer and Aquaplay

After swim spa is leveled on the pad, insert the Foot Assembly (2) into Leg (3). Slide top of Leg into Top Plate (1) located on underside of lip and steps and secure with Bolt & Nut Assembly (4). Hand tighten Foot Assembly with adjusting nuts. No further adjustment of legs are necessary until fill of the swim spa is started. Refer to Filling, Startup and Testing Swim Spa later in this manual for more directions.



- 1 Top Plate
- 2 Foot Assembly (includes foot plate & two adjusting nuts)
- 3 Leg (14' unit = 10 legs / 17' = 12 legs)
- 4 Bolt & Nut Assembly



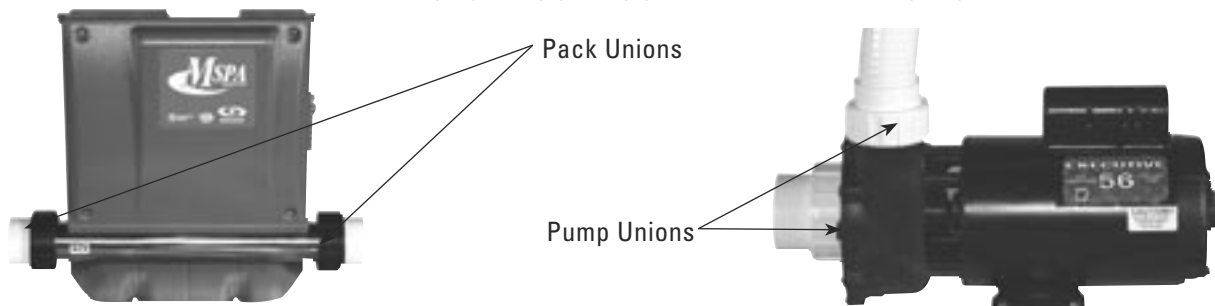
#### WARNING

DO NOT SUSPEND SHELL OFF FLOOR AS THIS WILL VOID WARRANTY

### Step 2 – Aquatrainer Only

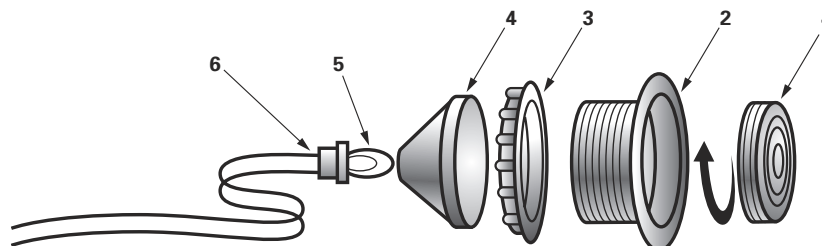
To install equipment package, simply position equipment next to the pool under the swim jets. All necessary "O" rings are bundled and attached to the control box. Fit all "O" rings into proper unions and hand tighten. Ensure that "O" rings do not get pinched while connecting the unions as this could cause leaks.

Union connections are located on the spa pack, pipe to pipe connections and all pumps.



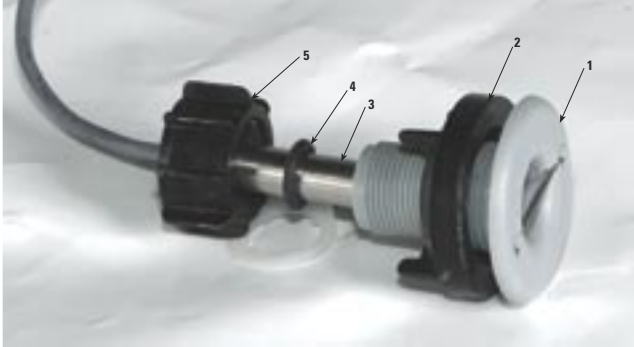
### Step 3 – Aquatrainer Only

The wire harnesses are bundled & attached to the spa pack. One light is located on the riser of the middle step and the other is located under the swim jets. To install, insert Wire Harness (5 & 6) into Light Cone (4) & twist clockwise to secure. Light connection may be different for in-ground installations.



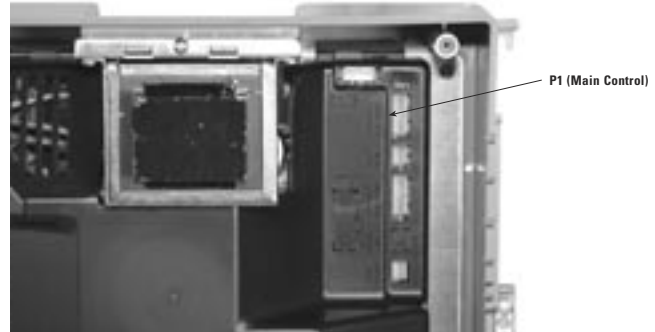
#### Step 4 – Aquatrainer Only

Connect sensor probe (3) to wall flange (1) located under swim jets. Insert sensor probe into the wall fitting (2) with watertight cap (5) and gasket (4). Tighten cap to wall flange. Do not over tighten. Ensure that the sensor probe touches retaining bar of shell fitting.



#### Step 5 – Aquatrainer Only

Connect Topside control to the spa pack. Open front of Spa Pack and insert connector pin to position P1 (Main Control) located in the upper right of P.C. board.



## IMPORTANT ELECTRICAL SAFETY INSTRUCTIONS

**Safety comes first. When installing & using this electrical equipment, basic safety precautions should always be followed\***

- 1 READ AND FOLLOW ALL INSTRUCTIONS
- 2 Electrical installation must be performed by qualified persons only (electrician or equivalent).
- 3 **Connect only to a dedicated circuit protected by a class 'A' two-pole ground fault circuit interrupter (GFCI)**
- 4 Use copper conductors only!
- 5 The swim spa equipment and all electrical plugs, outlets and lights within 1.5m (5ft) of the unit must be G.F.C.I protected. Consult your electrician or local electrical authority for further details
- 6 A green colored terminal or a terminal marked "G", "GR", "Ground", "Grounding" is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service

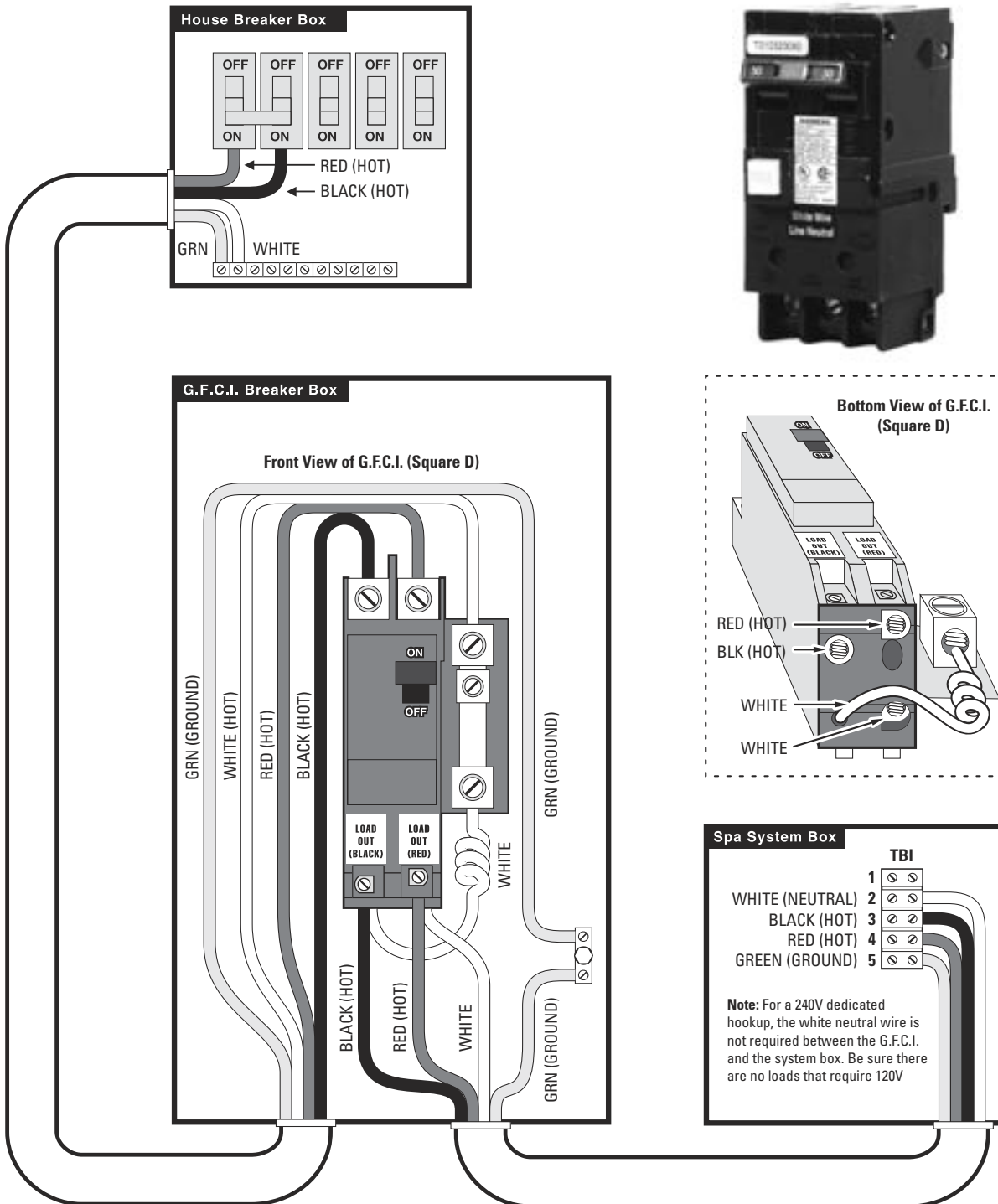
- 7 At least two lugs marked "BONDING LUGS" are provided on the external surface or on the inside of the supply terminal box or compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the swim spa to these terminals with an insulated or bare copper conductor not smaller than No.6 AWG (Canada/Europe) / No.8 AWG (USA)
- 8 All field installed metal components such as rails, ladders, drains, steel support legs or other similar hardware within 3 m (10 ft) of the swim spa shall be bonded to the equipment grounding bus with copper conductors not smaller than No.6 AWG.



### Step 6 – Aquatrainer Only

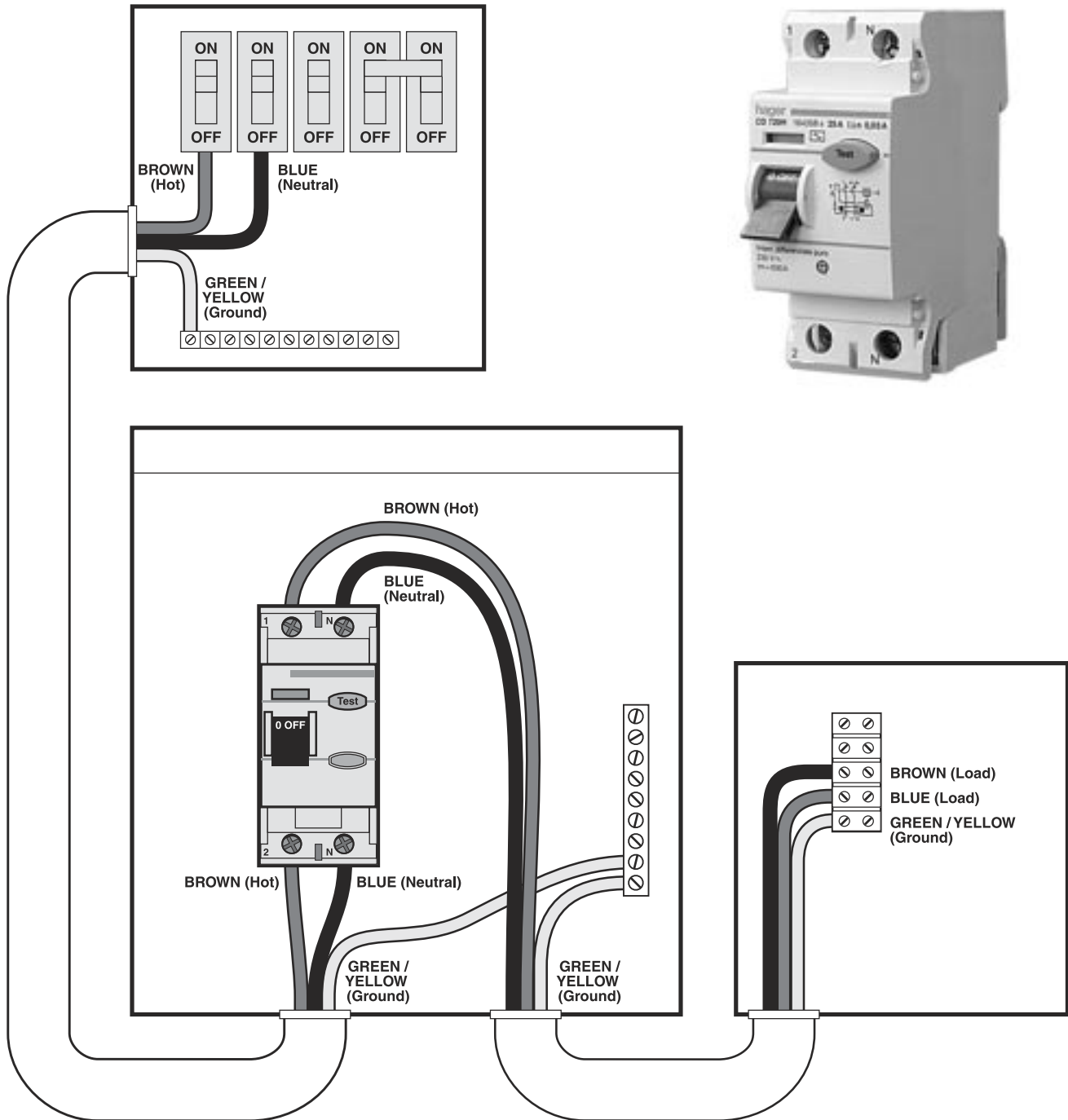
Have a certified licensed electrical professional connect your Aquatrainer spa pack to your main electrical panel with a 60A G.F.C.I only (unless your AquaPlay has a 220v hardwired pump)

## NORTH AMERICAN – GFCI INSTALLATION – TYPICAL



(NOT APPLICABLE IN EUROPE)

# EUROPEAN – R.C.D. INSTALLATION - SINGLE PHASE ONLY PUMP 1



(NOT APPLICABLE IN NORTH AMERICA)

## PUMP 2 & 3 – THREE PHASE OR SINGLE PHASE

### Step 7 - EUROPE - R.C.D. INSTALLATION - SWIM Jet Pump 2 & 3 Timer

The AS-5TD-30MM are 230-volts, two function safety air switch's. They are designed to operate larger pieces of electrical equipment such as higher horsepower pumps, blower etc., both single and three-phase, using one air button. Typical installations are illustrated below.

#### INPUT SERVICE

230VAC, 5 HP, 50Hz, 2 Wire plus ground

#### RATING

50Amp resistive load.

#### OPERATION

With the first push of the air button, the equipment is turned on for 30 minutes, then returns to off. During activation, another push of the air button will turn the equipment off.

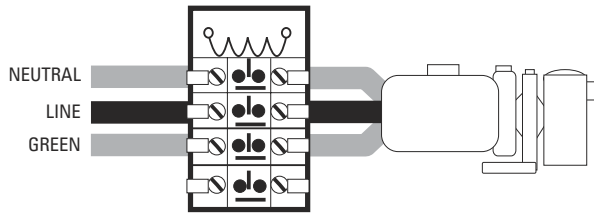
Note: Ground connections are not shown and vary with installations.

#### CAUTION



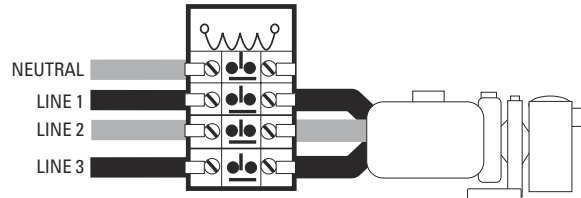
**Use copper conductors only.** Do not lubricate relays. All controls must be **installed by a licensed electrician** according to these instructions.

SINGLE-PHASE INSTALLATION – 220V



1 OR 2 MOTORS UP TO 5 HP EACH

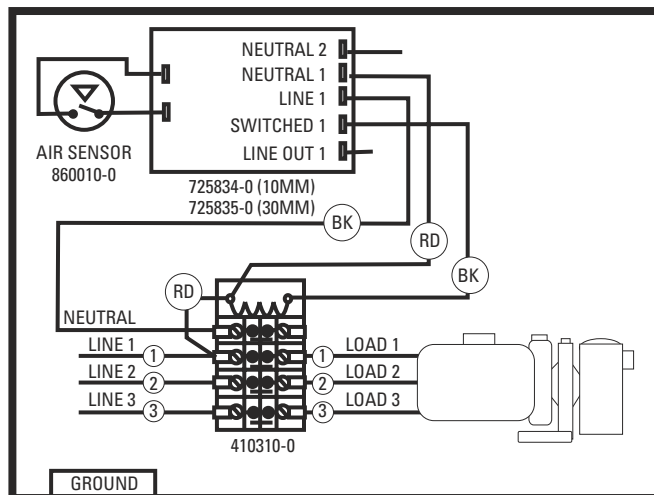
THREE-PHASE INSTALLATION – 400V or 380V



1 MOTOR UP TO 10 HP

**IMPORTANT:** 1 OR 2 MOTORS UP TO 5 HP EACH

### AS-5TD-10MM AND AS-5TD-30MM



**READ THESE INSTRUCTIONS**

## FILLING, STARTUP AND TESTING YOUR AQUATRAINER

### READ THIS SECTION PRIOR TO STARTING THE SWIM SPA EQUIPMENT

#### Step 8 – AQUATRAINER ONLY

After a certified licensed electrician has professionally connected your AquaTrainer (using a 60 amp. GFCI) and all necessary plumbing & accessory connections are complete, you are ready to fill and start-up your AquaTrainer.

Before you begin filling

- 1 Double-check all union and plumbing connections
- 2 Ensure that the drain valve is in the down or closed position.
- 3 Ensure that all pump suction and return valves are in the up or open position

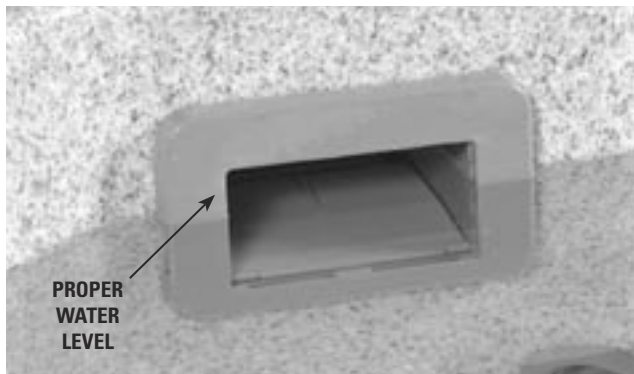


Open

Closed

The AquaTrainer can be filled using a standard garden hose. Fill the AquaTrainer to approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  up the skimmer opening.

Always run your garden hose for a few minutes before placing into swim spa to ensure the water is clean. Initially start the flow slowly to prevent garden hose from moving and scratching the surface.

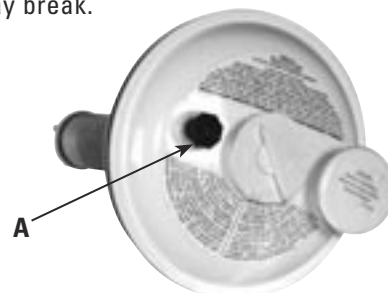


While the AquaTrainer is filling, it may be necessary to adjust the steel support legs. Should the unit bow outward, lengthen the steel support leg by turning the top nut counter clockwise. Should the shell pinch inward, shorten the steel support leg by turning the top nut clockwise. Be careful to only adjust the nut  $\frac{1}{4}$  or  $\frac{1}{2}$  a turn at any one time. Do not extend the leg length too much as this may cause deformation on the top flange. Adjustments may be necessary on more than one leg. Once desired leg length is reached, secure the top nut with the lower lock nut.

After the swim spa is full, check all plumbing connections & valves to ensure there are no leaks and all valves are in the correct position. Now you can power up the unit. To start simply push GFCI switch to the on position and the circulation pump (pump 1) should begin operating at low speed, after a brief self diagnostic test.

As the equipment is located below water level, the water should start circulating immediately. If the motor operates but you do not notice water circulation within the first ten (10) seconds, the pump may require priming due to trapped air.

To prime, bleed filter of air by unscrewing black knob (A) on filter lid until water flows out, then gently retighten the knob until water stops flowing. Do not over tighten as knob may break.



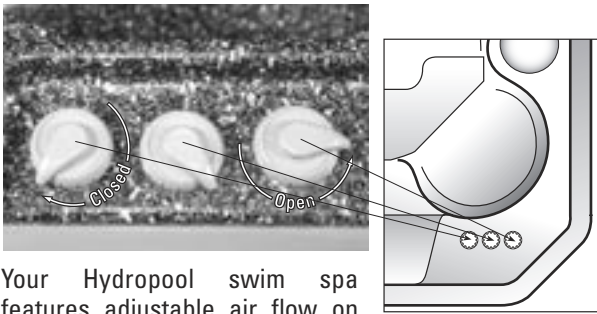
If this does not correct the problem, open the drain valve slightly to allow the trapped air to escape. Close as soon as the water flow becomes constant. If there is still an air blockage, with the pump running, slightly loosen the union on the discharge side of the pump. As soon as water begins to flow, re-tighten the union. This final step may be required on all pumps. If you still have a priming problem, shut off power to the swim spa & contact your local dealer for further instructions.

**Please note:** With remote above-ground equipment the hair and lint strainers on the two jet pumps can be removed for improved flow. The strainer should be left intact on the dual speed circulating pump.

When you initially power up your AquaTrainer it will be in 'Economy' mode, operating twice a day with a three (3) hour filtration cycle (see Hydropool Control Systems section for more detailed information). The system will heat the water to 80°F (27°C) unless you adjust the set temperature.

Although your AquaTrainer was test run for at least 8 hours in the factory, some fittings may loosen during shipping or installation. Therefore, the AquaTrainer should be filled and operated for a few days before any decking or carpentry is completed. This will allow ample time to adjust the steel legs (if necessary) and visually check all union connections and plumbing for minor leaks. In the event of a leak, ensure all union connections are tight and "O" rings/gaskets are properly in place and not pinched.

Some users may want to keep their AquaTrainer at temperatures higher than 88°F (31°C) or wish to increase the water temperature faster than a few degrees per hour. Should this be applicable to you, it is recommended that you contact your local AquaTrainer dealer to have a gas heater installed. We suggest you install an 80,000 to 180,000 BTU heater. (See details on gas heater installations)



Your Hydropool swim spa features adjustable air flow on specific hydrotherapy jets.

**To reduce the flow:** turn the handle on the air control clockwise. When it hits the stop, the air is closed, and air flow will be restricted (approximately at the 8 o'clock position).

**To increase the flow:** turn the handle on the air control counter-clockwise. When it hits the stop, the air control is fully opened (approximately at the 3 o'clock position).

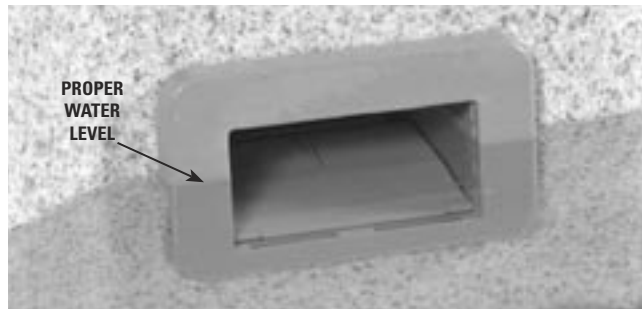
**For maximum operating efficiency, the air controls must remain closed when your swim spa is not in use.**

The standard electric heater for the AquaTrainer will increase water temperature a few degrees per hour, therefore it is important to allow the unit approximately 15-26 hours to reach the desired temperature. Keep the optional AquaTrainer cover on, and the air controls closed during the entire heating process.

## AQUAPLAY

Connect your AquaPlay using a 15 amp. GFCI cord or plug. You are ready to start-up your AquaPlay.

The AquaPlay should be filled and operated for a few days before any decking or carpentry is completed. This will allow ample time to determine that all union connections and plumbing fittings are void of leaks. The AquaPlay can be filled using a standard garden hose.



Fill the AquaPlay to approximately 1/2 to 3/4 up the skimmer opening.

Always run your garden hose for a few minutes before placing into the swim spa to ensure the water is clean. Initially start the flow slowly to prevent garden hose from moving and scratching the surface.

While the AquaPlay is filling, the steel support legs can be adjusted into place. (See detailed instructions in AquaTrainer section for more details.)

Although your AquaPlay was test run for at least 8 hours in the factory before being released for shipping, some loosening of fittings can occur in shipping. Visually check all factory and site installed union connections and plumbing for minor leaks. In the event of a leak, ensure all plumbing & union connections are properly connected and "O" rings & gaskets are properly in place and not pinched.

Now that the system has been turned on, check for leaks with the pump operating. If the motor works but you do not notice water circulation within the first 10 seconds, the pump may require priming due to trapped air. To prime, shut off power (toggle switch located at rear of motor) and remove strainer basket lid located in front of the pump and fill pot with water. Re-install lid and restart the pump. This may need to be done several times. If you cannot prime the system, please contact your local dealer for further instructions.

Once the swim spa is operating, place the bubble blanket over the surface of the water to allow the water to heat. If a supplementary heater was installed, please contact your local installer on its operating instructions.

## OPERATING INSTRUCTIONS OVERVIEW

### MSPA CONTROL SYSTEM - NA

#### AQUATRAINER

For light leisure swims or workouts, switching on the main or primary pump (pump 1), which controls the middle lower jet, should be sufficient. To operate this jet, simply press the applicable jet icon on the topside control panel, once for low speed, and twice for high speed. To turn off, press again (3rd press).

#### Gecko - MSPA



For medium resistance, keep pump 1 on low speed and push the icons for pumps 2 and 3. For full resistance activate high speed on pump 1 and keep pumps 2, 3 operating. To avoid being pushed to one side, it is recommended that swimmers wear swim goggles and focus on the lower jet or the light lens while swimming. If the water flow drifts to one side correct by redirecting the lower jet nozzle.

The air/water ratio in the hydrotherapy jets or lower swim jet can be adjusted by turning the small air control levers located adjacent to the steps. Usually the air controls are not turned on for swimming. They are utilized for the therapy seats, or for the thigh jets located close to the skimmer and filter.

While the Hydropool "Wide Stream" swim jets provide a uniform deep and wide flow exceeding 550 GPM, it is possible to out-swim the jets (although not for long periods of time) unless you are positioned properly. Your head should be approximately 2' to 3' from the jets and centered in the pool.

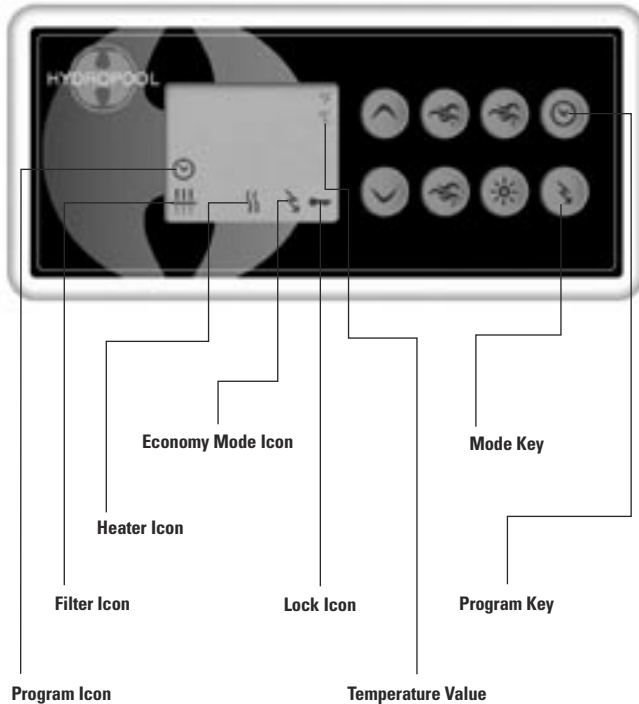
In the event that the flow is too strong, you can direct the water to the jets located on the sidewall near the rear of the swim tank by simply adjusting the diverter valves (see Diverter Valves section for more information). For maximum power, ensure that all water flow is directed through the three swim jets. In extreme cases, where a swim is desired that exceeds 5-6mph, you can install the "AquaCord" for added resistance.

To adjust the temperature, simply push the "up" or "down" icons on the control pad. Note that the heater will increase water temperature approximately one degree per hour when the hard cover is on.

To help eliminate unnecessary electrical costs, after using the AquaTrainer we suggest you turn off all pumps and close all air controls. Should you leave the AquaTrainer and forget to shut the swim spa down, automatic time-outs occur on the pumps and lights.

## AQUATRAINER MSPA CONTROLS & SYSTEM PROGRAMMING

### MSPA-MP THREE-PUMP DIGITAL CONTROL NORTH AMERICAN



#### STANDBY / DRAIN ASSIST

The standby/drain assist feature stops the system from operating automatically, allowing for convenient filter cartridge removal or for safe draining of the hot tub. To put the system in standby, press and hold the 'Mode' key for 5 seconds. All functions will turn off, but P1 low speed can be activated (by pressing the 'P1' key) to facilitate draining the spa. Press and hold the 'Mode' key for 5 seconds to return the system to normal operation. **The system automatically shuts off P1 low speed after 1 hour, and exits 'Standby' mode after 3 hours, resuming automatic operation.** If the heater is on while the 'Standby' mode is activated, the pump will continue to operate for a 30 second cool down period, during which time the 'STBY' message will flash on/off. See section 'DRAINING YOUR SWIM SPA' for detailed instructions.

#### MOOD LIGHT



Press the 'light' key to turn the light on and off. The system will automatically turn off the light after 4 hours.

#### FIBRE-OPTIC LIGHTS & LED OPTION SEE ACCESSORIES SECTION PAGE 39

#### STARTING PUMP 1



Press P1 key to turn on P1 low speed. Pressing a second time turns P1 to high speed. The third press turns P1 off.

#### STARTING PUMP 2



Press P1 key to turn on P1 low speed. Pressing a second time turns P1 to high speed. The third press turns P1 off.

#### STARTING PUMP 3



Press P1 key to turn on P1 low speed. Pressing a second time turns P1 to high speed. The third press turns P1 off.

#### AUTOMATIC TIME-OUTS

P1, P2, P3 high speed - 30 minutes  
P1 low speed - 4 hours

#### CLEAN-UP CYCLE

After P1 high speed is turned off either manually or automatically, P1 low speed circulates & filters the water for 1 hour.

#### PURGE CYCLE

The system will automatically activate P2 & P3 for 30 seconds at the beginning of every filter cycle.

#### WATER TEMPERATURE ADJUSTMENT

Use Up and Down arrows to increase or decrease water temperature. The temperature setting will be displayed for 5 seconds to confirm your new selection.



**Note:** The "Set Point" symbol indicates the desired temperature, NOT the current water temperature!

Water temperature can be adjusted by 1° increments from 59 to 104°F (15 to 40°C).



## AQUATRAINER CONTROLS & SYSTEM PROGRAMMING CONTINUED

### PROGRAMMING SYSTEM



- 1 Enter Programming mode by pressing down & holding Program key for 3 sec. Then proceed through the following 4 steps:

#### 1 – SETTING THE SYSTEM CLOCK TIME

Setting the time:



- 2 The display will show the current setting.
- 3 Use Up and Down arrows to change setting.

#### 2 – SETTING FILTER CYCLE START TIME AND DURATION

The system automatically performs two filter cycles per day. To program a filter cycle, you must enter: 1) the time you want the cycle to start and 2) the duration of the cycle.\*

##### Setting first filter cycle start time



- 1 Press Program key a second time.
- 2 The display will show S1xx, with “xx” representing the starting hour.
- 3 Use Up and Down arrows to change setting.



##### Setting first filter cycle duration



- 1 Press Program key a third time.
- 2 The display will show d1xx, with “xx” representing the duration in hours.
- 3 Use Up and Down arrows to change setting.



##### Setting second filter cycle start time



- 1 Press Program key a fourth time.
- 2 The display will show S2xx, with “xx” representing the starting hour.
- 3 Use Up and Down arrows to change setting.



##### Setting second filter cycle duration



- 1 Press Program key a fifth time.
- 2 The display will show d2xx, with “xx” representing the duration in hours.
- 3 Use Up and Down arrows to change setting.



\*If no filtering is required, the duration should be set to “0”. For continuous filtering, the filter cycle duration should be set to “12.00”.

### 3 – SETTING WATER TEMPERATURE DISPLAY UNIT

Water temperature can be displayed in either Fahrenheit (°F) or Celsius (°C).

#### To display the temperature unit



- 1 Press Program key a sixth time.
- 2 The display will show TU x, with “x” for either °F or °C.



- 3 Use Up and Down arrows to change setting.

### 4 – STORING SETTINGS & RETURNING TO NORMAL OPERATION

Press Program key a seventh time to store settings in the system’s non-volatile memory and to return to normal operation.

### MODE FUNCTION



This key is used to change hot tub operation to either ‘Economy’ or ‘Standard’ mode.

**Economy Mode** – the hot tub will heat only during the filter cycles.

**Standard Mode** – the preset hot tub temperature will be maintained (the system will automatically activate P1 low speed when the control calls for heat).

### TEMPERATURE DISPLAY

The display toggles every 5 seconds alternately displaying the time and the current water temperature.

### INVERTING THE DISPLAY

Pressing and holding Light key for 5 seconds will invert the display allowing it to be read from inside or outside the spa. To return to non-inverted mode, simply press and hold Light key again for 5 seconds.

### OZONATOR OPTIONAL

The ozonator operates during ‘Filter Cycles’ and ‘Clean-up Cycles’ only (starts 5 minutes after filter cycle begins)

### TOPSIDE CONTROL PAD LOCKOUT

This function allows you to prevent unauthorized parameter setting of the unit. This feature is especially helpful when young children have access to the keypad. There are two modes you can choose from: Full lock or Partial lock. Full lock means that all keypad functions are locked. Partial lock means that the basic functions of the spa will remain accessible (pumps and light). When control pad is locked, the “Lock” icon will be displayed.

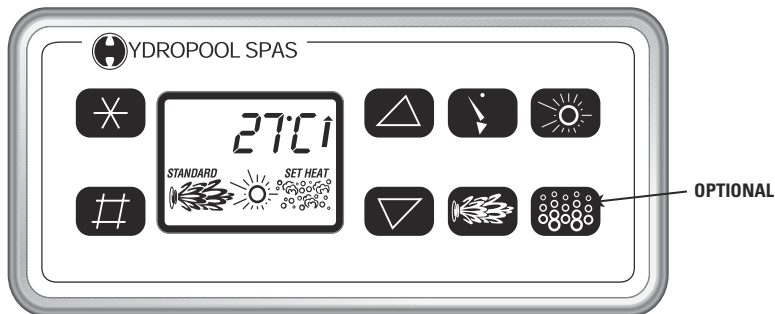
#### Locking (or unlocking) your topside control panel



- 1 Press and hold Pump 2 key for 5 seconds.
- 2 The display will show LocP, with “P” representing Partial lock.
- 3 Release key and keypad will be in Partial lock mode. Keep key pressed down for 5 more seconds if you want to be in Full lock mode. The “LocF” message will then be displayed.

When control pad is locked, all automatic functions of the system run as usual. If a key is pressed down, a “LocP” or “LocF” message will be displayed for 1 second. To unlock the keypad, simply press and hold Pump 2 key again for 5 seconds.

## HPL 203/205 DELUXE DIGITAL CONTROLS &amp; SYSTEM PROGRAMMING – EUROPEAN

**FEATURES****Temperature Adjustment**

The current water temperature is continually displayed on the topside control panel. When either of these pads is pressed once, the LCD will display the set temperature as well as the words 'set heat'. Pressing either pad a second time will increase or decrease the set temperature (depending on which pad is pressed). After 3 seconds, the LCD display will return to the current water temperature.

**JETS**

Press the 'jets' pad to activate the pump(s)

**Single Pump System (P1):**

- 1st press – turns on low speed of pump
- 2nd press – turns on high speed of pump
- 3rd press – turns off high speed of pump

**Dual Pump System (P1 & P2):**

- 1st press – turns on low speed of P1
  - 2nd press – turns on high speed of P1
  - 3rd press – turns on P2
  - 4th press – turns off high speed of P1
  - 5th press – turns off P2
- } Optional for two pump system

The low speed pump will start automatically when the system calls for heat (in 'Standard' mode only - see MODE FUNCTION), when a filter cycle is activated, or when a freeze condition is detected. When low speed is already on, the 1st press of the 'jets' pad puts the pump directly into high speed.

**AUTOMATIC TIME-OUTS**

- P1 high speed and P2 - 15 minutes
- P1 low speed - 4 hours

**CLEAN-UP CYCLE**

After P1 high speed is turned off either manually or automatically, P1 low speed circulates the water for 1 hour.

**PURGE CYCLE**

If your hot tub is equipped with a second pump (P2) and/or a blower, the system will automatically activate each for 30 seconds at the beginning of every filter cycle.

**BLOWER OPTIONAL**

Press the 'blower' pad to turn the blower on and off.  
The system will automatically turn off the blower after 15 minutes.

**MOOD LIGHT**

Press the 'light' pad to turn the light on and off.  
The system will automatically turn off the light after 4 hours.

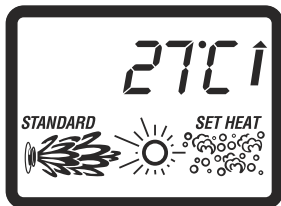
**FIBER-OPTIC LIGHTS OPTIONAL**

Press the 'light' pad to activate the fiber-optics.

- 1st press – activates fiber-optic light and begins colour change sequence
- 2nd press – stops colour change sequence at selected colour
- 3rd press – shuts off fiber-optic light

**TIME**

Press this pad once to view the time of day. After 3 seconds the display will return to the current water temperature.

**LIQUID CRYSTAL DISPLAY (LCD)**

Continually displays the operating status of the hot tub. Icons indicate various functions and programming information.

**LCD INVERT**

This feature allows you to invert the LCD readout for convenient viewing from inside the hot tub. All other functions will continue to operate normally. The following pads must be pressed within 2 seconds of each other.

To invert the readout,



To return the LCD readout to normal viewing (from outside of the hot tub), repeat the above sequence.

**PROGRAM FUNCTION**

This pad is used for setting clock time, programming filter cycles, and for panel lock routines.

## MODE FUNCTION



This pad is used to change hot tub operation to either 'Economy' or 'Standard' mode.

**Economy Mode** – the hot tub will heat only during the filter cycles.

**Standard Mode** – the preset hot tub temperature will be maintained (the system will automatically activate P1 low speed when the control calls for heat).

This pad also resets the system in the rare instance of an overheat (see TOPSIDE CONTROL PANEL DISPLAY MESSAGES).

## OZONATOR OPTIONAL

The ozonator operates during filtration cycles and clean-up mode only (starts 2 minutes after filter cycle begins).

## STANDBY/DRAIN ASSIST

The standby/drain assist feature stops the system from operating automatically, allowing for convenient filter cartridge removal or for safe draining of the hot tub. The following pads must be pressed within 2 seconds of each other.

To put the system in standby,



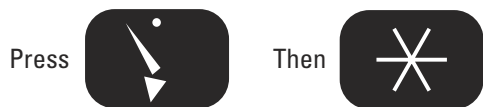
All functions will turn off, but P1 low speed can be activated (by pressing the 'jets' pad) to facilitate draining the hot tub. Press any pad other than the 'jets' pad to return the system to normal operation. See section 'DRAINING YOUR HOT TUB' for detailed instructions.

## INITIAL START-UP

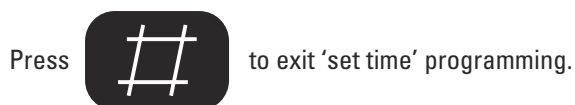
When you initially power up your Hydropool hot tub, it will be in 'Economy' mode. Simply press the mode (#) pad to switch the system to 'Standard' operation and begin heating. The spa water will heat to 100°F (38°C) unless you adjust the set temperature.

## SETTING THE SYSTEM CLOCK TIME

After the initial start-up, the 'set time' message will flash on the LCD screen.



After either pad is pressed once, hours will automatically increase or decrease in one-minute increments. Press either pad again to stop the sequence.



### PRESET FILTER CYCLES

Once the system clock time has been correctly set, the system will automatically activate P1 low speed to filter the water for three hours twice each day. During the filter cycle, the LCD will indicate 'Filter 1' or 'Filter 2'.

**Filter 1:** The system automatically activates P1 low to operate from 2:00am until 5:00am.

**Filter 2:** The system automatically activates P1 low to operate from 2:00pm until 5:00pm.

If the system is in 'Economy' mode, the heater will operate during the filter cycles only.

### CHANGING FILTER CYCLES

To change the preset filter cycles or the filter cycle duration:

Press  Then press  Then press 

Time of day will display

'Set time' will appear

'Set Start Filter 1' will appear. At this point, each time the program (\*) pad is pressed, the filter start time, and the filter stop time will be indicated on the LCD screen.

When the filter start or filter stop times are displayed on the LCD screen,

Press  or  to reset the times.


When the 'set heat' message is displayed

Press  or  to set the heater to 'on' or 'off'.

In the 'on' position, the hot tub water will heat to the set temperature during the filter cycles.


In the 'off' position, the heater, when in 'Economy' mode, will not be activated during the filter cycles

After entering the filter set routine,

Press  to proceed through the start and stop times for both filter cycles.

Follow the same procedure to change the 'Filter 2' settings.

To exit the filter set routine,

Press  and the LCD screen will return to the current water temperature.

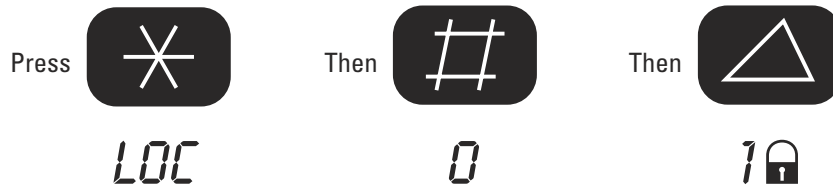
### Note

To properly clean and maintain your hot tub water, filtering time of at least six hours per day (total of both cycles) is recommended.

### PANEL LOCK

To help prevent unauthorized use of your hot tub, the Hydropol Deluxe Digital control incorporates a unique panel locking system. When the topside control panel lock is engaged, all automatic functions will continue to operate, however the function pads are deactivated.

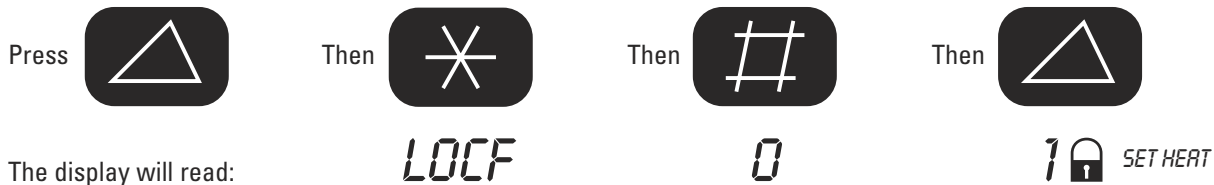
The following pads must be pressed within 3 seconds of each other to activate the lock. When locked, the LCD will show the water temperature as well as the lock symbol. All of the panel pads will be deactivated except for the program pad, which is used to initiate the unlock sequence.



### TEMPERATURE LOCK

The temperature lock is provided to prevent unauthorized temperature adjustment of your hot tub water. When the temperature lock is engaged, all automatic functions will continue to operate normally.

These following pads must be pressed within 3 seconds of each other to activate the lock. When locked, the LCD will show the water temperature, the lock symbol and the words 'set heat'. The temperature pads will be deactivated, and when pressed, the set temperature will display with a double arrow next to it.



### TO UNLOCK THE PANEL

The following pads must be pressed within 2 seconds of each other. When the last pad is pressed, the lock symbol will disappear. All pads will now be active.



### POWER FLUCTUATIONS/FAILURES

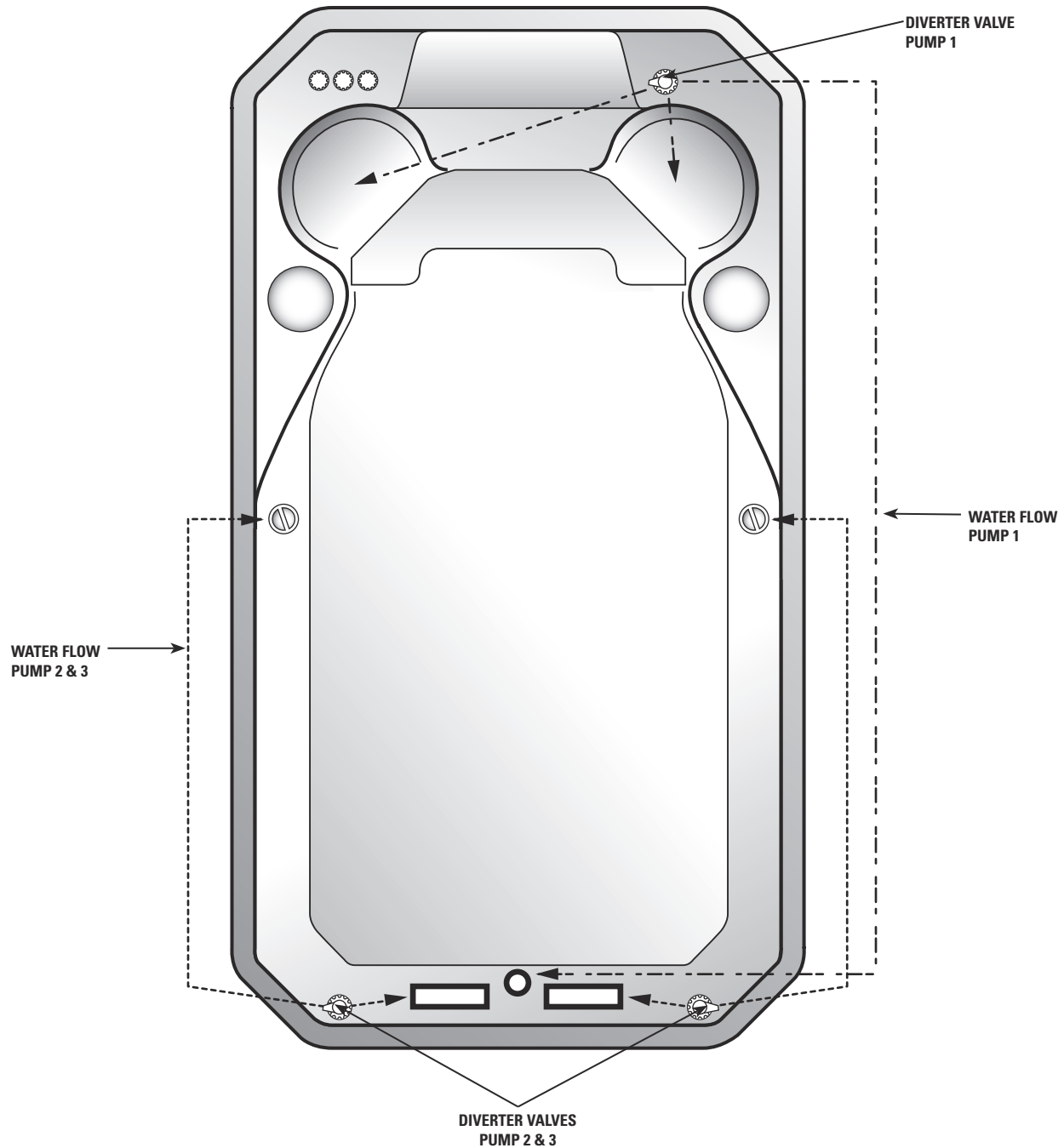
The power supply into your home is, for the most part, fairly consistent. However, when local power demand is high, there is a tendency for the voltage entering your home to drop (sometimes significantly) or fluctuate. This condition is referred to as a 'brown-out'. Although safeguards have been built into the system to protect against this condition, supply voltage may drop low enough, if even for a second, to cause the system to display a 'ghost' message.

Should any of the TOPSIDE CONTROL DISPLAY messages occur for no obvious reason, or if the system displays partial messages, try resetting the system by turning power to the hot tub off, waiting a few minutes, then turning power on again. If this does not reset the system, contact your local dealer or service organization.

## JET FEATURES & OPERATION DIVERTER VALVES

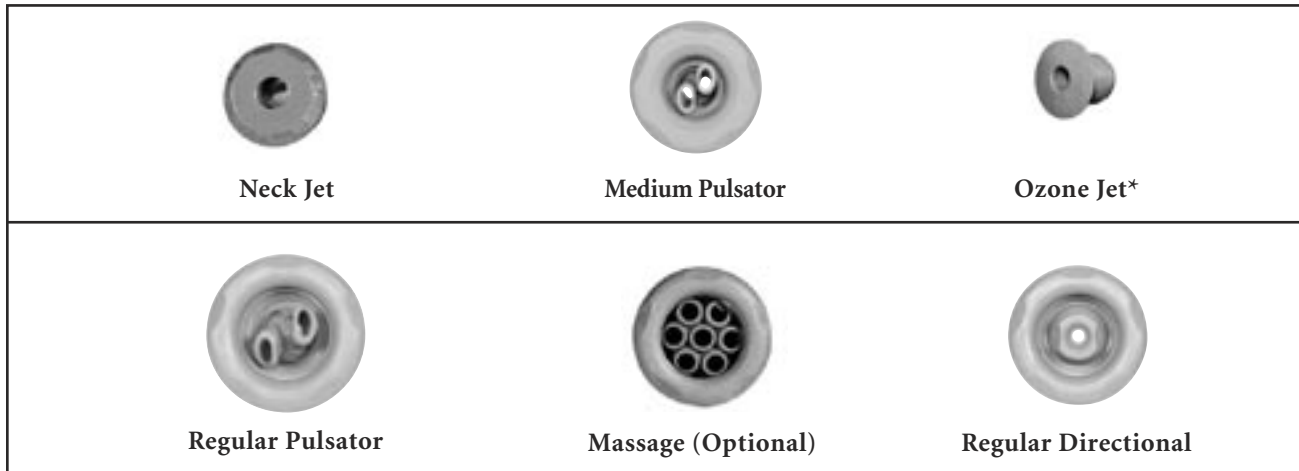
Your Hydropool AquaTrainer is equipped with 3 diverter valves to control water current flow speeds.

Pump 1 Diverter Valve allows you to direct the flow of water from pump 1 so that it increases the power of the lower swim jet or the hydrotherapy jets on the bucket seats, or a combination of the two. Simply turn the valve left or right.



The two Swim End Diverter Valves allow water to be directed from the top two swim jets (pumps 2 and 3), to the hip jets on either side of the swim spa which gives added buoyancy to the swimmer and resistance for water-aerobics.





**Note: Jets may differ from photos shown above**

\* indicates a non-adjustable jet

### INTERCHANGING JET INSERTS

A great feature for custom tailoring the jets in your Hydropool swim spa to suit your personal hydrotherapy needs. Jets of like size and dimension may be interchanged with each other, for example, if you wished to swap a regular pulsator jet for a regular directional jet.

### JET WATER FLOW ADJUSTMENT

Your Hydropool swim spa features adjustable water flow on specific hydrotherapy jets.

**To reduce the flow:** grasp the outer flange of the jet, and turn clockwise approximately a 1/4 turn. When it hits the stop, the jet is considered closed, and flow will be restricted.

**To increase the flow:** from the closed position, turn the jet counter-clockwise approximately 1/4 turn. When it hits the stop, the jet is open, and there is maximum jet flow. Do not attempt to turn the jet past the stop, as this will unthread the jet internal from the socket.

All Hydropool swim spas are shipped from the factory with the jets in the open position.

### JET INSERT REMOVAL & REPLACEMENT

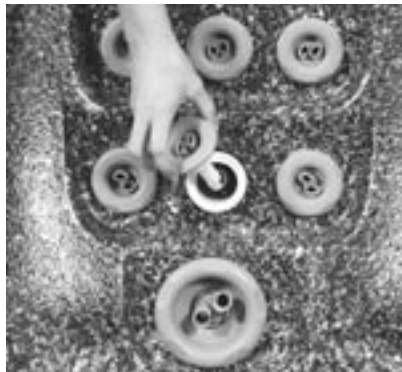
**BLASTER, PULSATOR, MASSAGE, POWER MASSAGE/SPINNER, MEDIUM & MEDIUM PULSATOR JET**

#### To Remove:

- Turn the jet counterclockwise to unclip & pull out of socket

#### To Re-install:

- Push the jet into the socket until it snaps into place, ensuring the square pin on the back of the jet lines-up with the groove on the socket flange



## SWIM SPA WATER BALANCE GENERAL OVERVIEW

### NOTABLE POINTS

- **The reliability and longevity of your swim spa support equipment are directly related to how well water quality is maintained!**
- ALWAYS observe and follow the instructions on the chemical container.
- The small volume of water in your swim spa is easily affected by external factors such as oils, lotions, perspiration and chemicals. It is imperative that you give your swim spa regular attention to maintain clean, safe and balanced water to prevent premature damage and/or failure (corrosion/calcification) to the electrical support equipment. Maintaining your swim spa water balance/chemistry, while simple, is extremely important. Neglected hot water will allow bacteria to quickly spread.
- The mineral content of swim spa water increases from water evaporation, sanitizers and other chemicals. If the mineral concentration, particularly calcium, becomes too high, the minerals will literally “drop” or precipitate out of the water and deposit on the swim spa walls, plumbing, jets, in the filter and on the heater element.
- It is very important that pH be checked frequently and maintained in the recommended range as indicated in the chart on the following page.

- It is also very important that Total Alkalinity (the ability of the water to resist a change in pH) be maintained in the recommended range as indicated in the chart on the following page.



- Heater and other component failure due to improperly maintained pH or Total Alkalinity levels will not be covered under warranty.
- Although there may be two identical swim spa models right next door to each other, the maintenance requirements will be different, dependant on such factors as:
  - bather load
  - frequency of use/quantity of bathers
  - different body chemistry
  - sun vs. shade
  - temperature

**For these reasons, it is very important to develop proper swim spa water maintenance habits and follow your dealers recommended water maintenance procedures.**

Your HYDROPPOOL dealer will advise you as to what method they recommend.

## GLOSSARY OF COMMON WATER MAINTENANCE TERMS

- 1 **CHLORINE** – in granular or puck/tablet form, is an oxidant and biocidal agent. It is very effective and fast acting. Recommended chlorine residual level is 1.0 to 3.0 ppm.
- 2 **CHLORAMINES** – a compound formed when chlorine combines with nitrogen or ammonia present in the water. When allowed to go unchecked, it causes eye and skin irritation and is indicated by a strong chlorine odour.
- 3 **ONE-PART BROMINE** – also available in puck/tablet form, is another type of oxidant/biocidal agent, and is introduced into the hot tub water via a brominator. Recommended bromine residual level is 2.0 to 4.0 ppm
- 4 **TWO-PART BROMINE** – composed of a liquid or powder component introduced manually into the water on a weekly basis, and a granular component that is added daily or as the hot tub is used.
- 5 **BROMAMINES** – are formed when bromine destroys nitrogen-bearing organic matter. Unlike chloramines, bromamines don't cause eye irritation, however, when allowed to go unchecked, will cause an objectionable odour.
- 6 **SHOCK** – the practice of adding an oxidizing agent to hot tub water to destroy ammonia, nitrogenous and organic contaminants (chloramines and bromamines)
- 7 **pH** – a logarithmic value expressing the relative acidity or basicity of a substance (such as hot tub water) as indicated by the hydrogen ion concentration. pH is expressed as a number on a scale of 0 to 14, where 0 is most acidic, 1 to 7 being acidic, 7 considered neutral, 7 to 14 being basic, and 14 being most basic. The ideal range for hot tub water is 7.4 to 7.6 ppm
- 8 **pH INCREASER** – raises the pH level of the water.
- 9 **pH DECREASER** – lowers the pH level of the water.
- 10 **TOTAL ALKALINITY (TA)** – the amount of carbonate, bicarbonate and hydroxide compounds present in the water that determines the ability or capacity of the water to resist change in pH. Also known as the 'buffering' capacity.
- 11 **ALKALINITY BOOSTER** – raises the alkalinity.
- 12 **CALCIUM HARDNESS** – the calcium portion of the total alkalinity which represents 70 to 75% of total hardness. Calcium concentrations determine whether water is 'soft' - too little calcium, or 'hard' -too much calcium.
- 13 **CALCIUM BOOSTER** – increases the calcium level.
- 14 **TOTAL DISSOLVED SOLIDS (TDS)** – a measure of the total amount of dissolved matter in the water (calcium, carbonates, bicarbonates, magnesium, metallic compounds, etc.)
- 15 **SEQUESTERANTS (STAIN AND SCALE CONTROLLERS)** – keeps dissolved metals and minerals in the water from attacking the hot tub shell and support equipment components.
- 16 **DEFOAMER** – removes foam build-up from the water surface. At best, this is a temporary remedy, as excessive foam is merely a symptom of improper water balance (typically high organic residue and/or high pH).
- 17 **CARTRIDGE FILTER CLEANER** – degreases and cleans cartridge filters.
- 18 **OZONATOR** – generates Ozone (a gaseous molecule composed of 3 atoms of oxygen) and is injected into the hot tub water for the oxidation of water contaminants.
- 19 **TEST KIT** – used to monitor specific chemical residual or demands in the water. May be in the form of litmus strips or liquid drops.
- 20 **PPM** – abbreviation for 'parts per million', the unit of measurement used in chemical testing which indicates the parts by weight in relation to one million parts by weight of water. Essentially identical to the term mg/L - milligrams per liter.

### WATER BALANCE SUMMARY FOR YOUR SWIM SPA

SANITIZER (ppm)	MIN	IDEAL	MAX	
Chlorine	1.0	1.0 - 3.0	5.0	
Bromine	1.0	2.0 - 4.0	6.0	
CHEMICAL				
PH	7.2	7.4 - 7.6	7.8	
Total Alkalinity (TA)	80	90 - 120*	160	*when using chlorine
		120 - 150**		**when using bromine
Total Dissolved Solids (TDS)	300	1000 - 2000	3000	
Calcium Hardness	150	200 - 400	500	

## SUGGESTED ROUTINE WATER MAINTENANCE



**Always follow the instructions on the label of the chemical container to determine the correct ratios**

### INITIAL FILL

- 1 Make sure the swim spa water is circulating
- 2 Add a sequesterant (stain and scale controller). Allow water to circulate for an hour before adding anything else to the swim spa water
- 3 Add a Shock / oxidizing agent
- 4 Add sanitizing tablets (Bromine or Chlorine) to the dispenser
  - **Built in dispenser:** if your Hydropool swim spa was ordered with the optional built in bromine/chlorine dispenser, (located in the lid of the cartridge filter housing), refer to section CARTRIDGE FILTER for details on removing and re-installing the lid. Once the filter lid is removed, you'll notice a clear 1" tube extending from the bottom of the lid. Unscrew the check valve assembly at the end of the tube and add 5 or 6 tablets. Do not overfill dispenser as performance will be affected. Set the dial initially to '5', and allow water to circulate for 3 to 4 hours before testing level. Adjust dial more or less as necessary
  - **Floating dispenser:** As above, add 6 or 7 tablets, adjust initially to '5', allow water to circulate for 3 to 4 hours, then test



The tablets will dissolve slowly over a 10-14 day period, depending on dial setting, and use of the hot tub.

- 5 Test pH and Total Alkalinity and adjust accordingly

### DAILY

- 1 Test water, and if necessary, add shock
- 2 Ensure proper water level is maintained

### WEEKLY

- 1 Test pH and Alkalinity. Adjust accordingly
- 2 Top-up chemical dispenser
- 3 Add sequesterant (stain and scale controller)
- 4 Remove and spray cartridge filter with garden hose and re-install (see section CARTRIDGE FILTER)
- 5 Remove and clean out skimmer basket (see section CLEANING THE SKIMMER BASKET)
- 6 Add Shock / oxidizing agent

### MONTHLY

- 1 Soak your filter cartridge in a filter cartridge cleaning solution. Rinse thoroughly and, if possible, allow to dry before re-installing. Hydropool recommends purchasing a second filter so that they can be rotated at this time

### QUARTERLY

- 1 Drain swim spa regularly and clean the acrylic shell surface with a non-abrasive cleaner designed specifically for acrylic surfaces (see sections CHANGING THE SWIM SPA WATER - P. 29 and DRAINING YOUR SWIM SPA - P. 30)

### CHEMICAL SAFETY HINTS

- Never pre-mix chemicals with each other prior to adding to swim spa water
- Add only one chemical to the water at a time
- Always add chemicals to water and not vice-versa
- Chemicals may be corrosive, so handle with care and store in a cool dark place
- Never smoke near chemicals as most are flammable
- Ensure any spilled chemicals are carefully cleaned up immediately
- Always have the "Poison Control" telephone number handy in the event of an emergency
- Keep chemicals out of children's reach
- Wear safety glasses and gloves when handling chemicals

### CLEANING THE SKIMMER BASKET

- 1 Activate the "standby/drain assist" mode
- 2 Remove the skimmer basket by pulling the weir door forward, and pulling the basket up and towards the front
- 3 Remove debris from basket. (Note: Avoid hitting the basket against objects to knock debris loose as this may damage the unit)
- 4 Reinsert basket
- 5 Take the system out of 'standby/drain assist' mode, and as the pump begins to operate, monitor water flow over the weir door to assure that it is free floating



## CARTRIDGE FILTER

The cartridge should be cleaned every two to four weeks, depending on the amount of use. Signs that the filter requires cleaning include:

- Reduced jet power
- Hazy gray water
- Rattling noise in the pump or filter
- Heater not working

### Removal

- 1 Activate the "standby/drain assist" mode
- 2 Remove the cosmetic lid and open the small, black air vent/bleeder valve on the top of the filter lid
- 3 Press down the lock tab to disengage and turn the locking ring counter clockwise
- 4 Pull the filter lid upwards, and lift the cartridge element straight up and out of filter housing

### Cleaning

- 5 With a garden hose and spray nozzle, hose off the cartridge element, ensuring to carefully separate every pleat.
- 6 To remove collected lotions, body oils, etc. soak the cartridge in warm water and a filter cleaning/emulsifying compound (available at your HYDROPOOL dealer)
- 7 A cleaning cylinder may be purchased from your HYDROPOOL Hot tub dealer
- 8 Rinse thoroughly and dry before replacing
- 9 It is recommended to purchase a spare filter cartridge so that you always have a clean substitute ready to rotate



- 10 After the element has dried - if necessary, lightly brush between pleats with a fine paint-brush to remove remaining dirt particles



**CAUTION:** Do not use a wire brush or other device to clean cartridge element. Do not put in dishwasher or washing machine.

### Re-installation

- 11 Place the cartridge filter back into the filter housing
- 12 Replace the filter housing lid, pushing it down to seat, ensuring that the lid o-ring does not become twisted
- 13 It is recommended that the lid o-ring be lubricated with a non-petroleum based lubricant (ie. Silicone gel) when it becomes dry. This will help to prevent twisting and pinching as the lid is installed, and significantly increase longevity of the o-ring
- 14 Install the filter lock-ring, turning clockwise until the lock tab snaps into place
- 15 Close the air vent/bleeder valve
- 16 Take the system out of 'standby/drain assist' mode
- 17 When the pump starts circulating on low speed, it will be necessary to release trapped air in the filter. Carefully loosen the vent valve counter-clockwise until there is the hissing sound of air escaping. Once there is a steady stream of water, close the vent valve, ensuring that the o-ring does not become pinched.

## CHANGING THE SWIM SPA WATER

A swim spa should be drained regularly, depending on size and amount of use. If your swim spa is used daily or by a large number of bathers, the water should be drained more often. One method to determine the approximate length of time between water changes is to divide the water volume (in liters) of your swim spa by 13.5 and then divide by the average number of bathers each day.

$$\text{Formula } \left( \frac{\text{Volume of water}}{\text{in litres}} \div 13.5 \right) \div \left( \frac{\text{Average}}{\text{daily bathers}} \right) = \left( \frac{\text{Days}}{\text{between water changes}} \right)$$

### Example:

1000 liters divided by 13.5 divided by 2 = 37 days.

The swim spa water must be changed when the amount of dissolved solids becomes excessive, and is usually indicated by "gray" or dull looking water.

## WATER SOFTENERS

Never fill a swim spa with water from a water softener, as it could adversely effect the water chemistry, making it difficult to maintain proper water balance. If you live in an area with hard or soft water, give careful attention to your Calcium Hardness level. "Topping Up" with soft water is acceptable.



### DRAINING YOUR SWIM SPA

- 1 Locate nearest drain facility (shower, laundry tub, floor drain, lawn, etc.)
- 2 Put the swim spa control system into 'standby/drain assist' mode
- 3 Remove the skimmer basket so that the hole beneath it is accessible, and insert the #10 rubber expansion plug provided
- 4 Unroll blue plastic pipe located on the plumbing line beside the control system running to drain location
- 5 Open the drain valve
- 6 Close pump 1 return gate valve (this directs the water out the drain hose)
- 7 Activate the low speed pump
- 8 Monitor the swim spa while it drains. As soon as it is empty, turn off the pump. A wet/dry vac can be used to remove remaining water. A sponge can be used to wipe out and clean the acrylic surface
- 9 Remove rubber expansion plug
- 10 Close the drain valve and open pump 1 return gate valve
- 11 Re-fill swim spa to approx. 3/4" (19 mm) from the top of the skimmer opening
- 12 Take the system out of 'standby/drain assist' mode - water should begin to circulate within 15 seconds
- 13 Bleed air from filter housing via the small black air vent valve located on the top of the filter housing

### CLEANING THE ACRYLIC SURFACE

The acrylic surface can be cleaned and polished using a soft cloth and acrylic cleaner, available at your Hydropool dealer.



**Caution:** Never use an abrasive cleaner.

### SAFETY HARD COVERS

When a swim spa is uncovered, over 90% of heat is lost from the water surface. This evaporation also affects the chemical balance and could create humidity problems indoors. HYDROPPOOL Safety Hard Covers are engineered for maximum thermal efficiency and appearance. They are hinged in the middle for easier handling, and the zip fastener allows the (tapered 4" to 3") foam inserts to be changed if damaged. The skirt of the safety hard cover hugs the lip of the hot tub for a tight fit. The handles are placed so that even one person can easily carry a large cover. The locks, with one part fastened to the deck or skirt, prevent small children or animals from entering the swim spa. Do not drag the safety hard cover across the swim spa or decking. Fold the cover first, then lift by the handles. Standing on the hardcover could cause the tapered foam inserts to crack, which will lead to water absorption.

### NEVER LEAN OR STAND ON YOUR HARDCOVER.

The cover should be cleaned at least twice a year with a vinyl moisturizer and protector.



## WOOD CABINET OPTIONAL

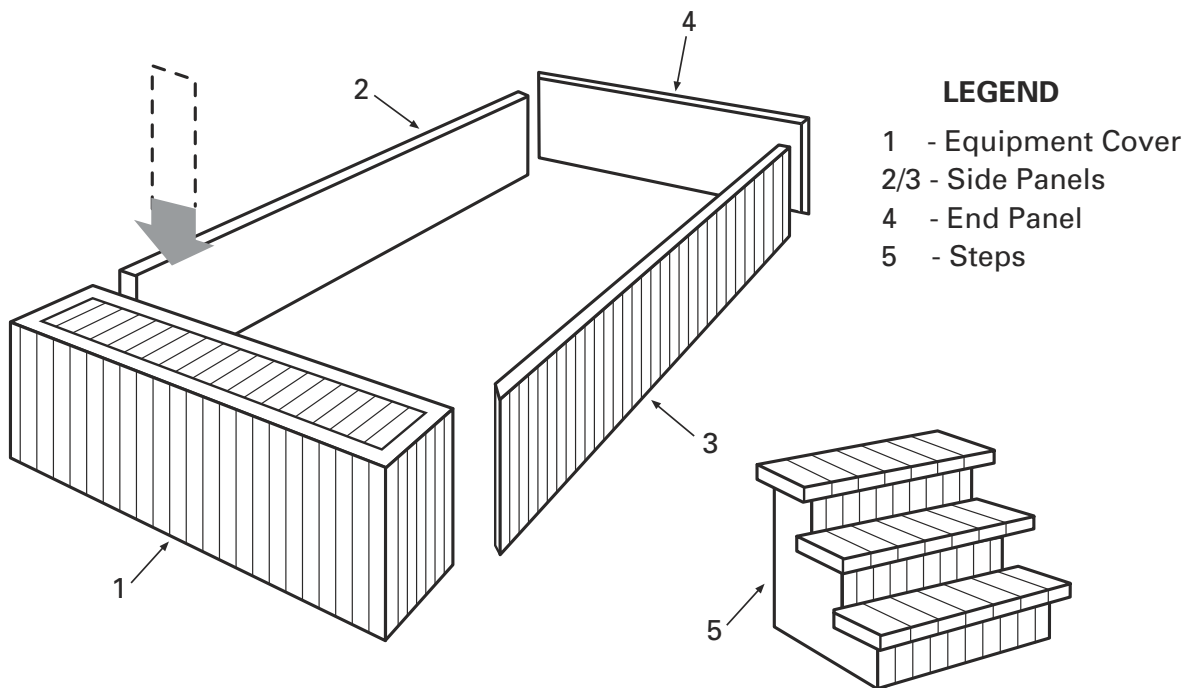
### Cabinet Installation Instructions

Prior to installing your knockdown cabinet ensure your swim spa has been filled and running for up to 48 hours. This will allow you time to adjust the steel support legs and to ensure there is no potential for leaks.

- Make sure your swim spa is full of water and the steel leveling legs are properly adjusted
- Slide the equipment cover (1) end over the equipment pad to about 1" under the lip of the swim spa
- Place one of the side panels (2) along the side and using the screws provided, screw it to the equipment/jet end at the top and bottom where the guide holes are located.  
14' side panel = one piece  
17' side panel = some models come in two pieces

- Repeat above step with the other side (3)
- The end panel is then screwed to the two side panels (2 & 3)
- Finally, adjust the leveling feet on the bottom of the cabinet to bring the rail flush up under the lip around the entire swim spa.

## AQUATRAINER/AQUAPLAY Cabinet Assembly



### PROTECTING YOUR CABINETS WOOD FINISH

Hydropool cabinets are made from Western Cedar and are factory stained. Once stained, cedar weathers well, and with proper care, will maintain its beauty for many years. For a protective translucent finish, and to enhance the wood grain beauty, Sikkens Cetol 1, or similar, is highly recommended for inside or outside use. If outside, a second coat of Cetol 23 PLUS is

recommended with its special Ultra Violet inhibitor to add even more protection against damaging UV rays. These protective finishes stabilize the wood grain and build a durable, breathable water repellent barrier between the wood surface and the elements. These products are available from your local Hydropool dealer.



## REMOTE GAS HEATER INTERFACE OPTION

Although gas heaters are not a factory option, we have taken the necessary steps to ensure that they can be easily adopted. Please check your local bylaws for requirements such as required distance from property lines, trees, enclosures, etc.

### AQUATRAINER

The swim spa control system (manufactured after April 1, 2004) is capable of controlling an off-line gas heater while maintaining all operational control functions of the topside control panel. If you are considering this option please refer to the technical information and installation instructions below.

The control system has been equipped with an extra auxiliary output relay. The system will close the auxiliary output relay #1 (K2) to signal a demand for heat. The signal is a maximum of 230Vac, max 1A. If a dry (no voltage) contact is required, then an interface relay will be required and would be supplied by the dealer/installer.

When the external heater feature is activated, the existing 5.5 Kw electric heater is disabled, and simply left in place. In this mode, the topside display diagnostic messages, as well as the functions of the high limit and the pressure switch are disabled, as the safety circuits in the external gas heater take over.

It is the dealers/installers responsibility to supply the materials (ie., wire, connectors, conduit etc.) required to

safely make and route all electrical connections between the swim spa control and the external gas heater.

### SYSTEM CONFIGURATION

In Low Level Programming Mode (contact local dealer for instructions) scroll through the various parameters until "AUX" shows on the display, where the value of 'x' is set to '2', enabling the auxiliary output relay circuit for the remote gas heater and disabling the existing electric heater element circuit.

### ELECTRICAL INTERFACE

Connect to the following terminals on the swim spa control system PC board using a minimum 16A WG wire size:

P24 - line

P62 - common

P74 - ground

Consult the installation manual supplied with the gas heater for electrical termination

### AQUAPLAY

For gas heater installation and technical information contact your local dealer/installer.

## ACCESSORIES

### LIGHT BULB & LENSES OR OPTIONAL L.E.D. LIGHT

Your AquaTrainer is equipped with a safe 12-volt underwater 2 light system. You have the option of leaving the factory installed light or adding the supplied colour lenses. To activate the light, simply push the light icon on the topside control.

**Bulb** – The 12v or LED bulb is replacable when the swim spa is empty. Use the plastic tool provided and turn the clear lens insert counter-clockwise to remove. The bulb or L.E.D. light simply pushes into the socket.

**Lenses** – The coloured lenses provided for your 12v swim spa lights are a friction fit - simply snap over the existing clear light lens. A small plastic tool has been provided to remove the coloured lens covers.



### CONTROLLING LED LIGHT

Use the spa's existing light switch to turn LED on and off. LED lights are preprogrammed with an assortment of unique light shows.

- Turn LED OFF and then ON again in 1 second or less, to go to the next show
- Turn LED OFF and then ON again in 4 to 5 seconds to reset to the first show
- Turn LED OFF for more than 6 seconds and it "remembers" the last show you selected, returning to that show the next time LED is switched on

## DESCRIPTION OF SHOWS

### 1. Slow Color Wash\*

Colors transition gracefully from color to color, cycling through the color spectrum. Each color cycle takes approximately 3 minutes.

### 2. Fast Color Wash\*

Colors transition from color to color, cycling through the color spectrum. Each color cycle takes approximately 1 minutes

### 3. Slow Random Color\*

Colors step and jump from one color to the next in random order. Each color lasts approximately 10–15 seconds.

### 4. Fast Random Color

Colors step or jump from one color to the next in random order. Each color lasts approximately 5 seconds.

### 5. High Speed Random Color

A rapid series of intense flashes of varying colored light.

### 6. Cross Fade\*

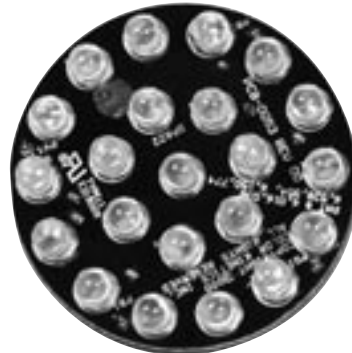
Colors cycle back and forth gracefully between blue and green. Total cycle lasts 1 minute.

### 7–13. Fixed Colors

Static display of a single color. Available colors include white, pink, lavender, light blue, dark blue, light green and dark green.

\* These effects begin at a slightly faster speed, then slow down after one or two seconds. This is to help you identify the effect.

\*\* If operating with a dimming system, LED must be powered on full intensity in order to function. Also, the dimmer must be turned off in order to advance to the next show. LED will not operate on spas with dimming systems.



## AQUA CORD TETHER SYSTEM

### AQUAPLAY & AQUATRAINER

Owners desiring a tether resistance swim or exercise can simply insert the "T" anchor, attach one end of the AquaCord to the "T" anchor and the other to your waist and begin swimming. The AquaCord should be adjusted so that your extended arm is at least 18" short of the end wall. Please remove the "T" anchor after each swim to avoid any chance of others tripping, stubbing a toe etc.

## HARD COVERS AND LIFTERS OPTIONAL

In an uncovered swim spa, over 90% of the heat is lost from the water surface. The evaporation also affects the chemical balance and could create humidity problems indoors. Hydropool Hard Covers are engineered for maximum thermal efficiency and appearance. The 2 halves of the covers are hinged in the middle for easier handling, and the zip fastener allows the (tapered 4" to 3") styrofoam inserts to be changed if damaged. We recommend that you flip the inserts every 6 months. The skirt on the cover hugs the lip of the swim spa for a tight fit. The handles are placed so that one person can easily carry even a large cover. Optional lifters are also available which allow easy removal/placement of your safety hardcover.



The locks, with one part fastened to the deck or skirt, prevent small children or animals from entering the swim spa. Do not drag the cover across the swim spa or decking. Fold cover sections first, then lift by the handles. Standing on the hardcover could cause the styrofoam to crack which will lead to water absorption and void warranty.



### NEVER LEAN OR STAND ON YOUR HARDCOVER

The cover should be cleaned at least twice a year with a vinyl moisturizer and protector to clean and restore the vinyl oils for longer life.

**Note:** Not all accessories are available on AquaPlay model.

#### FIBRE OPTIC LIGHTS & LED OPTIONAL

Press the 'light' pad to activate the fiber-optics.

**1st press** – activates fiber-optic light and begins colour change sequence every few seconds. The 'light' indicator will flash on/off

**2nd press** – stops colour change sequence at selected colour. The 'light' indicator will stop flashing, but still be displayed.

**3rd press** – shuts off fiber-optic light.

#### VACUUMS OPTIONAL

With use of the safety hardcover, the settling of dirt on the bottom of the pool should be minimal and should be "stirred up" and removed via the suctions during use. In the event that excessive dirt does settle, your dealer can sell you your choice of an optional extended length hand-pump type vacuum or a hose water suction type (standard pool vacuum style).

#### CD OZONATOR OPTIONAL

Ozonators produce ozone which when introduced into the water, oxidizes and kills the bacteria thus reducing the need to add as much disinfectant to your swim spa. Weekly shocking of the swim spa will still be required. Your Hydropool AquaTrainer is shipped from the factory ready for quick ozonator hook-up. Simply plug its power cord into the 220V polarized outlet of the Spa Pack. The ozone output is fed to the foot jet (located in the lower wall of the AquaTrainer) via the check valve and special tubing supplied. One end of this 3/8" ID tubing is already installed on the barbed fitting of the jet. Connect the tubing to the 1/4" barbed fitting outlet on your ozonator. The distinct fresh smell of ozone can usually be noticed at the water surface. A strong stream of bubbles can be seen emerging from the foot jet while in operation.

## WINTERIZING YOUR SWIM SPA

In the event that you do not wish to use your swim spa year-round, it is very important that you properly winterize your unit to protect against damage from winter freezing. Your Hydropool dealer can perform such a service for a nominal fee. If you winterize the swim spa yourself, please follow the directions outlined below:

- Drain the swim spa entirely, remove water from the plumbing with a wet/dry vac, and add antifreeze to suspect areas such as pump volute, jet channels, 3 way diverter valve, filter housing, and blower channels.
- Remove any plugs from pump, filter or heater to ensure complete draining of equipment package. Open all unions.
- Drain the filter cartridge housing, clean the filter element and store in a warm, dry place. Where practical, disconnect spa pack and store inside. Cover exposed plumbing connections with plastic bags and duct tape.

- If your swim spa is fully submerged, and could lift from freeze/thaw conditions, we recommend plugging and removing your suction covers, and refilling the swim spa with 24" of water. The addition of some plumbers/RV antifreeze to both the water and suspect areas of plumbing where water may collect is recommended.
- Cover the swim spa and remove snow build up regularly. Where utilizing your safety hardcover we suggest installing a protective sheet over the cover.
- It is assumed that your swim spa has been properly installed on a reinforced level concrete pad to eliminate lifting of the swim spa due to hydrostatic ground water pressure.



**NOTE:** Whenever you are not 100% sure that your swim spa is adequately winterized, please consult your authorized Hydropool swim spa dealer. Caution recommends that an authorized representative winterize your pool in the initial year.

## TOPSIDE DISPLAY DIAGNOSTIC MESSAGES

### MSPA-MP – NORTH AMERICAN

#### STANDBY/DRAIN ASSIST

**SbY** Indicates system is in standby mode.

#### FLOW SWITCH

**FLC** Indicates that system is detecting pressure at the pressure switch when the pump is not operating (switch is staying closed).

**FLD** Indicates that the system is not detecting pressure at the pressure switch while the pump is operating (switch is staying open).

#### Possible causes:

- water level in swim spa may be too low
- isolation/gate valves partially closed
- air lock in pump reducing flow

#### WATER/HIGH-LIMIT SENSOR

**Prr** Indicates high-limit or water temperature sensor is non-functional.

#### Possible causes:

- pinched or cracked sensor wire
- rodent damage
- defective sensor

#### OVERHEAT PROTECTION (SWIM SPA IS DEACTIVATED) DO NOT ENTER THE WATER!

**HL**

#### Flashing:

This indicates the system is detecting excessive water temperature in the swim spa. Should the water temperature reach 112°F (44.5°C), the system will shut off all circulation and the display will flash 'HL'.

#### Constantly Displayed:

This indicates the system is detecting excessive water temperature in the heater chamber. Should the high-limit sensor detect 119°F (48°C) at the heater, the system will shut off all circulation and the display will show 'HL'.

#### Possible causes:

- static pressure (weight of water) in plumbing keeping pressure switch closed; usually associated with remote equipment location
- diaphragm in pressure switch coated with minerals due to improper swim spa water maintenance

Only the 'Freeze Protection/Smart Winter Mode' remains active.

In either case, after the water cools to 109°F (43°C), it will be necessary to reset the system by pressing any pad on the topside control panel.

#### Possible causes:

- isolation/gate valves partially closed
- extremely hot weather/high ambient temperatures
- defective sensor wire

#### POWER FLUCTUATIONS/FAILURES

The power supply into your home is, for the most part, fairly consistent. However, when local power demand is high, there is a tendency for the voltage entering your home to drop (sometimes significantly) or fluctuate. This condition is referred to as a 'brown-out'. Although safeguards have been built into the system to protect against this condition, supply voltage may drop low enough, if even for a second, to cause the system to display a 'ghost' message. Should any of the preceding messages occur for no obvious reason, or if the system displays partial messages, try resetting the system by turning power to the swim spa off, waiting a few minutes, then turning power on again. If this does not reset the system, contact your local dealer or service organization.

#### COLD WEATHER CONDITIONS

If your control system will not reset, or if your pump will not circulate for any other reason, place a low wattage space heater or hair dryer under the cabinet in the equipment area. This will delay the risk of freezing until a service appointment can be arranged.

## TOPSIDE DISPLAY DIAGNOSTIC MESSAGES

### HPL203/5.5 KW – EUROPEAN

#### STANDBY/DRAIN ASSIST

**SbY | StbY** Indicates system is in 'standby' mode.

#### BATTERY BACKUP

**Pd** Power to the spa has been interrupted, and the system is using its battery backup to preserve the programmed settings (for maximum 30 days). The topside control panel will be disabled until power to the spa is restored.

#### FREEZE PROTECTION

**ICE** The system will automatically activate P1 low speed and P2 if the Water Temperature in the equipment area drops to 40°F (4°C).

#### OVERHEAT PROTECTION (SPA IS DEACTIVATED)

**OH** **DO NOT ENTER THE WATER!**  
This indicates the system is detecting excessive water temperature. When the spa water temperature exceeds the maximum set temperature of 104°F (40°C), the display will begin to flash the current water temperature. If the spa water reaches 112°F (44.5°C), the system will shut off all circulation and the LCD will flash 'OH'. The system will automatically reset itself and resume normal operation once the water temperature cools to 110°F (43°C). Should the high-limit sensor detect 118°F (48°C) at the heater, the system will shut off all circulation and the display will flash 'OH'. Once the water cools to 110°F (43°C), it will be necessary to "manually" reset the system by pressing the mode (#) pad.

#### POSSIBLE CAUSES OF OVERHEATING:

- filter cycle too long or overlapping (pump running for extended periods of time)
- isolation/gate valves partially closed
- extremely hot weather/high ambient temperatures
- defective sensor wire

#### FLOW SWITCH

**FL0 | FL** **Constantly Displayed:** indicates that the system is detecting pressure at the pressure switch when the pump is not operating (switch is staying closed).

#### Possible causes:

- static pressure (weight of water) in plumbing keeping pressure switch closed; usually associated with remote equipment location
- diaphragm in pressure switch coated with minerals due to improper spa water maintenance

**Flashing:** indicates that the system is not detecting pressure at the pressure switch while the pump is operating (switch is staying open).

#### Possible causes:

- water level in spa may be too low
- isolation/gate valves partially closed
- air lock in pump reducing flow

## TOPSIDE DISPLAY DIAGNOSTIC MESSAGES CONTINUED

### HPL203/5.5 KW – EUROPEAN

#### TEMPERATURE SET BACK

**COOL** If spa water temperature is more than 20°F (7°C) cooler than the set temperature, the system will automatically activate the heater to provide freeze protection. This is a normal function; no corrective action is necessary.

#### HIGH-LIMIT TEMPERATURE SENSOR

**Sn1** The high-limit temperature sensor is non-functional (open circuit). Spa control system is deactivated.

#### WATER TEMPERATURE SENSOR

**Sn3** The water temperature sensor is non-functional (open circuit). Spa control system is deactivated .

#### POWER FLUCTUATIONS/FAILURES

The power supply into your home is, for the most part, fairly consistent. However, when local power demand is high, there is a tendency for the voltage entering your home to drop (sometimes significantly) or fluctuate. This condition is referred to as a 'brown-out'. Although safeguards have been built into the system to protect against this condition, supply voltage may drop low enough, if even for a second, to cause the system to display a 'ghost' message. Should any of the preceding messages occur for no obvious reason, or if the system displays partial messages, try resetting the system by turning power to the hot tub off, waiting a few minutes, then turning power on again. If this does not reset the system, contact your local dealer or service organization.

#### COLD WEATHER CONDITIONS

If your control system will not reset, or if your pump will not circulate for any other reason, place a low wattage space heater or hair dryer under the cabinet in the equipment area. This will delay the risk of freezing until a service appointment can be arranged.

## WATER BALANCE PROBLEM SOLVING

#### CLOUDY WATER

Cloudy water could be caused by:

- high dissolved solids thereby requiring full or partial water drainage
- by a low disinfectant level
- incorrect pH requiring balancing
- suspended particles necessitating a filter cleaning
- insufficient filtration time

#### BLUE WATER

Blue water could be caused by too much metal or mineral content in the water, especially copper or iron. Low alkalinity or improper pH level may be the cause. First, balance the alkalinity, secondly the pH, then add a sequestering agent

#### FOAMING

Foaming is caused by the agitation of dissolved solids. This can be caused by the buildup of too much chemical by-products in the water, people not showering before using the swim spa, body lotions, etc. To correct, add a small amount of foam eliminator and turn on jets to circulate the water. At best, this is a temporary remedy, as excessive foam is merely a symptom of improper water balance. In extreme cases, the water will require draining and the filter will require cleaning.

#### SKIN IRRITATION

Most skin irritation is caused by too high or too low pH. Test and adjust. Where irritation continues, consult your physician.



## GENERAL TROUBLESHOOTING

SYMPTOM	POSSIBLE REASON(S)	CORRECTIVE ACTION
<b>No Power</b>	<ul style="list-style-type: none"> <li>– Breaker off at main panel or fuse out</li> <li>– Improper wiring</li> <li>– Fuse blown in control</li> <li>– G.F.C.I. tripped</li> </ul>	<ul style="list-style-type: none"> <li>– Check panel</li> <li>– Consult electrician</li> <li>– Replace</li> <li>– Reset</li> <li>– G.F.C.I. connected improperly</li> </ul>
<b>No Circulation</b>	<ul style="list-style-type: none"> <li>– Pump is not primed</li> <li>– Air in waterline</li> <li>– Impeller clogged</li> <li>– Valves are closed</li> <li>– Water level in spa is too low</li> <li>– Skimmer obstructed or closed</li> </ul>	<ul style="list-style-type: none"> <li>– Open drain bib</li> <li>– Release air</li> <li>– Access and clean</li> <li>– Open valves</li> <li>– Top up water</li> <li>– Remove/Open</li> </ul>
<b>G.F.C.I. Trip</b>	<ul style="list-style-type: none"> <li>– Short or ground in system</li> <li>– Faulty G.F.C.I.</li> </ul>	<ul style="list-style-type: none"> <li>– As above-call Electrician or Hydropool Dealer</li> </ul>
<b>Jet Surge</b>	<ul style="list-style-type: none"> <li>– Water level too low</li> <li>– Blockage in lines</li> <li>– Suction valve partly closed</li> </ul>	<ul style="list-style-type: none"> <li>– Add water</li> <li>– Check valves and/or strainer</li> <li>– Pull valve handle “up” all the way</li> </ul>
<b>No Heat</b>	<ul style="list-style-type: none"> <li>– pressure switch not closing</li> <li>– Hi Limit switch tripped</li> <li>– Cartridge filter dirty</li> <li>– Low water</li> <li>– Faulty pressure switch</li> </ul>	<ul style="list-style-type: none"> <li>– see TOPSIDE PANEL</li> <li>– see TOPSIDE PANEL</li> <li>– Clean &amp; reinstall</li> <li>– Top Up</li> <li>– Adjust or replace</li> <li>– Thermostat probe improperly installed</li> </ul>
<b>Erratic Heat</b>	<ul style="list-style-type: none"> <li>– Low Water</li> <li>– Incorrectly adjusted pressure switch</li> <li>– Faulty sensor</li> </ul>	<ul style="list-style-type: none"> <li>– Top Up</li> <li>– Adjust</li> </ul>
<b>Noisy Motor</b>	<ul style="list-style-type: none"> <li>– Damaged or worn bearings</li> <li>– Low voltage</li> <li>– Low water level</li> <li>– Frozen pump</li> <li>– Clogged Impeller</li> </ul>	<ul style="list-style-type: none"> <li>– Call your Electrician or Hydropool dealer</li> <li>– Check supply</li> <li>– Top Up</li> <li>– Thaw out</li> <li>– Access and clean</li> </ul>
<b>No Ozone</b>	<ul style="list-style-type: none"> <li>– Not plugged in</li> <li>– Broken bulb or expired bulb life</li> <li>– Clogged ozone jet</li> </ul>	<ul style="list-style-type: none"> <li>– Plug in</li> <li>– Replace bulb (when spa is empty)</li> <li>– Remove obstruction with “baby bottle” brush</li> </ul>
<b>Digital Top Side No Longer Displays</b>	<ul style="list-style-type: none"> <li>– Improper connection</li> <li>– Electrical brown-out</li> </ul>	<ul style="list-style-type: none"> <li>– Unplug cable and re-connect</li> <li>– Reboot control system</li> </ul>
<b>Digital Temperature Display is Erratic or Flashing</b>	<ul style="list-style-type: none"> <li>– Water temperature has exceeded set point</li> </ul>	<ul style="list-style-type: none"> <li>– Decrease filter cycle</li> </ul>



## NOTES:

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# Owner's Manual



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