Master Spas®

SWIM SPA

OWNER'S MANUAL

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Welcome to the Ultimate in Relaxation!

Thank you for choosing your new swim spa built by Master Spas. For how-to videos and helpful tips on operating and maintaining your swim spa, please visit www.alpinespas.co.nz/support

Please read the entire Owner's Manual before installing and using your swim spa. The goal of this manual is to provide you with safety and operational information plus some tips that will help you enjoy your swim spa to its fullest. At the time of print, this manual is accurate in its information. Master Spas and Alpine Spas reserves the right to change or improve its product without prior notice.

SERIAL NUMBER LOCATION

The serial number for your swim spa is located near the filter area, on the swim spa system pack, or on the listing plate on the skirting. It will start with "H" followed by a 6 digit number. For example, H201234.

RECORD OF OWNERSHIP

Name_____

Address_____

City _____ State _____ Zip _____

Phone Number (_____) _____-_____ Date Purchased _____ /_____ /_____

Model _____ Serial #_____

RELAX. IT'S
Master Spas®
6927 Lincoln Parkway
Fort Wayne, IN 46804
masterspas.com

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READ AND FOLLOW ALL INSTRUCTIONS!

NO DIVING DANGER: DIVING MAY RESULT IN SERIOUS INJURY OR DEATH.

INTRODUCTION

It's time to relax! You now have your very own portable swim spa by Master Spas. By fully understanding the operation of each of the features of your new Master Spas Swim Spa, you will be assured of many years of hassle-free, hot water therapy and fun.

Your safety is of paramount importance to the Master Spas family. We urge you to carefully read, understand, and follow all information in this user manual before installing and using the swim spa. These warnings, instructions, and safety guidelines address some common risks of water recreation, but they cannot cover all risks and dangers in all cases. Always use caution, common sense, and good judgment when enjoying any water activity. Retain this information for future use.

WARNING: CHILDREN SHOULD NOT USE SWIM SPAS OR HOT TUBS WITHOUT ADULT SUPERVISION.

WARNING: DO NOT USE SWIM SPAS OR HOT TUBS UNLESS ALL SUCTION GUARDS ARE INSTALLED TO PREVENT BODY AND HAIR ENTRAPMENT.

WARNING: PEOPLE USING MEDICATIONS AND/OR HAVING AN ADVERSE MEDICAL HISTORY SHOULD CONSULT A PHYSICIAN BEFORE USING A SWIM SPA OR HOT TUB.

WARNING: PEOPLE WITH INFECTIOUS DISEASES SHOULD NOT USE A SWIM SPA OR HOT TUB.

WARNING: TO AVOID INJURY EXERCISE CARE WHEN ENTERING OR EXITING THE SWIM SPA OR HOT TUB.

WARNING: DO NOT USE DRUGS OR ALCOHOL BEFORE OR DURING THE USE OF A SWIM SPA OR HOT TUB TO AVOID UNCONSCIOUSNESS AND POSSIBLE DROWNING.

WARNING: PREGNANT OR POSSIBLY PREGNANT WOMEN SHOULD CONSULT A PHYSICIAN BEFORE USING A SWIM SPA OR HOT TUB.

WARNING: WATER TEMPERATURE IN EXCESS OF 38˚C MAY BE INJURIOUS TO YOUR HEALTH.

WARNING: BEFORE ENTERING THE SWIM SPA OR HOT TUB MEASURE THE WATER TEMPERATURE WITH AN ACCURATE THERMOMETER.

WARNING: DO NOT USE A SWIM SPA OR HOT TUB IMMEDIATELY FOLLOWING STRENUOUS EXERCISE.

WARNING: PROLONGED IMMERSION IN A SWIM SPA OR HOT TUB MAY BE INJUROUS TO YOUR HEALTH.

WARNING: DO NOT PERMIT ELECTRIC APPLIANCES (SUCH AS LIGHT, TELEPHONE, RADIO, OR TELEVISION) WITHIN 1.5 M OF THIS SWIM SPA OR HOT TUB.

CAUTION: MAINTAIN WATER CHEMISTRY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.

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

(a) unawareness of impending hazard;
(b) failure to perceive heat;
(c) failure to recognize the need to exit swim spa;
(d) physical inability to exit swim spa;
(e) fetal damage in pregnant women; and
(f) unconsciousness and danger of drowning.

WARNING: THE USE OF ALCOHOL OR DRUGS CAN GREATLY INCREASE THE RISK OF FATAL HYPERTHERMIA IN HOT TUBS AND SWIM SPAS.

DANGER – To reduce the risk of injury to persons, do not remove the suction grate. Suction through drains and skimmers is powerful when the jets in the swim spa are in use. Damaged covers can be hazardous to small children and adults with long hair. Should any part of the body be drawn into these fittings, turn off the swim spa immediately. As a precaution, long hair should not be allowed to float in the swim spa.

EN 17125 – Do not put finger in massage jet

Children should be supervised to ensure that they do not play with the appliance.

Safety graphical symbol ISO 20712-1, WSM002 – Keep children under supervision in the aquatic environment

WARNING – Install the swim spa so that water can be easily drained out of the compartment containing electrical components so as not to damage equipment. When installing the swim spa make sure to allow for an adequate drainage system to deal with any overflow water. Please allow for 600mm **of** clearance around the perimeter of the swim spa to provide enough room to access for servicing. Contact your local dealer for their specific requirements.

WARNING – The swim spa should be covered with an approved locking cover when not in use, to prevent unauthorized entry and injuries.

WARNING – People with infections, sores or the like should not use the swim spa. Warm and hot water temperatures may allow the growth of infectious bacteria if not properly disinfected.

CAUTION – Safe temperatures for swimming or aquatic exercise is around 80˚F (26.7˚C).

CAUTION – Replace components only with identical components or components approved by the retailer.

WARNING – Risk of Electric Shock. Do not connect any auxiliary components (for example, additional speakers, headphones, additional audio/ video components etc.) to the system. These units are not provided with an outdoor antenna.

Do not service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel. If the power supply cord(s) are damaged, water is entering the speaker, audio compartment, or any other component in the electrical equipment compartment area, the protective shield is showing signs of deterioration, or there are signs of other potentially hazardous damage to the unit, turn off the circuit breaker from the wall and refer servicing to qualified personnel.

REGULATIONS

USE OF NON-WATER TREATMENT CHEMICALS

For chemicals unrelated to water maintenance/treatment (i.e. cleaning products and aromatherapy), only use appropriate chemicals approved by the Alpine Spas.

SWIM SPA SURROUNDINGS

Barefoot areas and relaxing areas shall be considered in the cleaning process as well. No cleaning water may flow into the swim spa or swim spa water cycle. The dirt and cleaning agents shall be rinsed carefully to drain to surrounding areas away from the swim spa.

OPERATIONAL ADVICE

- To allow good circulation when the swim spa purges and filters so that chemically treated water flushes through all plumbing; all jets should be left in their open position, air controls/ aeration valves closed and water diverters adjusted to half way (diverting water to all jets).
- Whenever the swim spa is emptied, the filter(s) should be cleaned (and drained/dried, where applicable).
- In the absence of automated and/or continuous water treatment (measurement and chemical dosage) any manual dosing of chemicals shall not be performed while bathers are present in the swim spa.
- Where an automatic system is installed, periodic checks are still required as per Water Maintenance instructions provided by Alpine Spas.
- Do not use chlorine tablets or floating dispensers

ENERGY EFFICIENCY ADVICE

In order to minimize energy consumption in everyday use of the swim spa, always use an insulating cover to minimize calorific losses at the water surface (due to evaporation, convection and conduction) when the swim spa is not in use.

COMPLIANCE

Relax and rest assured that your Master Spas manufactured swim spa has been built with safety in mind. We manufacture our self-contained swim spas to meet a stringent list of industry standards.

Our jetted swim spas comply with the following industry standards:

- UL 1563 Standard for Electric Spas, Equipment Assemblies and Associated Equipment
- ICC ISPSC International Swimming Pool & Spa Code
- European Standard EN 17125 for Domestic Spas/Whirlpool Spas/Hot Tubs – Safety Requirements and Test Methods
- VGB Virginia Graeme Baker Pool and Spa Safety Act (Certified by UL to UL 1563)
- ANSI/APSP-6 Standard for Portable Spas
- ANSI/APSP/ICC-14 Standard for Portable Spa Energy Efficiency
- CEC Title 20 Appliance Efficiency Regulation
- CSA C22.2 No. 218.1 Spas, Hot Tubs and Associated Equipment
- IAPMO/ANSI Z124.7 Prefabricated Plastic Spa Shells
- CE - EN 60335-2-60 Household and Similar Electrical Appliances – Safety: Particular Requirements for Whirlpool Baths and Whirlpool Spas
- CE - EN 60335-1 Household and Similar Electrical Appliances – Safety: General Requirements
- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 93/68/EEC CE Marking Directive
- AS1926.3-2010 RC2016
- 2014/53/EU Wireless Directive

Our propulsion swim spas comply with the following industry standards:

- UL 1563 Standard for Electric Spas, Equipment Assemblies and Associated Equipment
- ICC ISPSC International Swimming Pool & Spa Code
- VGB Virginia Graeme Baker Pool and Spa Safety Act (Certified by UL to UL 1563)
- ANSI/APSP-7 (Propulsion system only Certified by NSF) Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins
- ANSI/APSP-6 Standard for Portable Spas
- ANSI/APSP/ICC-14 Standard for Portable Spa Energy Efficiency
- CEC Title 20 Appliance Efficiency Regulation
- CSA C22.2 No. 218.1 Spas, Hot Tubs and Associated Equipment
- IAPMO/ANSI Z124.7 Prefabricated Plastic Spa Shells
- CE - EN 60335-2-60 Household and Similar Electrical Appliances – Safety: Particular Requirements for Whirlpool Baths and Whirlpool Spas
- CE - EN 60335-1 Household and Similar Electrical Appliances – Safety: General Requirements
- 206/95/EC EC Low Voltage Directive
- 204/108/EMC Directive
- 93/68/EEC CE Marking Directive

VGB 2008:

WARNING

Read and follow all instructions in this manual and on the suction fitting. Failure to follow instructions can cause severe injury and/or death.

Failure to remove pressure test plugs and/or plugs used in winterization of the spa/swim spa from the suction outlets can result in an increased potential for suction entrapment.

Suction outlet components have a finite life. The cover/grate should be inspected frequently and replaced at least every seven years, or if found to be damaged, broken, cracked, missing, or not securely attached.

If the fitting is missing or broken, replace with a fitting of equivalent rating or higher. Use of a lower rated suction fitting could result in entrapment of the body which could result in serious injury including drowning.

Do not use or operate spa/swim spa if this suction fitting is missing, broken or not secured per instructions. The suction fitting is intended to prevent entrapment of the body. Use of the spa/swim spa with a missing, broken or improperly secured suction grate may result in serious personal injury including drowning.

When the spa/swim spa is in operation, suction is created at this fitting. Users of the spa/swim spa must be instructed not to come in contact with this fitting in such a way as to block its orifice. If a user of the spa/swim spa blocks this fitting with his/her body, serious personal injury or drowning may occur.

IMPORTANT SAFETY INSTRUCTIONS

WARNING - SUCTION ENTRAPMENT HAZARD

Suction in suction outlets and/or suction outlet covers which are damaged, broken, cracked, missing, or unsecured can cause severe injury and/or death due to the following entrapment hazards:

Hair Entrapment: Hair can become entangled in suction outlet cover.

Limb Entrapment: A limb inserted into an opening of a suction outlet sump/fitting or suction outlet cover that is damaged, broken, cracked, missing, or not securely attached can result in a mechanical bind or swelling of the limb.

Body Suction Entrapment: A negative pressure applied to a large portion of the body or limbs can result in an entrapment.

Evisceration / Disembowelment Entrapment: A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is damaged, broken, cracked, missing, or unsecured can result in evisceration / disembowelment entrapment.

Mechanical Entrapment: There is potential for jewelry, swimsuit, hair decorations, finger, toe, or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.

VGB SUCTION SAFETY & MAINTENANCE INSTRUCTIONS

TO REDUCE THE RISK OF ENTRAPMENT HAZARDS:

- Never use a spa/swim spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- It is recommended that suction components be inspected at least monthly.
- Replace the suction within 7 years from the installation date. Contact your dealer or local service center for quoting and scheduling this required maintenance. This is a mandated regulation and is not part of nor covered by the spa/swim spa warranty.

NOTE: Always review entire safety and maintenance information before beginning maintenance. Contact Alpine Spas for Suction Installation information for complete suction assembly replacement.

GLOSSARY OF SWIM SPA TERMINOLOGY

Your new swim spa features a variety of jets. All jets, regardless of style, return the water to the swim spa. Air is mixed with the water by using the air controls (if equipped) creating a vigorous massage. Water flow is adjusted by simply turning the outer face of most jets. Your swim spa may have a combination of pulsating, rotating, dual pulsating and directional adjustable jets. Here are some terms and definitions to help get you acquainted with your swim spa.

1. THERAPY JETS
Located throughout the seats of the swim spa to offer a variety of therapy combinations.

2. NECK JETS (if equipped)
Located above the normal water level to provide massaging action to the back of the neck.

3. SHOULDER JETS (if equipped)
Located above the normal water level to provide massaging action to the shoulders.

4. MASTER BLASTER® FOOT THERAPY JET (if equipped)
Large jet with several fixed nozzles located in the bottom of the swim spa near the floor to provide excellent massage to the feet.

5. JET DIVERTER VALVE (if equipped)
Located on the top flange of the swim spa, this large valve physically diverts the flow of water from one group of jets to another. Be sure that no sand or particles are brought into the swim spa as they will cause the diverter to seize up. It is best to turn the diverter valve only when the pump is turned off.

6. WATER FEATURE VALVE (if equipped)
Located on the top flange of the swim spa, this smaller valve adjusts water flow to the waterfalls and/or water features in your swim spa.
NOTE: When the swim spa is not in use, this valve should be turned mostly shut (not completely shut) to prevent the water features from allowing water to hit the cover while it is closed. If left mostly open, water may hit the cover and possibly run out of the swim spa causing water loss.

7. AIR CONTROL VALVE
These smaller valves are located around the top of your swim spa. You may increase or decrease the force of your jets by opening or closing the air control valves. Each air control valve will typically function 1 to 2 groups or seats of jets in the swim spa. When not in use, the air controls should be kept in the closed position as the air being introduced into the water can tend to cool the water and increase the dissipation rate of sanitizer levels.

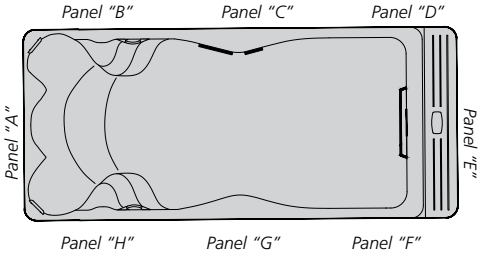
8. TOPSIDE CONTROL PANEL
You may safely control swim spa functions from inside or outside your swim spa using the Topside Control Panel. This panel is used to control the water temperature, pumps, the swim spa light, automatic filtration cycles and other advanced functions. The digital display will give you a constant temperature readout and will notify you in case of certain malfunctions. Several user programmable functions are also available.

10. ACCESS PANELS

These are the cabinet panels located around all four sides of the swim spa. All of the cabinet panels are removable should service be required. Alpine Spas recommends at least 800mm of clearance be provided around the swim spa perimeter.

11. EQUIPMENT ACCESS PANEL

This is the cabinet panel located below the Topside Control Panel or behind access panel "A". This area houses the majority of components responsible for the swim spa's operation. These components include the pumps, heater, swim spa control system, ozonator (if equipped), and LED light system (if equipped). Pump and equipment placement may vary by model.



12. FILTER LID

This lid fits over the filter area and weir gate to cover the filters. Remove filter lid to access filters for maintenance. For models equipped with a telescoping filter housing, simply lift up to remove this floating assembly to access the filter. At low speed water flow or when the filtering/heating pump is off, the telescoping part of the filter assembly will float at or near the waterline. At high speed water flow, it will be drawn downward. See Accessing Filters in the Regular Maintenance Procedures section for detailed instructions on filter assemblies.

13. WEIR GATE

The weir gate is the horizontal door located in front of the filters that helps keep debris trapped in the filter area.

14. SWIM SPA CONTROL SYSTEM

This houses the wiring and electrical components necessary to operate the swim spa.

15. SWIM SPA HEATER

This is an electric heater housed in a stainless steel tube. It is thermostatically controlled and equipped with high-limit temperature safety shut-off sensors.

16. SLICE VALVES

These valves are used by service personnel to shut off water to the heating system (heater and pump plumbed to the heater) so that the swim spa water does not need to be drained if the swim spa requires service to the heating system (varies by model).

NOTE: Slice valves must be completely open during normal operations.

Slice Valve and Pump Union

17. MAIN THERAPY PUMP

This produces water flow through the main jets in the swim spa. The first pump may be operated on two speeds (varies by model). Low speed (if applicable) will produce efficient water circulation during filtration, heating of the swim spa water, and gentle jet action. High speed provides maximum jet action. The main pump is controlled by the "Jets" or "Jets 1" button on the Topside Control Panel.

18. **SECONDARY THERAPY PUMP** (if equipped)
This produces water flow through 1 to 2 groups or seats of jets in the swim spa. The second pump operates similar to the main pump and is controlled by the "Jets 2" or "Aux" button on the Topside Control Panel.

19. **THIRD THERAPY PUMP** (if equipped)
This produces water flow through 1 to 2 groups or seats of jets in the swim spa. This is controlled by the "Jets 3" button on the Topside Control Panel.

20. **CIRCULATION PUMP** (if equipped)
This produces water flow through the heater in the swim spa and provides the water flow necessary to actuate the ozone injector. This energy efficient pump runs 24 hours for efficient filtration and heating.

21. **PUMP UNION**
This connects the plumping and pump together. These are used to help relieve possible pump air locks or for service personnel to easily service the pumps.

22. **HEATER UNION**
These are used by service personnel to easily service the heater.

23. **SWIM SPA LIGHT**
The on/off control for the lighting in your swim spa is located on the topside control panel near the therapy seats.

24. **EXERCISE/SWIM JETS** (H2X Swim Spas)
These large jets are grouped at the end of your swim spa to offer water flow for exercising against. A jet diverter valve may control the flow for these jets.

25. **SWIM SPA JUNCTION BOX** (MP Swim Spa Only)
The internal junction box for connecting your electrical service(s) to the swim spa is located behind and accessible by removing access panels "B" and "A".

26. **PROPULSION SYSTEM ACCESS** (MP Swim Spa Only)
The propulsion control system of the MP Swim Spas is located behind the cabinet panel designated as "E" in the access panels drawing. The propulsion motor, propulsion control pack, and pulleys for the system are located in this area.

27. **PROPULSION SYSTEM CONTROL PANEL** (MP Swim Spa & H2X Challenger Models Only)
You may safely control the speed of the propulsion system or variable speed swim jets from the inside of your swim spa by using the touchscreen control panel mounted in the swim area. This control panel is used to turn the water flow for exercising on and off and to adjust the intensity. This control panel may be safely used from inside or outside of the swim spa to adjust the water flow.

THE ADVANTAGES OF ECOPUR® CHARGE

ECOPUR® CHARGE
MASTER CORE TECHNOLOGY

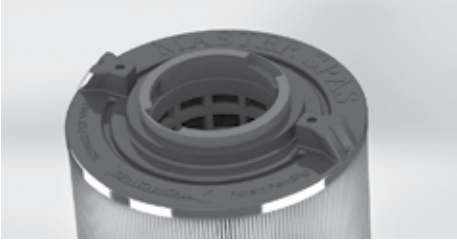
The EcoPur® Charge* is made from Master Spa's patented filtration fabric. This fabric is wound tightly into a nautilus master core, creating a catalytic cell. The nautilus fabric cell is encased by a unique "spring core" that allows for maximum flow and water "charging". As water comes in contact with the EcoPur® Charge Master Core, a chemical reaction causes zinc and copper hydroxides to form in controlled amounts. Like Mother Nature, when controlled releases of copper and zinc oxides are carried into the filtered water, they kill bacteria and provide hostile conditions for algae and fungal growth. Using EcoPur® Charge helps reduce the amount of chemicals needed, therefore safeguarding the swim spa's plumbing and equipment because pipes are protected against the corrosive effects of chlorine. EcoPur® Charge Master Core Technology is another exclusive design by Master Spas.

FEATURES

- Releases Sanitizing Copper & Zinc Oxides
- Reduces Water Soluble Heavy Metals
- Controls Scale, Bacteria and Algae
- Safeguards the Swim Spa's Plumbing
- Reduces Use of Chemicals
- Helps Prevent Damage to Swimwear

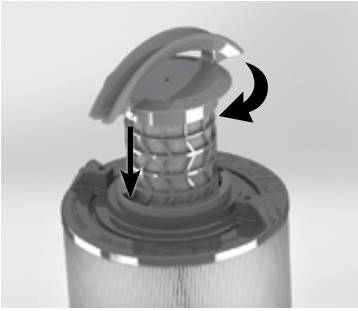
MADE IN THE USA

ECOPUR® CHARGE INSTALLATION

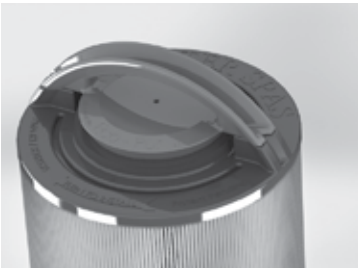


*Master Spas Outer Filter**

*EcoPur® Charge**



Turn Clockwise to Lock



STEPS FOR INSTALLATION

1. Insert EcoPur® Charge in to outer filter.

2. Twist EcoPur® Charge clockwise to lock in place while holding on to outer filter. When snapped in to locked position, EcoPur® Charge handle aligns with molded points on outer filter.

NOTE: EcoPur® Charge should be replaced every 6 months. Initial snap in fit of inner EcoPur® Charge to outer filter may be tight, especially if both are new.

MADE IN THE USA

WATER MAINTENANCE – START-UP

FAILING TO BALANCE AND SANITISE YOUR SPA POOL CORRECTLY MAY RESULT IN CORROSION OR DAMAGE TO COMPONENTS, WHICH IS NOT COVERED UNDER WARRANTY.

Just like a car, your swim spa needs care and general maintenance to keep it looking good and running smoothly. An integral part of this maintenance is managing the water quality.

To ensure your swim spa is ready to be used at all times, the water needs to be sanitised and balanced to keep it clean and fresh.

You may have received a Water Care Startup Kit with your swim spa (please purchase one if you have not). Follow the 'Water Care Handbook' included in with the start up kit or download a copy from our support page link at the bottom of this page.

Follow the water care startup procedure found in the Water Care Handbook to setup the water for use.

Only use Alpine Spas, Master Spas or Spa Supplies approved products (including filter cartridges) in your swim spa. Use of unapproved products may result in your warranty becoming void, please contact us if in doubt.

Your first steps in treating the swim spa water will require the use of the topside control panel. See the touch panel guides from pages 35-65.

Download our 'Swim Spa Pool Water Care Handbook' from our support page: http://alpinespas.co.nz/support/

REGULAR MAINTENANCE PROCEDURES

EN 17125

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

DRAINING YOUR SWIM SPA

⚠ TURN OFF POWER TO THE SWIM SPA BEFORE DRAINING THE WATER

Due to the physical size of the swim spa, we recommend draining your swim spa with a submersible sump pump. Draining your swim spa with a conventional spa drain is not a reasonable option. When draining the Momentum 80 swim spa always drain the water from the spa side before draining the swim side. Your swim spa requires periodic draining and cleaning to ensure a safe, healthy environment. It is recommended that you clean your swim spa at least every 180 days. Heavy bather load will require cleaning it more often.

STEPS FOR USING A SUMP PUMP*

1. Carefully lower submersible pump with hose connected into the bottom of swim spa, taking care not scratch or gouge your swim spa shell.
2. Run the discharge end of the hose from your submersible pump to a desired location several feet away from your swim spa, where the water will drain away from foundation that the swim spa is resting on.
3. Plug in/turn on your submersible pump.
4. Turn off/disconnect your submersible pump once it is no longer able to suck up any further water (indicated by a suctioning sound and water no longer coming out of the drainage hose). If you plan to fully wipe down and clean your entire swim spa shell, a shop vac can be used to remove the remaining small pockets of water in the swim spa.

*Sump Pump is not provided with swim spa.

SWIM SPA SURFACE CARE

- During use, always remove debris and pollutants that have settled in the water or built up on the swim spa surfaces as it occurs. These pollutants can cause growth of bacteria, algae, fungus or biofilm if left on the swim spa surface and potentially cause stains.
- Clean the swim spa shell, jets and other controls with a soft cloth and a small amount of baking soda to help remove residue and buildup on the shell surface. For any remaining buildup, white vinegar or mild scale remover product may be necessary to use with a soft cloth for removal.
- Rinse the cleaned surfaces with fresh water from your garden hose and wipe with a soft cloth as doing so will help to remove residual cleaning agents (as some may cause foaming to occur in the water once swim spa is refilled).
- Always use an approved insulating swim spa cover by Master Spas to cover your swim spa when not in use, especially in outdoor installations where the swim spa is exposed to weather conditions and sun. Constant, prolonged exposure and use of unapproved or non-insulating swim spa cover can result in damage to swim spa surface which would not be warranted.

REFILL YOUR SWIM SPA

- When filling a swim spa with a side spa attachment (Momentum etc.) always fill the swim side of the unit before filling the spa side.
- Refer to page 33 for specific instructions.

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CLEANING JETS

The majority of jets in your swim spa can individually be turned on/off. If any of these jets become hard to turn, it will be necessary to remove the jet to clean it as grit/sand and mineral deposit may be present.

The jets in your swim spa can be removed for cleaning by turning them counter-clockwise until they release and then pulling out the jet.

TO CLEAN JETS: Place the jet(s) in a container, fully immerse in white vinegar. Let the jet(s) soak overnight and then rinse with water. It may be necessary to clean grit and deposits from the white jet body (mounted in the swim spa shell) by using a small bristled brush.

EN 17125, Do not put finger in massage jet

CLEANING DIVERTER VALVES

Mineral deposits, grit and sand may get into the internal parts of the diverter valves over time. The diverter valves may become difficult to turn or not turn at all.

CAUTION – TURN OFF SWIM SPA BEFORE PROCEEDING WITH THIS MAINTENANCE.

FOLLOW THE STEPS BELOW:

1. Remove the handle from the top of diverter valve by grasping the handle and pulling up with a rocking motion.

2. Turn the cap piece counter-clockwise. It may be necessary to put a clean towel over the cap and turn it with a wrench.

3. Once loose, the cap, internal rotor assembly and handle can be pulled up out of the white plumbing fitting.

4. Wipe down the internal rotor assembly that attaches to the cap and handle.

5. Soak the internal rotor assembly in white vinegar.

6. The inner wall of the white plumbing fitting should also be wiped down. If the surface of the white plumbing has become too abrasive, you can take wet, fine sandpaper and smooth it out.

7. Rinse the diverter internals. Inspect O-rings for cracking or swelling and apply silicone lubricant to them. Then reassemble.

NOTE: It is helpful to turn the diverter valve only when the pump is not on. Cleaning your diverter valve should occur every time you drain your swim spa. Refer to Draining Your Swim Spa in the Regular Maintenance Procedures section.

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CARE OF LAMINAR FLOW JETS

In order to keep your Laminar Flow Jets operating properly, follow these steps:

1. Turn off Laminar Flow Jets.

2. Remove outer ring by turning face counter-clockwise.

3. Either the whole Laminar Flow Jet Assembly pops out: Rinse it out and inspect it.

Or, if only the outer ring comes off: Remove internal Jet insert with a pair of needle nose pliers and inspect it.

OR

4. Clean plastic diffuser at the back of the Jet insert or Laminar Flow Jet Assembly so all holes are free of debris.

5. Reinstall Jet insert or assembly and outer ring by pushing it in and turning it clockwise until it stops.

NOTE: To prevent premature failure of your swim spa cover and the possibility of water running out of the swim spa off the bottom of the cover, always turn Laminar Flow Jets down so that they do not hit the cover when the cover is closed. You do not want to completely turn jets off. Doing so may cause a build up of stagnant water in the water line if not used often.

CLEANING YOUR FILTER ELEMENTS

The filter elements are one of the most important components of your swim spa. Not only are they essential for clean water; they also extend the life of the swim spa equipment and help avoid unnecessary water changes and re-heating. Your filter elements should be cleaned on a regular basis, at least once a month on average with normal usage. With heavy use, poor water quality and/or high dissolved solid content in water; the filters may need to be cleaned more often. It recommended to allow filter elements to fully dry after cleaning. For this reason, it is ideal to have a spare set of filters on hand for filter cleaning intervals.

1. Turn off the swim spa before servicing filters. Never leave to the swim spa running when removing the filters. Debris can be pulled into the plumbing system and cause unwarranted damage.

2. Remove any large or floating debris from the filter area. Next, match your filter housing to the following photos on the next page to finish steps for removing filter element(s).

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

Filter Weir with Front Access

Slide Faceplate Up and Out Slowly to Remove

Allow the Weir Door to fall back towards the filters in order to remove the filter housing.

Pull Up on Plastic Skimmer Plate to Remove

Turn Filter Counter-clockwise to Remove

NOTE: When lifting the housing, be careful not to lift too far, as you could break the floating weir door. Damage to weir door is not warranted.

CLEANING YOUR FILTER ELEMENTS (continued)

3. With a garden hose, spray each element under pressure. Monthly, the standard filter elements should be soaked in a filter cleaner. Do not soak EcoPur® element in a filter cleaner. The EcoPur® element should only be rinsed with fresh, clean water if necessary. Check with your Master Spas dealer for details on cleaning and/or filter replacement recommendations.

4. The EcoPur® element should be replaced every 6 months. The standard filter should be cleaned regularly and will typically last approximately 1 year. Bather load, usage and water quality will effect the longevity of the filters and require more frequent cleaning or replacement.

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CLEANING THE CLEAR ACRYLIC DIVIDER (Momentum)

- The surface should be first flushed with clean water to remove loose abrasive particles. The clear acrylic sheet should then be gently sponged with a mild soap/water solution and finally rinsed with clean water. Care must be taken not to leave any of the soap residue in the swim spa as it could cause the swim spa water to foam during operation.
- Drying can be done with a clean soft cotton towel. Avoid hard rough cloths or paper towels since they can put fine scratches on the acrylic surface.
- Do not use any aggressive solvents (lacquer thinner, gasoline, acetone and etc.) on the clear acrylic sheet. These products can cause damage to the sheet that may not be visible until days or weeks later.
- Window glass cleaning compounds are not recommended. Cleaning products that contain any type of abrasive material should not be used.

CARE OF ACRYLIC LED LIT HANDRAILS

Special care should be given to the Acrylic LED Lit Handrails so that they maintain their attractive appearance and durability for the life of your swim spa.

- During draining and cleaning process, wipe down the handrails with a mild dishwashing detergent or spa shell surface cleaner and a clean soft cloth, applying light pressure. Rinse with clean water and blot dry with a dry soft cloth. Remove as much residual soap as possible from swim spa to prevent foaming when refilled.
- Scale and mineral (i.e. calcium) buildup can be removed using white vinegar and soft cloth. Rinse with clean water and blot dry with a soft cloth.
- Maintain the surface gloss of the acrylic and lessen scratches by occasionally polishing with a plastic cleaner and polish. Apply a thin even coat with a clean soft cloth and polish lightly with cotton flannel. Then wipe with damp, soft cloth. This is recommended to do after swim spa is drained for cleaning.
- To remove deeper scratches, first sand lightly with 400-grit wet sandpaper, using plenty of water and rinsing the sandpaper often. Next, follow the steps for applying plastic polish above (if necessary, do so when swim spa is drained).

NOTE: Do not use window cleaning spray, kitchen scouring compounds, or solvents such as acetone, gasoline or lacquer thinner. The clear handrail does have limited resistance to Isopropyl alcohol up to 50% grade. If used, limit the exposure time to prevent damage and do not expose to more than 50% grade.

CARE OF YOUR SWIM SPA PILLOWS

- Your swim spa pillows should be rinsed periodically to remove chemical residue. This helps improve pillow lifespan and slows down deterioration of the pillows (i.e. discoloring, becoming stiff and flaking of the material).
- If the swim spa will not be used for a period of time, the pillows could be removed and rinsed to prolong their life.

NOTE: Do not cover the swim spa for 15 minutes after adding chemicals as the off gas can cause damage.

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CARE OF STAINLESS STEEL

Master Spas uses stainless steel in a number of our swim spas. Its lasting beauty and resistance to corrosion make it an excellent material for handrails and jets faces. With the proper care it will keep its luster for many years. All stainless steel can corrode given the right circumstances so we have provided a guide to help you keep the stainless components in your swim spa looking nice. Stainless steel derives its ability to resist corrosion by forming a very thin transparent coating on the surface when exposed to oxygen. This coating can be damaged by abrasive materials such as steel wool, sand paper, and other cleaning materials that are abrasive. Chlorine salts, sulfides, or other rusting metals can also erode this thin coating exposing the metal to corrosion. The best defense to combat corrosion on stainless steel components in your swim spa is make sure that it is kept clean and free of any chemical build up.

Always:

- Clean frequently with fresh, clean water.
- Remove any rust spots as soon as they appear with vinegar or a brass, silver, or chrome cleaner.
- Use a good car cleaning wax for extra protection.
- Leave cover removed for at least 15 minutes after adding chemicals to the swim spa water.

Never:

- Clean with mineral acids or bleaches, steel wool or any other abrasive materials.
- Leave in contact with iron, steel any other metals.
- Close the cover immediately after adding chemicals to the water.

NOTE: Failure to take proper care of the stainless steel components could result with them rusting. Rusting is not covered by the warranty.

NOTE: Do not cover the swim spa for 15 minutes after adding chemicals as the off gas can cause unwarranted damage. Larger dosages can require longer lengths of time to off gas. It is recommended to check swim spa water more frequently to allow small dosages be added as necessary versus large dosages being added less often.

CARE OF YOUR SWIM SPA CABINET

The swim spa cabinet is made from a UV resistant material. The cabinet requires only periodic cleaning with a stream of water from a garden hose. If necessary, use mild soap and water with soft cloth to wipe down cabinet surface. Rinse thoroughly.

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CARE OF YOUR SWIM SPA COVER

Always cover your swim spa when not in use with an approved insulating swim spa cover by Master Spas. Keep the swim spa cover on to minimize heat loss during heating of the swim spa between uses (but not while it is being used). This will greatly reduce energy consumption and will cause swim spa water to heat more rapidly. Water loss and chemical usage will also be reduced.

- Ensure the cover is fitted tightly, as per manufacturer's instructions to maximize insulation.
- Be sure to lock down all straps on the cover after each use.
- Do not allow swim spa to sit uncovered in direct sunlight. The heat and UV from direct sun exposure can cause damage to exposed shell surfaces of the swim spa as well as damage or discoloration of the swim spa controls and fittings.
- See cover manual instructions for detailed instructions on proper cover care. Clean the cover at least once a month using mild soap and water. Rinse thoroughly with fresh water to remove pollutants and soap residue. If mold/mildew staining has occurred (particularly on bottom of the cover), a mixture of bleach and water used with a soft cloth may be necessary. Thoroughly rinse with fresh water after cleaning.
- Keep cover open for 15 minutes after adding chemicals to prevent excessive off gas buildup and damage.
- When the swim spa is being used, the cover should be placed in a clean, dry area, otherwise it can pick up dirt and bacteria. Covers should not be put on wooden tables or wooden decking because of the risk of bleaching the wood.
- The use of a cover lift accessory or other device ensures the cover will not come into contact with the ground and retains its cleanliness (particularly the surface in close proximity to the swim spa water surface). The cover should be stored in an appropriate location, where it cannot be damaged, or cause damage.

NOTE: If your swim spa is going to be left empty for prolonged periods, do not place cover directly on the swim spa's surface (closed and sealed). Instead, place a 2.5cm block of high density foam between the cover and the swim spa. This allows for ventilation to help reduce mold and mildew from occurring while the swim spa is empty.

NOTE: Always use the water feature controls to turn down the water flow so that the water features do not hit the cover when the cover is closed. Do not turn them all the way off.

CARE OF YOUR OZONE SYSTEM

The ozone hose and check valve connecting between the ozone generator and ozone injector should be inspected and/or replaced, if necessary, every 12 months. Depending on conditions of the air which is being brought in to the ozone generator, the ozone hose and check valve can

REGULAR MAINTENANCE PROCEDURES

NOTE: These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

CARE OF EXERCISE EQUIPMENT

The included* exercise equipment accessory package makes it easy to exercise in your own backyard. This kit is located in a box inside your swim spa behind cabinet 'B'. There are shell mounted clips that are used to fasten the rowing equipment to the swim spa. These clips are located along the sides of your swim spa next to the grab rails that are placed around the perimeter of the swim area. Be sure to read the included materials for instructions on utilizing this equipment in your swim spa.

CAUTION: Do not leave exercise equipment inside the swim spa when not in use. Do not leave exercise equipment outside exposed to sun and UV. Failure to follow the above guidelines could result in injury.

CAUTION: Inspect exercise equipment before each use for deterioration and unsafe conditions. Do not use if significant deterioration and unsafe conditions exist (i.e. cracking and break down in bungee strap material caused by use, water conditions and care). Replacement exercise kits can be purchased through Alpine Spas. Failure to follow the above guidelines could result in injury.

*The exercise equipment package is not included with all models. If you would like this package, please contact Alpine Spas to purchase it.

SWIM SPA TROUBLE SHOOTING GUIDE

RCD IS TRIPPING

A ground fault circuit interrupter (RCD) is required by the National Electrical Code for your protection. The tripping of the RCD may be caused by a component on the swim spa or by an electrical problem. Electrical problems include but are not limited to, a faulty circuit breaker, swim spa component, power fluctuations, and/or improper wiring. If this is a new electrical service and RCD installation, an instantly tripping RCD may likely be caused by improper wiring of the load neutral from the RCD to the swim spa. It may be necessary to contact an electrician if your Master Spas dealer recommends doing so.

NOTHING ON THE SWIM SPA OPERATES

1. Check the control panel display for any messages. If there is a message, refer to the diagnostic section on that model swim spa. There, you will find the meaning of the message and what action is to be taken.
2. If there is no message on the control panel and the control panel is completely dark (off), try to reset the RCD breaker.

The RCD should be located in a weather proof box within sight from the swim spa, but not close enough to reach from within the swim spa (consult NEC and licensed electrician).

NOTE: If your swim spa requires 2 independent electrical services (shown in the Model Specifications and appropriate Electrical Requirements Configuration), be sure to check all breakers for your swim spa.

If the swim spa does not respond, or the RCD breaker continues to trip, contact your local Master Spas dealer or service organization.

SWIM SPA NOT HEATING

If the swim spas heater has failed, the majority of the time it will trip the RCD breaker. If the swim spa is not heating and has not tripped the breaker, please follow these steps:

1. Check water set temperature at control panel to make sure it is set to desired temperature, above the current water temperature.
2. Check the “Heat Mode” that the swim spa is set in. The swim spa should be set in the Standard Mode or Ready Mode depending on the model.
3. Check the control panel for heat indicator. If heat indication is on, wait a reasonable amount of time (at least 1 hour) to see if the water temperature is rising.
4. If heat indicator does not remain on, the system should be displaying a message indicating why it can’t heat. Check the control panel for diagnostic messages. Refer to Spa Control Section titled System Related Messages. Follow steps to alleviate the message.
5. Check the control panel for light indicator. Wait a reasonable amount of time (at least 1 hour) to see if the water temperature is rising.
6. Reset power to the swim spa at RCD breaker.
7. If swim spa is still not heating, contact your local Master Spas dealer or service organization.

SWIM SPA TROUBLE SHOOTING GUIDE

WATER TEMPERATURE IS ABOVE SET TEMPERATURE (HEAT CREEP)

Because Master Spas swim spas are well insulated and built to meet stringent energy standards, heat creep can occur. This means that the measured temperature of the water in your swim spa is creeping up higher than the set temperature on your control panel. Heat creep can occur as outdoor temperatures become moderate to warm or when your filter cycle durations have been adjusted above the default settings. To help manage heat creep:

1. **Vent your cover.** This means placing a folded cloth about ¾ inches (2 cm) thick under all four corners of the cover before you lock the cover down.
2. **Open your cover.** Opening the cover at night will also quickly cool the water down if desired.

   NOTE: Never leave a swim spa cover open and unsupervised.
3. **Open all air controls.** Temporarily leave the air controls open during cooler times of the day or night. Set your filtration cycles to run during this time as well.

   NOTE: If the heat creep issue has been resolved, close the air controls when not using the swim spa to reduce energy and chemical maintenance.
4. **Reduce the length of your filter cycles.** The default duration is generally 4 hours of filtering per day (either a duration of 2 hours that occurs twice per day or one 4-hour filter duration based on time of day).
5. **Contact Alpine Spas for additional guidance.** Heat creep can happen on well-insulated swim spas, and is related to the environment where the swim spa is installed and equipment runtimes such as extended filter cycle durations (especially on systems using Therapy Pump 1 low speed for filtering and heating). This is not indicative that there is a problem with the swim spa.

PUMP(S) DO NOT OPERATE

1. Press the "Jets" button on your control panel.

   If you hear the pumps trying to operate:

   A. Check that all the slice valves are open.
   B. Pump may need to be primed.

   Refer to Installation Instructions section. If you do not hear anything from the pump, contact your local Master Spas dealer or service organization.

POOR JET PERFORMANCE

1. Make sure pump is operating.
2. Check that the water level is adequate (at least to minimum safe water level on sticker located near filter.)
3. Make sure the jets are open and the air controls are open.

   Refer to Glossary of Swim Spa Technology section.

WINTERIZING & STORING YOUR SWIM SPA

WINTERIZING YOUR SWIM SPA

Your swim spa is designed to be used year round in any type of climate.

However, if you decide you don't want to use your swim spa in the winter, you must drain it and follow the winterizing steps listed below.*

DISCLAIMER: *Alpine Spas does not recommend winterizing your swim spa. If you choose to do so, any damage that may result is not covered under the swim spa warranty.*

1. Drain your swim spa. Refer to instructions in Regular Maintenance Procedures.
2. Use a shop vac to get all standing water out of your unit.
3. Remove access panels from equipment area.
4. Loosen all pump unions.
5. Remove winterizing plug from face of the pump(s) where applicable.
6. Using your shop vac in a blowing mode, insert the hose into the nozzle of each jet and blow the trapped water from the lines into the interior of the swim spa.
7. After this is completed, use the shop vac to remove any standing water in the swim spa and in the equipment area.
8. Clean the swim spa with a soft cloth and a non-abrasive swim spa surface cleaner.
9. Replace access panels.
10. Cover the swim spa to prevent water from entering it and check the swim spa periodically to be sure no water is entering and accumulating. Swim spa covers are a great insulator but will allow some precipitation to enter the swim spa. For this reason, it is highly advised to also cover the swim spa with a water tight tarp while winterized. It is beneficial to keep the swim spa cover slightly gapped off the acrylic shell while winterized to allow air flow in to the shell area to reduce mildew/mold buildup caused by trapped moisture.

* If you decide to winterize your swim spa, we recommend that you periodically check the swim spa throughout the winter to assure water is not entering the swim spa through or around the swim spa cover.

STORING YOUR SWIM SPA

The swim spa shell should never be left unprotected and uninsulated while being stored. Clear plastic wrap or similar material should never be used to cover/protect the swim spa.

Prolonged, direct sun heat can damage the surfaces of the swim spa along with any components on the swim spa's surface. Always keep the swim spa covered and protected with an insulating swim spa cover. Resulting damage such as cracking in the shell surface, warping or discolored components on the swim spa would not be warranted.

An empty swim spa should never be exposed to temperatures below 0°F (-18°C) after delivery as extreme cold can cause shell damage. This includes storage and draining (winterizing). If your swim spa will be exposed to these temperatures, keep the unit filled and running. If you do not plan to use your swim spa, you can set the swim spa to the lowest temperature setting allowed by the control system while in Standard/Ready Mode.

Failure to adhere to these guidelines may result in unwarranted damage caused to the swim spa.

MODEL SPECIFICATIONS

Model / Listing Number	Swim Spa Dimensions (cm)	Electrical Requirements[1]	Seating Capacity[2]	Water Capacity[3] (m)	Dry Weight[4] (kilos)	Full Weight[3,4] (kilos)	Therapy Pumps	Control System / Operating System
INT NZ MP FORCE D / 9942	511 x 239 x 153	*230V, 32A, 50Hz - Spa *230V, 32A, 50Hz - Propulsion	5	7.32	1218	8959	2	MS81SPAE / Icon Spa Touch
INT NZ MP SIGNATURE D / 9943	547 x 239 x 153	*230V, 32A, 50Hz - Spa *230V, 32A, 50Hz - Propulsion	5	8.61	1268	10295	2	MS81SPAE / Icon Spa Touch
INT NZ MP MOMENTUM D / 9944	587 x 239 x 152	*230V, 32A, 50Hz - Spa *230V, 15A, 50Hz - Swim *230V, 32A, 50Hz - Propulsion	7 5 - Spa 2 - Swim	7.78 6.76 - Swim 1.02 - Spa	1488	9850	3	Spa - MS81SPAE Swim - MS6013XE / Icon Spa Touch
INT NZ H2X CHALLENGER 15D / 9940	458 x 239 x 153	*230V, 32A, 50Hz	5	7.30	1148	8870	3	MS40E / Icon Spa Touch
INT NZ H2X CHALLENGER 18D / 9941	547 x 239 x 153	*230V, 32A, 50Hz	5	7.87	1288	9578	3	MS40E / Icon Spa Touch
INT NZ H2X CHALLENGER 19D / 9937	587 x 239 x 153	*230V, 32A, 50Hz - Spa *230V, 32A, 50Hz - Swim	7 (5 - Spa) (2 - Swim)	8.65 Total 7.61- Swim, 1.04 - Spa	1558	10791	5	MS6013XE - Spa MS40E - Swim / Icon Spa Touch

[1]See Electrical Requirements section for further details.

[2]Total bather capacity in swim spa. The number of bathers in swim spa should never exceed indicated seating capacity. Depending on swim spa size, water level and bather displacement; full seating capacity may not be achievable. Do not allow additional bathers to enter if bather displacement results in water levels overflowing or reaching the swim spa controls (air controls, diverters, swim spa topside control and etc.) as this will result in water leaking out of the swim spa shell and potentially in to the equipment area.

[3]Full weight based on dry weight of swim spa, max seating capacity of swim spa, assumed average weight per person of 84 kg and estimated water weight of 1 kilo per litre. Rounded up in increments of 5.

[4]Manufacturing tolerances along with other factors can result in variance in actual swim spa weight. If weight is a critical figure necessary for delivery, or final installation, we suggest a minimum of 15% be added to the listed weight when planning delivery or installation.

*Default Minimum Electrical Requirement as Configured from Manufacturing. See Electrical Requirements Section for Electrical Hook-Up by Control System.

ELECTRICAL REQUIREMENTS

ALL MODELS

NOTE: Electrical requirements by model is shown in Model Specifications. Only electrical configurations pertaining to the models referenced in this manual are shown.

ELECTRICAL REQUIREMENTS

HAVE YOUR ELECTRICIAN READ THE FOLLOWING INFORMATION BEFORE INSTALLATION BEGINS

Electrical connections made improperly, or the use of wire gauge sizes for incurring power which are too small, may continually blow fuses in the electrical equipment box, may damage the internal electrical controls and components, may be unsafe and in any case will void your warranty.

It is the responsibility of the swim spa owner to ensure that electrical connections are made by a qualified electrician in accordance with codes regulated by the authority having jurisdiction at the time of installation.

These connections must be made in accordance with the wiring diagrams found inside the control box and in this manual. This equipment has been designed to operate on and requires 230V, 50Hz service. Make sure that power is not applied while performing any electrical installation. A bonding lug for bonding copper wire has been provided on the electrical equipment pack to allow connection to local ground points. The ground wire must be at least 8 AWG (8.36mm^2 copper wire unless local or state codes require a heavier gauge wire) and must be connected securely to a grounded metal structure such as a cold water pipe. The supply wiring to the swim spa must utilize a symmetrically grounded system. The swim spa must not be wired to electrical systems utilizing no ground (IT) or TN-C grounding. Be sure to have a licensed electrician examine and ensure proper grounding is provided. See chart on next page for wire size conversion. All Master Spas equipment packs are wired for 230 VAC only. The only electrical supply for your swim spa must include a switch or circuit breaker to open all non-grounded supply conductors to comply with BS7671 (or other local jurisdiction code or law). The disconnect must be readily accessible to the swim spa occupants, but installed at least five feet from the swim spa. Residual Current Device (RCD) must be used to comply with this manual, BS 7671, or any local electrical code or law requirements. A residual current is a current leak from any one of the supply conductors to ground. An RCD is designed to automatically shut off power to a piece of equipment when a ground fault is detected.

Route the cable into the equipment area for final hook-up to terminals inside the control pack or junction box. The swim spa must be hooked up to a “dedicated” breaker(s) and RCD. The term “dedicated” means the electrical circuit for the swim spa is not being used for any other electrical items (patio lights, appliances, garage circuits, etc.). If the swim spa is connected to a non-dedicated circuit, overloading will result in “nuisance tripping” which requires resetting of the breaker switch at the house electrical panel.

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ELECTRICAL REQUIREMENTS

230 VOLT 50 HZ – RESIDUAL CURRENT DEVICES (RCDS)

A residual current device (RCD) is the generic term for a device that monitors the current in the line conductor and the neutral conductor in an earthed system.

In a circuit that's operating properly, the vector sum of the live and neutral current values added together will be zero. Current flowing to earth, due to a line earth fault, will return via the earth conductor, and regardless of load conditions, will be registered as a fault. This current flow will give rise to a residual current that will be detected by the device. If the residual current exceeds the rated sensitivity of the RCD, it will automatically activate a tripping of the faulty circuit.

Two Pole RCD

Four Pole RCD

Typical specifications are as follows:

Residual Current Devices (RCDs) range

Sensitivity – from 10 to 30mA

Voltage – 2 poles: 230V; 3/4 poles: 230/400V

Connection capacity
- 25A: 6/10 mm^2 (flexible/rigid cable)
- 40,60A: 16/25 mm^2
- 80,100A: 35/50 mm^2

Total Ampere Rating of Power System	Minimum Wire Size Use Copper ONLY with 90˚C Insulation	Ampere Rating of RCD Circuit-Breaker
0 A to 16 A	#12 AWG / 3.31 mm^2	20
16 A to 20 A	#10 AWG / 5.26 mm^2	25
20 A to 24 A	#10 AWG / 5.26 mm^2	30
24 A to 28 A	#8 AWG / 8.36 mm^2	35
28 A to 32 A	#8 AWG / 8.36 mm^2	40

CAUTION – Actual wiring of RCD will vary by manufacturer of RCD. Improper wiring of RCD may result in permanent damage to swim spa control pack. Repair/replacement of swim spa system box is not covered under warranty when damage results from improper wiring. Actual wire attachment points on the swim spa control pack may vary. Always refer to the wiring diagram inside the swim spa control pack for proper power connection.

ELECTRICAL REQUIREMENTS

MS40E/MS81SPAE HOOK-UP - ALL MODELS

AS MANUFACTURED – SINGLE SERVICE (Figure 1)

Single Service, TN and TT Electrical Systems (1x13 Amp, 1x15 Amp or 1x32 Amp)* 3 Wires (1 Line + 1 Neutral + 1 Protective Earth). Protective Earth wire (Green/Yellow) must be connected to system ground terminal as marked.

Heat Disable dip switches (Switch Bank S1, A2-A4) must be evaluated to prevent the swim spa maximum ampacity from exceeding the service maximum ampacity. When wiring swim spa to electrical requirements as configured from factory, dip switch settings should not be changed from factory settings.*

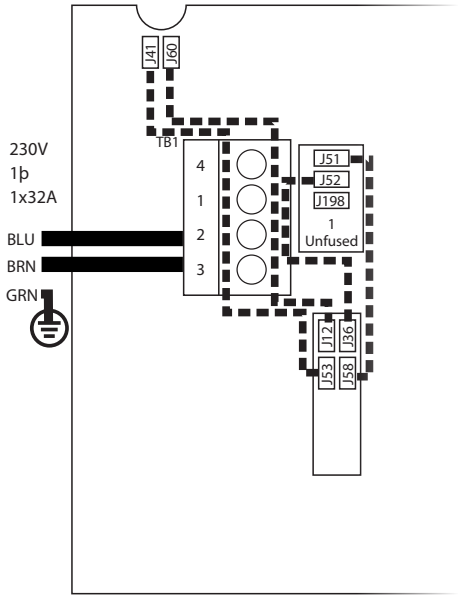


Figure 1

*Wiring must be sized to swim spa specification. Swim spa rated maximum ampacity cannot exceed the service maximum ampacity. This does not represent an option to the Installer. See Model Specifications page for electrical requirements by swim spa model.

CAUTION – RCD will vary by manufacturer of RCD. Improper wiring of RCD may result in permanent damage to spa control pack. Repair/replacement of spa system box is not covered under warranty when damage results from improper wiring. Actual wire attachment points on the Spa Control Pack may vary. Always refer to the wiring diagram inside the Spa Control Pack for proper power connection.

ELECTRICAL REQUIREMENTS

MS40E/MS81SPAE HOOK-UP - ALL MODELS

OPTIONAL HOOKUP – 3 SERVICE (Figure 2)

3-Phase Service, TN and TT Electrical Systems 5 Wires (3 Lines + 1 Neutral + 1 Protective Earth)*. Protective Earth wire (Green/Yellow) must be connected to system ground terminal as marked.

1. Remove all jumper wires as indicated by dotted lines in Figure 1 (previous page).
2. Only reinstall jumper wires as indicated by dotted lines in Figure 2.

IMPORTANT – EACH SERVICE MUST INCLUDE A NEUTRAL WIRE, WITH A LINE TO NEUTRAL VOLTAGE OF 230VAC.

Heat Disable dip switches (Switch Bank S1, A2-A4) must be evaluated to prevent the swim spa maximum ampacity from exceeding the service maximum ampacity per line (L1, L2 & L3).

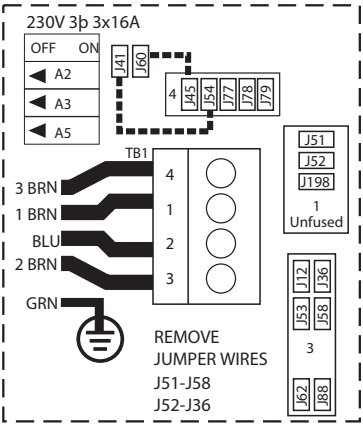


Figure 2

*Wiring must be sized to swim spa specification. Swim spa rated maximum ampacity cannot exceed the service maximum ampacity. This does not represent an option to the Installer. See Model Specifications page for electrical requirements by swim spa model.

CAUTION – RCD will vary by manufacturer of RCD. Improper wiring of RCD may result in permanent damage to spa control pack. Repair/replacement of spa system box is not covered under warranty when damage results from improper wiring. Actual wire attachment points on the Spa Control Pack may vary. Always refer to the wiring diagram inside the Spa Control Pack for proper power connection.

ELECTRICAL REQUIREMENTS

MS6013XE HOOK-UP - MOMENTUM D, CHALLENGER 19D

AS MANUFACTURED – SINGLE SERVICE (Figure 1)

Single Service, TN and TT Electrical Systems (1x13 Amp, 1x16 Amp or 1x32 Amp)* 3 Wires (1 Line + 1 Neutral + 1 Protective Earth). Protective Earth wire (Green/Yellow) must be connected to system ground terminal as marked.

Heat Disable dip switches (Switch Bank S1, A2-A4) must be evaluated to prevent the swim spa maximum ampacity from exceeding the service maximum ampacity. When wiring swim spa to electrical requirements as configured from factory, dip switch settings should not be changed from factory settings.*

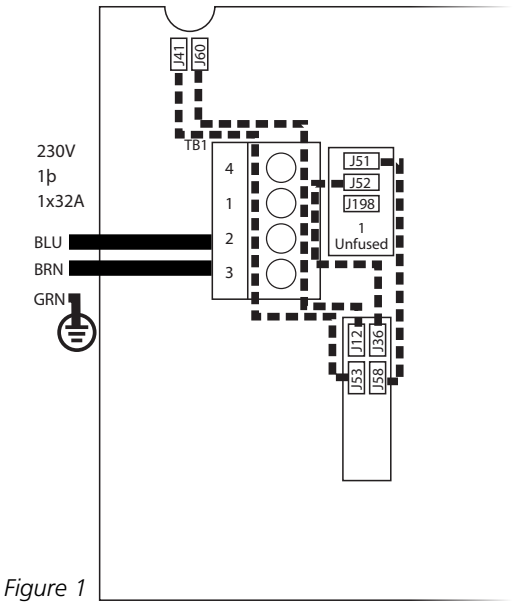


Figure 1

*Wiring must be sized to swim spa specification. Swim spa rated maximum ampacity cannot exceed the service maximum ampacity. This does not represent an option to the Installer. See Model Specifications page for electrical requirements by spa model.

CAUTION – RCD will vary by manufacturer of RCD. Improper wiring of RCD may result in permanent damage to spa control pack. Repair/replacement of spa system box is not covered under warranty when damage results from improper wiring. Actual wire attachment points on the Spa Control Pack may vary. Always refer to the wiring diagram inside the Spa Control Pack for proper power connection.

ELECTRICAL REQUIREMENTS

MS6013XE HOOK-UP - MOMENTUM D, CHALLENGER 19D

OPTIONAL HOOKUP – 3 SERVICE (Figure 2)

3-Phase Service, TN and TT Electrical Systems 5 Wires (3 Lines + 1 Neutral + 1 Protective Earth)*. Protective Earth wire (Green/Yellow) must be connected to system ground terminal as marked.

1. Remove all jumper wires as indicated by dotted lines in Figure 1 (previous page).
2. Only reinstall jumper wires as indicated by dotted lines in Figure 2.

IMPORTANT – EACH SERVICE MUST INCLUDE A NEUTRAL WIRE, WITH A LINE TO NEUTRAL VOLTAGE OF 230VAC.

Heat Disable dip switches (Switch Bank S1, A2-A4) must be evaluated to prevent the swim spa maximum ampacity from exceeding the service maximum ampacity per line (L1, L2 & L3).

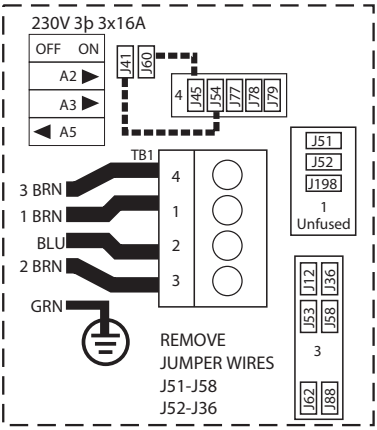


Figure 2

*Wiring must be sized to swim spa specification. Swim spa rated maximum ampacity cannot exceed the service maximum ampacity. This does not represent an option to the Installer. See Model Specifications page for electrical requirements by spa model.

CAUTION – RCD will vary by manufacturer of RCD. Improper wiring of RCD may result in permanent damage to spa control pack. Repair/replacement of spa system box is not covered under warranty when damage results from improper wiring. Actual wire attachment points on the Spa Control Pack may vary. Always refer to the wiring diagram inside the Spa Control Pack for proper power connection.

SETUP STEPS

1. Put swim spa in final position that allows for access to equipment and swim spa components. Alpine Spas requires that at least 600mm of clearance be provided around all sides of the swim spa for access. This provides adequate space for regular maintenance and service.

2. Remove cabinet panels "A" and "B" to access the electrical connections inside the swim spa. The junction box (MP Swim Spas Only), swim spa control system(s) and majority of the equipment in your swim spa can be accessed by removing access panels "A" and "B". See Equipment Access Panel in Glossary of Swim Spa Terminology for diagram.

3. Be sure all pump and heater unions are secure. Each pump has 2 unions and the heater has 2 unions. A newly delivered swim spa may have loose unions caused in transporting the swim spa. Check that all slice valves (select models) are open, in the up position. The slice valves may become closed during transportation of the swim spa.

Slice Valve and Pump Union

4. Fill swim spa to the minimum water level label indication located on the swim spa shell near the filter area or at least 25mm above the filters or filter housing opening. We recommend filling the swim spa through the filter area to help reduce air locks from occurring in the filter and heating pump. Maximum water level should not exceed 3" above the minimum water level mark. On the Momentum swim spa model with a clear acrylic divider, it is recommended that the swim side be filled first and then the spa side. When draining the swim spa always drain the spa side before draining the swim side.

   NOTE: In below freezing temperatures, caution should be taken when planning to install a swim spa and fill it with water. As it takes time for the water to fill the swim spa and reach the proper minimum water level, the water entering the various plumbing lines and equipment may begin to freeze up when done in winter weather conditions. This could result in pumps being seized until thawed or other potentially worse freeze damage occurring to the equipment and plumbing lines.

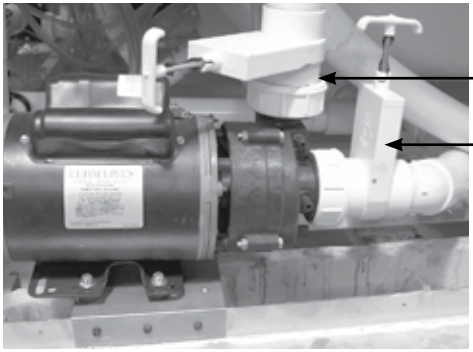
5. Turn on power to the swim spa. If your swim spa is equipped with two electrical supplies, make sure that they are both turned on. The swim spa will go through its priming mode. This lasts approximately 5 minutes. The purpose of the priming mode is to help insure that the jet pumps have been primed with water and are ready to operate. It may be necessary in some instances to bleed air from the jet pumps in your swim spa. If after the priming mode the swim spa pumps run but do not move water, the pump may have an air lock.

   Due to the nature of water flow and hydro-therapy pumps, please be advised that air locking of pumps may occur. Master Spas has taken measures to reduce the possibility of this, but it still may occur, especially after filling the swim spa. This is not a service covered by the warranty and service charges may apply. See next page for instructions on how to relieve an airlock.

6. Be sure the adjustable jets in your swim spa are open by turning the face of the jet. Most of the jets in your swim spa are adjustable and removable by turning the face of the jet.

7. It may be necessary to bleed air from the pump(s) in your swim spa if, after start up, your swim spa pumps are turning on and off but you do not have water flow from the jets in your swim spa.

   Due to the nature of water flow and hydro-therapy pumps, please be advised that air locking of pumps may occur. Master Spas has taken measures to reduce the possibility of this, but it still may occur, especially after refilling a swim spa. This is not a service covered under warranty and service charges may apply.



Airlock

To relieve an airlock situation, loosen the pump union on the discharge of the pump. This pump union is indicated by an arrow in the picture. Water should leak out of the union once the air has been removed. Tighten the union and test the pump for proper operation. Repeat this process if needed.

8. Adjust water chemistry according to the instructions provided in the water care start up guide which can be downloaded at alpinespas.co.nz/support.

9. Your spa water will heat approximately 1 to 2 degrees Celsius per hour with the cover placed on the spa.* This varies depending on the size of the spa and ambient temperatures.

10. Step into the soothing waters of your Master Spa!

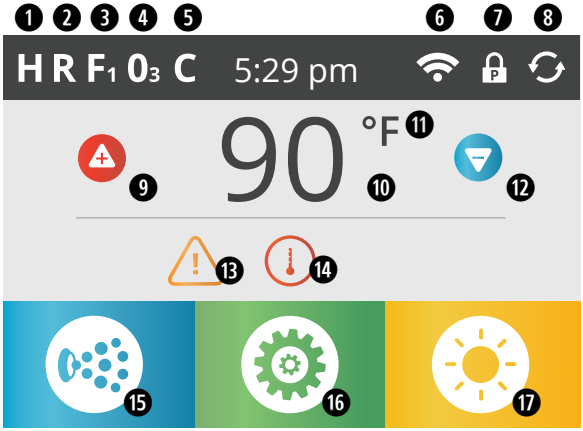
    Relax and enjoy.

MP Force D, MP Signature D, MP Momentum

H2X Challenger 15D, H2X Challenger 18D,
H2X Challenger 19D

SWIM SPA CONTROLS - ICON SPA TOUCH

THE MAIN SCREEN



SWIM SPA STATUS

Important information about swim spa operation can be seen on the Main Screen. Various features and main menus can be accessed from this screen. The actual water temperature can be seen and the Set Temperature can be adjusted. Time-of-Day, Ozone and Filter Cycle status is visible, along with other messages and alerts. The selected Temperature Range is indicated in the upper left corner. The Swim Spa Equipment Control Icon in the bottom left corner will bubble if any pump is running. A Lock icon is visible if the panel or settings are locked.

ICON SPECIFICATIONS

1. H = High Temperature Range
2. R = Ready Mode
3. F_1 = Filter Cycle 1 Running
4. O_3 = Ozone Running
5. C = Cleanup Cycle
6. Wi-Fi Indicator
7. Lock Indicator Icon
8. Invert Screen
9. Set Temperature Up
10. Current Water Temperature
11. Temperature Scale (F/C)
12. Set Temperature Down
13. Message Waiting Indicator
14. Heat Indicator
15. Swim Spa Equipment Control Icon
16. Settings Icon
17. Light Icon = Turns On/Off

NOTE: After 30 minutes the display will automatically go into sleep mode, which turns the display off. This is normal operation. Touch anywhere on the screen to wake the control panel up.

SWIM SPA CONTROLS - ICON SPA TOUCH

THE MAIN SCREEN

ICON SPECIFICATIONS

1. **H = High Temperature Range** **L = Low Temperature Range**
2. **R = Ready Mode** **R² = Ready And Rest Mode** **= Rest Mode**
3. **F1 = Filter1 Mode** **F2 = Filter2 Mode** **F1+ = Filter1 and 2 Mode**
4. **O3 = Ozone is Running.** If you don't see the icon that means the Ozone is OFF.
5. **C = Cleanup Cycle is Running.** If you don't see the icon that means the Cleanup Cycle is OFF.
6. **= Wi-Fi Icon** just indicates that the optional Wi-Fi module is connected to the swim spa system. It does not indicate signal strength.
7. **Lock Icon:** When displayed, indicates the panel is in a locked mode.

   There are 2 lock icons that can be shown on the title bar of most screens. A lock icon with an 'S' means that a settings lock has been applied. It is shown on screens that are affected by the settings lock. And a lock icon with a 'P' means the Panel has been locked. If both settings and panel are locked, only the panel lock will show since it overrules just settings being restricted. When the panel is locked, the Settings Menu Screen will only show items not affected by that lock (System Info and Lock Screens).

   To unlock or lock a setting or panel lock, you press the corresponding icon that is locked and then press and hold the word "Lock" in the title bar for 5+ seconds until the text and icon change to the opposite state.
8. **= Invert (or flip) Screen**
9. **= Set Temperature Up:** Adjust set temperature higher.
10. **Current water temperature:** Displays current water temperature.
11. **Temperature Scale:** Indicates if the temperature is in **°F = Fahrenheit or °C = Celsius.**
12. **= Set Temperature Down.** Adjust set temperature lower.
13. **Message Waiting Indicator.** The Message Waiting Indicator will show one of the following icons:

    = Critical Error (Swim spa can't function until it's fixed)

    = Normal Error or Warning

    = Reminder Message

    = Information Message

    Touch the Indicator to go to a Message Screen which shows the message.

    Some messages will include the "Call for Service" text as it requires a service technician to fix the problem. If the panel is locked and a message alert appears, you will be taken to the UNLOCK screen before you can clear the message.

    Touching the Error/Warning/Reminder/Info Icon on the Message Screen will take you to the System Information Screen to allow for troubleshooting over the phone or for a field service tech to better understand what is going on. Exiting the System information Screen will take you back to the Message Screen in that situation.
14. **= Heat Indicator.** Indicates the heating process and when the swim spa heater is on.

ICON SPECIFICATIONS

15. **= Swim Spa Equipment Control Icon.** Brings up a screen where the swim spa jets or other equipment can be controlled. While on the Swim Spa Equipment Screen, you can press a Jets button once for low speed, and if applicable, press it again for high speed.

17. **Setting Icon: = Settings is Active = Settings is Inactive**
Takes you to Settings Menu Screen, where the available specific features that can be adjusted by the control panel can be modified.

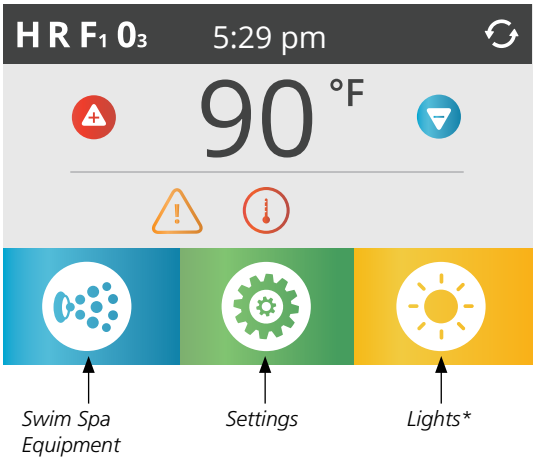
18. **= Light is turned ON = Light is turned OFF = Light is Disabled**

NAVIGATION

Navigating the entire menu structure is done by touching the screen.

The screen selections indicated below can be selected to take you to additional menus. Touch one of these to enter a different screen with additional controls.

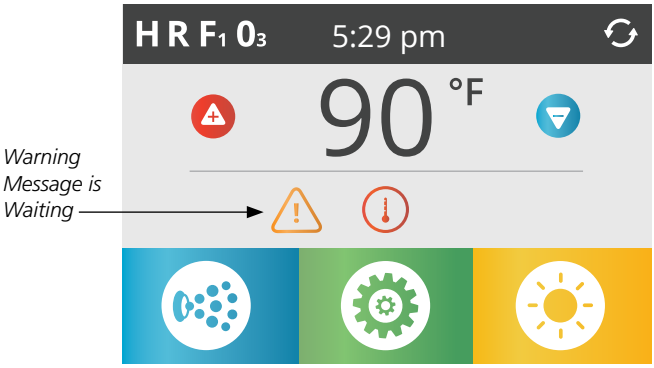
Most menu screens time out and revert to the main screen after 30 seconds of no activity.



**Only if Light System is equipped.*
Options vary by model.

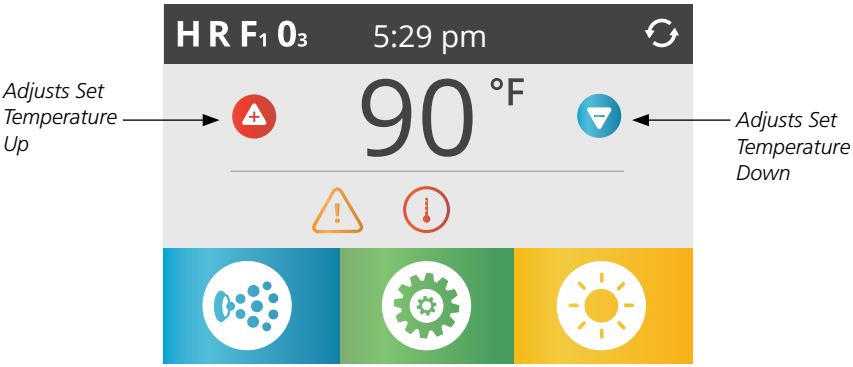
MESSAGES

At the bottom of the screen, at certain times an indicator may appear showing that a message is waiting. Touch this indicator to go to the Message Display Screen. On that Screen some of the messages can be dismissed.



SWIM SPA CONTROLS - ICON SPA TOUCH

THE SET TEMPERATURE AND LIGHTS



SET TEMPERATURE

Press Up or Down once to display the Set Temperature (indicated by a flashing °F or °C). Press Up or Down again to modify the Set Temperature. The Set Temperature changes immediately.

If you need to switch between High Temperature Range and Low Temperature Range you need to go to the Settings Screen.

PRESS-AND-HOLD

If Up or Down is pressed and held, the temperature will continue to change until you stop pressing, or until the Temperature Range limits are reached.

LIGHTS

The Lights Icon turns the lights (if equipped) inside your swim spa on or off. If your swim spa is equipped with LED Light System, turn the lights on and off repeatedly within a couple of seconds to rotate through available color schemes.

ALL EQUIPMENT ACCESS

The Swim Spa Equipment Icon takes you to the Spa Screen, which shows all available equipment* to control. The display shows icons that are related to the equipment installed on a particular swim spa model, so this screen may change depending on the installation.

The icon buttons are used to select and control individual devices.

Some devices, like pumps, may have more than one ON state, so the icon will change to reflect the state of the equipment. Below are some examples of 2-speed Pump indicators.

Jets Off

Jets Low

Jets High

If the swim spa has a Circulation Pump, a Circulation Pump Icon will appear to indicate its activity, but outside of Priming Mode, the Circulation Pump cannot be controlled directly.

Circulation Pump
If equipped, it is only controllable in Priming Mode during initial power-up.

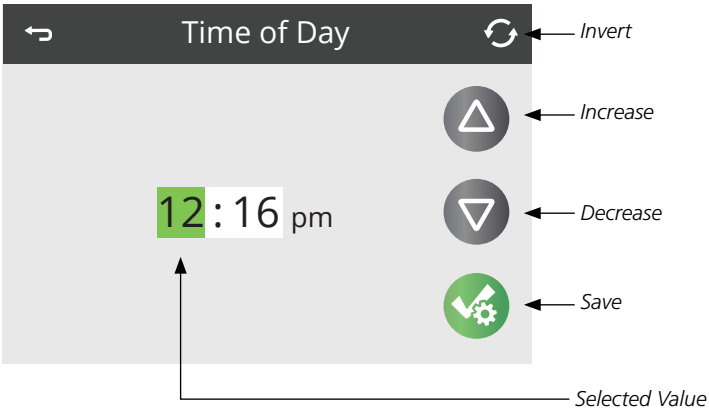
**One exception: The Main Spa Light is not shown on the Spa Screen; it is only shown (and controlled) on the Main Screen.*

VALUES INCREMENT/DECREMENT

If an Up or Down button is shown and pressed when on an editing page, and a value has been selected (highlighted), the value can be increased by pressing the Up Arrow or decreased by pressing the Down Arrow.

INVERT

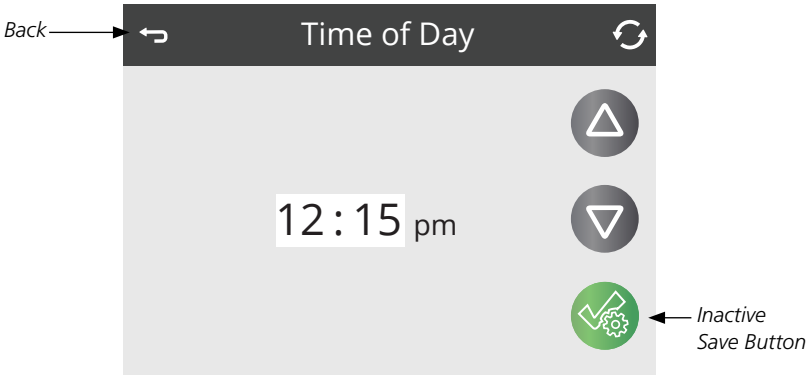
Will appear on upper right on all screens.

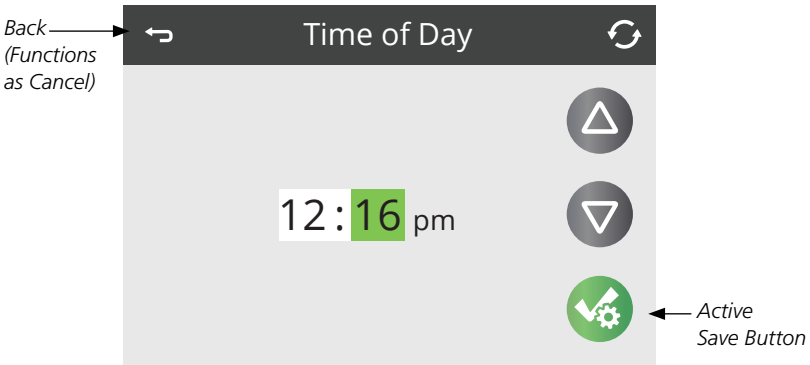


EXITING SCREENS

The Back button is on every screen except the Main Screen, the Priming Mode Screen and Message Display Screen.

When you see only this button, or this button plus an Inactive Save Button, it means Back or Exit. It appears on editing screens before you have changed any value, as well as on all other screens.





When you see both the Back button and an Active Save button, the Save button will Save, turning the green selection to white, while the Back button will Cancel. If the screen times out due to no activity it will act like Cancel.

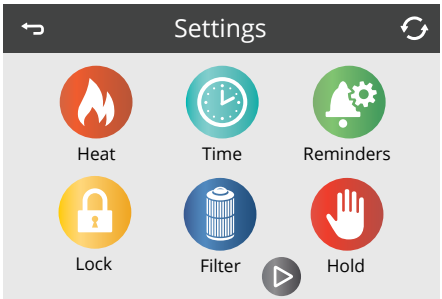
SWIM SPA CONTROLS - ICON SPA TOUCH

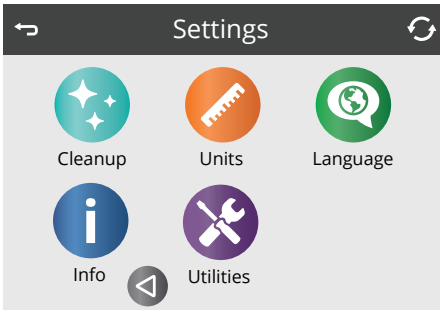
COMMON BUTTONS

PAGE RIGHT/LEFT

If there is a Right Arrow at the bottom of the screen, it takes you to the next page.

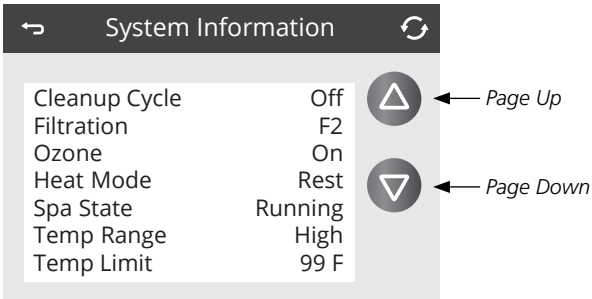
If there is a Left Arrow at the bottom of the screen, it takes you to the previous page.





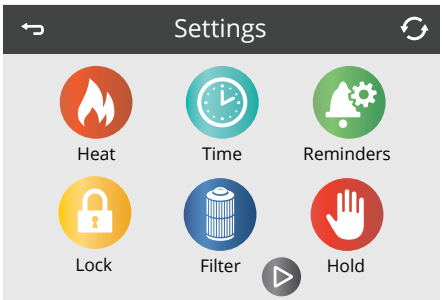
PAGE UP/DOWN

If an Up or Down button is shown and pressed when on a page with a text list, the list can be scrolled a page at a time.



PROGRAMMING, ETC.

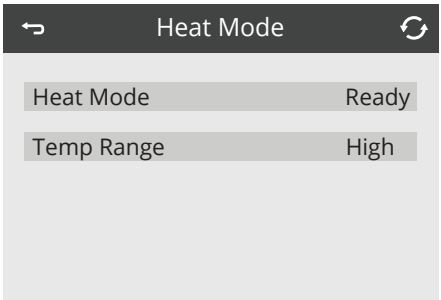
The Settings Icon takes you to the Settings Screen, where all programming and other swim spa behaviors are controlled.



Each icon on the Settings screen takes you to a different screen, where one or more settings may be viewed and/or edited.

HEAT MENU

The Heat Icon in the Settings Screen takes you to a screen where you can control the Heat Mode and the Temperature Range.



TEMPERATURE RANGES (HIGH VS. LOW)

This system incorporates two temperature range settings with independent set temperatures. The specific range can be selected on the Settings Screen and is visible on the Main Screen in the upper left corner of the display. These ranges can be used for various reasons, with a common use being a “ready to use” setting vs. a “vacation” setting. Each range maintains its own set temperature as programmed by the user. This way, when a range is chosen, the swim spa will heat to the set temperature associated with that range. Check the set water temperature and consider lowering it for the times when the swim spa will typically not be in use.

The swimming/exercising water temp, while in High Temp Range, can be set between 80˚F (27˚C) and 99˚F (37˚C). For Trainer 19 and Momentum models, the separate hot tub body of water High Temp Range can be set between 80˚F (27˚C) and 104˚F (40˚C). Low Range can be set between 50˚F (10˚C) and 99˚F (37˚C). Freeze Protection is active in either range. Consider that the comfortable temperature range during use may be lower than the maximum safe temperature.

HEAT MODE – READY VS. REST

In order for the swim spa to heat, a pump needs to circulate water through the heater. The pump that performs this function is known as the "heater pump". The heater pump can be either a 2-speed Pump (Pump 1) or a Circulation Pump.

READY MODE

If the heater pump is a 2-speed Pump 1, Ready Mode will circulate water periodically, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as "polling".

REST MODE

If the swim spa is not going to be used for a prolonged period of time, this mode will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the heater pump has been running for a minute or two. This is seen on the screen as: _ _ _ _°F _ _ _ _°C. Using Rest Mode is not recommended in below freezing temperatures.

NON-CIRCULATION MODE (2-speed Pump 1)

When the heater pump has come on automatically (for example for heating or polling) you can switch between low speed and high speed but you cannot turn the heater pump off.

CIRCULATION MODE

If the swim spa is configured for 24hr circulation, the heater pump generally runs continuously. Since the heater pump is always running, the swim spa will maintain set temperature and heat as needed in Ready Mode, without polling.

In Rest Mode, the swim spa will only heat to set temperature during programmed filter times, even though the water is being filtered constantly when in 24hr circulation mode.

NOTE: See more information on circulation modes within "Pumps" in the Swim Spa Controls - Spa Behavior sections.

READY-IN-REST MODE

Ready in Rest Mode appears in the display if the swim spa is in Rest Mode and the Jets 1 Button is pressed. When the heater pump has come on automatically (for example for heating) you can switch between low speed and high speed but you cannot turn the heater pump off. After 1 hour, the System will revert to Rest Mode. This mode can also be reset by selecting the Heat Mode.

M8 SMART TEMPERATURE MONITORING

As a default, the M8 Icon is set as ON/Active. M8 affects the swim spa operation behavior for non-circulation pump systems which use therapy Pump 1 (Jets 1) low speed for monitoring swim spa water temperature, heating and filtering. If your swim spa has a dedicated circulation pump system such as Quietflo or Mast3rPur, these behaviors do not apply.

ON/Active OFF/Inactive

While ON/Active and the swim spa system set to Ready Heat Mode, M8 can actively change Pump 1 low speed water temperature polling intervals from every 30 minutes to become less frequent, up to 2 hours in between polling points, if the swim spa water temperature is remaining very stable.

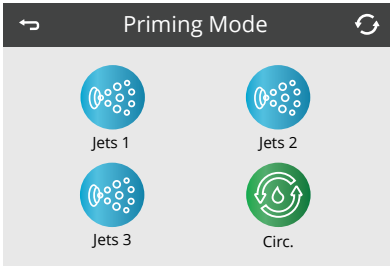
If set to OFF/Inactive and the swim spa system set to Ready Heat Mode, the spa control system will only poll to check current swim spa water temperature every 30 minutes.

PREPARATION AND FILLING

Fill the swim spa to its correct operating level, using the instructions found in Initial Swim Spa Setup under the Installation Instructions section.

PRIMING MODE – M019*

After the initial start-up sequence, the control will enter Priming Mode and display a Priming Mode screen. Only pump icons appear on the priming mode screen. During the priming mode, the heater is disabled to allow the priming process to be completed without the possibility of energizing the heater under low-flow or no-flow conditions. Nothing comes on automatically, but the pump(s) can be energized by selecting the "Jet" buttons. If the swim spa has a Circulation Pump, it can be turned on and off by pressing the "Circ" button during Priming Mode.



PRIMING THE PUMPS

As soon as the Priming Mode screen appears on the panel, select the "Jets 1" button once to start Pump 1 in low-speed (if applicable) and then again to switch to high-speed. If the pump is operating but there is no water flow after 10 seconds of running, shut the pump off for 5-10 seconds and then back on for 5-10 seconds. Repeat until water begins flowing, this means the pump is primed. Also select the other pumps to turn them on and perform this priming process if necessary. If the pumps have not primed after 4-5 minutes, and water is not flowing from the jets in the swim spa, do not allow the pumps to continue to run. Turn the swim spa off, then back on and repeat the process.

NOTE: Turning the power off and back on again will initiate a new pump priming session. Do not do this more than 5 times. If the pump(s) will not prime, shut off the power to the swim spa and see instructions for relieving an air lock in the Initial Swim Spa Setup section.

IMPORTANT: A pump should not be allowed to run continuously without priming for more than 2 minutes. Under NO circumstances should a pump be allowed to run without priming beyond the end of the 4-5 minute priming mode. Doing so may cause damage to the pump and cause the system to energize the heater and go into an overheat condition.

EXITING PRIMING MODE

The system will automatically enter the normal heating and filtering at the end of the priming mode, which lasts 4-5 minutes. You can manually exit Priming Mode by pressing the "Back" button on the Priming Mode Screen. Note that if you do not manually exit the priming mode as described above, the priming mode will be automatically terminated after 4-5 minutes. Be sure that the pump(s) have been primed by this time. Once the system has exited Priming Mode, the top-side panel will display the Main Screen, but the display will not show the water temperature yet, as shown below. This is because the system requires approximately 1 minute of water flowing through the heater to determine the water temperature and display it. The panel will display the following until it is able to get a temperature read: _ _ _ _°F _ _ _ _°C

**M0XX is a Message Code. See Messages Log in the Utilities section.*

PUMPS

On the Spa Screen, select a "Jets" button once to turn the pump on or off, and to shift between low- and high-speeds if equipped. If left running, the pump will turn off after a time-out period (15 minutes at high speed).

NON-CIRCULATION SYSTEMS

To monitor current water temperature, the system will automatically activate Pump 1 at the low-speed setting as needed. If the swim spa is in Ready Mode, Pump 1 low may activate for at least 1 minute every 30 minutes to monitor the swim spa water temperature (known as polling) and begin to heat if water temperature has dropped below the set temperature. If the water temperature remains consistent over long periods, and does not decrease, the M8 technology in your swim spa will actively adapt these polling intervals to be less frequent. If the water temperature conditions are very stable, M8 will gradually increase time between the intervals, up to 2 hours. If the water temperature starts dropping significantly, the system will check the water temperature (poll) more frequently, reverting the interval back to every 30 minutes. It will also reset the intervals back to 30 minutes whenever the user interacts with the system (such as activating equipment, changing heating modes and modifying the set temperature).

Pump 1 runs automatically, at the low-speed setting, when any other pump is turned on (if equipped) so that the system can monitor the swim spa water temperature.

When the low-speed of Pump 1 turns on automatically for either temperature polling, heating or filter cycles, it cannot be turned off at the control panel. However, the high speed setting on the pump can be turned on.

CIRCULATION PUMP MODES

If the system is equipped with a circulation pump, it will be configured to work in one of two different ways depending on the control system software. The circulation pump mode cannot be changed.

1. Most circulation pumps operate continuously (24 hours) with the exception of turning off for 30 minutes at a time when the water temperature reaches 3°F (1.5°C) above the set temperature (most likely to happen in warm climates or if set temperature is lowered/set below the current water temperature). This is the typical mode for most swim spas with a dedicated circulation pump.

2. A programmable circulation pump will come on when the system is checking temperature (polling), during filter cycles, during freeze conditions, or when another pump is on.

FILTRATION AND OZONE

On non-circulation systems, Pump 1 low and the ozone generator will run during filtration.
On circulation systems, the ozone will generally run with the circulation pump.

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. A second filter cycle can be enabled as needed.

At the start of each filter cycle, the pumps will run briefly to purge the plumbing to maintain good water quality.

See Adjusting Filtration section within Swim Spa Controls for more information.

FREEZE PROTECTION

If the temperature sensors within the heater detect a low enough temperature, then the pumps automatically activate to provide freeze protection. The pumps will run either continuously or periodically depending on conditions.

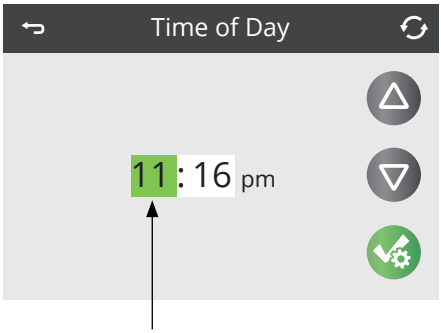
CLEAN-UP CYCLE (OPTIONAL)

When a pump is turned on by a button press, a clean-up cycle begins 30 minutes after the pump is turned off or times out. The heat/filter pump and the ozone generator will run for 30 minutes or more, depending on the system. If the swim spa has a 24hr circulation pump which performs as the heat and filter pump, the cleanup cycle will not apply as the 24hr circulation pump provides constant filtration. On some systems, you can change this setting. See the Cleanup Cycle section in Additional Settings.

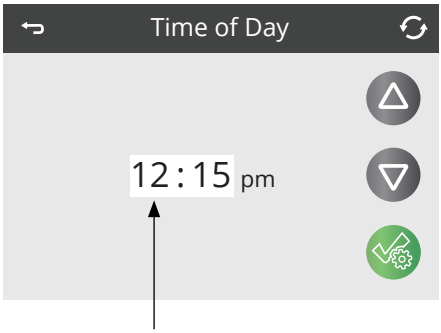
SETTING THE TIME-OF-DAY

Be sure to set the time-of-day, it is important for determining filtration times and other background features.

The Time Icon on the Settings Screen takes you to a screen where you control the Time-of-Day. On the Time-of-Day screen, use the Up and Down Buttons to make changes to the highlighted green field. You can toggle between hours and minutes to make changes by touching the numbers on the screen. When finished, Save and the green field will turn white.

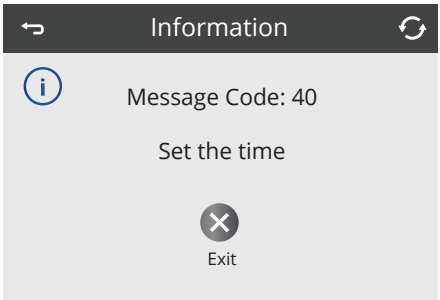


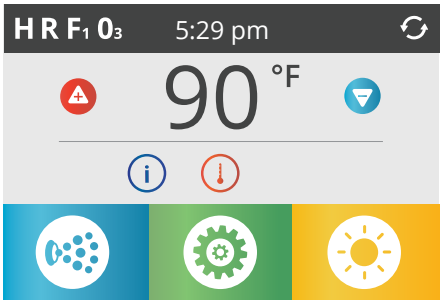
Green highlight shows an active field to edit



Field changes to white when saved

If no time-of-day is set in the memory an Information Screen will appear. If you exit it an Information Icon will appear at the bottom of the Main Screen, until the time-of-day has been set.

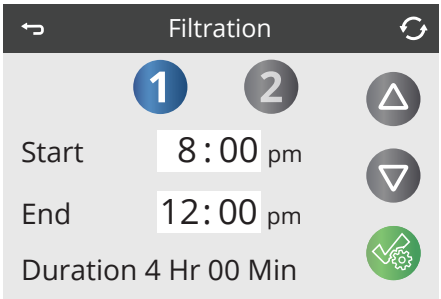




MAIN FILTRATION

Using similar adjustments as the Time-of-Day Screen on previous page, Filter Cycles are set using a start time and an end time. Each setting can be adjusted in 15-minute increments. The panel calculates the duration and displays it automatically.

The Filter Icon on the Settings Screen takes you to a screen where you control the Filter Cycles.



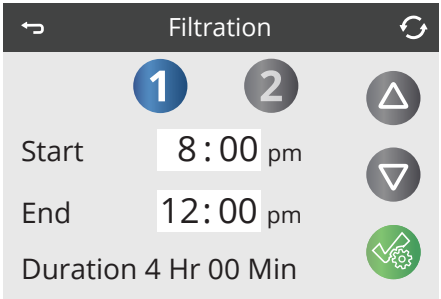
FILTER CYCLE 2 - OPTIONAL FILTRATION

Filter Cycle 2 is OFF by default on most systems. Press "1" to view Filter 1. Press "2" once to view Filter 2. Press "2" again to turn Filter 2 ON or OFF.

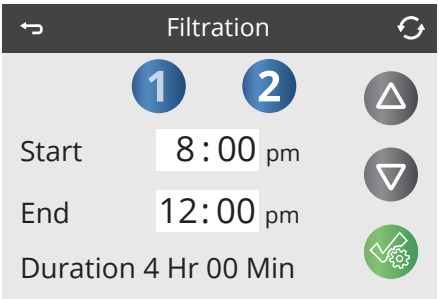
When Filter Cycle 2 is ON, it can be adjusted in the same manner as Filter Cycle 1.

It is possible to overlap Filter Cycle 1 and Filter Cycle 2, which will shorten overall filtration by the overlap amount.

Viewing Filter 1 while Filter 2 is OFF:



Viewing Filter 2 when it is ON and selected:



PURGE CYCLES

In order to maintain sanitary conditions, as well as protect against freezing, all pumps will purge water from their respective plumbing by running briefly at the beginning of each filter cycle. It is best that all jets be left in their open position and water diverters in their centered positions when done using the swim spa so all jets get water flow during purge cycles.

If the Filter Cycle 1 duration is set for 24 hours, enabling Filter Cycle 2 will initiate a purge when Filter Cycle 2 is programmed to begin.

THE MEANING OF FILTER CYCLES

1. The heating pump always runs during the filter cycle*
2. In Rest Mode, heating only occurs during the filter cycle
3. Purges happen at the start of each filter cycle

* For example, if your swim spa is set up for 24/hour circulation except for shutting off when the water temperature is 3˚F/1.3˚C above the set temperature, that shutoff does not occur during filter cycles.

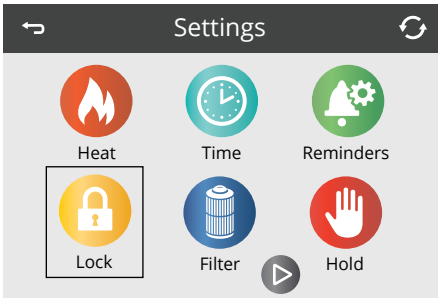
SWIM SPA CONTROLS - ICON SPA TOUCH

RESTRICTING OPERATION

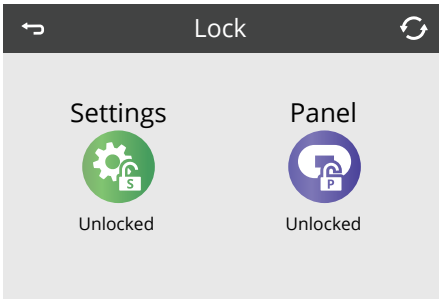
The control can be restricted to prevent unwanted use or temperature adjustments.

Locking the Panel prevents the control panel from being used, but all automatic functions are still active.

Locking the Settings allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted. Settings Lock allows access to a reduced selection of menu items. These include Filter Cycles, Invert, Information and Messages. They can be seen, but not changed or edited.

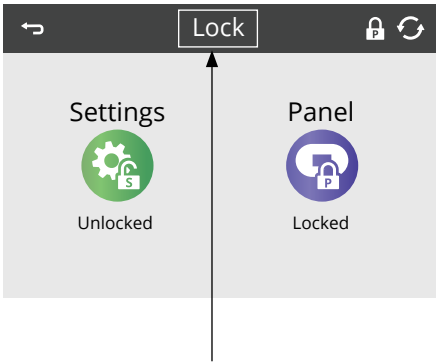


Settings Unlocked and Panel Unlocked



LOCKING AND UNLOCKING

Settings Unlocked and Panel Locked



After you have touched the Settings or Panel Icon, press here for 5 seconds to lock or unlock.

The same steps are used to Lock and Unlock Panel or Settings.

TO LOCK:

1. Select Settings Icon (if it says "Unlocked") or Panel Icon (if it says "Unlocked")
2. Press and hold the word "Lock" in the title bar for at least 5 seconds

TO UNLOCK:

1. Select Settings Icon (if it says "Locked") or Panel Icon (if it says "Locked")
2. Press and hold the word "Lock" in the title bar for at least 5 seconds

with 'S' = Settings Lock

with 'P' = Panel Lock

HOLD - M037*

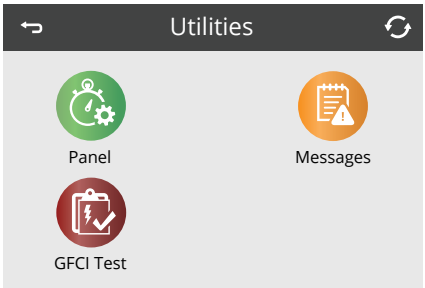
The Hold Icon on the Settings Screen places the swim spa in Hold Mode and displays the System Hold screen.

Hold Mode is used to disable the swim spa equipment during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually. If swim spa service will require more than an hour, it may be best to simply shut down power to the swim spa.

Touch Back to exit Hold Mode.

**M0XX is a Message Code. Codes like this will be seen in the Messages Log.*

THE UTILITIES SCREEN



UTILITIES

The Utilities Icon in the Settings Screen takes you to the Utilities Screen. The Utilities Screen may contain the following:

PANEL

Allows you to set the time that the screen goes to sleep after so many minutes of inactivity. For example, you can set your control panel screen to shut off 10 minutes after you've last touched the screen.

MESSAGES LOG

The Messages Log is a record of the last 24 errors or messages that can be reviewed by a service tech. Use the Up and Down buttons to view each of the messages. When Priming Mode shows in the Messages Log, it is not an error. Rather, it is used to keep track of swim spa restarts.

GFCI TEST (Feature not available on all systems)

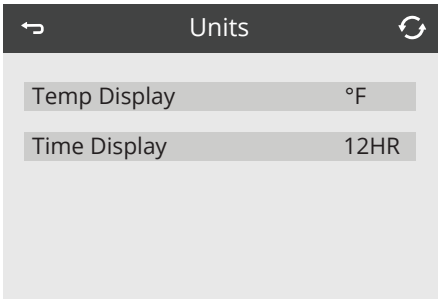
GFCI Test will not appear on the screen if the feature is not available. This screen allows the GFCI to be tested manually from the swim spa control panel (See more in Utilities - GFCI Test Feature).

UNITS

The Units Icon on the Settings Screen takes you to the Units Screen.

Press “Temp Display” to change the temperature between Fahrenheit and Celsius.

Press “Time Display” to change the clock between 12 HR and 24 HR display.

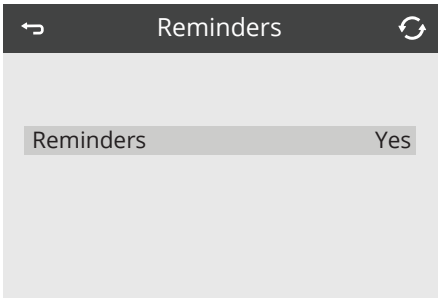


REMINDERS

The Reminder Icon on the Settings Screen takes you to the Reminders Screen.

Reminders are preprogrammed routine maintenance reminders that appear on the Main Screen as at different intervals and will help guide you in taking care of your swim spa.

Press “Reminders“ to turn them ON (which displays as Yes) or OFF (Displays as No). This will allow reminders like "Clean Filters" to appear. To see a full listing of Reminder Messages, refer to "Reminder Messages" in the back of the Swim Spa Controls section.

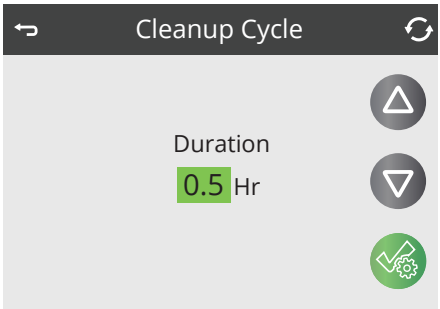


ADDITIONAL SETTINGS

CLEANUP CYCLE

Cleanup Cycle Duration is not always enabled, so it may not appear. When it is available, set the length of time the heat/filter pump will run after each use. 0-4 hours are available. Setting to 0.0 Hr prevents the Cleanup Cycles from running.

The Cleanup Icon on the Settings Screen takes you to the Cleanup Cycle screen.

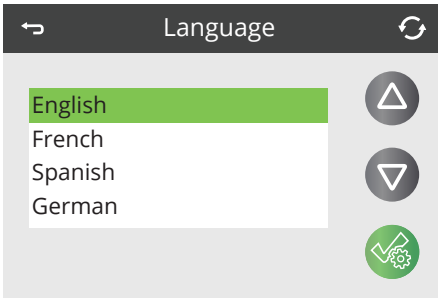


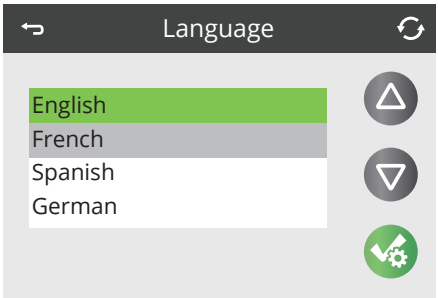
NOTE: Cleanup cycles do not apply to systems set for 24hr circulation pump mode as the circulation pump performs as the heat and filter pump to provide constant filtration.

LANGUAGE

The Language Icon on the Settings Screen takes you to the Language Screen.

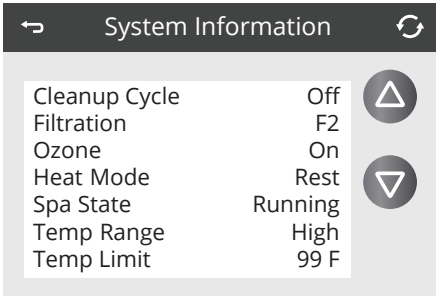
Change the language displayed on the panel by pressing the arrow keys. The light grey highlight indicates the language you are changing it to.





SYSTEM INFORMATION

The Information Icon on the Settings Screen takes you to the System Information screen, which displays various settings and system identification.



SYSTEM MODEL
Displays the Model Number of the System.

PANEL VERSION
Displays a number of the software in the topside control panel.

SOFTWARE ID (SSID)
Displays the software ID number for the System.

CONFIGURATION SIGNATURE
Displays the checksum for the system configuration file.

CURRENT SETUP
Displays the currently selected Configuration Setup Number.

DIP SWITCH SETTINGS
Displays a number that represents the DIP switch positions of S1 on the main circuit board.

HEATER VOLTAGE (Feature not used on CE rated systems)
Displays the operating voltage configured for the heater.

HEATER WATTAGE AS CONFIGURED IN SOFTWARE (CE Systems Only)
Displays a heater kilowatt rating as programmed into the control system software (1-3 or 3-6).

HEATER TYPE
Displays a heater type ID number.

MESSAGES

Most messages and alerts will appear at the bottom of the Main Screen. Several alerts and messages may be displayed in a sequence.

WATER TEMPERATURE IS UNKNOWN

After the pump has been running for 1 minute, the temperature will be displayed.

_ _ _ _°F _ _ _ _°C

POSSIBLE FREEZING CONDITION

A potential freeze condition has been detected, or the Aux Freeze Switch has closed. All water devices are activated. In some cases, pumps may turn on and off and the heater may operate during Freeze Protection. This is an operational message, not an error indication.

THE WATER IS TOO HOT – M029*

The system has detected a swim spa water temp of 110°F (43.3°C) or more, and swim spa functions are disabled. System will auto reset when the swim spa water temp is below 108°F (42.2°C). Check for extended pump operation (i.e. filter cycle durations or extended swim spa pump use beyond the 15 minute timeouts) and warm ambient temperatures.

**M0XX is a Message Code. Codes like this will be seen in the Messages Log.*

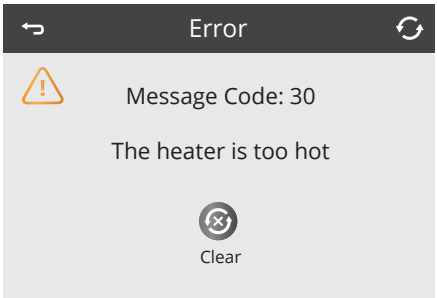
HEATER-RELATED MESSAGES

THE WATER FLOW IS LOW – M016**
There may not be enough water flow through the heater to carry the heat away from the heating element. Heater start up will begin again after about 1 min. See "Flow Related Checks" below.

THE WATER FLOW HAS FAILED* – M017**
There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. See "Flow Related Checks" below. After the problem has been resolved, reset the message*.

THE HEATER MAY BE DRY* – M028**
Possible dry heater, or not enough water in the heater to start it. The swim spa is shut down for 15 min. Reset this message* to reset the heater start-up. See "Flow Related Checks" below.

THE HEATER IS DRY* – M027**
There is not enough water in the heater to start it. The swim spa is shut down. After the problem has been resolved, you must reset the message* to restart heater start up. See "Flow Related Checks" below.



THE HEATER IS TOO HOT* – M030**
One of the water temp sensors has detected 118°F (47.8°C) in the heater and the swim spa is shut down. You must reset the message* when water is below 108°F (42.2°C). See "Flow Related Checks" below.

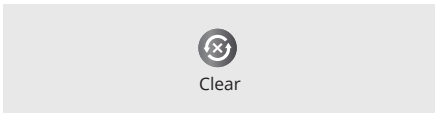
FLOW-RELATED CHECKS

Check filters for possible blockage. Try cleaning or replacing filters (especially if swim spa is equipped with 24 hour circulation pump).

Check for low water level, suction flow restrictions (i.e. any leaves or debris pulled against suction fittings in bottom of swim spa shell), closed valves, too many closed jets and pump prime/air locked pump (see initial swim spa setup for instruction on relieving pump air lock).

On some systems, even when swim spa is shut down by an error condition, some equipment may occasionally turn on to continue monitoring the temperature or if freeze protection is needed.

* Some messages can be reset from the panel. Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon to reset the system.

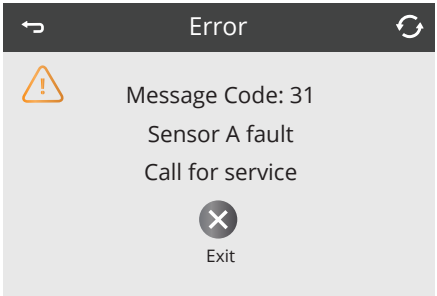


***M0XX is a Message Code. Codes like this will be seen in the Messages Log.*

SENSOR-RELATED MESSAGES

SENSORS ARE OUT OF SYNC – M015**
The temperature sensors MAY be out of sync by 3°F (1°C). Contact your Master Spas dealer or service organization if this message does not disappear within a few minutes.

SENSORS ARE OUT OF SYNC – CALL FOR SERVICE* – M026**
The temperature sensors ARE out of sync. The fault above has been established for at least 1 hour. Contact your Master Spas dealer or service organization.



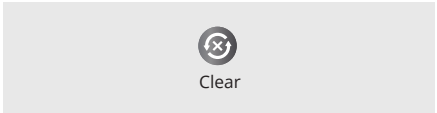
SENSOR A FAULT, SENOR B FAULT – SENSOR A: M031, SENSOR B: M032****
A temperature sensor or sensor circuit has failed. Contact your Master Spas dealer or service organization.

MISCELLANEOUS MESSAGES

COMMUNICATIONS ERROR
The control panel is not receiving communication from the System. Contact your Master Spas dealer or service organization.

TEST SOFTWARE INSTALLED
The Control System is operating with test software. Contact your Master Spas dealer or service organization.

* Some messages can be reset from the panel. Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon to reset the system.



***M0XX is a Message Code. Codes like this will be seen in the Messages Log.*

SYSTEM-RELATED MESSAGES

PROGRAM MEMORY FAILURE* – M022**
At power-up, the system has failed the Program Checksum Test. This indicates a problem with the firmware (operation program). Contact your Master Spas dealer or service organization.

THE SETTINGS HAVE BEEN RESET (PERSISTENT MEMORY ERROR)* – M021**
Contact your Master Spas dealer or service organization if this message appears on more than one power-up.

THE CLOCK HAS FAILED* – M020**
Contact your Master Spas dealer or service organization.

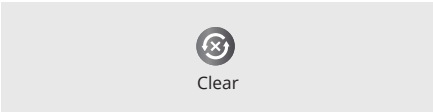
CONFIGURATION ERROR (SWIM SPA WILL NOT START UP)
Contact your Master Spas dealer or service organization.

THE GFCI TEST FAILED (SYSTEM COULD NOT TEST THE GFCI) – M036**
(North America Only) May indicate an unsafe installation. Contact your Master Spas dealer or service organization as well as your electrician. A GFCI replacement will require an electrician.

A PUMP MAY BE STUCK ON – M034**
Water may be overheated. POWER DOWN THE SWIM SPA. DO NOT ENTER THE WATER. Contact your Master Spas dealer or service organization.

HOT FAULT – M035**
A Pump Appears to have been Stuck ON when swim spa was last powered POWER DOWN THE SWIM SPA. DO NOT ENTER THE WATER. Contact your Master Spas dealer or service organization.

* Some messages can be reset from the panel. Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon to reset the message.



***M0XX is a Message Code. Codes like this will be seen in the Messages Log.*

REMINDER MESSAGES OF ROUTINE MAINTENANCE

Reminder Messages can be turned off by using the Reminders Screen.

Reminders are preprogrammed routine maintenance reminders that appear on the Main Screen as at different intervals and will help guide you in taking care of your swim spa. Some messages may not apply depending on the actual equipment in the swim spa.

CHECK THE PH
May appear on a regular schedule, i.e. every 7 days. Check pH with a test kit and adjust pH with the appropriate chemicals.

CHECK THE SANITIZER
May appear on a regular schedule, i.e. every 7 days. Check sanitizer level and other water chemistry with a test kit and adjust with the appropriate chemicals.

CLEAN THE FILTER
May appear on a regular schedule, i.e. every 30 days.

TEST THE GFCI (OR RCD)
May appear on a regular schedule, i.e. every 30 days.

The GFCI or RCD is an important safety device and must be tested on a regular basis to verify its reliability.

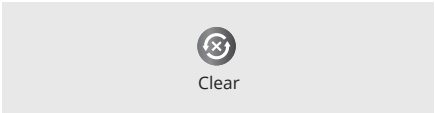
Every user should be trained to safely test and reset the GFCI or RCD associated with the swim spa installation.

A GFCI or RCD will have a TEST button on it that allows a user to verify proper function.

CHANGE THE WATER
May appear on a regular schedule, i.e. every 180 days. Change the water in the swim spa on regular basis to maintain proper chemical balance and sanitary conditions.

Additional messages may appear on specific systems.

Reminder messages are simply cleared and automatically reset to appear at the next preprogrammed interval by clicking the Clear Icon.



REMINDER MESSAGES

CLEAN THE COVER
May appear on a regular schedule, i.e. every 30 days. Vinyl covers should be cleaned and conditioned for maximum life.

TREAT THE WOOD
May appear on a regular schedule, i.e. every 180 days. Wood skirting and furniture should be cleaned and conditioned per the manufacturers instructions for maximum life.

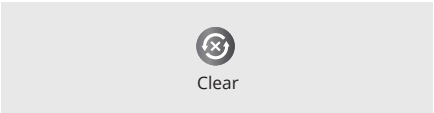
CHANGE THE FILTER
May appear on a regular schedule, i.e. every 365 days. Filters should be replaced periodically to maintain proper swim spa function and sanitary conditions. EcoPur® elements should be replaced every 180 days. Refer to Cleaning Your Filter Elements section in Routine Maintenance.

CHANGE THE UV
May appear on a regular schedule, i.e. every 18 months. Change the UV as instructed in the Mast3rPur section. This is a general message and may not apply if swim spa is not equipped with UV.

CHECK OZONE
May appear on a regular schedule, i.e. every 365 days. Check the ozone system as instructed in the Regular Maintenance Procedures.

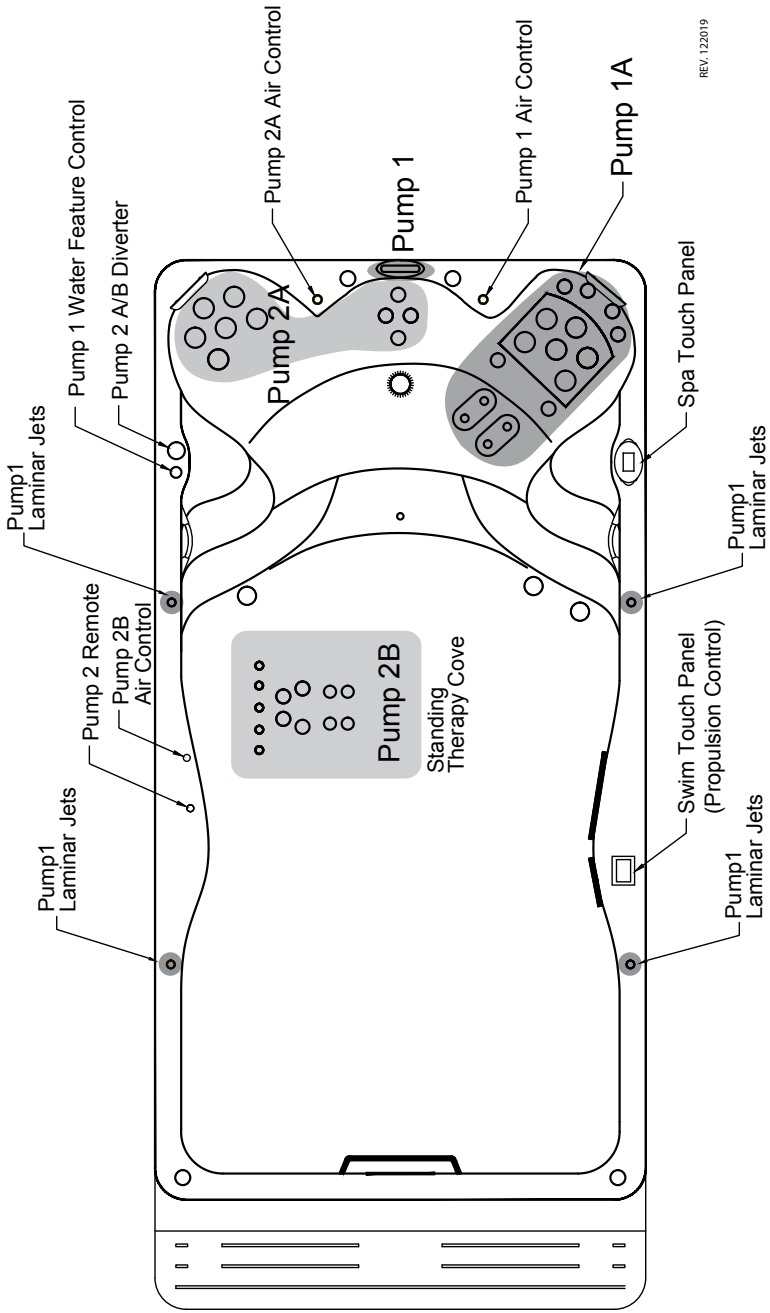
Additional messages may appear on specific systems.

Reminder messages are simply cleared and automatically reset to appear at the next preprogrammed interval by clicking the Clear Icon.

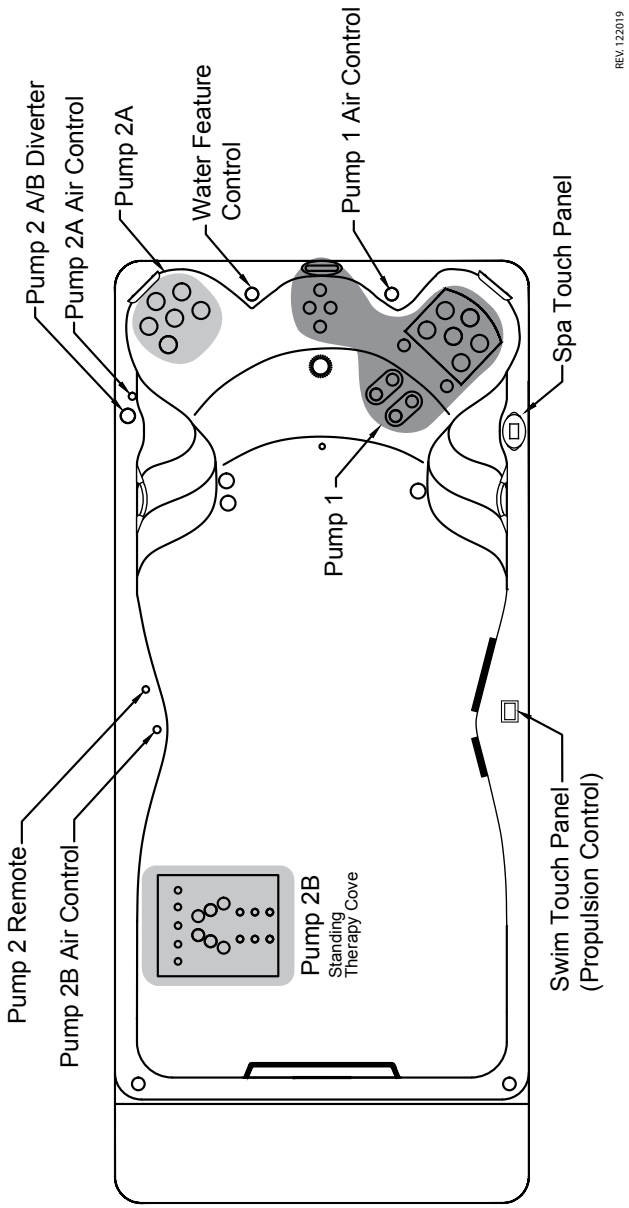


SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

MP FORCE D

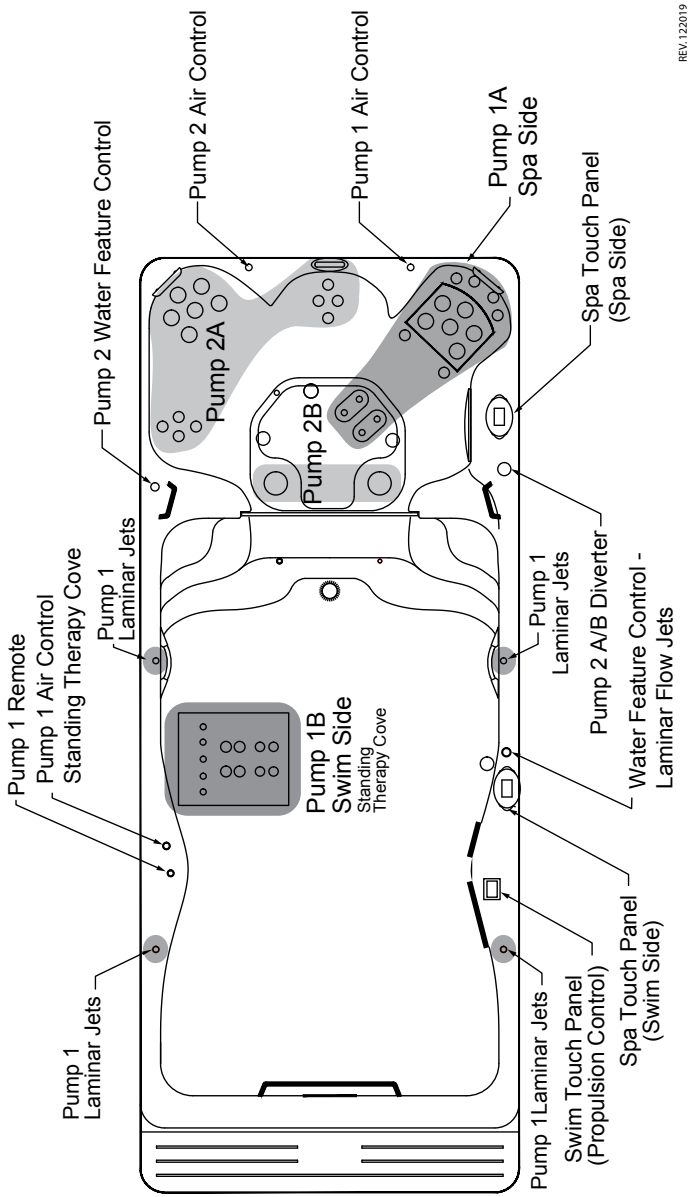


MP SIGNATURE D



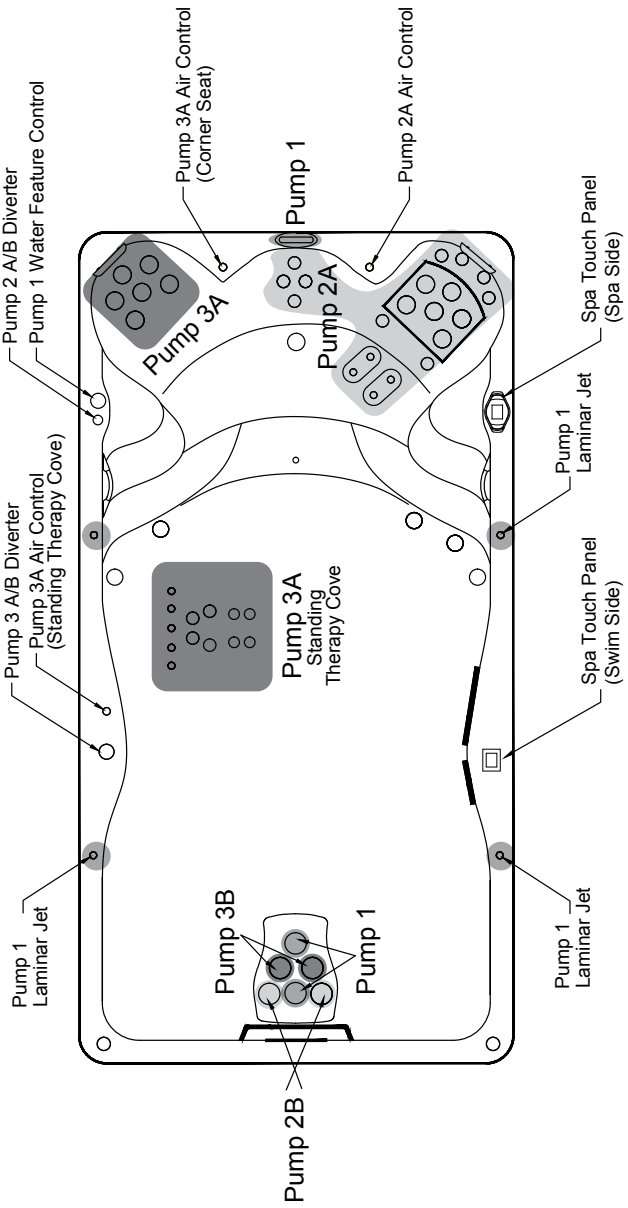
SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

NZ MOMENTUM D



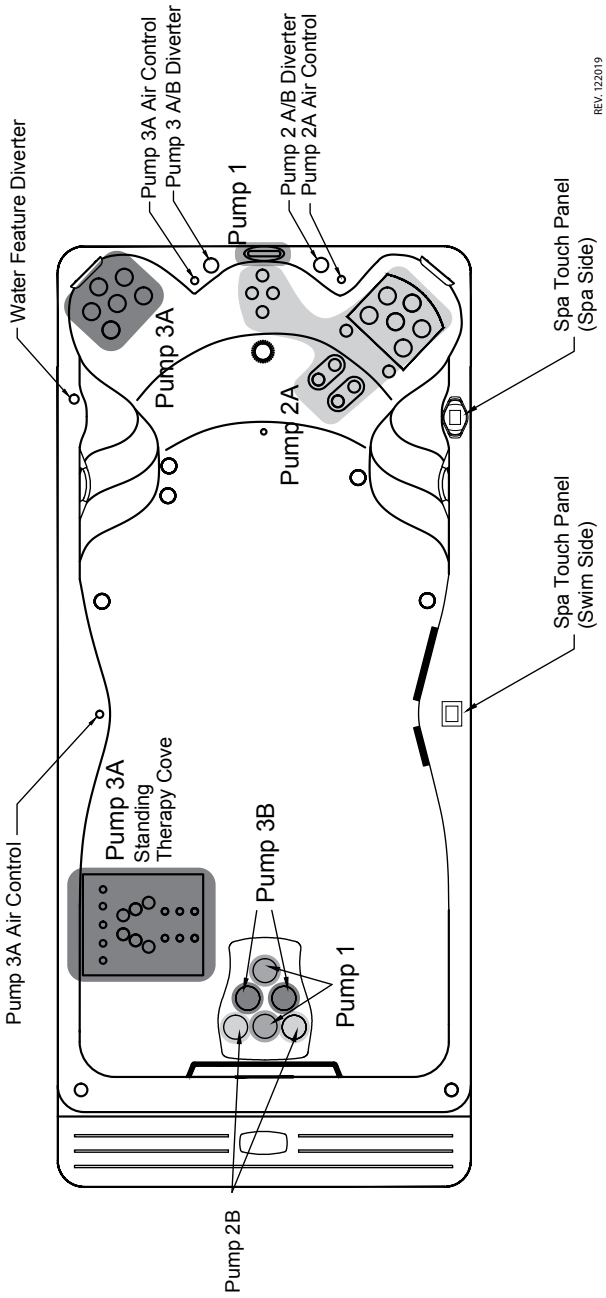
SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

CHALLENGER 15D



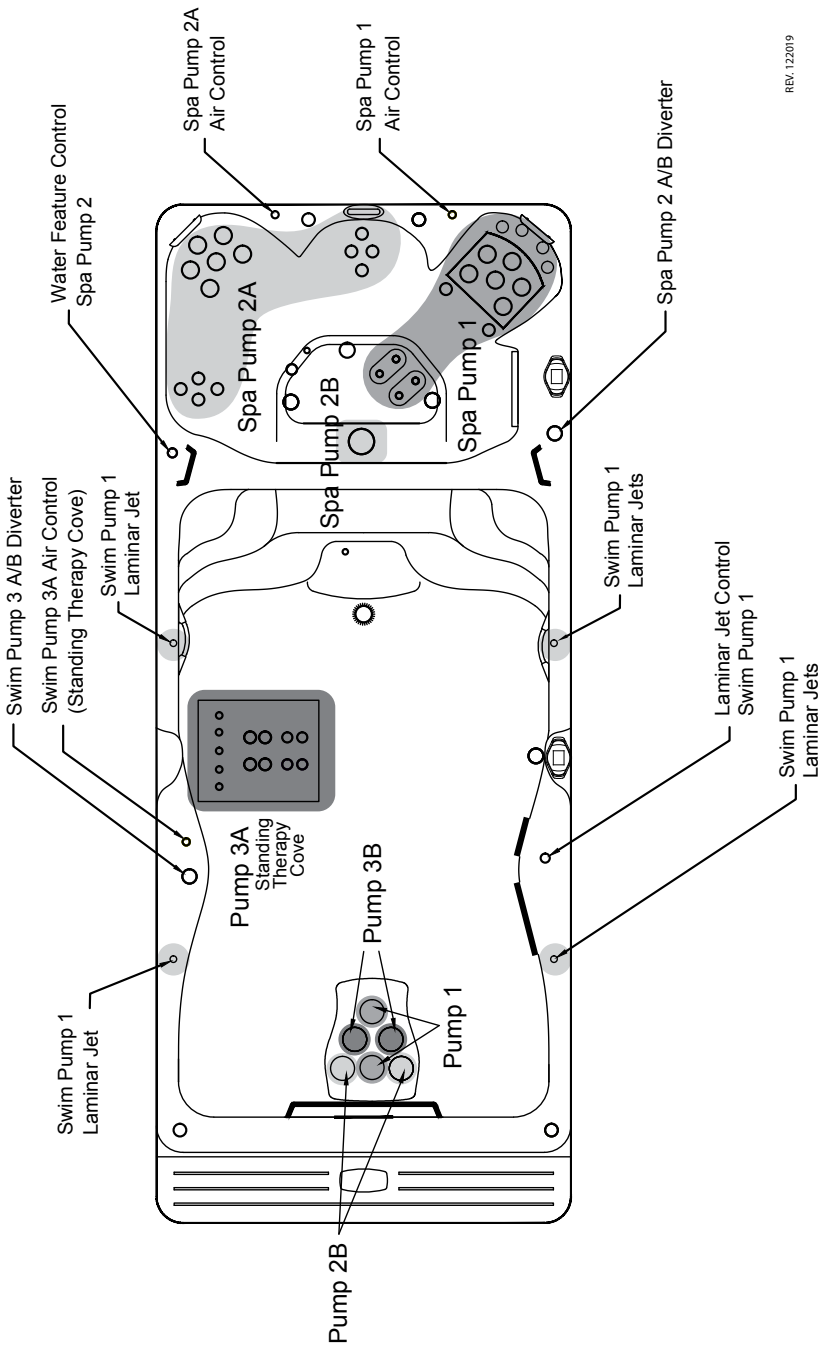
SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

CHALLENGER 18D



SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

CHALLENGER 19D



THE PROPULSION SYSTEM

The unique belt-driven propulsion system provides the most consistent flow of water to swim and exercise against. This propulsion system is controlled by the revolutionary Swim Number™ System. Along with this, your MP Swim Spa is equipped with a WiFi module which allows control of the system through our Swim Number App (SNAPP)[1]. SNAPP is available for iPad on the Apple store and allows you to build your own personal workouts[2].

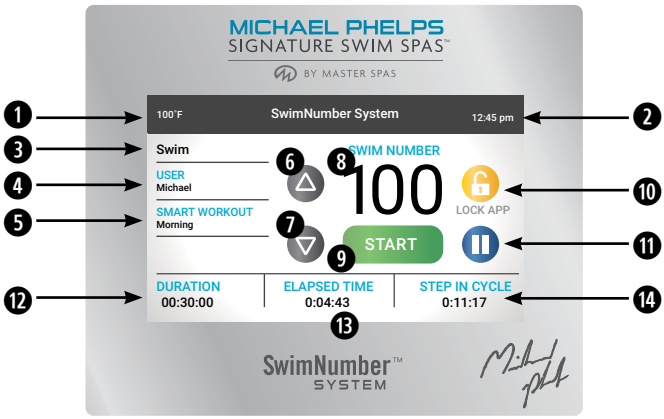
The easy to operate propulsion control panel allows you not only to control the speed of the water flow but also to select programmed Smart Workouts.

[1]U.S. & Canada only. Due to differing regulations and testing requirements outside of the U.S. and Canada, models may not be equipped from factory with WiFi module. Without WiFi module, SNAPP features are not available and do not apply. Contact your Master Spas dealer for more information.

[2]See Swim Number App (SNAPP) Instruction Manual for further information.

PROPULSION SYSTEM CONTROLS

SWIM CONTROL OPERATION



❶ **Temperature** of water in swim spa.

❷ **Time** of day.

❸ **Mode** reference used during workouts to calculate calorie counts when used with Swim Number App (SNAPP). During manual operation this setting can be changed by touching the highlighted text but you will not see a change in the swim current.

❹ **User** workout selection allows you to choose between the default user and any custom users that have been added through the SNAPP APP.

❺ **Smart Workouts** can be selected from here by touching the highlighted area. Please refer to the Smart Workout Reference guide included with the swim spa information materials. From there you can select Smart Workouts that will allow you exercise with preprogrammed workouts that control the Wave Propulsion Systems.

❻ **Up** button increases the swim number (speed).

❼ **Down** button lowers the swim number (speed).

❽ **Swim Number** indicates the speed of the propulsion system. Speed is indicated in numbers from 1 to 100, where the higher number indicates faster water flow.

❾ **Start** button starts the propulsion system after a 5 second delay. This delay allows the swimmer time to get into position and prepare for the swim current.

❿ **Lock APP** allows you to restrict control of the propulsion system from the SNAPP.

⓫ **Pause** button allows you to momentarily pause the operation of the propulsion system. Whenever the it is restarted, there will be a 5 second delay before it resumes operation.

⓬ **Duration** shows the duration of the complete workout.

⓭ **Elapsed Time** will be displayed in a manual mode workout and indicates the total time that the propulsion system has been running in the current workout. It is only active in manual mode.

Remaining Time will be displayed in a Smart Workout and indicates how much time is left to complete the workout.

⓮ **Step in Cycle** indicates the time you have been in a specific workout step.

NOTE: If the topside control touch screen becomes erratic or will not function correctly, it may need to be synced to the main control pack. To sync the topside control hold the pause button until the display resets and shows "Synchronizing" in the lower left hand corner of the display.

MAST3RPUR™ (IF EQUIPPED)

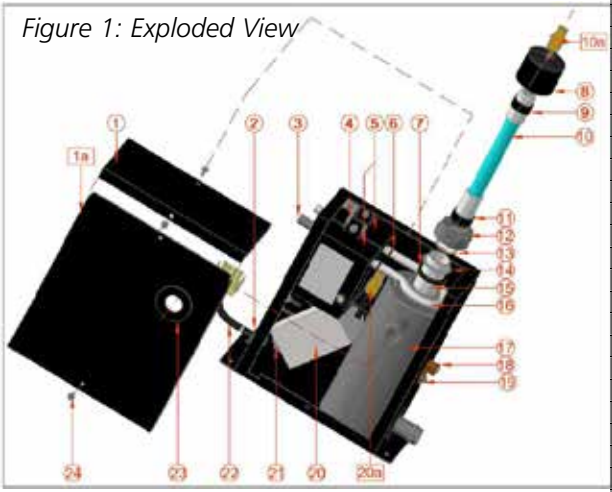
NOTE: This regular maintenance for the Mast3rPur™ system is not covered under the warranty of the swim spa.

WARNING – BEFORE PERFORMING ANY MAINTENANCE ON THE MAST3RPUR™ SYSTEM, MAKE SURE THE SWIM SPA IS SHUT DOWN.

Your Mast3rPur UV/Ozone system will require the following regular maintenance to allow continued, optimal operation.

- Quartz Tube (15) should be cleaned every six months of usage.
- UV-C Lamp (20) - needs replaced every 12 months of usage (during a drain and refill maintenance point falling between this time frame).
- Ozone Cell (5) - needs replaced every 12-18 months, during a swim spa drain and refill. **NOTE:** Please contact your Master Spas Dealer or service organization to perform this maintenance for you.

Figure 1: Exploded View



KEY	DESCRIPTION
1	ENCLOSURE TOP COVER
1a	ENCLOSURE FRONT COVER
2	STRAIN RELIEF
3*	AIR FILTER
4**	BRACKET: DUAL OZONE CELL
5***	OZONE CELL
6**	OZONE HOSE CLAMP
7	QUARTZ SEAL GASKET
8	BOOT COVER
9	UPPER CUSHION
10	UV LAMP
10a	LAMP CONNECTOR
11	LOWER CUSHION
12	COMPRESSION NUT
13	PLASTIC WASHER
14	COMPRESSION WASHER
15	QUARTZ TUBE
16**	OZONE CONNECTION HOSE
17	REACTION CHAMBER
18	GROUND LUG
19	HEX NUT
20	ELECTRONIC BALLAST
20a	BALLAST CONNECTOR
21	8 - 32x1/4" SCREW
22	POWER CORD
23	RUBBER WASHER
24	8 - 32x 5/16" SCREW

*Item 3 as shown is for 2 ozone cells models.
**Item 4, 6, 16 are for models with 2 ozone cells only.
***Item 5 as shown is for 2 ozone cell models

QUARTZ TUBE (6) CLEANING INSTRUCTIONS

DANGER – Turn the swim spa breaker to OFF position.

A. Open the swim spa controller's cover and disconnect the unit from the swim spa controller.

B. Drain the swim spa.

WARNING – Allow UV-C lamp (10) to cool down prior to removing from the unit.
DANGER – Never look at the lit UV-C lamp (10). This can cause severe eye damage or blindness.

C. Remove water hoses from the unit as well as water inlet/outlet barbs and drain water out of the unit completely. Fold the water hoses and secure with clamp locking pliers to stop water from running out from the swim spa before removing them from the unit.

D. Remove enclosure top cover (1) from the unit.

E. Make sure to use latex glove when handling the UV-C lamp (10).

F. Disconnect UV-C lamp connector (10a) from ballast connector (20a).

G. Slowly remove UV-C lamp (10) from quartz tube (15).

H. Remove quartz seal compression nut (12).

I. Use bare hands carefully to remove quartz seal gasket (7) and metal compression washer (14) that go over the quartz tube. Do not use any metal tools.

J. Carefully remove the quartz tube (15).

WARNING – Be very careful when handling broken glass to avoid injury, and wipe off any spilled water inside the unit.

K. Clean the quartz tube (15) with paper towel or dry cotton cloth. Do not use abrasive cleaner as that can scratch the quartz tube surface. Household tub and shower lime removal products can be used if needed. Rinse the quartz tube (15) with clean water to completely remove any cleaning products that were used.

L. Install the quartz seal gasket (7) over the opened end of the new quartz tube (15). Place the new quartz tube (15) into the unit with the domed end first making sure it is inserted and seated inside the quartz end holder on the bottom of the reaction chamber. Only about 1/8″ of quartz tube (15) will be exposed when it is seated correctly.

M. Reinstall the compression washer (14) over the open end of the quartz tube (15). Push it against the quartz seal gasket (7).

N. Reinstall and HAND TIGHTEN the quartz seal compression nut (12) by turning it clockwise until it stops. Add another quarter of a turn by using a pair of Channel Lock pliers.

O. Securely re-connect water hoses to the unit water inlet and outlet barbs.

P. Fill the swim spa. Make sure no water is dripping from the seal compression nut (12). If water is visible, STOP and tighten the compression nut another quarter of a turn with a pair of Channel Lock pliers to make sure it's completely sealed. Make sure there is no water leaking anywhere before proceeding to the next step.

Q. Turn the breaker back on. Turn on the pump to circulate the water through the unit. Wait for 5 minutes and assure no water is dripping. If water is visible, STOP, fix the leak by repeating the quartz tube maintenance process from step (a) to step (o). Ensure no water dripping from the seal compression nut (12) or water inside quartz tube (15) before proceeding to next step.

R. Turn the pump OFF, then turn the breaker OFF before proceeding to the next step.

S. Slide the UV-C lamp (10) back inside the quartz tube (15).

T. Reconnect the UV-C lamp connector (10a) to the ballast connector (20a). Make sure the connectors mate completely. Do not use force. Line up the locking tabs on connector (10a) with connector (10b).

U. Reinstall the enclosure top cover (1) then secure with screws removed previously.

V. Reconnect the water hoses back to the unit & secure with clamps.

W. Reconnect the unit to the swim spa controller and reinstall the swim spa controller's cover.

X. Turn ON the power to the swim spa.

Y. Once power is activated you can check the LEDs to see if the unit is functioning. A solid green light indicates the unit is being provided power and should always be on. A solid blue light indicates that UV-C lamp is activated.

NOTE: Only use a proper replacement UV-C lamp (10), which can be acquired through your Master Spas Dealer or service organization.

UV-C LAMP (10) REPLACEMENT INSTRUCTIONS

DANGER – Turn the swim spa breaker to OFF position.

A. Open the swim spa controller's cover and disconnect the unit from the swim spa controller.

WARNING – Allow UV-C lamp (10) to cool down prior to removing from the unit.

DANGER – Never look at the lit UV-C lamp (10). This can cause severe eye damage or blindness.

B. Drain the swim spa.

C. Remove water out of the Mast3rPur unit completely.

D. Remove enclosure top cover (1).

E. Make sure to use latex gloves when handling the UV-C lamp (10).

F. Slowly disconnect the old UV-C lamp connector (10a) from ballast connector (20a).

G. Slowly remove old UV-C lamp (10) from quartz tube (15). Save the upper cushion (9) and lower cushion (11).

H. Install the upper cushion (9) and lower cushion (11) to the NEW UV-C lamp (10).

I. Slide the NEW UV-C lamp (10) into the quartz tube (15).

J. Reconnect the NEW UV-C lamp connector (10a) to the ballast connector (20a). Make sure the connectors mate completely. Do not use force. Line up locking tabs on connector (10a) to connector (20a).

K. Reinstall the enclosure top cover (1) and secure with the screws removed previously.

L. Reconnect the unit to the swim spa controller and reinstall the swim spa controller's cover.

M. Turn ON the power to the swim spa.

N. Once power is activated you can check the LEDs to see if the unit is functioning. A solid green light indicates the unit is being provided power and should always be on. A solid blue light indicates that UV-C lamp is activated.

WARNING – The UV-C lamp used in this unit contains mercury. Properly dispose the old UV-C lamp in accordance with disposal laws. See www.lamprecycle.org.

SOFTTREAD™ FLOOR SYSTEM BY SWIMDEK® (IF EQUIPPED)

The exclusive SoftTread Nonslip Comfort Floor System by SwimDek is available as a premium option on swim spas manufactured by Master Spas to provide better grip, traction and comfort on both the steps and floor of the swim spa. Making our swim spas as safe and easy as possible to use while getting in, out, or exercising.

CARE & MAINTENANCE RECOMMENDATIONS:

- SoftTread Nonslip Comfort Floor System by SwimDek cleans easily with soap, hot water and a brush (soft to medium bristle stiffness). Chlorine/bleach and water mixture, isopropyl rubbing alcohol or other household cleaner such as SoftScrub, Simple Green and 409 can be used to clean the pads.
- Be sure any soap or cleaning product is thoroughly rinsed from the pads and swim spa shell and this residue is removed before re-filling swim spa to prevent foaming.
- Always promptly attend to and clean any noticeable stains.

Never:

- Treat your water with bromine if SoftTread is installed on your swim spa.
- Allow stains to develop without promptly being attended to and cleaned.
- Clean with acid based cleaning products.
- Use acetone or mineral spirits on SoftTread Nonslip Comfort Floor System by SwimDek or swim spa shell as damage caused to the swim spa shell from these chemicals would not be warranted.

SoftTread is a registered trademark of Hyperform, Inc., dba SwimDek.

NOTE: SoftTread is not compatible with the use of bromine sanitizer. Do not use this chemical if your swim spa is equipped with the SoftTread Floor System.

SWIM SPA CARE AND MAINTENANCE RECORD

MAINTENANCE AVERAGE TIMETABLES

Below is a list of routine maintenance and the guidelines on how often they should be done. The frequency in which these actions should be performed may vary depending on bather load and how often you use your swim spa.

- Test GFCI - Before each use
- Clean Filter Cartridge - at least once a month
- Clean and Condition Swim Spa Cover - twice a month
- Drain and Clean Swim Spa - every 6 months

MAINTENANCE LOG

Use the following lines to document your swim spa care and maintenance.

MAINTENANCE PERFORMED	DATE	DATE	DATE

SPA CARE AND MAINTENANCE RECORD

MAINTENANCE PERFORMED	DATE	DATE	DATE

SPA CARE AND MAINTENANCE RECORD

MAINTENANCE PERFORMED	DATE	DATE	DATE

SPA CARE AND MAINTENANCE RECORD

MAINTENANCE PERFORMED	DATE	DATE	DATE

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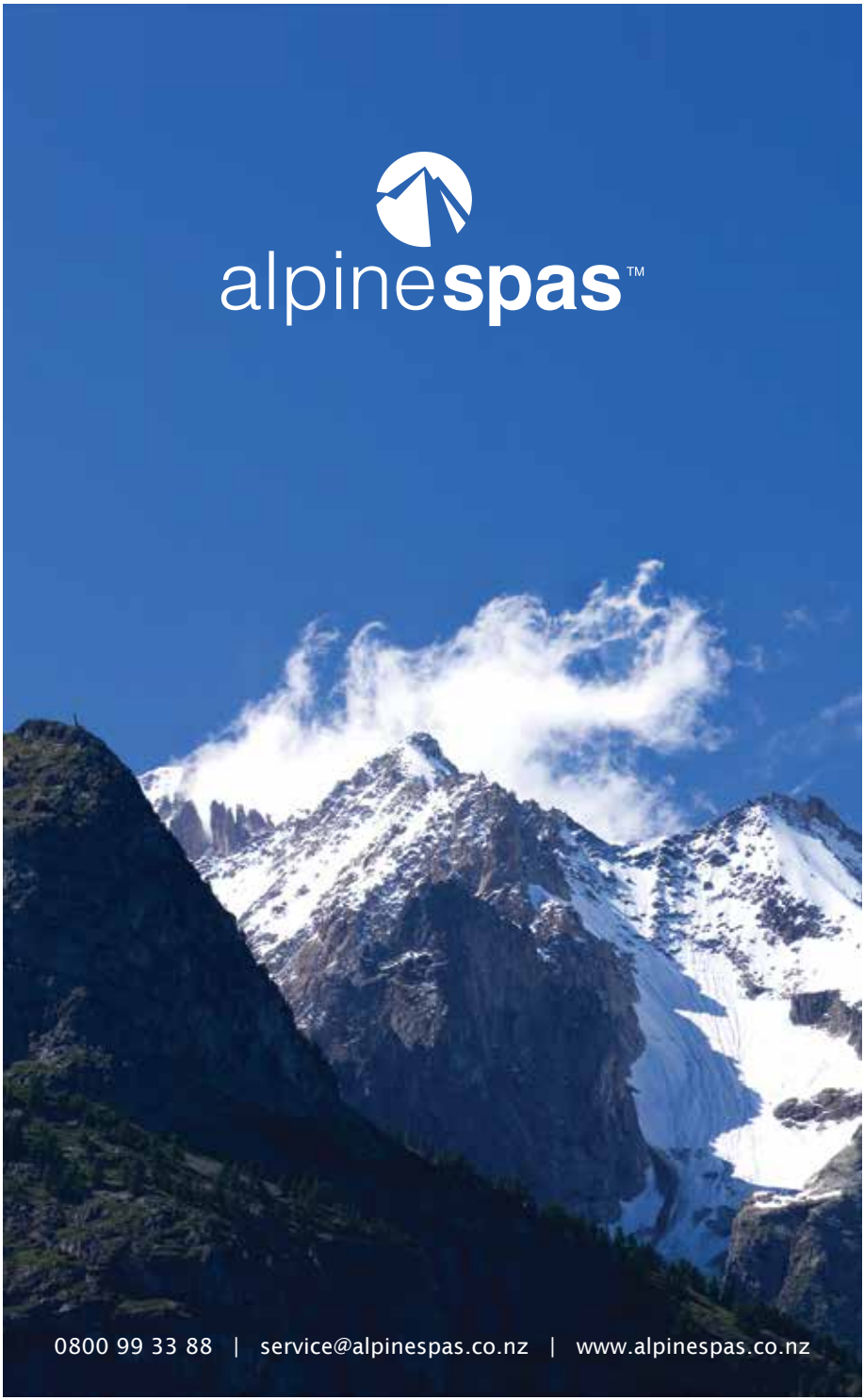
SPA CARE AND MAINTENANCE RECORD

MAINTENANCE PERFORMED	DATE	DATE	DATE

SPA CARE AND MAINTENANCE RECORD

MAINTENANCE PERFORMED	DATE	DATE	DATE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