



# MICHAEL PHELPS SIGNATURE SWIM SPAS™

 BY MASTER SPAS



## OWNER'S MANUAL

YOU DON'T HAVE TO BE MICHAEL PHELPS  
TO TRAIN LIKE MICHAEL PHELPS



# MASTER SPAS OWNER'S MANUAL

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## Welcome To Ultimate Relaxation!

Thank you for choosing your new swim spa built by Master Spas. 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 reserves the right to change or improve its product without prior notice. Please visit [www.masterspas.com](http://www.masterspas.com) to check for product information updates and click the Resources link on the page to review support information.

## Record Of Ownership

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone # (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Date Purchased \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Model \_\_\_\_\_ Serial # \_\_\_\_\_

Dealer Name \_\_\_\_\_

Service Tech Rep \_\_\_\_\_

## 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.  
Ex. H181234

## Register Your Swim Spa

Please be sure to register your swim spa so we can efficiently assist with any questions you may have. Until your swim spa has been registered, Master Spas will not have record of your ownership.

To register your swim spa, visit [www.MasterSpas.com](http://www.MasterSpas.com) and click the Resources link on the page. This area will offer Swim Spa Registration capability along with other support information.



6927 Lincoln Parkway  
Fort Wayne, Indiana 46804  
[www.masterspas.com](http://www.masterspas.com)

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# SAFETY INSTRUCTIONS

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## SAVE THESE INSTRUCTIONS

Included with your new swim spa is a safety sign. The sign is for you and your guest's protection and is suitable for outdoor use in wet locations. The sign should be placed in a location visible to all users of the swim spa.

Please take time to point out the physical location of the safety sign and the importance of the safety precautions displayed on the safety sign to all of your guests. Remember, your safety and the safety of anyone who enjoys the use of your swim spa is our utmost concern.

The sign should be mounted with screws or another type of permanent fastener. Additional or replacement signs can be obtained from your dealer or direct from the factory.

## 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 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 read and become thoroughly familiar with all safety aspects addressed in this manual.

Through reading and totally understanding the important information in your owner's manual, you will realize that you now own **THE ULTIMATE RELAXATION MACHINE!**

# NO DIVING

**DANGER: DIVING MAY  
RESULT IN SERIOUS  
INJURY OR DEATH.**



## IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should be observed including the following:

### READ AND FOLLOW ALL INSTRUCTIONS

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

A wire conductor is provided on this unit to connect a minimum 6 AWG (13.302mm<sup>2</sup>) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit.

(For cord-connected/convertible units)

**DANGER** – Risk of injury.

- a) Replace damaged cord immediately.
- b) Do not bury cord.
- c) Connect to a grounded, grounding type receptacle only.

(For units intended for indoor use only)

**WARNING** – For indoor use only. This unit is not intended for outdoor use.

(For units intended for outdoor use only)

**WARNING** – For outdoor use only. This unit is not intended for indoor use.

## SAFETY INSTRUCTIONS

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# NO DIVING

**DANGER: DIVING MAY  
RESULT IN SERIOUS  
INJURY OR DEATH.**



## IMPORTANT SAFETY INSTRUCTIONS (CONT.)

(For units with GFCI)

**WARNING** – This product is provided with a ground-fault circuit interrupter located on the front panel of selected swim spas and on the power cord of 120 volt convertible spas. The GFCI must be tested before each use. With the product operating, open the service door. When the product stops operating, this merely indicates that the door is equipped with an electrical interlock. Next, push the test button on the GFCI and close the service door. The product should not operate. Now open the service door, push the reset button on the GFCI and close the service door. The product should now operate normally. When the product fails to operate in this manner, there is a ground current flowing indicating the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.

**DANGER** – Risk of Accidental Drowning. Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this swim spa unless they are supervised at all times.

**DANGER** – Risk of Injury. The suction fittings in this swim spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible.

Never operate swim spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

**DANGER** – Risk of Electric Shock. Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a swim spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected by a minimum 8AWG (8.4mm<sup>2</sup>) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.

**DANGER** – Risk of Electric Shock. Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 feet (1.5 m) of a swim spa.

**WARNING** – To reduce the risk of injury:

- a) The water in a swim spa should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when swim spa use exceeds 10 minutes.

<b>NO DIVING</b>	<b>DANGER: DIVING MAY RESULT IN SERIOUS INJURY OR DEATH.</b>	
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## IMPORTANT SAFETY INSTRUCTIONS (CONT.)

- b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit water temperatures to 100°F (38°C).
- c) Before entering a swim spa, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies.
- d) The use of alcohol, drugs, or medication before or during swim spa use may lead to unconsciousness with the possibility of drowning.
- e) Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a swim spa.
- f) Persons using medication should consult a physician before using a swim spa since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

(For swim spas with a gas heater)

**WARNING** – Risk of Suffocation. This swim spa is equipped with a gas heater and is intended for outdoor use only unless proper ventilation can be provided for an indoor installation.

## SAVE THESE INSTRUCTIONS

### HYPERTHERMIA

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). Prolonged immersion in hot water may induce hyperthermia.

THE SYMPTOMS OF HYPERTHERMIA INCLUDE:

- Dizziness • Fainting • Drowsiness • Lethargy
- Increase in Internal Body Temperature

THE EFFECTS OF HYPERTHERMIA INCLUDE:

Unawareness of Impending Hazard • Failure to Perceive Heat • Failure to Recognize the Need to Exit Swim Spa • Physical Inability to Exit Swim Spa • Fetal Damage in Pregnant Women • Unconsciousness Resulting in a Danger of Drowning



## SAFETY INSTRUCTIONS

# NO DIVING

**DANGER: DIVING MAY  
RESULT IN SERIOUS  
INJURY OR DEATH.**



## IMPORTANT SAFETY INSTRUCTIONS (CONT.)

**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.

**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 at least 3 feet 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** – Risk of Electrical Shock. Do not leave audio compartment open. Audio CD controls are not to be operated while inside the swim spa.

**CAUTION** – Replace components only with identical components.

**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 the 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.

<b>NO DIVING</b>	<b>DANGER: DIVING MAY RESULT IN SERIOUS INJURY OR DEATH.</b>	
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## IMPORTANT SAFETY INSTRUCTIONS (CONT.)

The unit should be subjected to periodic routine maintenance once every quarter to make sure that the swim spa it is operating properly.

**DANGER – Risk of Electric Shock.** A green colored terminal or a terminal marked G, GR, Ground, Grounding or the symbol shown in Figure 14.1 of UL 1563 is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.

At least two lugs marked “Bonding Lugs” are provided on the external surface or on the inside of the supply terminal box or compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the swim spa to these terminals with an insulated or bare copper conductor not smaller than 8AWG.

All field installed metal components such as rails, ladders, drains, or other similar hardware within 10 feet (3m) of the swim spa shall be bonded to the equipment grounding bus with copper conductors not smaller than 8AWG.

## SAVE THESE INSTRUCTIONS

# SAFETY INSTRUCTIONS

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

**AVERTISSEMENT:** NE PAS LAISSER LES ENFANTS UTILISER UNE CUVE DE RELAXATION SANS SURVEILLANCE.

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

**AVERTISSEMENT:** POUR ÉVITER QUE LES CHEVEUX OU UNE PARTIE DU CORPS PUISSENT ÊTRE ASPIRES, NE PAS UTILISER UNE CUVE DE RELAXATION SI LES GRILLES DI PRISE D'ASPIRATION NE SONT PAS TOUTES EN PLACE.

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

**AVERTISSEMENT:** LES PERSONNES QUI PRENNENT DES MÉDICAMENTS OU ONT DES PROBLÈMES DE SANTÉ DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.

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

**AVERTISSEMENT:** LES PERSONNES ATTEINTES DE MALADIES INFECTIEUSES NE DEVRAIENT PAS UTILISER UNE CUVE DE RELAXATION.

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

**AVERTISSEMENT:** POUR ÉVITER DES BLESSURES, USER DE PRUDENCE EN ENTRANT DANS UNE CUVE DE RELAXATION ET EN SORTANT.

**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.

**AVERTISSEMENT:** POUR ÉVITER L'ÉVANOUISSEMENT ET LA NOYADE ÉVENTUELLE, NE PRENDE NI DROGUE NI ALCOOL AVANT D'UTILISER UNE CUVE DE RELAXATION NI QUAND ON S'Y TROUVE.

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

**AVERTISSEMENT:** LES FEMMES ENCEINTES, QUE LEUR GROSSESSE SOIT CONFIRMÉE OU NON, DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.

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

**AVERTISSEMENT:** IL PEUT ÊTRE DANGEREUX POUR LA SANTÉ DE SE PLONGER DANS DE L'EAU A PLUS DE 38°C.

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

**AVERTISSEMENT:** AVANT D'UTILISER UNE CUVE DE RELAXATION MESURER LA TEMPÉRATURE DE L'EAU À L'AIDE D'UN THERMOMÈTRE PRÉCIS.

# SAFETY INSTRUCTIONS

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

**AVERTISSEMENT:** NE PAS UTILISER UNE CUVE DE RELAXATION IMMÉDIATEMENT APRÈS UN EXERCISE FATIGANT.

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

**AVERTISSEMENT:** L'UTILISATION PROLONGÉE D'UNE CUVE DE RELAXATION PEUT ÊTRE DANGEREUSE POUR LA SANTÉ.

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

**AVERTISSEMENT:** NE PAS PLACER D'APPAREIL ÉLECTRIQUE (LUMINAIRE, TÉLÉPHONE, RADIO, TÉLÉVISEUR, ETC) À MOINS DE 1.5 M DE CETTE CUVE DE RELAXATION.

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

**ATTENTION:** LA TENEUR DE L'EAU EN MATIÈRES DISSOUTES DOIT ÊTRE CONFORME AUX DIRECTIVES DU FABRICANT.

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, DRUGS OR MEDICATIONS CAN GREATLY INCREASE THE RISK OF HYPERTHERMIA.

LA CONSOMMATION D'ALCOOL, DE DROGUE OU LES MÉDICAMENTS AUGMENTE CONSIDÉRABLEMENT LES RISQUES D'HYPERTHERMIE MORTELLE.

# COMPLIANCE

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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
- 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
- 206/95/EC EC Low Voltage Directive
- 204/108/EMC Directive
- 93/68/EEC CE Marking 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 SUCTION SAFETY & MAINTENANCE INSTRUCTIONS

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## 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 as described on the previous page.



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

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## **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 Master Spas for Suction Installation information for complete suction assembly replacement.

# GLOSSARY OF SWIM SPA TERMINOLOGY

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Your new Master Spas 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 Master Spas swim spa may have a combination of pulsating, rotating, dual pulsating and directional adjustable jets.

## 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.



# GLOSSARY OF SWIM SPA TERMINOLOGY

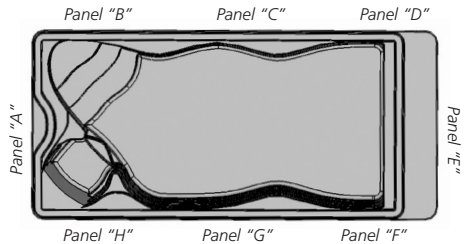
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## 9. PERSONAL REMOTE CONTROL (if equipped)

Select swim spa models may have an additional remote which allows the user to control the jet therapy while remaining in the seat (if applicable). By pressing the control one time, you will activate the pump. Press again for high speed and again to turn it off.

## 10. ACCESS PANELS

These are the skirt panels located around all four sides of the swim spa. All of the skirt panels are removable should service be required. Master Spas recommends at least 3 feet of space be provided around the swim spa.



## 11. EQUIPMENT ACCESS PANEL

This is the skirt 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.

## 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 I" button on the Topside Control Panel.

# GLOSSARY OF SWIM SPA TERMINOLOGY

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## 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 II” 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 III 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 plumbing 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 skirt 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 Only)

You may safely control the speed of the propulsion system from the inside of your swim spa by using the buttons on the control panel mounted in the swim area. This control panel is used to turn the propulsion system on and off and to adjust the intensity of the water flow. Your swim spa may have one of three propulsion systems depending on the equipment option: Wave, Wave XP, or Wave XP Pro. All three systems operate in the same manner using the control panel mounted on the swim end of your swim spa. This control panel may be safely used from inside or outside of the swim spa to operate the propulsion system.

# THE ADVANTAGES OF ECOPUR® CHARGE

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## 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 hot tub'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

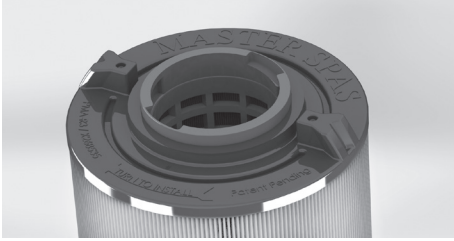


PATENTS PENDING

# THE ADVANTAGES OF ECOPUR® CHARGE

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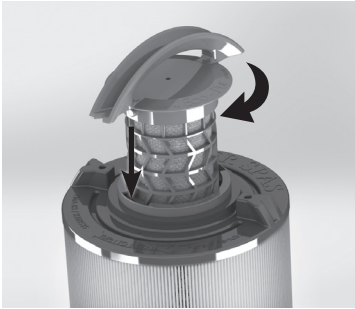
## ECOPUR® CHARGE INSTALLATION



Master Spas Outer Filter



EcoPur® Charge

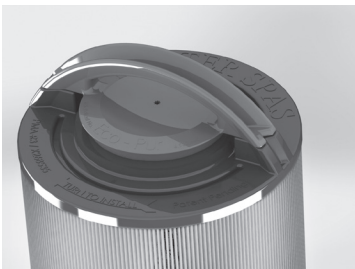


Turn Clockwise to Lock

**Step 1:** Insert EcoPur® Charge in to outer filter.

**Step 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.



PATENTS PENDING

# WATER CHEMISTRY TERMS YOU SHOULD KNOW

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Before jumping into Water Maintenance, here are some terms to help you.

- 1. Parts per million, or ppm:** This is a form of measurement used in most pool or swim spa chemical readings. Best described as any one million like items of equal size and make up, next to one unlike item, but of equal size. This would be one part per million.
- 3. Total Alkalinity:** Measures substances in your water such as hydroxides, carbonates and bicarbonates. When at the proper levels, these elements keep your water from clouding and growing bacteria, as well as prevent the inner workings of your swim spa from deteriorating or forming scale. TA also helps to stabilize pH. The higher the TA level (as long as it is within the recommended range), the less likely the pH is to change. You are looking for a range between 80 - 120 ppm. With low alkalinity, the pH will fluctuate and be harder to control. With high alkalinity, it becomes extremely difficult to change the pH.
- 4. pH or potential hydrogen:** This indicates the acidity or basicity of the water. The goal is to have a neutral, stable pH to prevent spa damage and unhealthy conditions. Low pH levels can corrode metals, etch or stain fiberglass or acrylic, cause unsanitary conditions that irritate the eyes or skin and destruct the total alkalinity of the water. High pH can cause cloudy water, eye or skin irritation, scale formation and poor chlorine or bromine efficiency. Note that the chemicals you are using to sanitize and clean your hot tub can also lower or raise the pH level in the water. You want this range to fall between 7.2 - 7.6 on the scale. Unfortunately, there are lots of variables to preventing high pH in your swim spa. You can use the chart to the right to help you balance it.
- 5. Shocking:** By shocking the water in your hot tub, you remove organic compounds from the water, kill bacteria, remove bromamines or chloramines and reactivate the bromides in the spa for cleaner water. You should shock your water once a week, after heavy bather use or any time free chlorine levels test lower than total chlorine levels. To do this, either add oxidizer/non-chlorine shock to burn off the chloramines or add extra chlorine to raise the chlorine level above 8 ppm. Oxidizer/non-chlorine shock acts by releasing oxygen in the water, which serves a similar function as chlorine. An advantage to using this type of shock is that the water is safe to enter after 15 minutes of the application and excessive sanitizer (chlorine) levels do not occur. However, an oxidizer/non-chlorine shock doesn't disinfect the water for bacteria. If you use chlorine to shock, you must wait until the total chlorine reading is below 5 ppm.
- 6. Sequestering:** This can be defined as the ability to form a chemical complex which remains in solution, despite the presence of a precipitating agent (i.e. calcium and metals). If the minerals and metals in water are not sequestered, they can cause a reaction, turning the water brown, red, orange or green depending on the minerals and metals present in your water. It is important to add a sequestering agent when adding water to your hot tub and even on a regular basis (if bottle instructions recommend doing so). Common names for sequestering chemicals are; minquest, stain and scale control, metal-x, spa defender, spa metal gone, (etc.).
- 7. Filtration:** Filters are necessary to remove particles of dust, dirt, algae, etc. that are continuously entering the water. If the swim spa is not operated long enough each day for the filter to do a proper job, this puts a burden on the chemicals, causing extra expense. Filtration time will depend on the water capacity, pump and filter size and, of course, bather load. Spare filter cartridges should be kept on hand to make it easy to frequently clean the cartridge without the need for a long shut down. This will also allow the cartridge to dry out between usages, which will increase the cartridge life span as much as twice. Replace the cartridge when the pleats begin to deteriorate. Cartridge cleaning should be done a minimum of once a month. More often with a heavy bather load. See "Filter Cleaning" in the Regular Maintenance section.

# WATER CHEMISTRY TERMS YOU SHOULD KNOW

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8. **Sanitizers:** Germs and bacteria enter the water from the environment and the human body; a sanitizer keeps the water balanced and safe to use. Either chlorine or bromine can be used as a sanitizer to create a healthy water environment.
  - A. Chlorine:
    1. Only one type is approved for swim spa use. Sodium dichlor which is granular, fast dissolving and pH neutral chlorine.
    2. Chlorine is an immediate sanitizer and will be added as needed to maintain free chlorine levels between 2.0 to 4.0 ppm.
  - B. Bromine (Note: Bromine use is not recommended with EcoPur filters.)
    1. Two types of tablets:
      - a. Hydrotech
      - b. Lanza
    2. Bromine is a slow dissolve chemical and may take a few days to develop a reserve or reading in the water. Bromine levels should be maintained between 2.0 to 4.0 ppm.
9. **Total dissolved solids (TDS):** Materials that have been dissolved by the water. i.e. Like what happens when you put sugar in coffee or tea.
10. **Useful life of water (in days):** Water should be drained at least once every 180 days. Useful life may vary by usage and bather load.
11. **Defoamer:** A chemical used to temporarily reduce foaming. Causes of foaming include body oils, cosmetics, lotions, surface cleaners, high pH or algae, as well as other organic materials. Low levels of calcium or sanitizer can also cause increased foaming. Note that you may need to physically remove the foam and/or drain all or part your water to remove or dilute the causes of the foam.
12. **Calcium hardness:** This measurement tells you how much magnesium and calcium are in your water. However, calcium hardness can react with all of the chemicals, bacteria, dirt and other substances that your water dissolves and get thrown out of balance. Just like the other elements, calcium levels must remain balanced and need to be monitored or you run the risk of metal deterioration, water foaming or clouding and scale formation at the surface of your water. The calcium hardness of your water should fall between 150 - 250 ppm.

**NOTE:** Always leave swim spa cover open for 15 minutes after adding chemicals to prevent the off gas from damaging your swim spa cover, swim spa pillows, stainless steel hardware and other critical parts.

# WHY ARE CHEMICALS IMPORTANT IN A SWIM SPA

## **1. Evaporation:**

As water evaporates, only pure water evaporates, leaving the salts, minerals, metals, and any unused chemicals behind. Adding water adds more salts, minerals, and metals. In time, the water can become saturated with these dissolved solids and can cause stains or scale to form on the walls of the swim spa or a scale build up inside the equipment. Colored or cloudy water and possible corrosion of plumbing and fittings may also occur.

## **2. Heat:**

Heat causes much quicker evaporation and also will cause minerals and metals to precipitate out of solution.

## **3. Air:**

Dust and other airborne contaminants are introduced into the swim spa.

## **4. Environment:**

The environment surrounding the swim spa can also impact the water quality. Items such as pollen, grass, sand, dirt, lawn fertilizer, airborne dust, insects, leaves, and pets can all affect the water quality of the swim spa.

## **5. Bathers:**

As the swim spa is used, bathers introduce contaminants to the water. Increased bather load, length of use and frequency will increase the amounts of contaminants added in to the water.

## **Remember:**

The maintenance routines set forth in this manual may need to be adjusted depending on bather load and how much the swim spa is being used.

# WATER MAINTENANCE – START-UP

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- Step 1:** Your swim spa should be filled using a Pre-filter, which can be obtained from your local dealer. This Pre-filter will help remove many of the minerals existing in the water, which will make adjusting the water balance easier after a new fill. Never use more than 50% softened water when filling the swim spa.
- Step 2:** During the initial filling of the swim spa, add a sequestering agent to combat suspended minerals in the water. The agents are sold under many different names such as Mineral Clear or Metal Protect. Allow water to circulate and filter for at least 30 minutes (or per bottle recommendations) before adding any other chemicals.
- Step 3:** Test water for pH, total Alkalinity, and Calcium hardness. The pH should be 7.4 - 7.6 and the total Alkalinity 100 - 120 ppm. Calcium hardness levels should be maintained between 150 and 250 ppm (part per million).
- Step 4:** Adjust pH and total Alkalinity (TA) utilizing the directions on the chemical bottles. Wait 15 minutes, test and adjust if necessary.
- Step 5:** It may be necessary to retest and add additional chemicals to get to the proper levels in Step 3.
- Step 6:** Add concentrated chlorinating granules\* (sodium Dichlor-s-triazinetreone) to reach a Free Chlorine level of 5 to 8 ppm on initial start up to begin sanitizing the swim spa water. Bathers should not enter the swim spa until the chlorine levels drop below 5.0 ppm. Always refer to the chemical manufacturers dosage recommendations listed on the container. It is important not to add the chlorinating granules until the pH, alkalinity and calcium hardness have been adjusted to their proper levels.

## \*SPECIAL NOTE:

We recommend a minimum level of 2.0 ppm residual free chlorine be maintained in swim spa water. Always refer to the chemical manufacturer's dosage recommendations listed on the container.

When adding chlorine or non-chlorine shock/oxidizer always spread it across the water while the pumps are running.

The quantities of sanitizer and oxidizer shown in this manual are for 500 gallons and may have to be adjusted depending on the actual amount of water that your swim spa holds. See the specifications section of this manual for the correct gallons of your swim spa.

The concentration of active ingredients in swim spa chemicals varies by manufacturer. The amounts of sanitizer suggested in this manual are based on swim spa chemicals that have the active ingredient percentages listed below:

Chlorine	Non-Chlorine Shock/ Oxidizer
Active ingredient:	Active ingredient:
Sodium dichlor ..... 99%	Potassium peroxymonosulfate ..... 42.8%
Other ingredients..... 1%	Inert ingredients..... 57.2%
Total..... 100%	Total..... 100%



# WATER MAINTENANCE – SCHEDULE

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## BEFORE EACH USE

Check swim spa water with a test strip for proper sanitation levels and adjust accordingly to the proper levels. Free chlorine level should be 2.0 - 4.0 ppm. Appropriate levels should be present before use of the swim spa. Bathers should not enter the swim spa if total chlorine levels are above 5.0 ppm or if free chlorine levels are below 2.0 ppm.

## ONCE A WEEK

Add non-chlorine shock/oxidizer\* or chlorine\* to swim spa to help maintain the water quality.

## 3 TIMES A WEEK

Test water using chemical test strips. Adjust sanitizer, pH and Alkalinity accordingly. The total alkalinity should be between 100 - 120 ppm and the PH should be between 7.4 - 7.6. If free chlorine level measures less than total chlorine level, additional non-chlorine shock/oxidizer\* treatment is necessary.

## ONCE A MONTH

Soak your regular filter elements overnight in a container with swim spa Filter Cleaner and then rinse with clean water. For best results, allow the filter to dry before re-inserting. (The EcoPur® mineral element should never be cleaned in a filter cleaner. Just rinse with water.) When cleaning filters, be sure to never have the pumps (including the circulation pump) running without the filters in place. Failure to do so may result in debris being drawn into the pumps causing unwarranted damage. See the “clean your filter elements” in the maintenance section of this manual for more information.

## EVERY 180 DAYS

Drain and refill your swim spa with fresh water, install a new EcoPur® filter element, clean the regular filter, and repeat start up procedure. The regular filter should be replaced at least once every year.

## AFTER EACH USE

Add non-chlorine shock/oxidizer\* or chlorine\* to the swim spa water.

### \*SPECIAL NOTE:

We recommend a minimum level of 2.0 ppm residual free chlorine be maintained in swim spa water. Always refer to the chemical manufacturer’s dosage recommendations listed on the container.

When adding chlorine or non-chlorine shock/oxidizer always spread it across the water while the pumps are running.

The quantities of sanitizer and non-chlorine oxidizer shown in this manual are for 500 gallons and may have to be adjusted depending on the actual amount of water that your swim spa holds. See the specifications section of this manual for the correct gallons of your swim spa.

The concentration of active ingredients in swim spa chemicals varies by manufacturer. The amounts of sanitizer suggested in this manual are based on swim spa chemicals that have the active ingredient percentages listed below:

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Active ingredient:	Active ingredient:
Sodium dichlor ..... 99%	Potassium peroxymonosulfate ..... 42.8%
Other ingredients..... 1%	Inert ingredients ..... 57.2%
Total..... 100%	Total..... 100%

# WATER MAINTENANCE – SCHEDULE

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## AS NEEDED

If water looks hazy, check PH and Total Alkalinity, and treat with chlorine\*. Always refer to the chemical manufactures dosage recommendations listed on the container. Free chlorine levels should be maintained between 2.0 - 4.0 ppm.

These are general recommendations for water maintenance that may vary by usage and bather load. Depending on bather load and frequency of use, drain and refill times may vary as well as the frequency of cleaning your filters.

A defoamer may be used when excessive foaming occurs. Over use of a defoamer will result in cloudy, milky water.

## USE ONLY SWIM SPA CHEMICALS

Do not use chemicals designed for use in swimming pools. Swim spa chemicals are the same as spa chemicals.

With a swim spa you are working with a small volume of hot water compared to a large volume of relatively cool water in a swimming pool. Because of this, chemicals will have a shorted life span and bacteria can grow more quickly than in a swimming pool. A swim spa is less forgiving then a pool and requires that whatever is put into it have a pH as close to neutral as possible. That is why only chemicals made for swim spas should be used. Always refer to the chemical manufactures dosage recommendations listed on the container.

### \*SPECIAL NOTE:

We recommend a minimum level of 2.0 ppm residual free chlorine be maintained in swim spa water. Always refer to the chemical manufacturer's dosage recommendations listed on the container.

When adding chlorine or non-chlorine shock/oxidizer always spread it across the water while the pumps are running.

The quantities of sanitizer and oxidizer shown in this manual are for 500 gallons and may have to be adjusted depending on the actual amount of water that your swim spa holds. See the specifications section of this manual for the correct gallons of your swim spa.

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Chlorine	Non-Chlorine Shock/ Oxidizer
Active ingredient:	Active ingredient:
Sodium dichlor ..... 99%	Potassium peroxymonosulfate ..... 42.8%
Other ingredients..... 1%	Inert ingredients..... 57.2%
Total..... 100%	Total..... 100%

# WATER MAINTENANCE – TROUBLE-SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES	HOW TO FIX IT
<b>CHLORINE ODOR</b>	Excessive chlorine	Shock water with oxidizer/non-chlorine shock treatment
	Low pH	Adjust pH if necessary
<b>WATER ODOR</b>	Low levels of sanitizer	Adjust sanitizer level with chlorinating granules
	pH out of range	Adjust pH if necessary
	Bacteria or algae growth	If sanitizer has already been adjusted, it may be necessary to perform a system flush
<b>CLOUDY WATER</b>	Dirty filters or inadequate filtration	Clean filters with filter cleaner and adjust filtration
	Unbalanced water chemistry	Test and adjust chemistry levels
	Old water	Drain, clean inner shell and refill with filtered water
<b>CLOUDY AND GREEN WATER</b>	Total alkalinity levels are low	Use a pH increaser
	Sanitizer levels are low	Apply oxidizer/non-chlorine shock treatment and adjust sanitizer
<b>CLEAR GREEN WATER</b>	High iron or copper content	Use a sequestering agent
	Sanitizer levels are low	Apply oxidizer/non-chlorine shock treatment
<b>BROWN WATER</b>	High iron or manganese level	Use a sequestering agent
<b>FOAMING</b>	High levels of body oils, lotions, soap, etc.	Add small amount of defoamer, an enzyme product and check water chemistry
	Low calcium hardness	Use a calcium hardness increaser
	Unbalanced water chemistry	Test and adjust chemistry levels
<b>EYE OR SKIN IRRITATION</b>	Unsanitary water	Adjust water chemistry according to testing results
	Total chlorine level above 5 ppm	Apply oxidizer/non-chlorine shock treatment
	Poor sanitizer/pH levels	Adjust pH level as necessary
<b>SCUM DEPOSITS AT WATERLINE</b>	Body oils and dirt	Use multi-purpose cleaner to clean spa surface and add enzyme product to spa water
<b>CHALKY, WHITE SCALE DEPOSITS</b>	Minerals present in the water and lack of sequestering agent use	When tub is drained, use a multi-purpose cleaner or white vinegar and scrub with a soft cloth
<b>PITTING OF METAL FIXTURES</b>	Low pH or total alkalinity	Check water chemistry and adjust

## RECOMMENDED RANGES FOR BALANCED WATER

This table shows the ideal balanced measurements that you are looking for in your testing results. Parts per million (ppm), is a form of measurement used in most pool and spa chemical readings. This is equivalent to one milligram of concentration per liter of water.

Total Alkalinity	80 - 150 ppm
pH	7.2 - 7.6
Chlorine	2 - 4 ppm
Bromine	3 - 5 ppm
Calcium Hardness	180 - 250 ppm

\*Recommended levels stated in this manual are based on industry standards for permanently installed and portable residential swim spas.

# REGULAR MAINTENANCE PROCEDURES

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**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 unscrewing them (counter clockwise) 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.

## 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.

Remove the handle from the top of diverter valve by gently prying up on both sides of the handle assembly at the same time.

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

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

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

Soak the internal rotor assembly in white vinegar.

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.

Rinse the diverter internals and reassemble.

In the future, 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

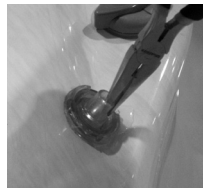
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**NOTE:** These maintenance procedures are the responsibility of the swim spa owner to perform. These procedures are not covered by the swim spa warranty.

## CARE OF LAMINAR FLOW JETS:

In order to keep your Laminar Flow Jets operating properly, follow these instructions in sequence:

- Turn off Laminar Flow Jets
- Remove outer ring by turning face counter clockwise
- Remove internal Jet insert with a pair of needle nose pliers
- Clean plastic filter at the back of the Jet insert so all holes are free of debris
- Reinstall Jet insert and outer ring



**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.

## 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 wear more rapidly. This regular maintenance is not covered under the swim spa warranty. We recommend that your Master Spas Dealer or Service Center be contacted to perform this type of maintenance.

# REGULAR MAINTENANCE PROCEDURES

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**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 FILTER ELEMENTS

- The filter elements are one of the most important components of your swim spa. Not only are they essential for clean water, but they also extend the life of the swim spa equipment. 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.
- Remember to 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.
- Periodically in between monthly cleaning, spray each standard or outer filter element with a garden hose to help remove buildup from filter media surface. Monthly, the standard or outer filter elements should be soaked in a filter cleaner. Check with your local Master Spas dealer for details on cleaning and/or filter replacement recommendations. Do not soak the EcoPur filter cartridge in any cleaners.

## FILTER CLEANING

**NOTE:** Never operate the swim spa without the filters installed. Damage to the pumps and other components could result from operation without filters installed.

**NOTE:** Do not soak the EcoPur filter in a filter cartridge cleaner. Rinse off only.

1. Turn power off to the swim spa.
2. Remove any large or floating debris from the filter area. Slide filter face plate up and out slowly. For the H2X Therapool models, remove filter lid located on top of filter weir to access filters and skip to step 6. All other models move to step 3.
3. Allow the weir door to fall back towards the filters in order to remove the filter housing.
4. Lift up on the plastic housing and the entire housing will pop out.

**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.

5. Pull the plastic skimmer plate out from the filter housing in order to gain access to the filters.
6. Unscrew the filter cartridges and remove for cleaning.
7. The filters should be rinsed off and the non-EcoPur filter(s) (outer if two piece EcoPour combination) should be soaked in a cartridge cleaner. Follow applicable cartridge cleaner instructions.
8. Re-install filters and replace weir housing or filter lid, letting flap of housing fall back prior to sliding housing back down.



**NOTE:** Eco-Pur filters should be replaced every 6 months. Non Eco-Pur filters should be replaced every 12 months or as necessary depending on water quality, filter maintenance and bather load.

# REGULAR MAINTENANCE PROCEDURES

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**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 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.

## 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. 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.

- Be sure to lock down all straps on the cover after each use.
- Do not allow swim spa to sit uncovered in direct sunlight. This may cause damage to exposed surfaces of swim spa and possible discoloration of swim spa fittings.
- Periodically hose off both sides of swim spa cover for maximum life of cover. Once a month use a vinyl cleaner and conditioner on the vinyl portion of your cover. Rinse residue off. See cover manual/instructions for detailed instructions on proper cover care.
- Keep cover open for 15 min. after adding chemicals to prevent off gas damage.

**NOTE:** If your swim spa is going to be left empty for prolonged periods, do not replace cover directly on surface of swim spa. Place 2"-3" blocks between cover and swim spa. This allows for adequate ventilation of cover and swim spa.

**NOTE:** The cover warranty is not part of the limited warranty provided with the swim spa. It is provided through the cover manufacturer and may not be through Master Spas. Check the tags and labeling on your cover to verify manufacturer and refer to the manufacturer's care, maintenance and warranty information. Your dealer can help provide you with these details.

**NOTE:** Always turn water feature valve down so that the water features do not hit the cover when the cover is closed.

## 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.

## CARE OF OPTIONAL EXERCISE EQUIPMENT

The optional exercise equipment package makes it easy to exercise in your own backyard. 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. Also available are ankle fins and exercise bells that will allow you to do resistance training. See your Master Spas dealer for details.

**CAUTION:** Do not leave exercise equipment inside the swim spa when not in use. Do not leave exercise equipment outside exposed to ultra violet rays. 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 your Master Spas dealer. Failure to follow the above guidelines could result in injury.

# REGULAR MAINTENANCE PROCEDURES

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

## **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.
- Clean with steel wool or any other abrasive material.
- 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.**



# REGULAR MAINTENANCE PROCEDURES

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**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**

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.

- Turn off power to your swim spa at the GFCI breaker.
- Carefully lower a submersible pump in to the spa to sit at the lowest point (for Momentum model with the clear divider between the spa end and swim end, always pump out the spa side first and then the swim side).
- Run the hose of your submersible pump to a desired discharge point.
- Plug in or turn on your submersible pump and run it until it has removed all the water that it can.

## **CARE & CLEANING OF SWIM SPA SURFACE**

- Clean the spa shell, jets and other controls with a soft cloth and spa shell cleaner to help remove residue and buildup on the shell surface. For mineral based buildup, white vinegar or mild scale remover product may be necessary to use with a soft cloth for removal. Consult with your local Master Spas dealer for proper swim spa cleaning products.
- Rinse the cleaned surfaces with fresh water from your garden hose and wipe with soft cloth as doing so to help remove residual cleaning agents as some may cause foaming to occur in the water once 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.

## **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.

## **REFILL YOUR SWIM SPA**

- When filling the Momentum swim spa always fill the swim side of the unit before filling the spa side.
- Refer to the Water Maintenance Start-Up section for specific instructions.

# SWIM SPA TROUBLE SHOOTING GUIDE

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**Note:** For wiring outside of U.S. and Canada, GFCI may be referred to as a RCD (residual current device). Be sure all local electrical codes are followed.

## 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 GFCI breaker.



*The swim spa GFCI breaker or disconnect should be located in a weather proof box close to the swim spa.*

**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 GFCI breaker continues to trip, contact your local Master Spas dealer or service company.

## 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.
- C. Check that the air controls are open.

*Refer to Installation Instructions section. If you do not hear anything from the pump, contact your local service company.*

## POOR JET PERFORMANCE

1. Make sure pump is operating.
2. Check that the water level is adequate (up 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.*

# SWIM SPA TROUBLE SHOOTING GUIDE

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**Note: For wiring outside of U.S. and Canada, GFCI may be referred to as a RCD (residual current device). Be sure all local electrical codes are followed.**

## SWIM SPA NOT HEATING

If the swim spas heater has failed, the majority of the time it will trip the GFCI 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 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 GFCI breaker.
7. If swim spa is still not heating, contact your local Master Spas dealer for service.

## GFCI IS TRIPPING

A ground fault circuit interrupter (GFCI) is required by the National Electrical Code for your protection. The tripping of the GFCI 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 GFCI breaker, swim spa component, power fluctuations, and/or improper wiring. If this is a new electrical service and GFCI installation, an instantly tripping GFCI may likely be caused by improper wiring of the load neutral from the GFCI to the swim spa. It may be necessary to contact an electrician if your Master Spas dealer recommends doing so.

# WINTERIZING & STORING YOUR SWIM SPA

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## 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:** Master 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. 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 swim spa drain is not a reasonable option.
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. A non-toxic, RV water line type antifreeze can be used and added to jets in each seat around your swim spa to help prevent freeze damage from occurring. Be sure to thoroughly flush the system before startup.
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 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 spas surface. Always keep the swim spa covered and protected with an insulating swim spa cover. Resulting damage such as cracking in the shell surface or warped 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.

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

# MODEL SPECIFICATIONS

Model	Listing Number	Swim Spa Dimensions (in./cm)	Electrical Requirements <sup>1</sup>	Seating Capacity <sup>2</sup>	Water Capacity (gallons/m <sup>3</sup> ) <sup>3</sup>	Dry Weight (lbs./kilos) <sup>4</sup>	Full Weight (lbs./kilos) <sup>4a</sup>	Therapy Pumps
<b>MP FORCE</b>	8600	201" x 94" x 51" 511 x 239 x 130	Configuration # 3 240V, 50A SVC*	4	1660 / 6.28	2490 / 1129	17075 / 7745	2
<b>MP FORCE D</b>	1420	201" x 94" x 60" 511 x 239 x 153	Configuration # 3 240V, 50A SVC	4	1935 / 7.32	2685 / 1218	19565 / 8875	2
<b>MP SIGNATURE</b>	8900	215" x 94" x 60" 547 x 239 x 153	Configuration # 3 240V, 50A SVC	4	2275 / 8.61	2795 / 1268	22510 / 10210	2
<b>MP SIGNATURE WITH WAVE XP PRO</b>	8900	215" x 94" x 60" 547 x 239 x 153	Configuration # 7 240V, 50A GFCI & 240V, 50A SVC	4	2275 / 8.61	2795 / 1268	22510 / 10210	2
<b>MP MOMENTUM 80</b>	8700A - Spa 8700B - Swim	231" x 94" x 51" 587 x 239 x 130	Configuration # 5 240V, 50A SVC & 240V, 30A GFCI	6 4 - Spa 2 - Swim	2,055 / 7.78 1785 / 6.76 - Swim 270 / 1.02 - Spa	3280 / 1488	21530 / 9766	3
<b>MP MOMENTUM 80 D</b>	1250A - Spa 1250B - Swim	231" x 94" x 60" 587 x 239 x 152	Configuration # 5 240V, 50A SVC & 240V, 30A GFCI	6 4 - Spa 2 - Swim	2,325 / 8.80 2,050 / 7.76 - Swim 275 / 1.04 - Spa	3700 / 1678	24205 / 10979	3

<sup>1</sup>As configured from factory. See appropriate Electrical Requirements section for further details.

<sup>2</sup>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.

<sup>3</sup>Full weight based on dry weight of swim spa, max seating capacity of swim spa, assumed average weight per person of 185 pounds and estimated water weight of 8.34 pounds per gallon. Rounded up in increments of 5.

<sup>4</sup>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.

# SITE PREPARATION / GENERAL GUIDELINES

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Swim spa installation is simple when properly planned. It is important that you read the following information carefully and consult with your Master Spas dealer.

- 1) Access - The actual dimensions of your new swim spa will determine the amount of space that is needed in moving the swim spa from curbside to its final installation area. Be sure to consider and measure side yard dimensions, gates, doors, overall room dimensions and vertical obstructions such as ceilings, roof overhangs, balconies and overhead cables. Any other space limiting obstacles such as stairs, trees, and shrubs must also be evaluated. Please be sure to contact and review these site and installation plans with your Master Spas dealer prior to delivery.
- 2) Surface/Pad Requirements - When your new swim spa is filled with water and bathers, it may weigh as much as several tons. It is imperative that the base beneath the swim spa can support the entire weight. The swim spa must be on a uniformly firm, continuous, and level surface. The recommended foundation is a concrete pad with a minimum thickness of four (4) inches with steel reinforcement bars crossed throughout the pad.

## IMPORTANT

When installing your swim spa indoors, on a wood deck, roof or balcony; load requirements need to be evaluated before installation. You should speak with a qualified contractor or your local building department to confirm that your surface is adequate for supporting a swim spa.

All sides of the swim spa must be accessible for regular maintenance or in the event that service is needed. Periodical maintenance checks require entry into the equipment bay. When possible, it is wise planning for the future to leave 3 feet of access on all sides of the swim spa in the event that your swim spa requires maintenance to allow ample room for service. Your swim spa warranty does not cover costs associated with improper access or gaining access to the spa.

## GENERAL CONSIDERATIONS FOR OUTDOOR INSTALLATION

Again, proper planning will increase your total enjoyment factor with your new swim spa. Listed below are some additional items to consider when planning your installation.

- How swim spa will complement landscaping and vice versa
- View from inside swim spa and view of swim spa from inside of home
- Exposure to sunlight and shading from trees
- Privacy
- Getting to swim spa from house and return
- Proximity to dressing rooms and bathrooms
- Storage for swim spa chemicals
- Local building codes (if applicable)
- Power cable
- Appropriate materials and drainage around the swim spa to handle water presence and runoff

## GENERAL CONSIDERATIONS FOR INDOOR INSTALLATION

Installing your swim spa indoors creates an entirely different set of considerations.

- Work with your Master Spas dealer and contractor to insure all local building, electrical and plumbing codes are met
- Plan for floor drains around your swim spa to drain off excess water runoff that will occur during normal use and for draining and cleaning your swim spa
- A ventilation fan may be necessary due to high humidity created by your swim spa
- Finished material in your swim spa room should also be capable of withstanding increased humidity

# SITE PREPARATION / GENERAL GUIDELINES

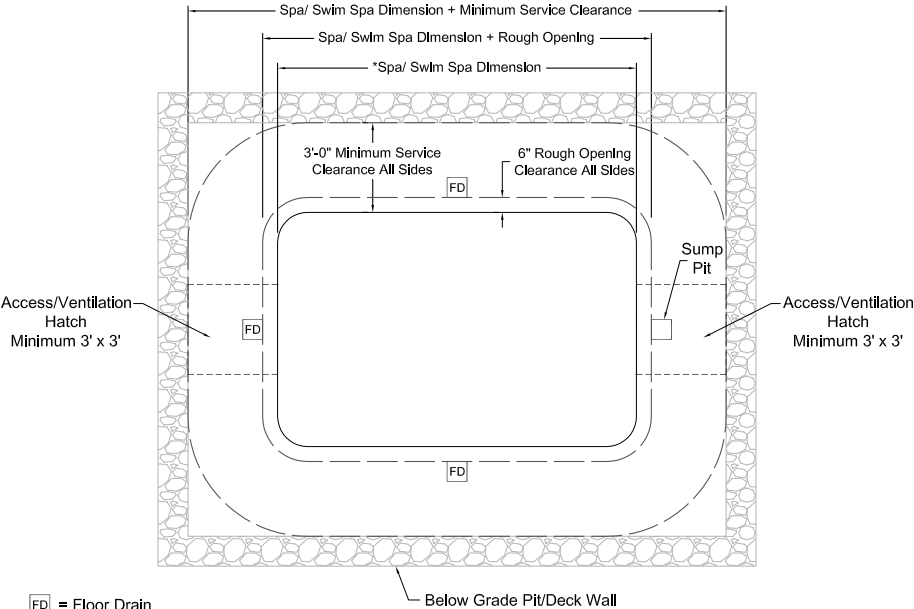
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## GUIDELINES FOR PARTIALLY OR FULLY RECESSED INSTALLATION

Swim Spas manufactured by Master Spas are designed to be installed in a variety of settings. One of which is installing below grade. Should a swim spa be installed below the level of the site drainage system (below grade), a system for preventing water collecting and pooling must be designed based on the requirements of the local authority having jurisdiction. The drainage system must be designed based on things such as rainfall, water runoff, splashing, draining the swim spa, etc. that could potentially feed the below grade area with water. When located in designated floodways, additional attention to maximum water load entering the area below grade must be addressed to prevent water from accumulating below grade at all times. It is generally recommended that the swim spa be installed above grade because the swim spa is not designed to be submerged in water. When a proper drainage system is designed and proper ventilation is planned based on the characteristics of the site, installing the swim spa below grade is an accepted method of installation.

- The unit is self-supporting when placed on a surface designed to support the full load of the swim spa (see Surface/Pad Requirements). Do not backfill with sand, gravel, or earth. Doing so will void the warranty.
- Plan for complete drainage so that water accumulation drains away from the swim spa perimeter and standing water never reaches the electrical equipment.
- Plan for appropriate ventilation to remove moisture accumulation and prevent equipment overheat.
- Provide a minimum of 3 feet service area around the perimeter of the unit. Site access issues are not covered by the product warranty.
- The unit is not designed to be submerged in water. Water entering the equipment area creates many hazards and resulting damage will not be covered by the product warranty.
- Make sure that the surroundings do not create any additional hazards.
- Surfaces placed around the unit should also be evaluated for walking/slipping hazards from standing water. Proper drainage is vital to the installation of a below grade installation.
- Check all building, electrical, and plumbing codes with the authority having jurisdiction to ensure that your installation is in compliance with all local codes.
- Additional consideration needs to be made when installing unit in designed floodways.
- Verify that site specific drainage systems such as down spouts are not going to feed the area below grade.
- Below grade drainage system needs to be evaluated based on area specific rainfall. One size does not fit all so an analysis by a qualified, local engineer to ensure proper drainage of all sources of water is a must when installing below grade.

# SITE PREPARATION / GENERAL GUIDELINES



FD = Floor Drain

[ ] = Access/ Ventilation Hatch ( Min. 3' x 3')

\* = See "Model Specification" section of Owner's Manual for applicable Spa/ Swim Spa dimensions.



# ELECTRICAL REQUIREMENTS

## CONFIGURATION 3 - 240V, 50A SERVICE

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 the National Electrical Code and any local and state electrical codes in force at the time of installation.

These connections must be made in accordance with the wiring diagrams found inside the control box. This equipment has been designed to operate on 60Hz alternating current only, 240 volts are required. Make sure that power is not applied while performing any electrical installation. A copper bonding lug has been provided on the electrical equipment pack to allow connection to local ground points. The ground wire must be at least 8 AWG copper 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. All Master Spas equipment packs are wired for 240 VAC only. The electrical service for your swim spa must include a 50 AMP switch or circuit breaker to open all non-grounded supply conductors to comply with section 422-20 of the National Electrical Code. A disconnect must be installed and be readily accessible to the swim spa occupants, but installed at least five feet from the swim spa. A Ground-Fault circuit interrupter (GFCI) must be used to comply with section 680-42 of the National Electric Code. A ground fault is a current leak from any one of the supply conductors to ground. A GFCI is designed to automatically shut off power to a piece of equipment when a ground fault is detected. The MP Swim Spas are equipped from the factory with a pre-installed 50A internal GFCI breaker and will not need to have one installed.

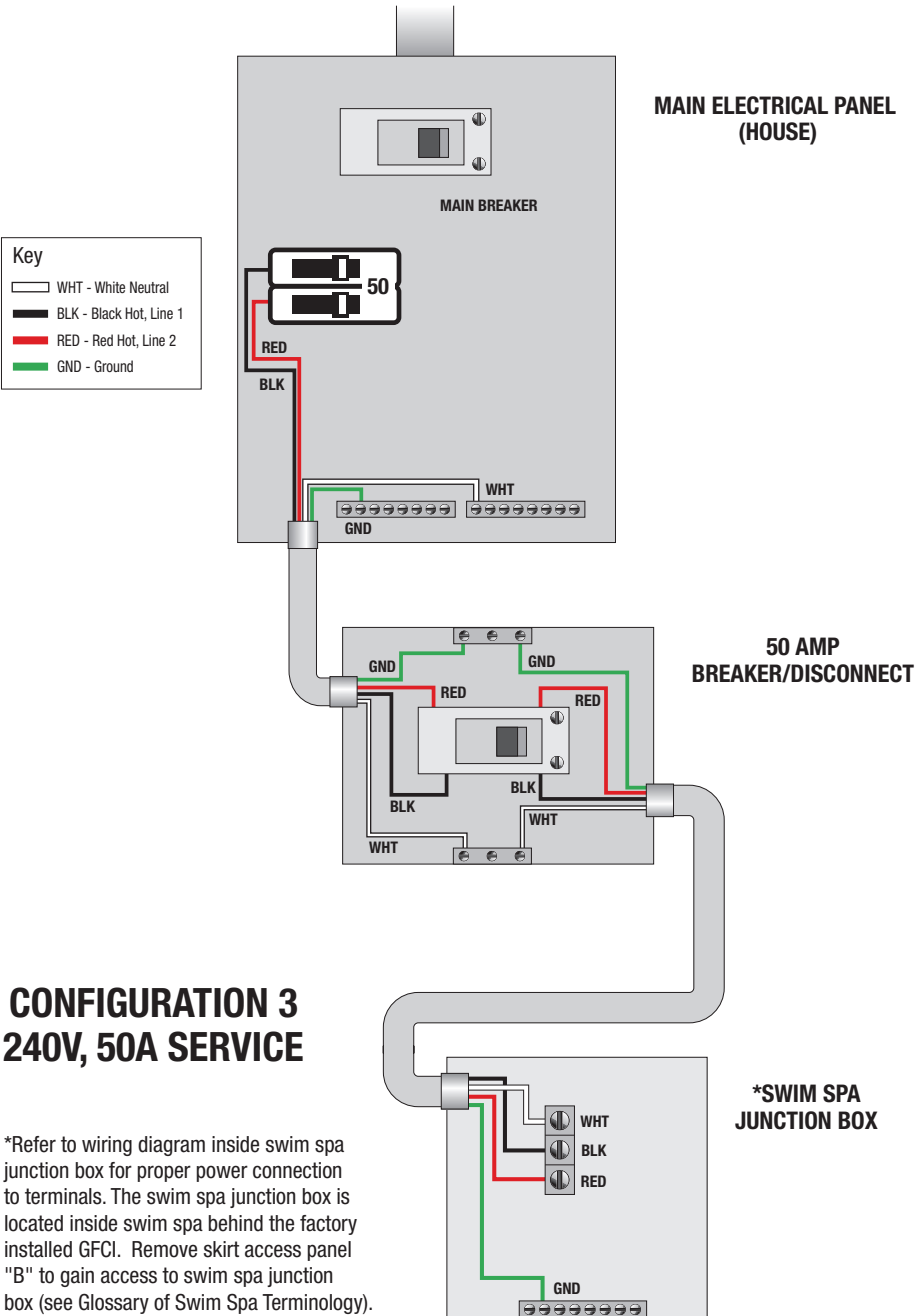
The 50A non-GFCI protected service must be 240 volt, 3 wire plus ground (#6 AWG copper with minimum #8 AWG copper ground).

Route service in to the swim spa junction box located inside the swim spa behind skirt access panel "B" (see Glossary of Swim Spa Terminology). Refer to wiring schematic inside swim spa junction box for proper power connections to terminals. The MP Swim Spas are equipped from the factory with a pre-installed 50A GFCI breaker to power the propulsion system and spa side equipment. The 50A non-GFCI protected service shall be connected to the appropriate terminals within the swim spa junction box which feed the internal 50A GFCI. This must be a "dedicated" service. 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

## CONFIGURATION 3 - 240V, 50A SERVICE



### CONFIGURATION 3 240V, 50A SERVICE

\*Refer to wiring diagram inside swim spa junction box for proper power connection to terminals. The swim spa junction box is located inside swim spa behind the factory installed GFCI. Remove skirt access panel "B" to gain access to swim spa junction box (see Glossary of Swim Spa Terminology).

# ELECTRICAL REQUIREMENTS

## CONFIGURATION 5 - 240V, 50A SERVICE & 240V, 30A GFCI SERVICE

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

This configuration requires 2 independent, dedicated services.  
A 240V, 50A Service (non-GFCI) & a 240V, 30A GFCI Service

#### 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 the National Electrical Code and any local and state electrical codes in force at the time of installation.

These connections must be made in accordance with the wiring diagrams found inside the control box. This equipment has been designed to operate on 60Hz, alternating current only, 240 volts are required. Make sure that power is not applied while performing any electrical installation. A copper bonding lug has been provided on the electrical equipment pack to allow connection to local ground points. The ground wire must be at least 8 AWG copper 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. All Master Spas equipment packs are wired for 240 VAC only. Each of the electrical services for your swim spa must include a properly rated switch or circuit breaker to open all non-grounded supply conductors to comply with section 422-20 of the National Electrical Code. A disconnect must be installed and be readily accessible to the swim spa occupants, but installed at least five feet from the swim spa. A Ground-Fault circuit interrupter (GFCI) must be used to comply with section 680-42 of the National Electric Code. A ground fault is a current leak from any one of the supply conductors to ground. A GFCI is designed to automatically shut off power to a piece of equipment when a ground fault is detected. The MP Swim Spas are equipped from the factory with a pre-installed 50A internal GFCI breaker and will not need to have one installed for the 50A service.

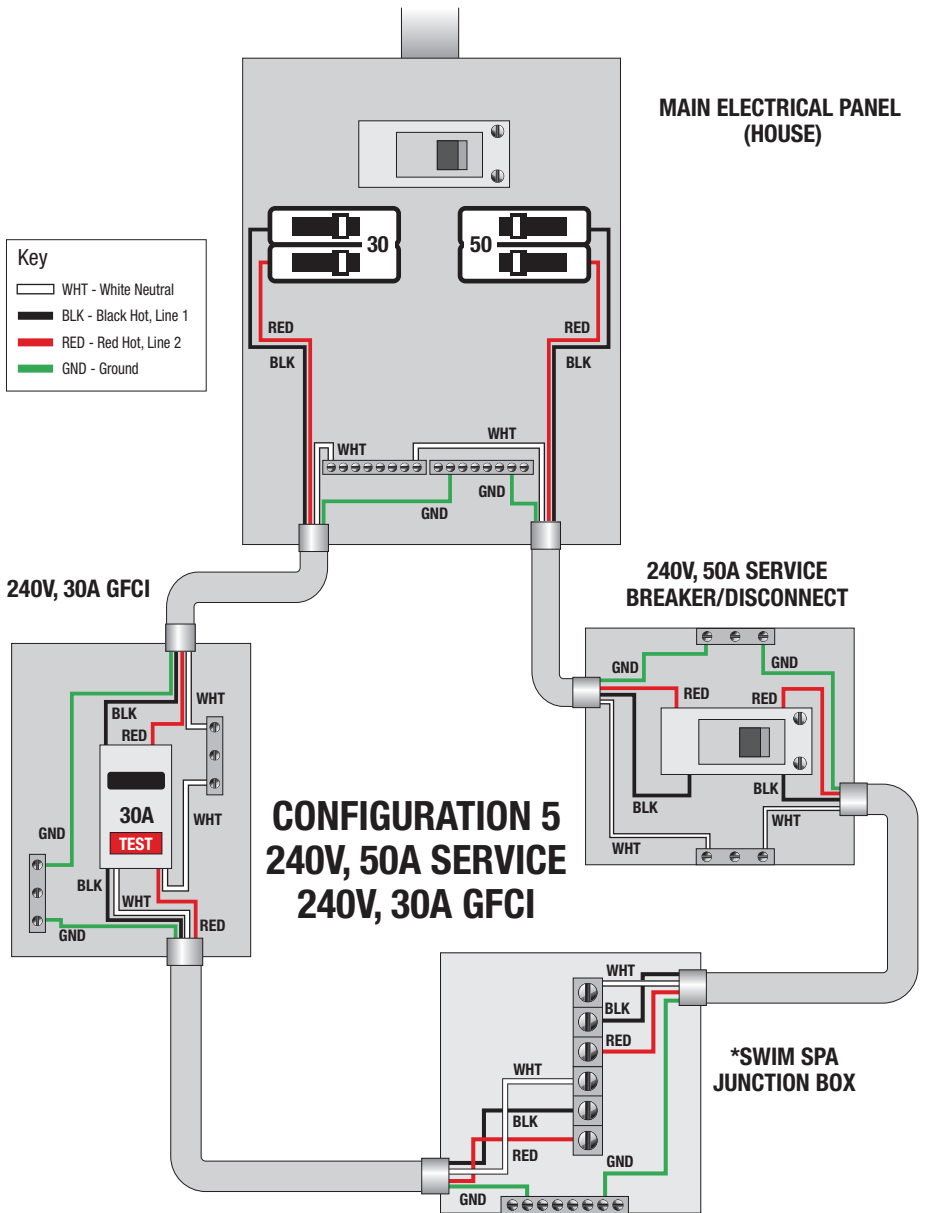
The 50A non-GFCI protected service must be 240 volt, 3 wire plus ground (#6 AWG copper with minimum #8 AWG copper ground). The 30A GFCI protected service must be 240 volt, 3 wire plus ground (#8 AWG copper).

Route services in to the swim spa junction box located inside the swim spa behind skirt access panel "B" (see Glossary of Swim Spa Terminology). Refer to wiring schematic inside swim spa junction box for proper power connections to terminals. The MP Swim Spas are equipped from the factory with a pre-installed 50A GFCI breaker to power the propulsion system and spa side equipment. The 50A non-GFCI protected service shall be connected to the appropriate terminals within the swim spa junction box which feed the internal 50A GFCI. The 30A GFCI protected service shall be connected to the appropriate terminals within the swim spa junction box to power the swim side equipment control system. These must be "dedicated" services. 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

## CONFIGURATION 5 - 240V, 50A SERVICE & 240V, 30A GFCI SERVICE



\*Refer to wiring diagram inside swim spa junction box for proper power connection to terminals. The swim spa junction box is located inside swim spa behind the factory installed GFCI. Remove skirt access panel "B" to gain access to swim spa junction box (see Glossary of Swim Spa Terminology).

# ELECTRICAL REQUIREMENTS

## CONFIGURATION 7 - 240V, 50A SERVICE & 240V, 50A GFCI SERVICE

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

This configuration requires 2 independent, dedicated services.  
A 240V, 50A Service (non-GFCI) & a 240V, 50A GFCI Service

#### 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 the National Electrical Code and any local and state electrical codes in force at the time of installation.

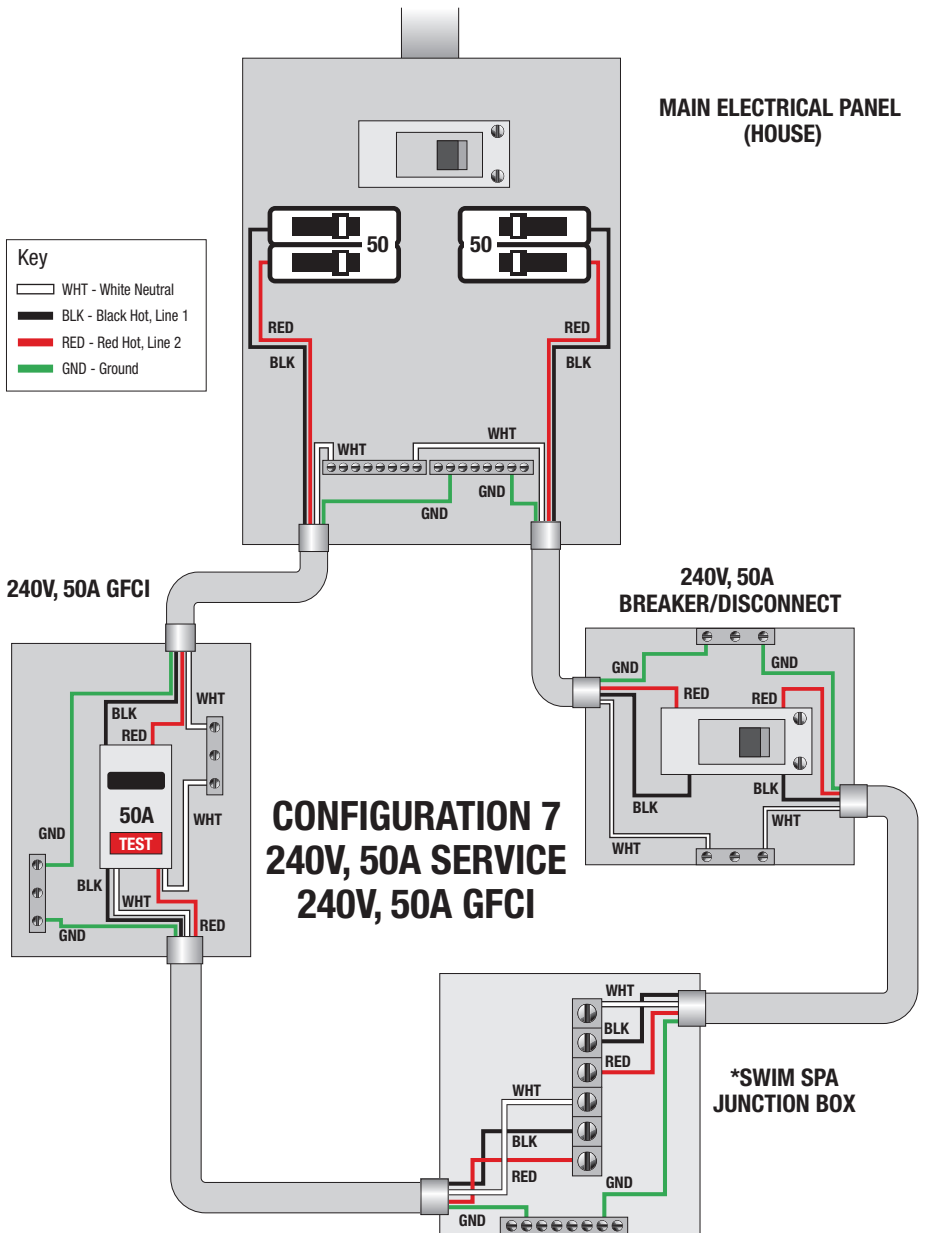
These connections must be made in accordance with the wiring diagrams found inside the control box. This equipment has been designed to operate on 60Hz. alternating current only, 240 volts are required. Make sure that power is not applied while performing any electrical installation. A copper bonding lug has been provided on the electrical equipment pack to allow connection to local ground points. The ground wire must be at least 8 AWG copper 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. All Master Spas equipment packs are wired for 240 VAC only. Each of the electrical services for your swim spa must include a properly rated switch or circuit breaker to open all non-grounded supply conductors to comply with section 422-20 of the National Electrical Code. A disconnect must be installed and be readily accessible to the swim spa occupants, but installed at least five feet from the swim spa. A Ground-Fault circuit interrupter (GFCI) must be used to comply with section 680-42 of the National Electric Code. A ground fault is a current leak from any one of the supply conductors to ground. A GFCI is designed to automatically shut off power to a piece of equipment when a ground fault is detected. The MP Swim Spas are equipped from the factory with a pre-installed 50A internal GFCI breaker to power the propulsion system and will only need a GFCI installed on the 50A service powering the spa control system.

The 50A non-GFCI protected service must be 240 volt, 3 wire plus ground (#6 AWG copper with minimum #8 AWG copper ground). The 50A GFCI protected service must be 240 volt, 3 wire plus ground (#6 AWG copper with minimum #8 AWG copper ground).

Route services in to the swim spa junction box located inside the swim spa behind skirt access panel "B" (see Glossary of Swim Spa Terminology). Refer to wiring schematic inside swim spa junction box for proper power connections to terminals. The MP Swim Spas are equipped from the factory with a pre-installed 50A GFCI breaker to power the propulsion system. The 50A non-GFCI protected service shall be connected to the appropriate terminals within the swim spa junction box which feed the internal 50A GFCI. The 50A GFCI protected service shall be connected to the appropriate terminals within the swim spa junction box which power the swim spa control system. These must be "dedicated" services. 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. 201412

# ELECTRICAL REQUIREMENTS

## CONFIGURATION 7 - 240V, 50A SERVICE & 240V, 50A GFCI SERVICE



\*Refer to wiring diagram inside swim spa junction box for proper power connection to terminals. The swim spa junction box is located inside swim spa behind the factory installed GFCI. Remove skirt access panel "B" to gain access to swim spa junction box (see Glossary of Swim Spa Terminology).

# INITIAL SWIM SPA SETUP

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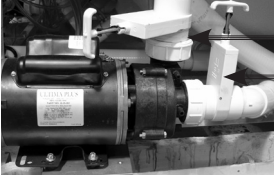
1. Put swim spa in final position that allows for access to equipment and swim spa components.
2. Remove skirt panels "A" and "B" to access the electrical connections inside the swim spa. The junction box (MP Swim Spas Only), swim spa control system(s) and majority of the equipment in your swim spa can be accessed by removing access panels "A" and "B".

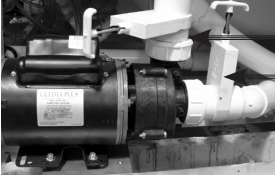
3. Be sure all pump and heater unions are secure. Each pump has 2 unions and the heater has 2 unions. A newly delivered swim spa may have loose unions caused in transporting the swim spa. Check that all slice valves are open, in the up position. The slice valves may become closed during transportation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



*Slice Valve and Pump Union*

4. Fill the swim spa to the "minimum safe water level" sticker. This sticker is typically located on the shell of the swim spa near the filter area. 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.

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



Pump Union  
Slice Valve  
Airlock

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.

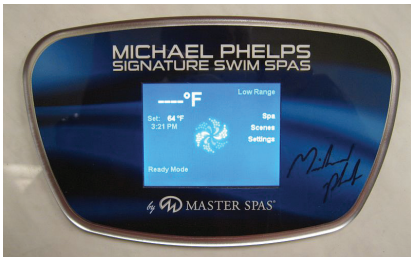
To relieve an airlock situation, loosen the pump union on the discharge of the pump. This pump union is indicated by an arrow in the picture above. Water should leak out of the union once the air has been removed. Tighten the union and test the pump for proper operation. Repeat this process if needed.

**NOTE:** Upon power up, the propulsion system may mix water with air for up to several minutes until all of the air is pulled from the propulsion chamber. The propulsion system may be noisy during this time. This is normal.

6. Be sure the jets in your swim spa are open.
7. Adjust water chemistry according to the instructions provided in the "Water Maintenance" section.
8. Your swim spa water will heat approximately 1°F (0.5°C) per hour, on average, with the cover closed on the swim spa. Times may vary.

# SWIM SPA CONTROLS

## THE MAIN SCREEN



### SWIM SPA STATUS

Important information about swim spa operation can be seen quickly from the Main Screen.

The most important features, including Set Temperature adjustment, can be accessed from this screen.

The actual water temperature can be seen in large text and the desired, or Set Temperature, can be selected and adjusted.

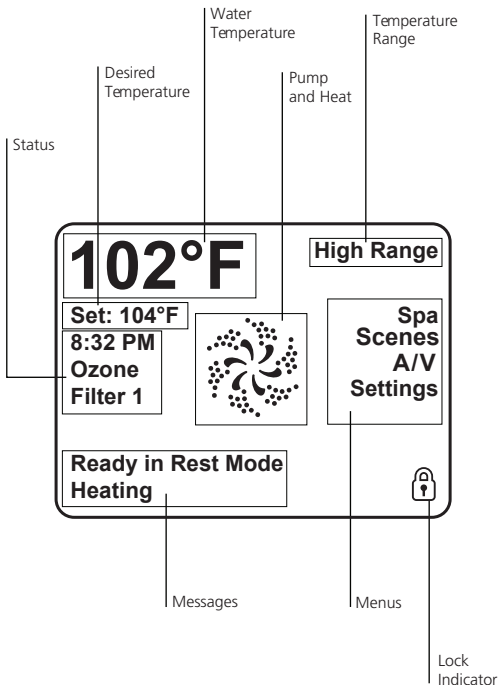
Time-of-day, Ozone operation and Filter Operation status is available, along with other messages and alerts.

High Temperature Range vs. Low Temperature Range is indicated in the upper right corner.

The Jets Icon in the center will indicate when a pump is running and also the heater function.

A Lock icon is visible if the panel or settings are locked.

The Menu choices on the right can be selected and the screen will change to show more detailed controls or programming functions.





# SWIM SPA CONTROLS

---

## THE MAIN SCREEN

### NAVIGATION

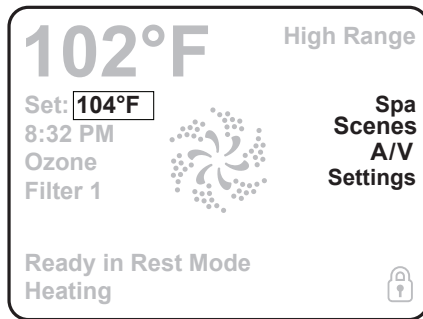
Navigating the entire menu structure is done by touching the display on areas that are in white.

When a text item changes to white when touched, that indicates the item is selected for action.

The only item that can be changed on the left side of the Main Screen is the Set Temperature.

Touch the temperature display to change the Set Temperature. The Set Temperature can then be adjusted with the up and down buttons. The new setting will automatically be saved when you exit the screen.

On the right side of the screen, the menu selections can be selected by touching the screen in any area of white text. Selecting one of these items will change to a different screen with additional controls.



### MESSAGES

At the bottom of the screen, messages may appear at various times. Some of these messages must be dismissed by the user.

### PRESS-AND-HOLD

If an Up or Down button is pressed and held, the selection will be increased or decreased until button is released. For example, when the Set Temperature is selected, the temperature will continue to change until the button is released, or the Temperature Range limits are reached.

# SWIM SPA CONTROLS

## THE SPA SCREEN

To access the Spa Screen, touch Spa on the Main Screen.

### ALL EQUIPMENT ACCESS

The Spa Screen shows all available equipment to control, as well as other features, in one easy-to-navigate screen. 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 swim spa.

Touch a button to select an individual device. The device that is chosen is highlighted with a white outline.

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



Jets Off



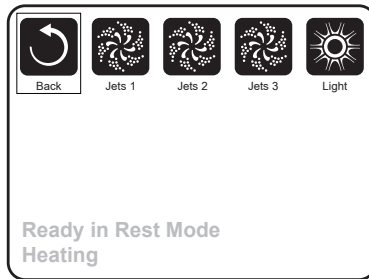
Jets Low



Jets High

If the swim spa has a 24 hour Circulation Pump, a Circulation Pump Icon will appear to indicate its activity, but outside of Priming Mode, the 24 hour Circulation Pump cannot be controlled directly.

NOTE: The icon for the 24 hour pump (if so equipped) that is associated with the heater will have a red glow in the center when the heater is running.



### SCENES

The scenes area will allow you to preset any of the devices to operate when the scene is activated. There are four different scenes that can be preset. For example if you would like all of the pumps to turn on at the same time: turn on the pumps, access the scenes area and highlight #1. Once this is preset, you can press #1 scene and it will turn on all the settings you've saved. To store a specific scene, tap and hold the highlighted scene for 5 seconds until the display shows "scene stored" in the bottom left corner.

# SWIM SPA CONTROLS

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## THE SPA SCREEN

### **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. Generally, this is fifteen minutes long.

### **FILTRATION AND OZONE**

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set). 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 cycle fresh, warm water in to all lines and help maintain water quality.

### **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. If the temperature sensors detect a drop to below 44°F (6.7°C) within the heater, the pump will automatically activate to provide freeze protection. The equipment stays on until 4 minutes after the sensors detect that the swim spa temperature has risen to 45°F (7.2°C) or higher.

### **CLEAN-UP CYCLE (OPTIONAL)**

When a pump is turned on by selecting it in the Spa screen, a clean-up cycle begins 30 minutes after the pump is turned off or times out. The heat pump and the ozone generator will run for 30 minutes or more, depending on the system.

# SWIM SPA CONTROLS

---

## GENERAL MESSAGES

Most messages and alerts will appear at the bottom of the normally used screens.

Several alerts and messages may be displayed in a sequence.

Some messages can be reset from the panel. Messages that can be reset will appear with a “right arrow” at the end of the message. This message can be selected by touching the screen at the text.

---

--°F      --°C

### **WATER TEMPERATURE IS UNKNOWN**

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

---

### **POSSIBLE FREEZING CONDITION**

A potential freeze condition has been detected. All pumps 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**

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, high ambient temperature, or prolonged filter cycles.

# SWIM SPA CONTROLS

---

## HEATER-RELATED MESSAGES

### **THE WATER FLOW IS LOW**

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\***

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, you must press any button to reset and begin heater start up.

---

### **THE HEATER MAY BE DRY\***

Possible dry heater, or not enough water in the heater to start it. The swim spa is shut down for 15 min. Press any button to reset the heater start-up. See "Flow Related Checks" below.

---

### **THE HEATER IS DRY\***

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 clear the message to restart heating sequence. See "Flow Related Checks" below.

---

### **THE HEATER IS TOO HOT\***

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 clear 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.

\* This message can be reset from the topside panel.

# SWIM SPA CONTROLS

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## SENSOR-RELATED MESSAGES

### **SENSORS ARE OUT OF SYNC**

The temperature sensors MAY be out of sync by 2°F or 3°F. Call for service.

---

### **SENSORS ARE OUT OF SYNC -- CALL FOR SERVICE\***

The temperature sensors ARE out of sync. The fault above has been established for at least 1 hour. Call for service.

---

### **SENSOR A FAULT, SENOR B FAULT**

A temperature sensor or sensor circuit has failed. Call for service.

## MISCELLANEOUS MESSAGES

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### **COMMUNICATIONS ERROR**

The control panel is not receiving communication from the System. Call for service.

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### **TEST SOFTWARE INSTALLED**

The Control System is operating with test software. Call for service.

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### **°F OR °C IS REPLACED BY °T**

The Control System is in Test Mode. Call for service.

\* This message can be reset from the topside panel.

# SWIM SPA CONTROLS

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## SYSTEM-RELATED MESSAGES

### **PROGRAM MEMORY FAILURE\***

At Power-Up, the system has failed the Program Checksum Test. This indicates a problem with the firmware (operation program) and requires a service call.

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### **THE SETTINGS HAVE BEEN RESET (PERSISTENT MEMORY ERROR)\***

Contact your dealer or service organization if this message appears on more than one power-up.

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### **THE CLOCK HAS FAILED\***

Contact your dealer or service organization.

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### **CONFIGURATION ERROR (SWIM SPA WILL NOT START UP)**

Contact your dealer or service organization.

---

### **A PUMP MAY BE STUCK ON**

Water may be overheated. POWER DOWN THE SWIM SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.

---

### **HOT FAULT**

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 dealer or service organization.

\* This message can be reset from the topside panel.

# SWIM SPA CONTROLS

## THE SETTINGS SCREEN

### PROGRAMMING, ETC.

The Settings screen is where all programming and other spa behaviors are controlled.

This screen has several features that can be acted on directly. These features include Temp Range, Heat Mode, and Invert Panel. Touch the specific setting to make a change.

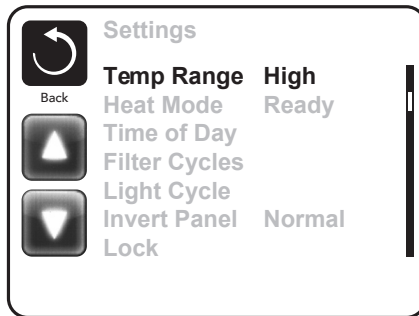
All other menu items (with an arrow pointing to the right) go to another level in the menu.

### NAVIGATION

Use up and down arrows to navigate through the pages of the Settings screen.

Touch the specific setting option to make a change. When specific settings are touched, an additional screen may display with adjustments you can make.

The arrow keys displayed on the left side of the screen will allow you to scroll through the available options.



### DUAL 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 right 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.

High 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.



# SWIM SPA CONTROLS

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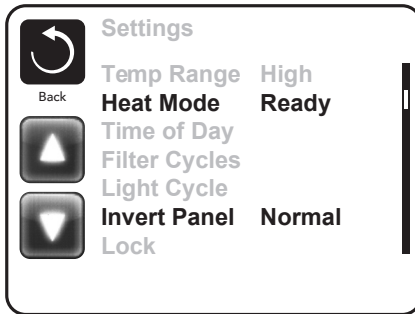
## THE SETTINGS SCREEN

### HEAT MODE – READY VS. REST

In order for the swim spa to heat, a pump needs to circulate water through the heater.

REST Mode will only allow heating during programmed filter cycles.

Ready Mode will allow heating any time the water temperature drops below the set temperature.



### READY-IN-REST MODE

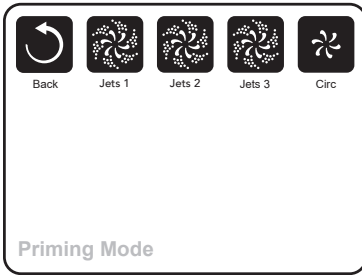
READY/REST appears in the display if the swim spa is in Rest Mode and the Jets 1 Button is touched. It is assumed that the swim spa is being used and will heat to set temperature. After 1 hour, the System will revert to Rest Mode. This mode can also be reset by entering the Settings Menu and changing the Heat Mode.

# SWIM SPA CONTROLS

## INITIAL START-UP

### PREPARATION AND FILLING

Fill the swim spa to its correct operating level. Be sure to open all valves and jets in the plumbing system before filling to allow as much air as possible to escape from the plumbing and the control system during the filling process.



### PRIMING MODE

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. The system will automatically begin normal heating and filtering at the end of the priming mode, which lasts 4-5 minutes. 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 activated by touching the "Jet" buttons.

### PRIMING THE PUMPS

As soon as the Priming Mode screen appears on the panel, touch the "Jets 1" button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, touch the other pumps in order to turn them on. The pumps should be running in high-speed to facilitate priming. If the pumps have not primed after 2 minutes, and water is not flowing from the jets in the swim spa, do not allow the pumps to continue to run. Turn off the pumps and repeat the process. Note: Turning the power off and back on again will initiate a new pump priming session. Sometimes momentarily turning the pump off and on will help it to prime. Do not do this more than 5 times. If the pump(s) will not prime, the pump(s) will need relieved of an air lock. See Installation Instructions for information on bleeding air from a pump to relieve an air lock. If you need further assistance, your swim spa dealer can be contacted. Regular maintenance procedures would not be covered under the swim spa warranty.

Important: A pump should not be allowed to run 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

You can manually exit Priming Mode by touching 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 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.

--°F      --°C

# SWIM SPA CONTROLS

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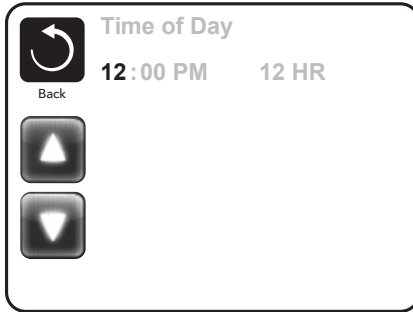
## TIME-OF-DAY

### SETTING THE TIME-OF-DAY

Setting the time-of-day is important for determining filtration times and other background features.

“Set Time” will appear on the display if no time-of-day is set in the memory.

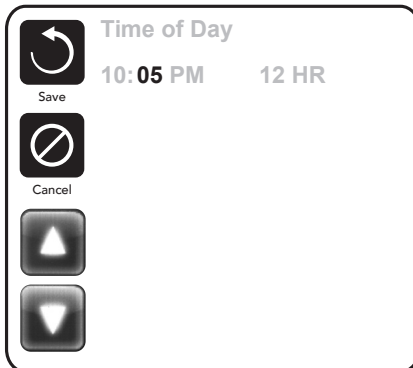
In the Settings Screen, select the Time-of-Day line. On the Time-of-Day screen, simply touch the time to select the Hour, Minutes, AM/PM and 12/24 Hour segments. Use the Up and Down Buttons to make changes.



### SAVING SETTINGS

The Time-of-Day screen is a simple, editable screen that illustrates a feature of the control that applies to all other editable screens as well.

When changes are made, touch the back button to save the setting or touch the cancel icon to exit without saving changes.



### NOTE:

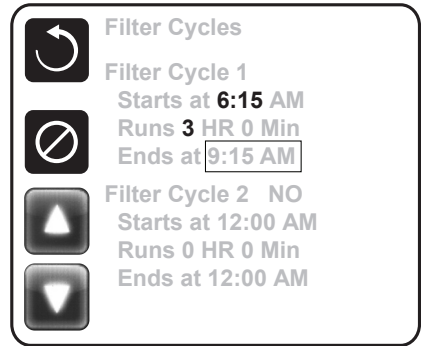
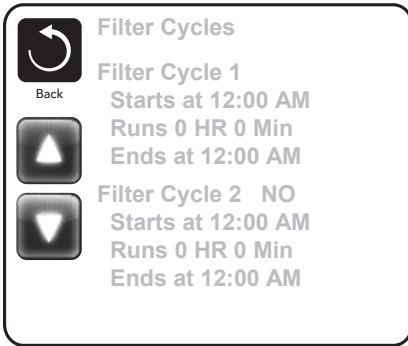
If power is interrupted to the system, Time-of-Day will be maintained for several days.

# SWIM SPA CONTROLS

## ADJUSTING FILTRATION

### MAIN FILTRATION

Just like Setting the Time, Filter Cycles are set using a start time and a duration. Each setting can be adjusted in 15-minute increments. The panel calculates the end time and displays it automatically.



### FILTER CYCLE 2 - OPTIONAL FILTRATION

Filter Cycle 2 is OFF by default.

Simply touch the Filter Cycle 2 line in the highlighted area, and when "NO" is highlighted, press Up or Down to toggle Filter Cycle 2 on and 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.

### PURGE CYCLES

In order to maintain sanitary conditions, as well as protect against freezing, the system will purge water from the respective plumbing by running briefly at the beginning of each filter cycle.

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.

# SWIM SPA CONTROLS

## RESTRICTING OPERATION

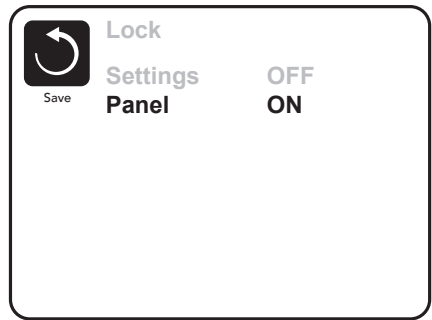
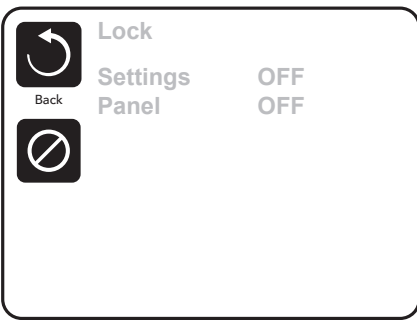
The control can be restricted to prevent unwanted use or temperature adjustments.

Locking the Panel prevents the controller 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 Set Temperature, Invert, Lock, Utilities, Information and Fault Log. They can be seen, but not changed or edited.

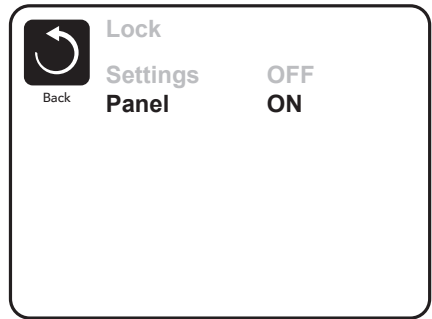
## LOCKING



To lock a setting or panel, navigate to Lock menu within the Settings screen, then touch setting or panel to turn locking feature on. Then touch save button.

When the system is locked an icon will appear in the lower right hand corner of the display.

## UNLOCKING



To unlock, touch the "Unlock" text on the main screen. You can then touch the "Settings" or "Panel" text to highlight the text. Next touch the display screen in the center and hold it for 5 seconds. The text will show that the unlocking has been completed. Touch the back button to exit and save.

# SWIM SPA CONTROLS

## SETTINGS - ADDITIONAL

### HOLD MODE

Hold Mode is used to disable the pumps 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.

### UTILITIES


The Utilities Menu contains the following:

#### A/B Temps

When this is set to On, the A/B temperature sensor readings will display in the top right corner, indicating the temperature of the sensors mounted on each side of the heater element. The system uses these to measure the flow of the water across the heating element by monitoring temperatures while heating.

#### Fault Log

The Fault Log is a record of the last 24 faults that can be reviewed by a service tech.



Back

### Fault Log

Entry 2

Message Code M026  
1 Days Ago 2:21PM

Rest Mode  
High Range  
Set Temp 104°F  
Sensors: A: 100 B: 96

Message:  
Sensors are out of sync

### GFCI Test

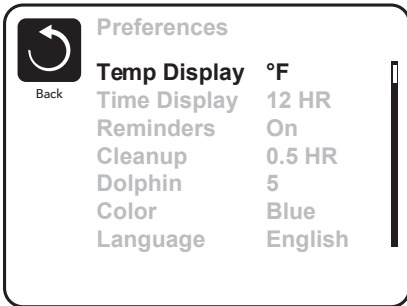
When this feature is activated the control system will simulate a ground fault problem and trip the main GFCI circuit breaker that provides power to the swim spa. A properly working GFCI breaker should trip, shutting off all power supplied to the swim spa. You must then reset the main GFCI breaker for the system to begin operating again.

# SWIM SPA CONTROLS

## SETTINGS - ADDITIONAL

### PREFERENCES

The Preferences Menu allows the user to change certain parameters based on personal preference.



#### Temp Display

Change the temperature between Fahrenheit and Celsius.

#### Time Display

Change the clock between 12 hr and 24 hr display.

#### Reminders

Turn the reminder messages (like "Clean Filter") On or Off.

#### Cleanup

Cleanup Cycle Duration default is 30 minutes. The duration can be set in 30 minute increments for up to 4 hours. 30 minutes after any of the jet pumps have been activated, the heat pump will run low speed for the set cleanup cycle duration. If the swim spa is equipped with a 24hr circulation pump, this may not apply as the circulation pump would also be the heat pump.

#### Color

Pressing the Color setting option will cycle through 5 background colors available in the control.

#### Language

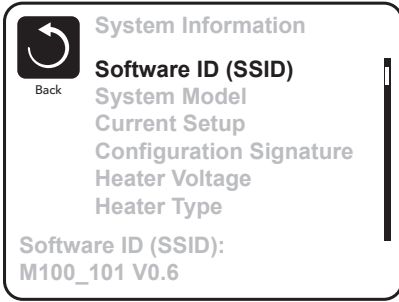
Change the language displayed on the panel by selecting Language setting and touch desired language.

# SWIM SPA CONTROLS

## INFORMATION

### SYSTEM INFORMATION

The System Information Menu displays various settings and identification of the particular system. As each item in the menu is highlighted, the detail for that item is displayed at the bottom of the screen. These settings are for information only and cannot be changed.



#### **Software ID (SSID)**

Displays the software ID number for the System.

#### **System Model**

Displays the Model Number of the System.

#### **Current Setup**

Displays the currently selected Configuration Setup Number.

#### **Configuration Signature**

Displays the checksum for the system configuration file.

#### **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.

#### **Dip Switch Settings**

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

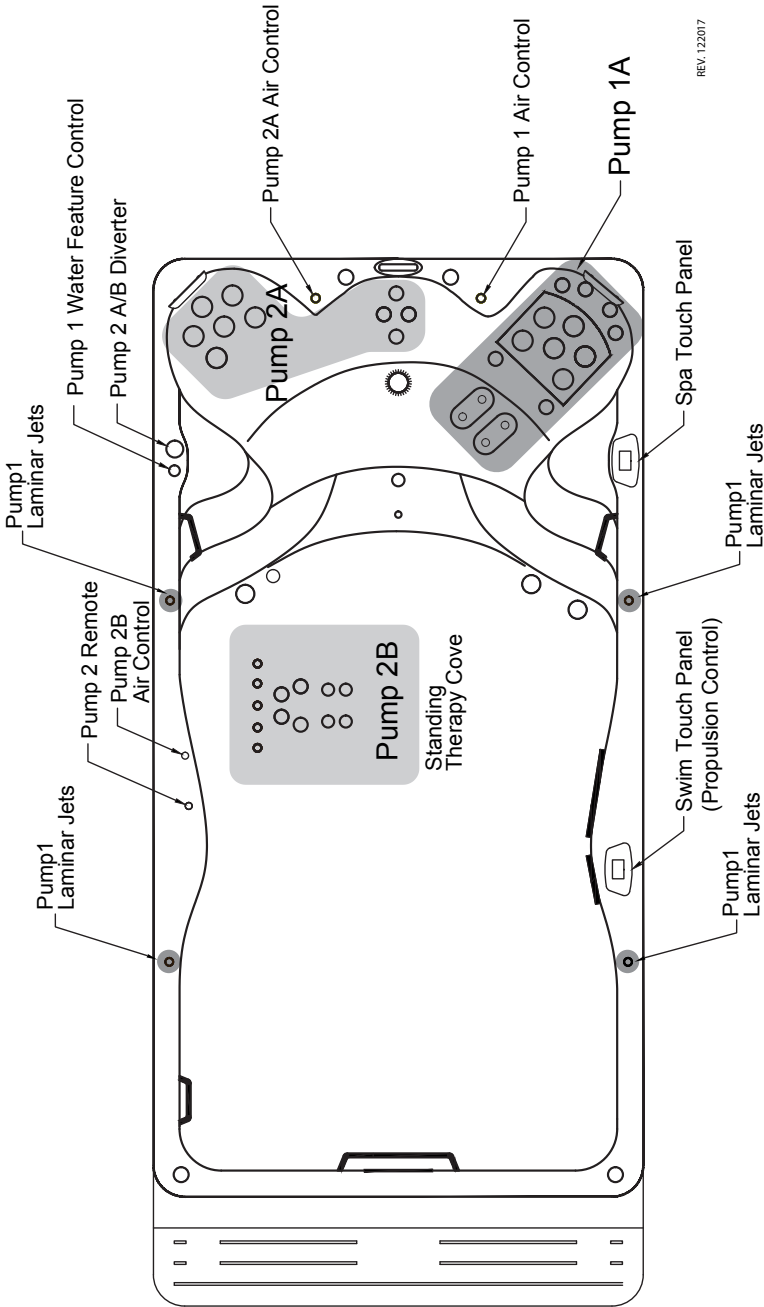
#### **Panel Version**

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



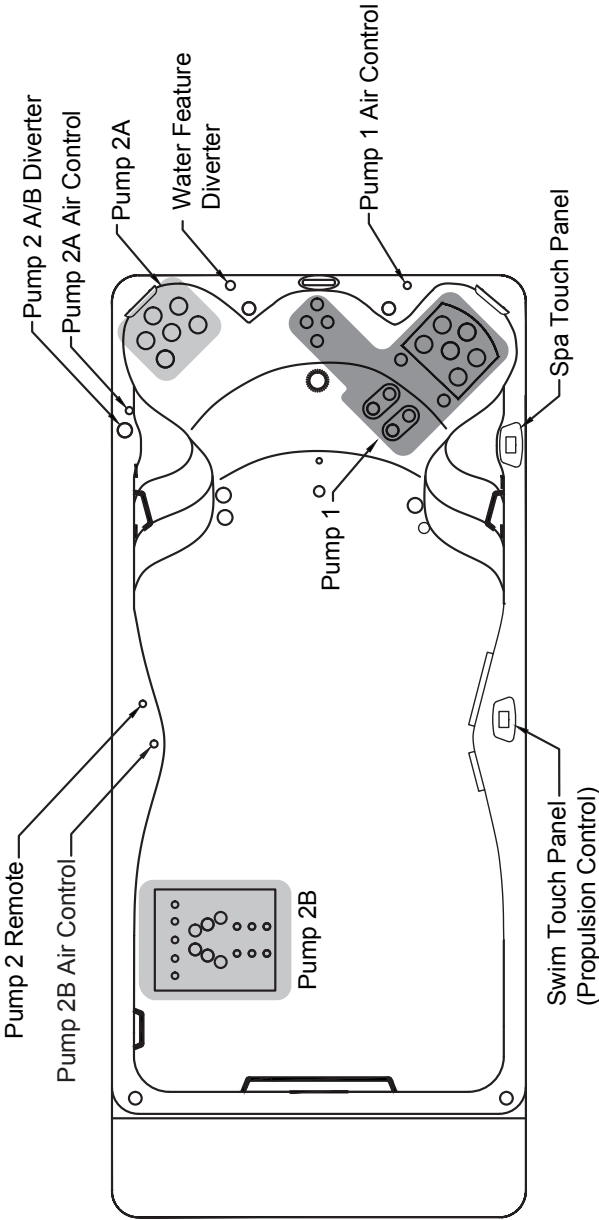
# SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

MP FORCE & MP FORCE D



# SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

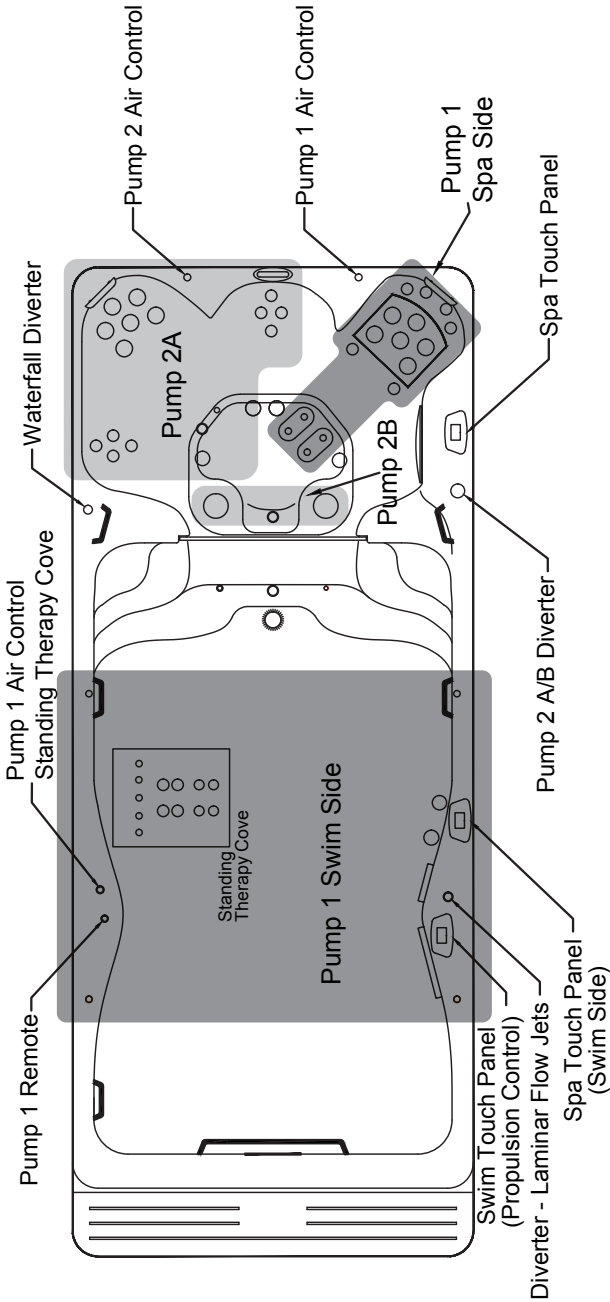
MP SIGNATURE & MP SIGNATURE WITH WAVE XP PRO



REV.12.2017

# SWIM SPA CONTROLS - PUMP CONTROL DIAGRAM

MP MOMENTUM 80 & MP MOMENTUM 80 D



REV. 122017

# PROPULSION SYSTEM CONTROLS

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## 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)\*. SNAPP is available for iPad on the Apple store and allows you to build your own personal workouts.

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.

\*See Swim Number App (SNAPP) Instruction Manual for further information.

# PROPULSION SYSTEM CONTROLS

## SWIM CONTROL OPERATION



1. **Up** button increases the swim number (speed).
2. **Down** button lowers the swim number (speed).
3. **Swim Number** indicates the speed of the propulsion drive. Speed is indicated in numbers from 1 to 100.
4. **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.
5. **Start** button starts the propulsion drive after a 5 second delay. This delay allows the swimmer time to get into position and prepare for the swim current.
6. **Pause** button allows you to momentarily pause the operation of the propulsion drive. Whenever the drive is restarted there will be a 5 second delay before it resumes operation.
7. **User** workout selection allows you to choose between the default user and any custom users that have been added through the SNAPP APP.
8. **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.
9. **Duration** shows the duration of the complete workout.
10. **Elapsed Time** will be displayed in a manual mode workout and indicates the total time that the propulsion drive has been running in the current workout and 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.
11. **Step in Cycle** indicates the time you have been in a specific workout step.
12. **Temperature** of water in swim spa.
13. **Time** of day.
14. **Lock APP** allows you to restrict control of the propulsion system from the SNAPP.

**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 displays (Synchronizing) in the lower left hand corner of the display.

# PROPULSION SYSTEM CONTROLS

## BEGINNER FITNESS WORKOUT - 9 MIN. 30 SEC.

Step	Mode	Seconds	Wave Swim Number**	Wave XP Swim Number**	Wave XP Pro Swim Number**	Recommended Exercise**
1	Jog	15	1	1	1	Walking Forward
2	Jog	15	1	1	1	Walking Backward
3	Jog	15	1	1	1	Walking Sideways
4	Jog	15	1	1	1	Marching
5	Jog	15	1	1	1	Heel to Butt
6	Jog	15	1	1	1	Straight Leg Rise
7	Jog	15	1	1	1	Switch Legs
8	Jog	30	1	1	1	Trailing Forward/Back (Both Flow Directions)
9	Jog	45	1	1	1	Flies
10	Jog	45	1	1	1	Push/Pulls
11	Jog	45	1	1	1	Push Downs
12	Jog	45	1	1	1	Hip Flexion/Extension
13	Jog	45	1	1	1	Hip Abduction/Adduction
14	Jog	45	1	1	1	Core rotations. 2 hand start with isometric hold
15	Jog	45	1	1	1	Continue core rotations with Forward/Side Flow
16	Jog	120	32	12	11	Gentle jog into flow

\*Swim Number speed depends on propulsion system equipped in swim spa.

\*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## INTERMEDIATE FITNESS WORKOUT - 15 MIN. 15 SEC.

Step	Mode	Seconds	Wave Swim Number**	Wave XP Swim Number**	Wave XP Pro Swim Number**	Recommended Exercise**
1	Jog	25	1	1	1	Walking forward
2	Jog	25	1	1	1	Walking backward
3	Jog	25	1	1	1	Walking sideways (with both arms back)
4	Jog	25	1	1	1	Marching
5	Jog	25	1	1	1	Heel to butt with UE
6	Jog	25	1	1	1	Straight leg rise
7	Jog	25	1	1	1	Switch legs
8	Jog	25	1	1	1	Straight leg rise out
9	Jog	25	1	1	1	Switch legs
10	Jog	45	1	1	1	Flies forward
11	Jog	45	1	1	1	Switch legs
12	Jog	45	1	1	1	Flies side
13	Jog	45	1	1	1	Switch legs
14	Jog	45	1	1	1	Push/Pulls
15	Jog	45	1	1	1	Switch legs
16	Jog	45	1	1	1	Push downs
17	Jog	45	1	1	1	Switch legs
18	Jog	45	1	1	1	Power swings
19	Jog	45	1	1	1	Switch legs
20	Jog	45	1	1	1	Soccer kicks
21	Jog	45	1	1	1	Switch legs
22	Swim	30	76	56	48	Pikes in to flow
23	Jog	120	43	23	20	Running forward (no bells or fins)

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## ADVANCED FITNESS WORKOUT - 27 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise**
1	Jog	45	1	1	1	Walking forward
2	Jog	45	1	1	1	Walking forward
3	Jog	45	1	1	1	Walking sideways (one arm forward, one arm back)
4	Jog	45	1	1	1	Marching
5	Jog	45	1	1	1	Heel to butt with UE
6	Jog	45	1	1	1	Straight leg rise
7	Jog	45	1	1	1	Switch legs
8	Jog	45	1	1	1	Straight leg rise out
9	Jog	45	1	1	1	Switch legs
10	Jog	45	1	1	1	Straight leg rise in
11	Jog	45	1	1	1	Switch legs
12	Jog	75	1	1	1	Flies forward
13	Jog	75	1	1	1	Switch legs
14	Jog	75	1	1	1	Flies side
15	Jog	75	1	1	1	Switch legs
16	Jog	75	1	1	1	Alternating push/pulls
17	Jog	75	1	1	1	Switch legs
18	Jog	75	1	1	1	Alternating push downs
19	Jog	75	1	1	1	Switch legs
20	Jog	75	1	1	1	Power swings
21	Jog	75	1	1	1	Switch legs
22	Jog	75	1	1	1	Soccer kicks
23	Jog	75	1	1	1	Switch legs
24	Swim	45	1	1	1	Ronde De Jambre
25	Jog	60	65	45	39	Sprinting forward
26	Jog	60	65	45	39	Sprinting sideways
27	Jog	60	65	45	39	Sprinting backwards

\*Swim Number speed depends on propulsion system equipped in swim spa.

\*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.



# PROPULSION SYSTEM CONTROLS

## BEGINNER TRAINING WORKOUT - 15 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise**
1	Swim	60	54	34	30	Breast stroke
2	Jog	60	54	34	30	Running in place
3	Jog	30	1	1	1	Step-up right leg
4	Jog	30	1	1	1	Step-up left leg
5	Jog	60	65	45	39	Butt kicks
6	Jog	30	1	1	1	Arm circles forward
7	Jog	30	1	1	1	Arm circles backward
8	Jog	60	65	45	39	High knees
9	Jog	60	1	1	1	Row bars
10	Jog	60	65	45	39	Running in place
11	Jog	30	1	1	1	Band (bicep curl) right arm
12	Jog	30	1	1	1	Band (bicep curl) left arm
13	Jog	60	65	45	39	Butt kicks
14	Jog	60	1	1	1	Seated pull rows
15	Jog	60	65	45	39	High knees
16	Jog	30	1	1	1	Band (tricep extension)
17	Swim	60	65	45	39	Breast stroke
18	Swim	30	76	56	48	Body weight
19	Jog	60	43	23	20	Running in place

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## INTERMEDIATE TRAINING WORKOUT - 30 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise*
1	Swim	120	54	34	30	Breast stroke
2	Jog	120	54	34	30	Running in place
3	Jog	60	1	1	1	Step-up right leg
4	Jog	60	1	1	1	Step-up left leg
5	Jog	60	65	45	39	Butt kicks
6	Jog	60	1	1	1	Right leg raise
7	Jog	60	1	1	1	Left leg raise
8	Jog	60	1	1	1	Arm circles forward
9	Jog	60	1	1	1	Arm circles backward
10	Jog	60	65	45	39	High knees
11	Jog	60	1	1	1	Band (shoulder press)
12	Swim	60	65	45	39	Breast stroke
13	Jog	60	1	1	1	Band (chest press)
14	Swim	60	54	34	30	Free style swim
15	Jog	60	1	1	1	Band (bicep curl) right arm
16	Jog	60	1	1	1	Band (bicep curl) left arm
17	Swim	60	54	34	30	Free style swim
18	Jog	60	1	1	1	Seated pull rows
19	Jog	60	40	45	39	Running in place
20	Jog	60	1	1	1	Bumb bells push/pull
21	Jog	60	65	45	39	Breast stroke
22	Jog	60	1	1	1	Band (tricep extension)
23	Jog	60	65	45	39	Butt kicks
24	Jog	60	1	1	1	Dumb bells push and squeeze at end
25	Jog	60	65	45	39	High knees
26	Swim	60	76	56	48	Body weight
27	Jog	120	34	14	11	Running in place

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## ADVANCED TRAINING WORKOUT - 45 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number**	Recommended Exercise**
<b>19</b>	Jog	60	1	1	1	Band (bicep curl) left arm
<b>20</b>	Swim	120	76	56	48	Free style swim
<b>21</b>	Jog	60	1	1	1	Seated pull rows
<b>22</b>	Jog	60	1	1	1	Arm circles forward
<b>23</b>	Jog	60	1	1	1	Arm circles backward
<b>24</b>	Swim	120	65	45	39	Breast stroke
<b>25</b>	Jog	60	1	1	1	Dumb bells push/pull
<b>26</b>	Swim	120	76	56	48	Free style swim
<b>27</b>	Jog	60	1	1	1	Band (tricep extension)
<b>28</b>	Jog	60	1	1	1	Step-up right leg
<b>29</b>	Jog	60	1	1	1	Step-up left leg
<b>30</b>	Jog	60	60	45	39	Butt kicks
<b>31</b>	Jog	60	1	1	1	Dumb bells push and squeeze at end
<b>32</b>	Jog	60	1	1	1	Arm circles forward
<b>33</b>	Jog	60	1	1	1	Arm circles backward
<b>34</b>	Jog	60	64	45	39	High knees
<b>35</b>	Swim	60	76	56	48	Body weight
<b>36</b>	Jog	120	34	14	11	Running in place

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number**	Recommended Exercise**
<b>1</b>	Swim	120	54	34	30	Breast stroke
<b>2</b>	Jog	120	54	34	30	Running in place
<b>3</b>	Jog	60	1	1	1	Step-up right leg
<b>4</b>	Jog	60	1	1	1	Step-up left leg
<b>5</b>	Jog	60	65	45	39	Butt kicks
<b>6</b>	Jog	60	1	1	1	Right leg raise
<b>7</b>	Jog	60	1	1	1	Left leg raise
<b>8</b>	Jog	60	1	1	1	Arm circles forward
<b>9</b>	Jog	60	1	1	1	Arm circles backward
<b>10</b>	Jog	60	65	45	39	High knees
<b>11</b>	Jog	60	1	1	1	Band (shoulder press)
<b>12</b>	Swim	120	65	45	39	Breast stroke
<b>13</b>	Jog	60	1	1	1	Band (chest press)
<b>14</b>	Swim	120	76	56	48	Free style swim
<b>15</b>	Jog	60	1	1	1	Step-up right leg
<b>16</b>	Jog	60	1	1	1	Step-up left leg
<b>17</b>	Swim	120	65	45	39	Breast stroke
<b>18</b>	Jog	60	1	1	1	Band (bicep curl) right arm

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## BEGINNER SWIM WORKOUT - 25 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise**
1	Swim	60	61	41	35	Free Style Swim
2	Swim	60	61	41	35	Kick Chore
3	Swim	60	54	34	30	Catch Up Drill
4	Swim	60	67	47	40	Backstroke
5	Jog	60	1	1	1	Jog in Place
6	Swim	60	67	47	40	Free Style Swim
7	Swim	60	61	41	35	Kick Chore
8	Swim	60	54	34	30	Catch Up Drill
9	Swim	60	67	47	40	Backstroke
10	Jog	60	1	1	1	Jog in Place
11	Swim	60	67	47	40	Free Style Swim
12	Swim	60	61	41	35	Kick Chore
13	Swim	60	54	34	30	Catch Up Drill
14	Swim	60	67	47	40	Backstroke
15	Jog	60	1	1	1	Jog in Place
16	Swim	60	67	47	40	Free Style Swim
17	Swim	60	61	41	35	Kick Chore
18	Swim	60	54	34	30	Catch Up Drill
19	Swim	60	67	47	40	Backstroke
20	Jog	60	1	1	1	Jog in Place
21	Swim	60	67	47	40	Free Style Swim
22	Swim	60	61	41	35	Kick Chore
23	Swim	60	54	34	30	Catch Up Drill
24	Swim	60	67	47	40	Backstroke
25	Swim	60	61	41	35	Free Style Swim

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## INTERMEDIATE SWIM WORKOUT - 25 MIN. 30 SEC.

Step	Mode	Seconds	Wave Swim Number**	Wave XP Swim Number**	Wave XP Pro Swim Number**	Recommended Exercise**
1	Swim	120	54	34	30	Free Style Swim
2	Swim	60	54	34	30	Fly Drill 2-2-2
3	Swim	60	1	1	1	W Fly 5 Strokes Fast + 10 55 FR EZ
4	Swim	120	1	1	1	Free Style Moderate Effort
5	Swim	60	65	45	39	Free Style Hard Effort
6	Jog	30	1	1	1	Jog in Place
7	Swim	60	1	1	1	Fly Drill 2-2-2
8	Swim	60	1	1	1	W Fly 5 Strokes Fast + 10 55 FR EZ
9	Swim	120	1	1	1	Free Style Moderate Effort
10	Swim	60	65	45	39	Free Style Hard Effort
11	Jog	30	1	1	1	Jog in Place
12	Swim	60	65	45	39	Fly Drill 2-2-2
13	Swim	60	1	1	1	W Fly 5 Strokes Fast + 10 55 FR EZ
14	Swim	120	1	1	1	Free Style Moderate Effort
15	Swim	60	65	45	39	Free Style Hard Effort
16	Jog	30	1	1	1	Jog in Place
17	Swim	60	65	45	39	Fly Drill 2-2-2
18	Swim	60	1	1	1	W Fly 5 Strokes Fast + 10 55 FR EZ
19	Swim	120	65	45	39	Free Style Moderate Effort
20	Swim	60	76	56	48	Free Style Hard Effort
21	Swim	120	34	14	11	Free Style Swim

\*Swim Number speed depends on propulsion system equipped in swim spa.

\*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# PROPULSION SYSTEM CONTROLS

## ADVANCED SWIM WORKOUT - 41 MIN.

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise**
<b>20</b>	Swim	60	67	47	40	Catchup with Steady Kick
<b>21</b>	Swim	60	80	60	50	Free Style Moderate Effort
<b>22</b>	Swim	60	96	76	65	Free Style Hard Effort
<b>23</b>	Swim	60	67	47	40	KKP Breast Drill
<b>24</b>	Swim	60	96	76	65	Breast Hard
<b>25</b>	Jog	60	1	1	1	Jog in Place
<b>26</b>	Swim	60	61	41	35	EZ Kick
<b>27</b>	Swim	60	67	47	40	Moderate Kick
<b>28</b>	Swim	60	74	54	46	Hard Kick
<b>29</b>	Swim	60	67	47	40	Catchup with Steady Kick
<b>30</b>	Swim	60	80	60	50	Free Style Moderate Effort
<b>31</b>	Swim	60	96	76	65	Free Style Hard Effort
<b>32</b>	Swim	60	67	47	40	KKP Breast Drill
<b>33</b>	Swim	60	96	76	65	Breast Hard
<b>34</b>	Jog	60	1	1	1	Jog in Place
<b>35</b>	Swim	60	61	41	35	EZ Kick
<b>36</b>	Swim	60	67	47	40	Moderate Kick
<b>37</b>	Swim	60	74	54	46	Hard Kick
<b>38</b>	Swim	120	61	41	35	Free Style Swim

Step	Mode	Seconds	Wave Swim Number*	Wave XP Swim Number*	Wave XP Pro Swim Number*	Recommended Exercise**
<b>1</b>	Swim	180	67	47	40	Free Style Swim
<b>2</b>	Swim	60	67	47	40	Catchup with Steady Kick
<b>3</b>	Swim	60	80	60	50	Free Style Moderate Effort
<b>4</b>	Swim	60	96	76	65	Free Style Hard Effort
<b>5</b>	Swim	60	67	47	40	KKP Breast Drill
<b>6</b>	Swim	60	96	76	65	Breast Hard
<b>7</b>	Jog	60	1	1	1	Jog in Place
<b>8</b>	Swim	60	61	41	35	EZ Kick
<b>9</b>	Swim	60	67	47	40	Moderate Kick
<b>10</b>	Swim	60	74	54	46	Hard Kick
<b>11</b>	Swim	60	67	47	40	Catchup with Steady Kick
<b>12</b>	Swim	60	80	60	50	Free Style Moderate Effort
<b>13</b>	Swim	60	96	76	65	Free Style Hard Effort
<b>14</b>	Swim	60	67	47	40	KKP Breast Drill
<b>15</b>	Swim	60	96	76	65	Breast Hard
<b>16</b>	Jog	60	1	1	1	Jog in Place
<b>17</b>	Swim	60	61	41	35	EZ Kick
<b>18</b>	Swim	60	67	47	40	Moderate Kick
<b>19</b>	Swim	60	74	54	46	Hard Kick

\*Swim Number speed depends on propulsion system equipped in swim spa.  
 \*\*See Swim Number App for iPad or exercise book for detailed exercise instructions.

# SWIM SPA PROPULSION SYSTEM TECHNICAL INFORMATION

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## CRITICAL REPLACEMENT COMPONENT PART NUMBERS:

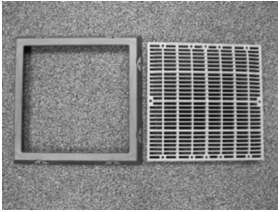
**WARNING:** Items listed below shall only be replaced with identical components unless approved by Master Spas Engineering Department. Any change or alteration to the system components will cause a safety hazard and void the safety certification.

### PROPULSION SUCTION GRATES MISC. SPECIFICATIONS:

- Wall mount only
- Life span 7 years
- Tools required – No. 2 Phillips screwdriver
- Pulley system shall be 1:1 ratio only

**Note:** *Fittings and fasteners should be observed for damage or tampering before each use of the swim spa.*

• Propulsion suction grate assembly: X804490



• Propulsion grate fasteners (4 per grate): X717900



- Propeller
  - Wave.....X400125
  - Wave XP .....X400820
  - Wave XP PRO .....X400820
- \*Max. Frequency
  - Wave.....66Hz.
  - Wave XP .....60Hz.
  - Wave XP PRO .....68Hz.

\*This is the certified maximum frequency. Actual frequency setting may vary.

**Note:** *The propulsion system is designed to operate at any speed (Swim Number 1-100) for 30 minutes. The propulsion system can be operated for as much as 60 minutes continuous as long as the Swim Number is limited to 90 or below. If Swim Number exceeds 90 for more than 30 minutes, the propulsion motor could shut down to protect itself or trip the internal GFCI breaker. This is considered normal and can be avoided by operating the system as described above. If the system shuts down, verify that the internal GFCI is reset (on), allow time for the motor to cool, then operate as normal.*

# FUSION AIR SOUND SYSTEM (IF EQUIPPED)

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## REMOTE CONTROL POWER & SYNCING

**WARNING** – Never remain in your swim spa longer than 15 minutes per session when the water temperature is above 98°F. If you wish to spend more time in your swim spa, whether enjoying music, or just lounging, be sure to keep the swim spa water at or below body temperature (98.6°F).

**WARNING** – Prevent Electrocutation. Do not connect any auxiliary/external components to the system (i.e. cables, additional speakers, headphones, additional Audio/Video components, etc.).


## HANDHELD REMOTE CONTROL CHARGING

The remote has a built-in Polymer Lithium rechargeable battery and comes with a charging cable. Connect one end of the charging cable to the charging connection on remote control and connect the USB end of the charging cable to any USB charger (5V DC) for charging. Be sure charging connection is dry or allowed to dry before connecting to charge.


Make sure the remote has been charged before used. Do not leave remote under spa cover when not in use. Always store remote in dry location when not it in use.


## HANDHELD REMOTE CONTROL SYNCHRONIZING


The remote should already be paired from the factory, but if you need to synchronize the remote, follow the steps below:

1. Make sure BlueCube+ Media Player is powered ON (red LED).
2. Put the remote within 20 inches (0.5 meter) of the BlueCube+ Media Player.
3. Press and hold  MODE on remote control until the LCD shows "Pairing in Progress". Release the button.
4. Within 2 seconds, the LCD will show "Paired". If it fails to pair, the LCD will show "Retry again". If this happens, wait 5 seconds and repeat steps above.

For any additional remote controls, you will also need to synchronize those remote controls to the BlueCube+ Media Player.

 *If the pairing process is not successful, try again to put your remote close to the remote receiver or charge the remote control if the battery is low.*

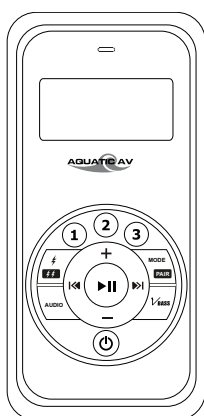
 *Depending on the frequency of usage, the remote may drain its battery. Please charge the remote before use. If the LCD shows nothing, the battery has been drained and will need charging.*

 *If you have lost or damaged your remote control and buy a new remote control, follow the above steps to pair the new remote control.*



# FUSION AIR SOUND SYSTEM (IF EQUIPPED)

## EXPLANATION OF CONTROLS



### STEREO OUTPUTS

Internal stereo module has capabilities for Bluetooth, FM Radio, AUX and USB. There is no external capabilities for AUX and USB. For this reason, these inputs will not be applicable when seen on remote. Simply use Mode to rotate back to either Bluetooth input or FM.

### REMOTE CONTROL

Buttons		Bluetooth	FM Radio Mode
Power		Press once: Toggle from Operation mode to Standby mode or vice-versa. Press and hold: No function.	
Mode/Pair		Press once: Change mode. Press and hold: Synchronize remote control.	
Volume Up		Press once: Volume up Press and hold: Fast volume up	
Volume Down		Press once: Volume down Press and hold: Fast volume down	
Fast Forward		Press once: Next track Press and hold: Fast forward	Press once: +0.05kHz Press and hold: Scan up
Fast Rewind		Press once: Previous track Press and hold: Fast rewind	Press once: -0.05kHz Press and hold: Scan down
Play/Pause		Press once: Play/Pause Press and hold: No function	Press once: Toggle mute Press and hold: No function
1		Press once: No function Press and hold: No function	Press once: Listen to FM preset station 1 Press and hold: Set preset FM station 1
2		Press once: No function Press and hold: No function	Press once: Listen to FM preset station 2 Press and hold: Set preset FM station 2
3		Press once: No function Press and hold: No function	Press once: Listen to FM preset station 3 Press and hold: Set preset FM station 3
EXT Trigger		Press once: No function Press and hold: No function	Press once: No function Press and hold: No function
Audio		Press once: Enter Audio Menu Press and hold: Save & Exit Audio Menu	
VBass		Press once: Toggle VBass on/off Press and hold: No function	

# FUSION AIR SOUND SYSTEM (IF EQUIPPED)

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## LISTENING TO DEVICES

### PAIR WITH BLUETOOTH DEVICE

1. Switch on your Bluetooth device.
2. Select 'AQUATIC AV' from the list of available devices to pair (no password is needed).

### LISTENING VIA BLUETOOTH DEVICE

1. Bluetooth mode will be activated once a Bluetooth device is paired in any mode. Use **MODE** **PAIR** (MODE) to change to the Bluetooth mode to listen to music.
2. Play the song from device and the sound will play through the BlueCube+ Media Player.
3. Press **▶||** (PLAY/PAUSE) to play/pause the song.
4. Press **◀◀** / **▶▶** (FAST REWIND/FAST FORWARD) buttons to play previous/next song file.
5. Press and hold **◀◀** / **▶▶** (FAST REWIND/FAST FORWARD) buttons to fast forward / fast rewind the song file.
6. Previous/next track and volume up/down can be controlled directly from your Bluetooth device or directly from the BlueCube+ Media Player remote control.

### BLUETOOTH MULTI-LINK

A second Bluetooth device can pair to the BlueCube+ Media Player even when it has been paired to another Bluetooth device. The second Bluetooth device will be able to play once the first device has stopped playing.

### ADJUST VOLUME LEVEL



1. Press **+** (VOLUME UP) once to increase the volume.
2. Press **-** (VOLUME DOWN) once to reduce the volume.
3. Press and hold either **+** or **-** (VOLUME UP or VOLUME DOWN) to increase or decrease audio volume continuously.


# FUSION AIR SOUND SYSTEM (IF EQUIPPED)

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## LISTENING TO DEVICES



### ENTER FM RADIO MODE

1. Press  (MODE) on the remote control to switch to FM radio mode.
2. Press  (PLAY/PAUSE) to mute or unmute the audio.




 *If this is the first time you listen to FM radio, the default frequency will be 87.5MHz, as shown on the remote LCD.*

 *FM radio is only available when you are in FM Radio mode. Scan or seek FM radio Channels.*




### SCAN OR SEEK FM RADIO CHANNELS

1. Press  (FAST REWIND/FAST FORWARD) to seek another station.
2. Press once  (FAST REWIND/FAST FORWARD) to -0.05kHz or +0.05kHz to the frequency.





### SAVING RADIO CHANNEL TO MEMORY

To save the current frequency to memory, press and hold the ,  or  for more than 2 seconds. The station will be stored into relevant button.

### LISTENING TO SAVED RADIO MEMORY

Press the ,  or  preset button once to listen to the station stored in that button.

### ADJUST VOLUME LEVEL

1. Press  (VOLUME UP) once to increase the volume.
2. Press  (VOLUME DOWN) once to reduce the volume.
3. Press and hold either  or  (VOLUME UP or VOLUME DOWN) to increase or decrease audio volume continuously.

# FUSION AIR SOUND SYSTEM (IF EQUIPPED)

## ADDITIONAL FEATURES

### AUDIO MENU

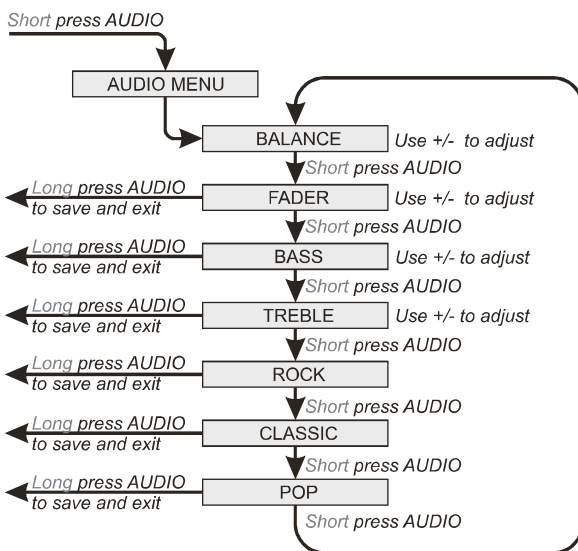
The BlueCube+ Media Player is equipped with an audio DSP (Digital Signal Processor) to provide preset listening experiences for different music types.

1. To enter audio menu, press **AUDIO** (AUDIO) button once on the remote control.

2. Each press of **AUDIO** (AUDIO) button will advance to the next audio setting as described on the right.

3. In the audio menu, press and hold **AUDIO** (AUDIO) to save and exit the audio menu back to the original mode.

*If you have chosen preset equalizer (Rock, Classic, or Pop), the previous Bass & Treble settings will be overridden.*



### VIRTUAL BASS (VBASS)

Virtual Bass (VBass) boosts the bass of the audio signal using the latest DSP technology and is particularly useful when used with very small speakers to create perceived bass frequencies of a much larger speaker.

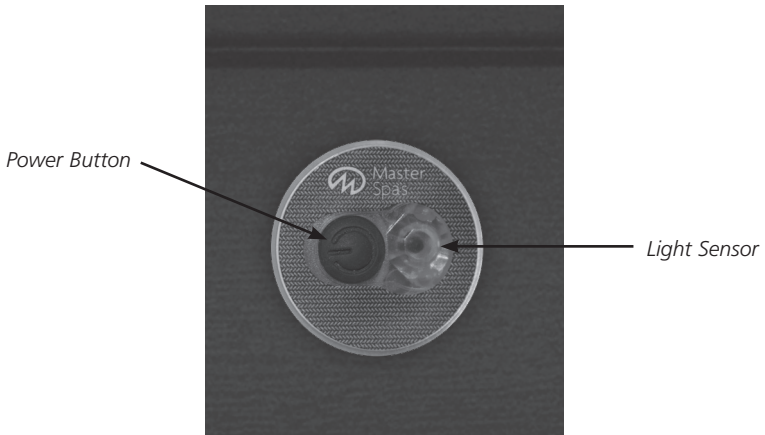
Press **VBASS** (VBASS) once on the remote control to toggle it on or off.

# WAVE LIGHTING (IF EQUIPPED)

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Set into a decorative SoftTread™ insert, this laser LED light provides a warm and inviting glow to the exterior of your swim spa at night and looks great as part of your backyard design. The Wave Light Package is available for most deep swim spa models.

This feature utilizes a light sensor to turn on as daylight diminishes (dusk) and remains on through the night. You can manually shut off the lights by pressing the power button located on the light sensor, found on the short, seated end of your swim spa. The Wave Lighting feature is only activated by darkness. It will not turn on during daylight hours or in well lit areas.



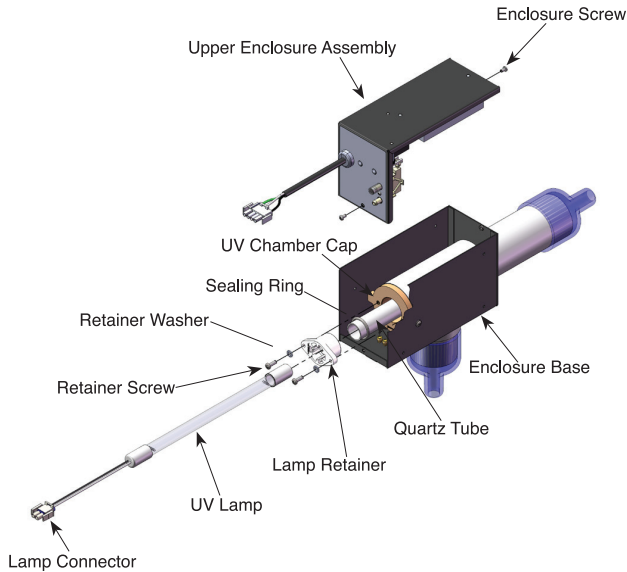
# MAST3RPUR (IF EQUIPPED)

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**Note:** This regular maintenance for the Mast3rPur system is not covered under the warranty of the swim spa. Your Master Spas Dealer or Service Center can be contacted to schedule this maintenance.

## **WARNING:**

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



**Figure 2: Spa Solar Eclipse Exploded View**

### **a. UV Lamp Removal – See Figure 2.**

If the Green Power Indicator is on, but the Blue UV Lamp Indicator is off, the UV lamp needs to be replaced. For maximum UV sanitation effect, replace the UV Lamp every 18 months.

- i. Make sure the unit is disconnected from power and the lamp has cooled before starting maintenance.
- ii. Open the Spa Solar Eclipse by removing the two Enclosure Screws on the Upper Enclosure Assembly and lifting it from the Enclosure Base.
- iii. Disconnect the Lamp Connector attached to the lamp wires and place the Upper Enclosure Assembly in a safe place.
- iv. Gently pull the Lamp Wires till the top of the UV Lamp is out of the Lamp Retainer. Grasp the white ceramic end of the UV Lamp and pull until it is fully removed. **IF YOU ARE NOT REPLACING THE LAMP, DO NOT TOUCH THE UV LAMP GLASS WITH YOUR BARE HANDS.** The oils on your hands can cause hot spots on the lamp and shorten its life. If oil from your fingers is left on the lamp glass, clean it off with a soft towel and rubbing alcohol. If you are removing an old lamp for replacement, handle the lamp carefully and dispose properly (see Environmental Notice below).
- v. Set the UV Lamp aside in a safe place.

### b. Installing the UV Lamp

- i. Make sure to handle the new lamp by the ceramic endcaps and clean the UV Lamp before installation if needed.
- ii. Slowly place the UV Lamp into the Lamp Retainer until the top of the UV Lamp is pushed past the tabs on the Lamp Retainer.
- iii. Connect the Lamp Connector to its corresponding part in the Ballast Assembly.

**ENVIRONMENTAL NOTICE:** UV Lamp CONTAINS MERCURY. Manage in accordance with disposal laws. See: [www.lamprecycle.org](http://www.lamprecycle.org)

### c. UV Reactor Service and Maintenance

The UV Lamp is housed in a Quartz Tube. If the Quartz Tube becomes dirty, its ability to transmit rays from the UV Lamp will be diminished and decrease system performance. The Quartz Tube should be removed from the UV Reactor at least once a year or during a routine swim spa water change for inspection and cleaning if necessary.

### d. Quartz Tube Removal and Cleaning

**CAUTION: Wear proper eye and skin protection for servicing glass components.**

- i. Make sure the swim spa is shut down and the UV Lamp and Quartz Tube have cooled before performing maintenance on the Quartz Tube. If you have installed Isolation Valves, close them before servicing. If you do not have Isolation Valves, the swim spa must be drained below where the Spa Solar Eclipse is mounted.
- ii. Remove the Upper Enclosure Assembly and UV Lamp as described in Section A and set aside in a safe place.
- iii. Remove the two Retainer Screws and Retainer Washer from the top of the Lamp Retainer and slowly pull the Lamp Retainer out of the UV Chamber Cap.

**CAUTION: If there is any water remaining in the plumbing, it will start to leak after the Lamp Retainer is removed.**

- iv. Grasp the inside of the Quartz Tube and pull it out of the housing. Make sure the Sealing Ring does not get lost during Quartz Tube removal.
- v. Inspect the Sealing Ring for nicks or hardness and replace if necessary.
- vii. Clean the Quartz Tube exterior with a mild solution of muriatic acid and water in a ratio of four parts water to one part acid (4:1). DO NOT USE ABRASIVE CLEANERS as they can scratch the high quality quartz glass.

**CAUTION: Follow the directions for safe use and handling of muriatic acid on the acid bottle label. Never add water to acid. Always add acid to water.**

- vii. After cleaning the Quartz Tube, wash it off with water and wipe dry with a soft towel. Inspect the Quartz Tube for cracks and replace if cracks are found.
- viii. Make sure the inside of the Quartz Tube is dry before replacing the UV Lamp(s).

**NOTE:** Damage caused by broken quartz tubes is not covered under the Mast3rPur System Limited Warranty.

## MAST3RPUR (IF EQUIPPED)

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### e. Quartz Tube Installation

- i. Place the Sealing Ring on the Quartz Tube 3/4 inch from the open end.
- ii. Insert the Quartz Tube partially into the UV Chamber Cap. Place the Lamp Retainer over the open end of the Quartz Tube and slowly push in until it is touching the UV Chamber Cap.
- iii. Place the Retainer Washers onto the Retainer Screws and screw the Lamp Retainer Screws until the Lamp Retainer is completely seated against the UV Chamber Cap.
- iv. After swim spa is refilled, turn the swim spa ON and check the seal around the Lamp Retainer for leaks.
- v. Correct any leak found by carefully tightening the retainer screws making sure lamp retainer is snug. Be careful not to over-tighten and damage lamp retainer. If leaking continues, contact your Master Spas dealer for service.
- vi. SHUT DOWN the swim spa once you have confirmed that there are no leaks.
- vii. Install the UV Lamp as described in Section B.
- viii. Reinstall the Upper Enclosure Assembly to the Enclosure Base.
- ix. The unit is now ready for normal operation.

**Contact your Master Spas dealer for replacement Mast3rPur parts and scheduling service for this regular maintenance.**

**Note: 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 wear more rapidly. This regular maintenance is not covered under the swim spa warranty.**



# **SOFTTREAD™ FLOOR SYSTEM BY SWIMDEK® (IF EQUIPPED)**

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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.

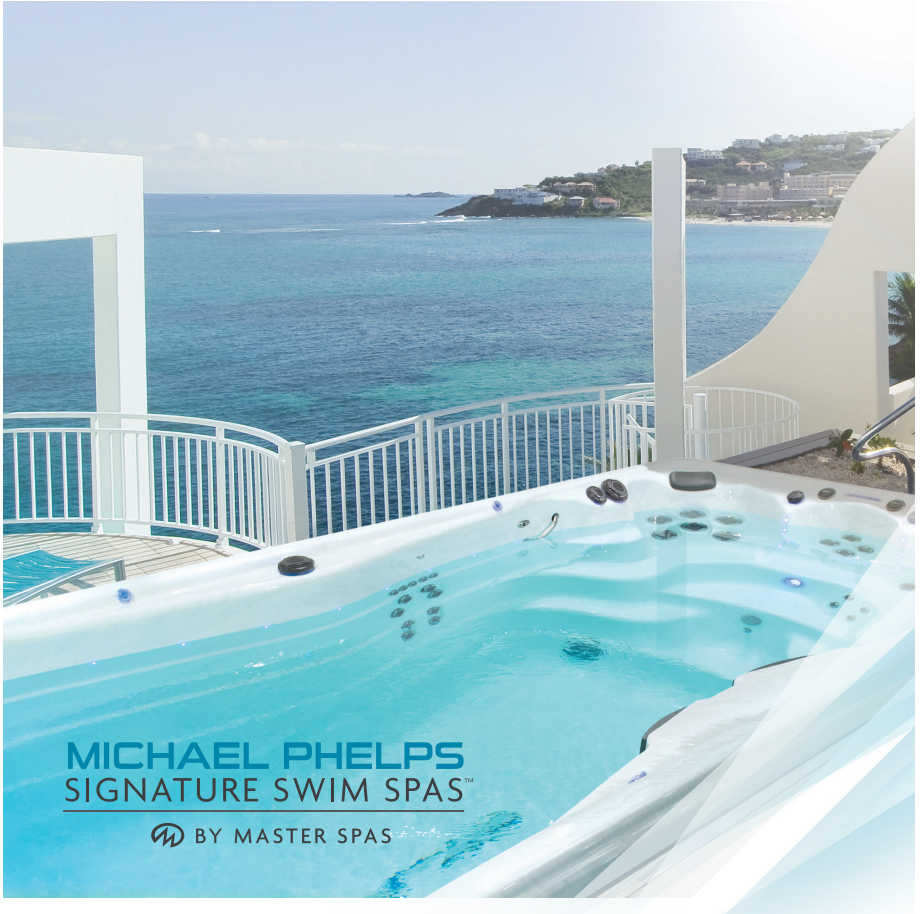
## **Never:**

- 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.*







## MICHAEL PHELPS SIGNATURE SWIM SPAS™

 BY MASTER SPAS



Customer Support: [www.masterspas.com/resources](http://www.masterspas.com/resources)

6927 Lincoln Parkway, Fort Wayne, IN 46804  
800.860.7727 [CustomerService@MasterSpas.com](mailto:CustomerService@MasterSpas.com)

The manufacturer reserves the right to change specifications or features without notice. As a manufacturer of swim spas and related products we stand behind every product we produce pursuant to those representations which are stated in our written limited warranty. Your dealer is an independent business person or company and not an employee or agent of Master Spas, LLC. We cannot and do not accept any responsibility or liability for any other representations, statements or contracts made by any dealer beyond the provisions of our written limited warranty.

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