Technical Manual

All Models

MAAX® SPAS

PowerPool™ By MAAX®

SAFETY SIGN

The safety sign enclosed with your Owner's Manual should be permanently installed where visible to all users of the PowerPool™. This sign is adhesive backed and includes four screws for mounting the sign on rough surfaces. It is very important that you, as a PowerPool™ owner, review the important safety instructions and warnings before you operate your PowerPool™. It is equally important that you instruct all users, even occasional ones, as to the warnings associated with spa use. You may obtain additional signs by contacting :

USA: MAAX® Spas (Arizona) Inc.
Customer Service
25605 South Arizona Avenue
Chandler, Arizona 85248
www.maaxspas.com

Europe: Interhiva BV
Hanzeweg 17
3771 NG Barneveld
The Netherlands
www.maaxspas.eu

READ THIS MANUAL BEFORE USING YOUR POWERPOOL™!

Failure to comply with warnings and instructions will create an unreasonable risk of serious personal injury, or death, to yourself and others, as well as property damage.

LIMITED WARRANTY SUMMARY

Please refer to the Warranty Card included with your product for complete warranty information. In order to receive prompt warranty service, you must return your warranty card, completed with model and serial number, to MAAX® Spas (Arizona), Inc. immediately upon completion of the spa installation. MAAX® Spas (Arizona), Inc. provides a limited warranty to our customers. It applies to the PowerPool™ structure, surface, plumbing, pumps, heater, and controls. The limited warranty does not cover damage resulting from improper maintenance, improper installation, misuse, abuse, accident, fire, normal wear and tear, or improper water maintenance. Unauthorized modifications of the PowerPool™ may void the warranty. Replacement cost associated with transportation, removal and reinstallation are the sole responsibility of the PowerPool™ owner. This manual refers to only year 2008 model PowerPools™. MAAX® Spas (Arizona), reserves the right to make changes in design or material of its products at any time without incurring liability. This limited warranty applies to the first retail purchaser and terminates upon any transfer of ownership.

IMPORTANT SAFETY WARNINGS

SAVE THESE INSTRUCTIONS.

NOTE: When installing and using this equipment, basic safety precautions should always be taken to reduce the risk of electrical shock, to ensure safe usage, and to safeguard the user's health. Failure to follow instructions and warnings contained in this Owner's Manual, in the PowerPool™ Installation Guide, and on the PowerPool™ itself may result in severe personal injury, including death, as well as property damage.

WARNING:
Children should not use PowerPool™ or hot tubs without adult supervision.

WARNING:
Do not use PowerPool™ or hot tubs unless all suction guards are installed to prevent body and hair entrapment.

WARNING:
People using medications and/or having an adverse medical history should consult a physician before using a PowerPool™ or hot tub.

WARNING:
People with infectious diseases should not use a PowerPool™ or hot tub.

WARNING:
To avoid injury exercise care when entering or exiting the PowerPool™ or hot tub.

WARNING:
Water temperature in excess of 38° C may be injurious to your health.

WARNING:
Do not use drugs or alcohol before or during the use of a PowerPool™ or hot tub to avoid unconsciousness and possible drowning.

WARNING:
Pregnant, or possibly pregnant, women should consult a physician before using a PowerPool™ or hot tub.

WARNING:
Before entering the PowerPool™ or hot tub measure the water temperature with an accurate thermometer.

WARNING:
Do not use a PowerPool™ or hot tub immediately following strenuous exercise.

WARNING:
Prolonged immersion in a PowerPool™ or hot tub may be injurious to your health.

WARNING:
Do not permit electric appliances (such as a light, telephone, radio, or television) within 1.5m of the PowerPool™ or hot tub.

WARNING:
Maintain water chemistry in accordance with manufacturer's instruction.

WARNING:
The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs and PowerPool™.

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IMPORTANT SAFETY INSTRUCTIONS

Caution: Risk of electrical shock.
Read and follow all instructions.

1. **Read and follow all instructions.**
2. **Save these Instructions.**
3. **Never** allow children to access or use this product unless closely supervised by an adult at all times.
4. **Never** connect unit to a power supply with a load controller.
5. **Never** operate PowerPool™ if the suction fittings are broken or missing.
6. **Never** replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

The suction fittings in this PowerPool™ 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.

To avoid/reduce risk of injury and/or drowning:

1. The water temperature in a PowerPool™ should never exceed 40°C. This temperature is considered safe for a healthy adult. Lower water temperatures are recommended for young children and elderly adults, and when PowerPool™ usage exceeds 10 minutes.
   Consult your physician or pediatrician to determine safe temperature limits

   NOTE: Refer to information on hyperthermia on page 6

2. Since excessive water temperatures have a high potential for causing fatal damage during the early months of pregnancy, pregnant or possibly pregnant women should check with their physician before entering a PowerPool™.
3. Before entering a PowerPool™, the user should verify the water temperature with an accurate thermometer since the tolerance of water temperature regulating devices varies.
4. The use of alcohol, drugs, or medications before or during PowerPool™ use may lead to unconsciousness with the possibility of drowning.
5. Persons suffering from obesity or with a medical history of heart disease, circulatory problems or diabetes should consult a physician before using a PowerPool™.
6. Persons using medications should consult a physician before using a PowerPool™ since some medications may induce drowsiness while other medications may affect heart rate, blood pressure, and circulation.

To avoid risk of electrical shock:

1. Only use the wire connector provided on this unit to connect a (5.15 mm^2) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 1.5m of the unit.
2. Install at least 1.5m from all metal surfaces. PowerPool™ may be installed within 1.5 m of a metal surface if each metal surface is permanently connected by a (5,15 mm^2) solid copper conductor attached to the wire connector on the terminal box that is provided for this purpose.
3. Do not permit any electric appliance, such as a light, telephone, radio, or television within 1,5m of a PowerPool™.

NOTE: Check with your state/local code enforcement officer to determine electrical code requirements and compliance. Use a qualified licensed electrician to complete all PowerPool™ final electric connections.

The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors. This disconnecting means must be readily accessible for operation but installed at least 1.5m from the PowerPool™. All electrical connections should comply with local regulations.

4. Install to provide drainage of compartment for electrical components.

Do's and Don'ts

For years of PowerPool™ enjoyment:

Do:

- **Save these instructions!**
- Replace the cover immediately after use.
- Keep the cover locked when PowerPool™ is not in use.
- Be aware of the dangers of a wet and slippery surface. Use caution when entering and exiting your PowerPool™.
- If legally necessary, have a licensed electrician make all final electrical connections.
- Replace worn, frayed or broken electrical cords.
- Keep the water chemistry correctly balanced. Untreated PowerPool™ water will cause problems with your PowerPool™ and equipment as well as being a health risk.
- Clean the PowerPool™ filter monthly or as needed.
- Position the PowerPool™ so that all sides remain accessible for maintenance.
- Use a bathing cap for long hair.
- Refer to information on hyperthermia (page 5).
- Use only authorized PowerPool™ care products for the best performance and to keep the water properly balanced.
- Post emergency phone numbers for Police, Fire and Ambulance Departments by PowerPool™ and at nearest phone.
- Post PowerPool™ Water Safety Rules in conspicuous area near PowerPool™ and point them out to anyone who will use the PowerPool™.

Don't:

- Use the PowerPool™ at 40°C for long periods of time (more than 30 minutes). See Hyperthermia, next page.
- Use an extension cord to power your PowerPool™.
- Allow anyone to stand on the PowerPool™ cover. It is not designed to support weight.
- Power the PowerPool™ unless it is filled with water to the water level mark on the weir door.
- Operate the pump on high speed for extended periods of time with the cover in place. Extended operation can cause heat build-up and interfere with PowerPool™ operation.

Hyperthermia
The causes, symptoms, and effects of hyperthermia may be described as follows: Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 37ºC. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include (1) failure to perceive heat, (2) failure to recognize the need to exit PowerPool™ or hot tub, (3) unawareness of impending hazard, (4) fetal damage in pregnant women, (5) physical inability to exit the PowerPool™ or hot tub, and (6) unconsciousness resulting in the danger of drowning.

WARNING: The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

POWERPOOL™ INSTALLATION

Danger: Electrical shock risk. Install at least 1.5m from all metal surfaces.

The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors. The disconnecting means must be readily accessible but installed at least 1,5 meters from the PowerPool™ water. All electrical connections should comply with local regulations.

The appliance should be supplied through a residual current device (RCD) with a rated tripping current not exceeding 30 mA. Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules. Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12 V, must be inaccessible to a person in the bath. Earthed appliances must be permanently connected to fixed wiring.

Site and Positioning
MAAX® Spas recommends that a PowerPool™ be placed in its final installation site by crane. In any installation where a crane cannot be used, you may want to consult with a professional rigging company.

When utilizing a crane for delivery, be sure that crane operator understands the weight of the PowerPool™, the height it must be lifted, and the distance that the crane boom must travel. Be sure that the crane operator uses an 8' spreader bar and that the straps wrap all the way around the bottom frame of the PowerPool™.
Locate the PowerPool™ on a solid, level foundation keeping in mind the weight of the filled PowerPool™ (in excess of 11.000 kg. on some models). If you have any doubts about the load bearing ability of your chosen site,

contact an architect or a building contractor. The entire perimeter of the PowerPool™ Frame and bottom must be evenly supported.

We recommend that you provide a concrete foundation pad for the PowerPool™. The foundation pad should be wider and longer than the PowerPool™ by at least 30 cm in each direction. Failure to provide a level surface could structurally damage your PowerPool™ and void the warranty.

The PowerPool™ must be installed to allow access for service and maintenance on all four sides; therefore, if you choose to install your PowerPool™ below grade level, you will be required to have a vault or pit constructed to prevent ground water, rain, snowmelt, or sources of water from collecting around the equipment of the PowerPool™. The vault must have either sufficient drainage through a drain line or through the use of a sump pump. The vault must have adequate safe access as to allow for routine maintenance of the PowerPool™ components.

WARNING: ACCESS TO THE POWERPOOL™ SHOULD BE CONTROLLED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL AND LOCAL CODES. IN SOME LOCATIONS THIS MAY INCLUDE AN APPROVED FENCE WITH SELF-CLOSING, SELF-LOCKING GATE AND/OR A LOCKABLE SAFETY HARDCOVER FOR OUTDOOR USE AND A LOCKABLE DOOR AND/OR SAFETY HARDCOVER FOR INDOOR USE.

Outdoor Installation

The following considerations apply when installing your PowerPool™ outdoors:

1. Local codes pertaining to fencing.
2. Local electrical and plumbing codes.
3. View from your house.
4. Wind direction.
5. Exposure to sunlight.
6. Location relationship to trees (twigs, leaves and shade).
7. Dressing and bathroom location.
8. Storage area for maintenance equipment and chemicals.
9. Location to facilitate adult supervision.
10. Landscaping and night time lighting.
11. Accessibility to equipment.
12. Location and routing of power supply to PowerPool™ and foot traffic.

Indoor Installation

In addition to the Outdoor installation consideration, please also understand that the following considerations apply when installing your PowerPool™ indoors:

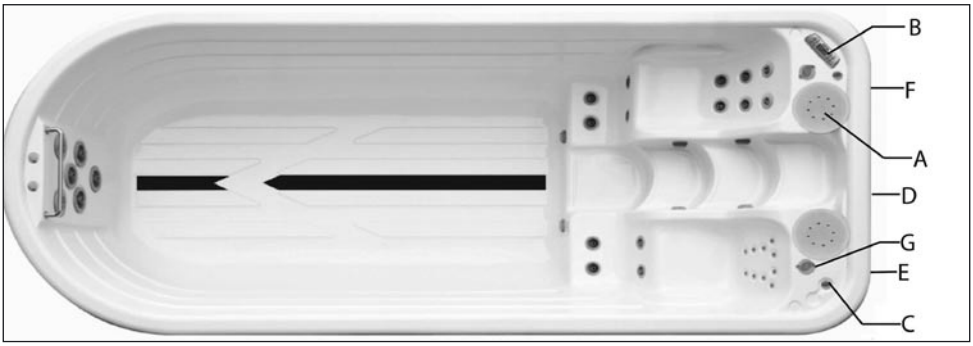
1. Indoor PowerPool™ promote high humidity. Using either ventilation fans or commercial grade de-humidifiers will help to reduce the humidity. Consult your dealer for details.
2. **Floor drains must be provided near the PowerPool™ to drain off water that may cause falls and /or water damage. Water will splash out of the PowerPool™ during normal use when swimming and when exiting the PowerPool™.**
3. Surface area of foundation pad and surrounding area should be flat with a non-skid finish. Carpeting or other porous materials may retain moisture, which leads to mold, mildew and odors

and is not recommended.

4. Walls, ceilings, woodwork should be made of materials capable of withstanding high humidity.
5. MAAX® Spas only recommends the use of a concrete foundation pad to support your PowerPool™. If you intend to install your PowerPool™ in an area where you cannot utilize a concrete foundation pad, you must consult with a structural engineer to ensure the floor load bearing capacities are adequate to support the concentrated PowerPool™ weight, the weight of the PowerPool™ occupants, and any furniture or people that will be using the immediate area of the PowerPool™.
6. During shipment from the factory, plumbing components may loosen; therefore it is imperative that the PowerPool™ is double checked for leaks before installing to avoid possible water damage. Your dealer may include this service in their installation procedures.
7. Indoor sunrooms are capable of maintaining high ambient temperatures which may affect the PowerPool™ water temperature. It is **NOT** recommended that you operate your filter cycles for longer than 4 hours per day under these conditions.

Danger: Electrical shock risk. Install at least 1.5 m from all metal surfaces.

POWERPOOL™ SYSTEM COMPONENTS



A. Filter Skimmer/Weir Door: Removes floating debris from the water surface, provides a water return path to equipment, and houses water filter elements. PowerPool™ Sport and Pro models utilize 2 Filter Skimmers and the PowerPool™ SuperSport model utilizes 3 Filter Skimmers.

B. Topside Control Panel: Used to control temperature setting, jet pumps, circulation system, underwater lights and ambient effect lighting. PowerPool™ Sport and Pro models utilize one topside control panel. The PowerPool™ SuperSport model utilizes two topside control panels, one for the hot tub portion and one for the swim area.

C. Air Controls: Increases or decreases air entering the jets. Close during heating for maximum efficiency. It is recommended that air controls to the MAAX®-Force swim jets remain closed during swimming to provide a clearer stream of water which is free from air bubbles.

D. Equipment Pack Service Panel (no user serviceable parts): Spa support system consisting of electronic control pack, pumps, heater, UV water sanitizer, plasma UV ozone generator, LED lighting interface and associated electrical controls (not shown). The PowerPool™ Sport and Pro models feature one control pack, three jet pumps, one UV sanitizer, one plasma UV ozone generator and one LED lighting interface. The PowerPool™ SuperSport model features two independent electronic control packs, four jet pumps, two UV sanitizers, two plasma UV ozone generators and two LED lighting interfaces.

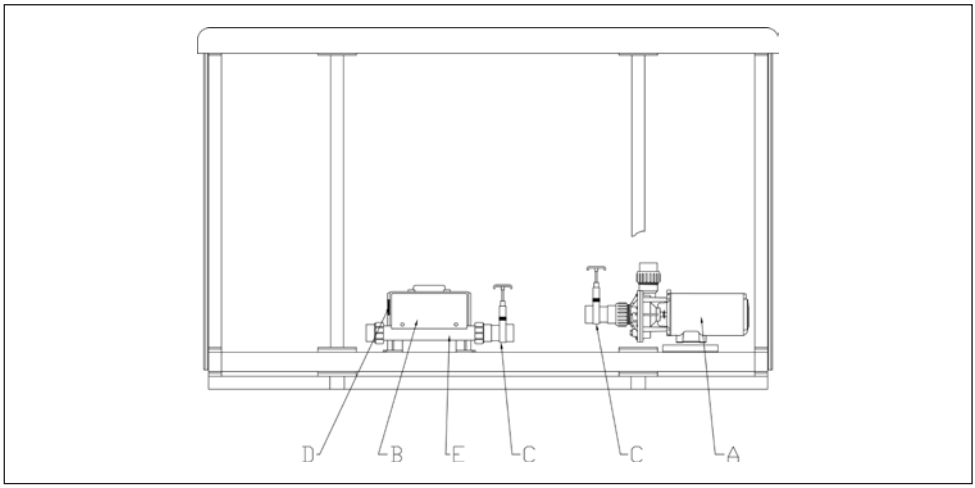
E. Drain Access (Adjacent to the equipment service panel): PowerPool™ drain faucets are located immediately behind the front door panel. Remove panel to access.

F. Manufacturer's Identification Label: Contains identification information for warranty service (serial number, model number, etc.) and electrical information (ampere rating and ampere requirements). Located on the lower right side of the front door panel.

G. Diverter Valve: Used to direct the flow of water between the massage jets in the hydrotherapy seats and the swim jets. By turning the diverter valve clockwise, the water is directed to the massage jets in the hydrotherapy seats and by turning the diverter jet counterclockwise, the water is directed to the swim jets.

POWERPOOL™ COMPONENTS

Reference only. Equipment is not always as shown



Note: No consumer serviceable parts. We recommend that only an authorized service technician perform PowerPool™ repair or service.

A. Pumps: Each pump features dual-speed capacity. Low speed is utilized for efficient water circulation during filtration and heating, and for lighter therapy and exercise programs; high speed is engaged for maximum action of the jets when deeper therapy or more rigorous exercise programs are desired. All pump functions are activated by topside controls.

B. Electronic Control Pack: All PowerPool™ functions are operated by this control. There are no user-serviceable components in this control. Opening this control may subject you to high voltage and danger of electrical shock or electrocution.

Warning and Installation Label: Contains important safety information, hazard warnings and installation instructions.

C. Slice Valve: Used to shut off water flow from the PowerPool™ vessel to pumps and electronic control pack while servicing. Quantity will vary depending on model. All valves should be open during normal operations.

D. Electrical Connections: Contains outlets for electrical plug connections. Connections are made during manufacture of the pool.

E. Heater Assembly: Thermostatically controlled and equipped with an overheat safety shut-off.

JETS AND AIR CONTROLS

Swim Area Jets
PowerPool™ MAAX®-Force jets are designed to produce a smooth flow of water with high output to create a consistent swim stream. Whether you want to swim or walk/jog against the force of the jets, you will find the flow of water deep enough and swift enough to meet your individual needs.

Hydrotherapy Area Jets
All of the hydrotherapy jets are individually engineered to provide a unique hydro-massage. Depending on the model, your PowerPool™ will have a combination of the following jets:

Cyclone Therapeutic
(XL Cyclone, LS Cyclone, & Cyclone):
Positioned to focus on large muscle groups, these jets deliver a concentrated, high volume stream of water for a deep massage. Each jet is fully adjustable, allowing users to set the water flow to the most comfortable setting. The nozzle can be rotated to target sore muscle areas.

Cyclone Turbo Swirl Jets
(XL Cyclone, LS Cyclone, & Cyclone):
Positioned to focus on muscle tension zones, these jets deliver a spinning V-shaped water stream for a gentle, pulsating massage. Each jet is fully adjustable, allowing users to set the water flow to the most comfortable setting.

Cluster Jets:
Positioned in the foot well or shoulder areas of the PowerPool™, these jets deliver a penetrating massage to dissolve tension. This jet may be the entry point for ozone produced during the automatic filtration cycles, and, as such, is not adjustable.

Note: Ozone production is suspended when other functions are activated on the control panel by the PowerPool™ user.

All full sized jets are adjustable from a fully open to closed position. It is very important that you **NEVER** SHUT ALL FULL SIZED JETS OFF AT ONE TIME!

Cleaning or Replacing Jets
Hard water can cause calcium/mineral buildup that can restrict or bind the jets. A jet consists of a face plate and a nozzle. Rotate these parts weekly and remove/clean monthly to ensure free movement.

NOTE: It is not necessary to drain the pool or spa to clean or remove the jets.

Rotating the jet face plate and nozzle
- Rotate the jet face left and right (open and closed).
- Return the face plate to the full open position.
- Turn the jets on to high speed.
- Twist the nozzle left and right.
- Rotate the nozzle in the socket.

NOTE: If the jet insert disengages from the PowerPool™ housing, see steps to reinstall below.

Cleaning the jets
To **remove** the jet insert, use the palm of your hand to exert pressure on the face of the jet. Turn counterclockwise until the jet 'clicks'. Gently pull the jet assembly from the housing.

To **clean** the jet insert and housing, use a pressurized hose and spray the inside of the jet. Soak the jet in a diluted PowerPool™ cleaning solution, rinse. Wipe the inside of the housing to remove any debris.

To **reinstall** the jet, line up the tab on the backside of the barrel with the groove in the body. Use the palm of your hand to gently tab the jet until it snaps into position.

Air Controls
The intensity of the jet action can be controlled by altering the amount of air injected with water through the jets. Your PowerPool™ has 2 to 4 air controls located on the lip of the PowerPool™. Each control activates air to specific jets in the PowerPool™ allowing you to create various combinations and levels of jet action to suit individual preferences. Turn the control counter-clockwise to turn the air off and clockwise to turn air on.

NOTE: Air controls should be closed during heating cycles for maximum energy efficiency.

ELECTRICAL INFORMATION

Caution: Risk of electrical shock.
Read and follow all instructions.

Important Safety Instructions
All electrical connections to this PowerPool™ package MUST be accomplished by a qualified licensed electrician in accordance with local electrical codes in effect at the time of installation.

NOTE: Prior to performing any service to the PowerPool™ equipment, turn OFF all primary electrical power at the main circuit breaker or disconnect panel.

To make PowerPool™ electrical connections, remove the exterior equipment access panel, locate the electrical control box, remove the control box cover and follow the wiring diagram on the inside of the control box cover.

Connections should be made using copper conductors only.

Connecting wires, circuit breakers or fuses must all be sized to accommodate the Total Ampere load as specified on the equipment label. This equipment is designed to operate on 50Hz alternating current only, at 230 volts.

NOTE: All unions must be hand-tight and all slice valves must be locked in the OPEN position before filling or refilling PowerPool™! A clip is provided to help keep the slice valve open. Run PowerPool™ and check for union leaks before reinstalling front panel.

Installation Options
Knockouts are provided in the cabinet base to bring the conduit to the equipment compartment. If an alternate electrical service entrance is desired, an additional hole may need to be drilled.

START UP PROCEDURES

Follow recommendations for site location and electrical connection.

1. Use standard "tap water" to fill the PowerPool™ by draping a garden hose over the wall. Take care to wrap the metal end of the hose with a soft cloth or set the end of the hose in the filter canister to protect the PowerPool™ surface from the metal end of the hose. The metal end of your hose can become rough or jagged and may scratch the surface of your PowerPool™, and this damage is not covered under your warranty. Fill the PowerPool™ until the water level is 2 to 2,5 cm from the top lip.
   Never use "softened" water in your pool or spa. Softened water can impact the chemical balance of the water and lead to degradation of metal plumbing fittings.
2. After you have assured that the PowerPool™ is full of water and that all plumbing valves are open, turn power on at circuit breaker or disconnect panel.
3. Open the air controls, located on the top lip, and cycle the jets from high to low. Water should come from the therapy jets. If water flow is not established, turn off jets and see Priming Your PowerPool™ (this page).

Important: Do not operate the PowerPool™ without full water flow.

4. Add chemicals. See Chemical Treatment and Water Maintenance section. Follow Operating Instructions for your particular model to set heat to the desired temperature. Initially, you may find that the PowerPool™ requires 18 to 24 hours on 230 Volt installations to reach temperature. Keep your thermal cover on the unit and close the air controls to help the heating process.

Priming Your PowerPool™

When filling your PowerPool™ for the first time or, after draining and refilling the PowerPool™, you may need to bleed air from the system. Should you experience an air-lock on Pump 1, remove the filter basket cover, insert a garden hose through the center hole of the filter as far as possible without using force. Hold the hose in place and turn on the water. This forces water into the pump and forces the air out.

POWERPOOL™ SERIES CONTROL SYSTEM

- 3 Dual-speed Jet Pumps
- Underwater LED lighting
- Ambient Interior LED Mood Lighting
- Temperature Setting
- Customized Filtration Settings

PowerPool™ swim zone control

All PowerPool™ models utilize the topside control panel shown above. This control panel operates all functions of the PowerPool™ for the Sport model and the Pro model. This control operates only the swim zone section of the SuperSport model. This control supports the following features:

- 1 Dual-speed Jet Pump
- Underwater LED lighting
- Ambient Interior Mood Lighting
- Temperature Setting
- Customized Filtration Settings

PowerPool™ spa control

This control operates only the spa zone section of the PowerPool™ SuperSport model. This control supports the following features:

The 460 Control System offers you the ultimate in PowerPool™ control. The backlit, Liquid Crystal Display (LCD) displays current water temperature, set point water temperature, time, and operating mode settings. Each feature of the system is actuated through a control panel touch pad. Touch the appropriate pad to activate the desired function. At start up, when power is supplied to the PowerPool™, the controls will operate properly and safely under the factory settings. The PowerPool™ will be in **Standard** Mode, a temperature setting of 38°C, and a filtration cycle duration of 2 hours. To fully utilize the unique capabilities of the control system, it is important to know how to set the temperature, operate the pumps, operate the light, adjust the mode setting, and change the filtration cycles.

NOTE: In event of a power outage or failure, the Control System should retain all settings, except time of day. If settings are lost, re-program per the instructions in this manual and contact your dealer.

User's Pads

User's Pads are the buttons located on the topside control panel and are used to program various PowerPool™ functions (i.e., turn on PowerPool™ light, set temperature, etc.). The following table defines the pads:

Pad	Use
 Warm	• Increase temperature • Change time settings
 Cool	• Decrease temperature • Change time settings
 Light	• Turn internal PowerPool™ light on or off
 Mode/Prog	• Set or lock/unlock temperatures • Set or lock/unlock panel settings • Switch modes • Set time and filtration cycles
 Jets 1	• Activate primary filtration pump
 Jets 2	• Activate therapy pump
 Time	• Change time of day setting, or • Change set times of PowerPool™ cycles • Exit programming
 Jets 3	• Activate therapy pump

Temperature

The maximum set temperature is 40°C and the minimum set temperature is 26°C. The current water temperature will show on the display unless the primary pump has not been running, in which case two dashes (--) will show on the display. If two dashes are displayed, you must first start the pump by pressing the **JETS 1** pad. Wait until the water temperature is displayed (approximately 2 minutes).

The set temperature of your PowerPool™ may easily be increased or decreased at any time using the **WARM** or **COOL** pads. When either of these pads is touched, the set temperature will be displayed in the LCD display window. Each successive touch will change the set temperature 0.5°C in the chosen direction. After 3 seconds the LCD will automatically display the water temperature or dash lines.

If the PowerPool™ is set in Standard mode or in a filtration cycle, adjusting the set temperature may result in activating the heater. When the heater is operating, the heat icon will be displayed in the LCD.

JETS 1

Touch the **JETS** 1 pad to activate the primary filtration and jet pump. The sequence of the jet action is:

1 touch = Low jets
2 touches = High jets
3 touches = Off

JETS 2 & JETS 3

Touch the **JETS 2** pad to activate the number 2 Jet pump and Touch the **JETS 3** pad to activate the number 3 Jet pump. The sequence of jet action is:

1 touch = Low jets
2 touches = High jets
3 touches = Off

The low speed operation of Pump 1 is timed to automatically turn off after four hours of operation.

The high speed operation of Pump 1, and the low and high speed operation of Pump 2 and Pump 3, is timed to automatically turn off after 15 minutes of operation.

Note: Pump 1 will automatically operate in low speed whenever the PowerPool™ calls for a filtration cycle or heat.

When this automatic activation occurs, the low speed of Pump 1 cannot be turned off; however, all other control functions can be activated.

Temperature Lock
Once you have set the desired water temperature, you may lock-in the new setting to prevent unauthorized temperature adjustments to your PowerPool™. To lock the set temperature:
Touch **WARM** or **COOL**, then touch **TIME**, **JETS 1**, and **WARM** within 3 seconds. The **'TL'** indicator will light when the set temperature is locked.

Temperature Unlock
To unlock the temperature, touch either **WARM** or **COOL**, then touch **TIME**, **JETS 1**, and **COOL** within 3 seconds. The **'TL'** indicator light will go out when the set temperature lock is cleared.

Panel Lock
To help prevent unauthorized use of your PowerPool™, the control system has a unique panel locking system. To lock the panel, touch **TIME**, **JETS 1**, then **WARM** within 3 seconds.
When locked, the **'PL'** indicator light will be on. Except for the time button, all function settings will be frozen.
When the control panel lock is engaged, all automatic PowerPool™ functions will operate normally but cannot be altered.

Panel Unlock
To unlock the panel, touch the **TIME**, **JETS 1**, and **COOL** within 3 seconds. The **'PL'** indicator light will go out when the panel lock is cleared.

Light
Touch the **LIGHT** pad to turn the digital lighting system on and off. The light will automatically turn off after 60 minutes of operation.

Operating Modes
Your PowerPool™ comes with three primary operating modes.

Standard Mode maintains the water at the desired set temperature. Note that the last measured PowerPool™ temperature displayed is current only when the pump has been running for at least 2 minutes. The **'STANDARD'** icon will be displayed in the LCD window when this mode is selected.

Economy Mode heats the water to the desired set temperature **ONLY** during filter cycles. The **'ECONOMY'** icon will be displayed in the LCD window when this mode is selected. While in the Economy mode, pressing the **JETS 1** button will put the PowerPool™ into the **Standard-In-Economy mode**, which operates the same as the Standard Mode, then reverts back to the Economy mode after 1 hour. The PowerPool™

can be immediately reverted back into the Economy mode at any time by simply pressing the **MODE/PROG** button.

Sleep Mode heats the PowerPool™ to within 11°C of the set temperature only during filter cycles. The **'SLEEP'** icon will be displayed in the LCD window when this mode is selected.

Changing Modes
To change the operating mode, press the **MODE/PROG** button. The operating mode will be flashing on the LCD window. Press the **COOL** button to cycle through to the desired mode, and then press the **MODE/PROG** button to confirm selection. Pressing **WARM** or **COOL** then **JETS2** will put the PowerPool™ into the **Standby Mode**. While in this mode, all PowerPool™ functions are temporarily suspended to allow for filter changes or other routine maintenance tasks. Press any button to exit the Standby mode.

Note: Always put your PowerPool™ into Standby Mode whenever cleaning or changing your filters.

Time and Filtration Cycles
The control system on your PowerPool™ has been designed to function properly and safely at 40°C after connecting the electrical wires and installing the proper grounds. To take full advantage of the unique capabilities of your new PowerPool™, you should first set the time and establish your filtration cycles.

Setting the Time
When the time of day has not been programmed, the **'TIME'** icon will be flashing on the LCD window. To set the time of day, first press the **TIME** button then press the **MODE/PROG** button. The hour digit(s) will be flashing on the LCD window. Press the **WARM** or **COOL** button to advance the hours up or down to the desired set point. Press the **MODE/PROG** button to enter the time hour. The minute digits will now be flashing on the LCD window. Press the **WARM** or **COOL** button to advance the minutes up or down to the desired set point. Press the **MODE/PROG** button to enter the time minutes. At this point you can either proceed with setting the filtration cycles as described in the following 'Changing Filter Cycle' section, or press the **TIME** button to save the settings and exit the programming sequence.

Preset Filter Cycles
Once the time of day has been set, your PowerPool™ will automatically filter the water for a 2-hour period every 12 hours.
The first filter cycle comes preset to operate from **8:00AM to 10:00AM**, and the second filter cycle comes preset to operate from **8:00PM to 10:00PM**. The F1 indicator light will be lit whenever the PowerPool™ is in the first filter cycle. The F2 indicator light will be lit whenever the PowerPool™ is in the second filter cycle. During a filter cycle, the primary filtration pump will operate in low speed and can not be turned off unless the PowerPool™ is put into the Standby mode. At the beginning of each filtration cycle, the other equipment in the PowerPool™ will turn on for 30 seconds to purge all plumbing lines and ensure complete filtration.

Changing Filter Cycles
The control system allows you to adjust the start time and duration of each filter cycle independently to best suit your schedule. The amount of time needed to filter your

PowerPool™ will vary depending upon usage and ambient conditions, but a total filter time of at least four hours per day is recommended to properly clean and maintain the water.

To initiate the programming sequence to change filter cycles, press **TIME, MODE/PROG, MODE/PROG,** and **MODE/PROG** within 3 seconds. You should now see the '**PROGRAM', 'FILTER 1',** and '**START TIME'** icons on the LCD display window. The hour digit(s) will be flashing on the LCD window. Press the **WARM** or **COOL** button to advance the hours up or down to choose the Filter 1 start hour. Enter the hour by pressing the **MODE/PROG** button. The minute digits will now be flashing on the LCD window. Press the **WARM** or **COOL** button to advance the minutes up or down, in 5 minute increments, to choose the Filter 1 start time. Enter the minutes by pressing the **MODE/PROG** button.

You should now see the '**PROGRAM', 'FILTER 1',** and '**END TIME'** icons on the LCD display window. Adjust the hours and minutes for the end time of the first filter cycle as described above. After pressing the **MODE/PROG** button to enter the end time of the first filter cycle, you should now see the '**PROGRAM', 'FILTER 2',** and '**START TIME'** icons on the LCD display window. Adjust the hours and minutes for the start time of the second filter cycle as described above.

After pressing the **MODE/PROG** button to enter the start time of the second filter cycle, you should now see the '**PROGRAM', 'FILTER 2'** and '**END TIME'** icons on the LCD display window. Adjust the hours and minutes for the start time of the second filter cycle as described above. After pressing the **MODE/PROG** button to enter the end time of the second filter cycle, the new filtration times will be saved into the system and the LCD window will revert back to display the current water temperature.

Pressing the **TIME** button at any time during the above programming sequence will save the values entered up to that point and exit the programming sequence.
To set the PowerPool™ for continuous filtration, set the start and end times of the first filter cycle to the exact same time.

Clean-Up Cycle
After periods of heavy use, turn the jets on to LowWhirlpool for a four-hour clean up cycle.

Inversion Feature
The PowerPool™ Series Control includes an Inversion feature that makes it easy to read the LCD from inside or outside the PowerPool™. To invert the LCD display, touch the **WARM** or **COOL** button, followed by the PUMP 3 button. Repeat the sequence to reverse the inversion process.

Digital Optic Lighting (DOL)
All PowerPool™s are equipped with a Digital Optic Lighting System, or **DOL**. This system has different colour settings (modes) to enhance your overall PowerPool™ experience. Each time the **DOL** system is turned **ON** by pressing the **LIGHT** pad, it will begin a different colour lighting sequence.

Accessing Different Light Modes
To change Modes, press the **LIGHT** button Off and On within a 5 second time period.
The light will advance to the next colour sequence mode. Continue until the desired colour sequence mode is selected.

Ozone Operation

All models are equipped with the CleanZone™ ozone water treatment system to assist with your water sanitizing needs. All factory installed ozonators are designed to work in conjunction with an injector system to maximize the sanitizing effects by fully mixing the ozone with the water flow. CleanZone™ will produce ozone only when the PowerPool™ is in a timed filtration cycle. During the filter cycle, activating other functions will suspend ozone production for 30 minutes.

NOTE: Activating the low speed of Pump 1 for a clean up cycle will initiate filtration, but not ozone production, unless the PowerPool™ enters a timed filter cycle during the 4 hour period.

UV Sanitizer

All PowerPool™ models are equipped with a CleanZone II water sanitizing system. The system is designed to incorporate all the benefits of the original CleanZone™ system, plus an in-line, ultraviolet sanitizing chamber. Water from the primary filtration pump first passes through the stainless steel chamber of the sanitizing unit where it comes in contact with high frequency ultra-violet light. Upon exiting the sanitizing unit, the water flows through the original CleanZone™ system before finally re-entering the spa.

As with the original system, CleanZone II™ will operate only when the spa is in a timed filtration cycle. During the filter cycle, activating other functions suspend operation for 30 minutes.

Note: Activating the low speed of Pump 1 for a clean-up cycle will initiate filtration, but not CleanZone II™ operation, unless the spa enters a timed filter cycle during the 4 hour period.

Note: To maintain optimum performance, it is recommended that the UV bulb inside the sanitizing chamber be replaced annually. Contact your local dealer for assistance with changing the bulb.

Optional Entertainment System

Select models may be equipped with an audio system designed to provide the ultimate PowerPool™ entertainment experience. Power to the entertainment system is supplied at PowerPool™ start-up so it is always ready for your enjoyment. Refer to the stereo Owner's Manual included in the Owner's Manual pack for instructions on programming and using the entertainment system. Read all instructions carefully before using the Entertainment System and save the instructions! The Entertainment System includes a stereo remote control that will operate the stereo by pointing the remote at the equipment enclosure located on the front skirt panel of the PowerPool™, or at the IR receiver on the inside lip of the PowerPool™. Refer to the stereo Owner's Manual for instructions.

NOTE: The wireless remote control is water resistant, NOT waterproof. Care should be taken when using from within the PowerPool™. Do not submerge the wireless remote control.

CAUTION: Risk of electrical shock. Replace components only with identical components.

CAUTION: Risk of electrical shock. When the power supply connections or power supply cord(s) are damaged; if water is entering the electrical equipment compartment area; if the protective shields or barriers are showing signs of deterioration; or if there are signs of other potential damage to the unit, turn off the unit and refer servicing to a qualified service technician.

WARNING: Prevent Electrocution. Do not connect any auxiliary components (for example cable, additional speakers, headphones, additional audio/video components, etc.) to the system.

WARNING: These units are not provided with an outdoor antennae. When provided it should be installed in accordance with local regulation.

WARNING: Prevent Electrocution. Do not service this product yourself as opening or removing covers may expose you to dangerous voltage or other risk of injury. Refer all servicing to qualified personnel.

WARNING: Prevent Electrocution. This unit should be subjected to periodic routine maintenance (for example once every 3 months) to make sure the unit is operating properly.

EQUIPMENT SAFETY FEATURES

Automatic Time Outs
Your **PowerPool™** is equipped with an automatic Time Out feature designed to protect both the equipment and the user. For your safety and to reduce unnecessary use of the pumps and lights, the Time Out feature turns selected accessories off automatically, as follows:

Accessory	Mode	Shuts off in...
Pump 1	Low	4 hours
Pump 1	High	15 minutes
Pump 2	Low	15 minutes
Pump 2	High	15 minutes
Pump 3	Low	15 minutes
Pump 3	High	15 minutes
Underwater light		1 hour
DOL Light		1 hour

Common LCD Equipment Safety Messages and Trouble Shooting
The following table describes the most common messages, possible causes, and corrective actions you may need to take:

If the LCD displays...	Indicates...	What happens...	Possible cause...	Corrective action...
OHH	Overheat - one of the sensors has detected water temperature of 48°C+ inside the heater	PowerPool™ heater will automatically shut down until temperature falls below 42°C+	- Low speed pump operating for an extended period of time - Programming error causing continuous filtering - Faulty Pump	- Make sure slice valves are open - Reprogram to ensure time cycles are not overlapping - Contact dealer if problem persists
OHS	Overheat - One sensor has detected temperature of PowerPool™ water entering heater to be 42°C+	PowerPool™ heater will automatically shut down until temperature falls below 42°C+	- Low speed pump operating for an extended period of time - Programming error causing continuous filtering	- Make sure slice valves are open - Reprogram to ensure time cycles are not overlapping - Contact dealer if problem persists
HFL	Heater flow problem	Heater will shut down while PowerPool™ continues to function normally	- Plugged filter - Low water	- Remove filter and clean - Add water - Contact dealer

If the LCD displays...	Indicates...	What happens...	Possible cause...	Corrective action...
LF	Water flow problem - Persistent flow problem	Heater will shut down while PowerPool™ continues to function normally	- Plugged filter - Low water	- Remove filter and clean - - Add water - Contact dealer
drY	No water to the heater	PowerPool™ functions will shut down	- Slice valves closed - Block suction returns - Blocked filter/ skimmer	- Open valves - Remove blockage - Contact dealer
dr	Lack of water to the heater	Heater will shut down, otherwise PowerPool™ continues to function normally	- Slice valves closed - Block suction returns - Blocked filter/ skimmer	- Open valves - Remove blockage - Contact dealer
SnA	Heater sensor A not functioning	PowerPool™ automatically deactivated	- Non-functioning sensor	- Contact dealer for replacement sensor
SnB	Heater sensor B not functioning	PowerPool™ automatically deactivated	- Non-functioning sensor	- Contact dealer for replacement sensor
SnS	Heater sensors are out of balance			- Contact dealer

Common LCD Messages

The following table defines other messages you will frequently see on the LCD display:

Message...	What it is...	What it means...
Pr	Priming mode	PowerPool™ is in normal Priming Mode operation
SLP	Sleep mode	PowerPool™ is in normal Sleep Mode operation
Ecn	Economy mode	PowerPool™ is in normal Economy Mode operation
Std	Standard mode	PowerPool™ is in normal Standard Mode operation
ICE	Freeze condition	Pump and Heater will come on to keep water above 7°C
- -	Water temperature	Current water temperature not measured

MAINTENANCE

Water Chemistry
Water chemistry is critical in a PowerPool™ system. Chemicals are used to sanitize the water and control the pH balance. The combination of warm or high water temperature and small water volume means that the chemical balance must be watched carefully. It is recommended that you purchase a chemical start up kit, and the additional chemicals needed to maintain the proper/optimum chemical balance of your PowerPool™, from your dealer.

Sanitizing
Sanitizing the water destroys harmful organisms and keeps your PowerPool™ healthy and safe. Three commonly used sanitizers or oxidizing agents are bromine, chlorine and ozone. Chlorine and bromine are chemicals that you add to the water. Ozone is a gas that is produced by an ozone generator and injected into the water. It is important that a residual of sanitizer remain in your water. High water temperature, aeration and use will increase the need for sanitizer.
In addition to maintaining a residual, it is important to "shock" your PowerPool™ water periodically and after heavy use. This addition of substantial amounts of sanitizer super-chlorinates the water and oxidizes non-filterable organic residue. Allow the sanitizer level to drop back to the residual amount before using. Also use your Clean Up Cycle (See pgs. 15 and 19) after heavy use for additional filtration. Tests should be done daily with your test kit to keep a chlorine or bromine residual of 3.0 to 5.0 ppm.

pH Level
pH is the balance of acidity and alkalinity in the water. Maintaining proper pH is important for the effectiveness of your sanitizer, for user comfort, and to prevent corrosion of the PowerPool™ equipment.
Caution: Never mix two chemicals together.
Caution: Never store chemicals in the equipment compartment of your PowerPool™.
Caution: Do not use muriatic acid to balance pH as it will damage your PowerPool™ surface and equipment.

Recommended Levels

pH:	7.2–7.6 (Ideal 7.4–7.6)
Chlorine/Bromine Residual:	3.5–5.0 ppm
Total Dissolved Solids:	100–200 ppm
Free Available Sanitizer:	3.0–5.0 ppm
Total Alkalinity:	80–100 ppm ideal for dichlor, trichlor, and bromine

NOTE: Make sure you use fresh test kit strips/chemicals. Test kits and test chemicals should be stored in a cool, dry location. Check the manufacturer's instructions to determine shelf life and expiration date.

Water Maintenance With the CleanZone™ Ozone Water Treatment and CleanZone II™ Ultra Violet Water Treatment Systems
Your PowerPool™ comes complete with both the Clean Zone™ system that includes the Powerworks™ Ozonator, and the CleanZone II™ system that includes an Ultra Violet Sanitizer. These systems treat the water in your PowerPool™ with a specialized ozone

application and the extra sanitizing power of ultra-violet light, which in conjunction with spa sanitizing and water balancing chemicals provides you with cleaner, healthier water, reduced chemical usage, and protects your skin from chemically induced irritation.

Sanitizing with Ozone
PowerPool™ products vary in size, and in the frequency and conditions of use. For these reasons you will need to establish your sanitizing program based upon your own personal use. When using ozone, you should start by balancing your water chemistry as you normally would. A PowerPool™ should be filtered a minimum of six hours per day (Pgs. 16 and 20), during which time ozone will be mixed into the water. If your PowerPool™ is heavily used, this run time should be increased.

The amount of a residual sanitizer (chlorine or bromine) that you maintain in the water will also vary depending on use. It is recommended that you maintain a residual of 3.0–5.0 ppm. Periodically, and after periods of heavy use, it is necessary to "shock" your PowerPool™ with large amounts of sanitizer.

NOTE: Extra filtration can be provided by manually starting a clean-up cycle. Turn Pump 1 on in low speed. The pump will operate for 4 hours and then automatically turn off. The heater, ozone generator and UV system will also operate during this period if the controls are set in Standard mode.

Specialty Chemicals
While ozone may significantly reduce the usage of specialty chemicals (chlorine and bromine), it is not a substitute for these chemicals. All chemicals should continue to be monitored, especially during periods of heavy usage and when changing or replenishing the PowerPool™ water.

Draining your PowerPool™

NOTE: Always turn the circuit breaker off when you drain your PowerPool™. Do not turn the spa heater back on until you have full flow coming from the jets for several minutes. High concentrations of impurities caused by water evaporation, body oils, perfumes, and other contaminants may accumulate in the PowerPool™ and cannot be filtered out.

NOTE: Consequently, it is advisable to drain your PowerPool™ and refill it with fresh water every six to eight weeks, or more often depending on the amount of use.

All PowerPool™ products are equipped with multiple internal drains. These drains are used to remove water from internal plumbing, when Winterising your PowerPool™ (See pg. 25), or if the water is severely contaminated.

NOTE: Use a standard garden hose to direct the water to an appropriate disposal area.

All **internal** drain hose(s) are located behind the front access panel. Remove the access panel screws and the access panel. Locate the drain hose(s). For each hose drain valve, remove the cap, attach the garden hose, and turn the valve handles, located on the drain valve body, 90° counter-clockwise. Water will begin to flow. When all water has been evacuated, turn the valve handle clockwise until it stops. Remove garden hose and replace the cap. Repeat for each internal drain hose.

NOTE: Do NOT attempt to use the PowerPool™ pump to drain the PowerPool™.

NOTE: Close and replace caps on all drains prior to refilling the PowerPool™.

NOTE: When refilling the PowerPool™ you may need to bleed air from the system. Refer to Priming Your Spa, pg. 10, for instructions.

Filter Maintenance

NOTE: It is not necessary to drain the PowerPool™ in order to clean the filters.

The removable filter cartridges are located in the filter canisters inside the skimmer. The filters should be inspected/cleaned monthly during normal use and more often when spa use is heavy.

Keep the filter cartridges clean! Clean the filter cartridges at least once every 30 days. A clogged filter decreases performance and degrades water quality.

To clean the filter cartridge:

1. Turn the pump off.
2. Remove skimmer lid on top of PowerPool™.
3. Remove strainer basket
4. Remove filter cartridge from the filter canister by grasping the top and lifting upwards.
5. Soak filter in a commercial filter cleaner/degreaser, available from your MAAX® Spa dealer, per manufacturer's instructions. Rinse filter cartridge with a hose. Replace with new cartridge, if needed.
6. Place filter cartridge back into filter canister.
7. Replace strainer basket and skimmer lid.
8. Turn the pump ON.

Replacing the filter cartridge semi-annually is recommended to maintain optimum performance. Filter maintenance depends on usage.

Winterising

In cold climates where freezing temperatures occur, special care is required to prevent the possibility of damage to the PowerPool™ and associated equipment due to freezing. If you plan on using your PowerPool™ during cold months, be sure your pump and heater are in good working order. The PowerPool™ has been insulated to provide efficient operation in cold weather areas.

NOTE: If you elect not to drain your PowerPool™ and the temperature is going to be below freezing for extended periods of time, it is best to operate the heater at the maximum high temperature (40°C), especially if there is a power outage threat. This will help reduce the likelihood of the water freezing if you have a power failure.

If you do not intend to use your PowerPool™ during the winter months and there is danger of freezing, use the following steps to winterise your PowerPool™:

1. Turn off all electrical power to the PowerPool™.
2. Drain PowerPool™ and hoses of all water using the directions for Draining Your PowerPool™ (pg. 24). Open all unions, and remove drain plugs from bottom of pumps. If you cannot draw off all of the water (especially from hoses), add Recreational Vehicle antifreeze to the remaining water through the bottom of the skimmer and jets. If antifreeze is used, it must be an inhibitor Propylene Glycol such as Dow Frost™, available through Dow Chemical® distributors.

NOTE: Prior to refilling the PowerPool™, drain all antifreeze from PowerPool™ and hoses using the instructions for Draining Your PowerPool™ (Pg. 24). Carefully monitor chemicals until all antifreeze residue has been eliminated.

3. The filter should be drained, and the cartridge removed and cleaned.
4. Check to see that there is no water in the heater element chamber.
5. Clean your PowerPool™ as directed in the following two sections on this page.
6. Cover your PowerPool™ with a water-shedding, impenetrable cover.
7. For further information on blowing out the plumbing lines and winterising procedures, contact your local dealer.

PowerPool™ Cabinet Care

The PowerPool™ series cabinets are made of Duramaax™, a high quality alternative to wood that is virtually maintenance free, requiring no staining, sealing, or waxing.

Never use abrasive cleaners.

To clean the PowerPool™ cabinet, rinse dirt and dust regularly with clear water. To remove stubborn dirt, grime, and mild discoloration, wash with a mild detergent and warm water.

PowerPool™ Surface Care and Cleaning

Your PowerPool™ shell surface is made of acrylic. A minimum amount of care and cleaning will keep it looking new for years.

Use a spa cleaner for residue and lime buildup at the water level. It may be necessary to lower the water level 0.5 to 0.75 cm before cleaning to avoid polluting the PowerPool™. Cleaner can be applied to the acrylic surface with a soft cloth and wiped clean. Use a non-abrasive mild dishwashing detergent such as Ivory®Liquid. Rinse well and dry with a clean cloth.

NOTE: Do not allow the acrylic surface to come in contact with products such as acetone (nail polish remover), nail polish, dry cleaning solution, lacquer thinners, gasoline, pine oil, orange oil, citrus based cleaners, etc.

Remove dust and dry dirt with a soft, damp cloth. Clean grease, oil, paint and ink stains with isopropyl (rubbing) alcohol diluted with water. Avoid using razor blades or other sharp instruments that might scratch the surface.

Protect PowerPool™ finish - always keep cover on the PowerPool™ when not in use.

Underwater LED Light Cluster

The underwater LED light assemblies are serviceable from the inside the PowerPool™ cabinet. Remove the side panel and insulation closest to the light; locate the bracket that holds the LED assembly. Turn the LED Holder 90 degrees counter-clockwise; remove from bracket. Pull bulb straight out and replace. Insert LED holder back into bracket and turn 90 degrees clock-wise to secure.

COMMON WATER PROBLEMS

Problem	Usual Cause	Solution
Cloudy Water	- Inadequate filtration/ dirty filter - Excessive oils/organic matter - Improper sanitation/ bacteria - High pH and/or high alkalinity - Suspended particles/ organic matter - High total dissolved solids	- Check to make sure the filter is running properly; clean filter with a filter cleaner or degreaser - Shock the PowerPool™ with a chlorine or bromine sanitizer, or other shock treatment product - Increase sanitizer level to balance water and shock if needed - Adjust pH; add appropriate sodium bisulfate product - Use clarifier **NOTE: Your PowerPool™ utilizes an ozone generator. Please consult your dealer before using polymer based clarifiers** - Depending on the severity, drain the PowerPool™ to half and refill, or drain completely, clean and refill
Water Odour	- Excessive organics or chloramines; insufficient free available sanitizer - Improper sanitation - Inadequate filtration - Low pH	- Shock with a chlorine or bromine sanitizer, or other shock treatment product - Increase sanitizer to balance water; shock if necessary - Make sure that filter is operating properly; clean with filter cleaner - Raise pH with sodium bisulfate product. If metals are present, add chelating agent.
Chlorine Odour	- Too many chloramines/ insufficient free available chlorine - Low pH	- Shock with a chlorine or bromine sanitizer, or other shock treatment product - Raise pH with sodium bisulfate product. If metals are present, add chelating agent
Bromine Odour/ Yellow Water	- Low pH	- Adjust pH; raise pH with sodium bicarbonate poduct

Problem	Usual Cause	Solution
Musty Odour	- Bacterial or algae growth	- Shock with a chlorine or bromine sanitizer, or other shock treatment product. If problem is visible, drain, clean, refill and balance water
Foaming/Scum Ring Around Waterline of PowerPool™	- Build up of body oils, lotion and chemicals resulting from soap or detergent	- Skim foam off using your leaf net or drain, clean, refill and balance water
Algae	- pH Imbalance - Low free chlorine or bromine	- Adjust pH - Shock with a chlorine or bromine sanitizer, or other shock treatment product
Eye Irritation	- Low pH - Insufficient free available chlorine	- Raise pH with sodium bicarbonate product - Shock with a chlorine sanitizer/shock or other shock treatment product
Skin Irritation/ Rash	- Unsanitary/polluted water - Being in water too long - Chemicals not balanced, excessive ozone	- Keep recommended sanitizer residual at all times; superchlorinate or use a non-chlorine shock treatment - Soak for smaller intervals, such as 15 minutes - Correct chemical imbalance
Scale	- Too much calcium dissolved in water - pH and total alkalinity too high	- Add a scale control product. - Adjust total alkalinity and pH levels by adding the appropriate sodium bisulfate product - For concentrated scale deposits: drain PowerPool™, scrub scale off, clean, refill and balance the water
Erratic pH Test Results/Unusual pH Test Colour	- Sanitizer level too high - Old pH indicator dye	- Test the pH level when the sanitizer level is below 5 ppm: - Replace the pH indicator dye

Problem	Usual Cause	Solution
Sanitizer Dissipating Too Rapidly	- Excessive organics in water - Temperature too high - Low pH - Low pH corrodion of metal fixtures - Low calcium hardness - Low total alkalinity	- Increase shock dosage; add sanitizer; shower before entering PowerPool™ - Reduce temperature - Raise pH with sodium bicarbonate product - Use chelating agent if metals are present; * Keep proper pH level (7.2 to 7.6). * Maintain minimum 150-200 ppm calcium hardness * Maintain proper alkalinity for type of sanitizer used.

NOTE: If your source water has a high metal or mineral content, a specialty chemical should be used to avoid staining or accumulation of deposits. These guidelines cover the most common water problems when operating a PowerPool™ with ozone. Contact your dealer for further information regarding chemical control issues.

COMMON HARDWARE PROBLEMS

Problem	Usual Cause	Solution
System not operating	- House circuit breaker tripped or in OFF position	- Reset circuit breaker in panel box
Heater not operating	- Water level too low - Heater mode not selected - No power to heater - Heater not operating/defective	- Add water to fill line on skimmer - Refer to temperature/heater functioning. See Control instructions pg. 13 - Check house circuit breaker - Contact dealer
Water not clean	- Clogged or blocked suction or skimmer - Dirty or clogged filter - Poor water chemistry - Insufficient filtering time - Improper maintenance - High content of solids in water	- Clean suction grate and skimmer basket - Clean or replace filter elements - See Maintenance section pg. 23 - Program longer filtration cycle, pg. 17 - Contact dealer - Use clarifier or drain, clean and refill
Abnormal water usage	- Excessive evaporation and/or splashing	- Use PowerPool™ cover and refill as necessary - Revise your swimming stroke/ exercise regiment to include less splash
Overheating	- High ambient temperature	- Contact dealer
Low water flow from jets	- Operating in FILTER mode low speed - Clogged or blocked suction or skimmer - Dirty filter - Jets in OFF position - Slice valves closed	- Select hi-speed jets - Clean suction grate and skimmer basket - Clean or replace filter - Open jets; Turn outer ring to left - Open slice valves; ensure valve safety clips are attached

Problem	Usual Cause	Solution
Noisy pump and motor	- Clogged or blocked suction or skimmer - Low water level - Damaged or worn motor bearings	- Clean suction grate and skimmer basket - Add water to normal water level - Contact dealer
No water flow from jets	- Pump not primed - Adjustable jets turned off - House circuit breaker tripped, no power to system - Faulty pump or motor - Pump surges - Slice valves closed	- See Priming section, pg. 13 - Turn on jets - Reset circuit breaker at house panel - Contact dealer - Check water level - Open slice valves; ensure valve safety clips are attached
Water leakage from under PowerPool™	- Check unions & drain hoses - Check for water seepage around jets or at glued fitting	- Close or tighten as necessary - Contact dealer
No air flow from jets	- Air control not open - Jet nozzle not seated properly - Jet nozzle missing	- Open control - Check jet nozzles - Inspect jets and replace as necessary
Motor will not operate	- House circuit breaker tripped or in OFF position - Improper or defective wiring or electrical supply - Pump thermal overload switch tripped	- Reset house circuit breaker in panel box - Contact dealer - Auto reset after pump motor has cooled. Contact dealer if pump continues to cycle
Black powder film around water line	- Wearing in of turbo/blower brushes	- Will disappear after use
PowerPool™ will not shut off	- PowerPool™ is in heating cycle - PowerPool™ is in filter cycle - PowerPool™ is in standard mode	- Check 'Set Temperature' in standard mode - Normal. No need to change - Check mode setting

POWERPOOL™ SOAKING GUIDELINES

1. Persons with heart disease, diabetes, blood pressure or circulatory abnormalities, a serious illness, or pregnant women should not enter a PowerPool™ without prior consultation with their doctor.

2. People with skin, ear; genital or other body infections, open sores, or wounds should not use the PowerPool™ because of the possibility of spreading infection.

3. Before entering, look at the water in your PowerPool™. If there is cloudiness, foaming, or a strong chlorine smell is present, the water needs treatment. Properly maintained water will greatly reduce potential skin rash (pseudomonas). Ask your Authorized Dealer for guidance.

4. Shower with soap and water before and after using the PowerPool™. Showering before use removes many common skin bacteria, perspiration, lotions, deodorants, creams, etc. that may reduce the effectiveness of the sanitizer and lessen the ability of the filter to work efficiently. Showering after use will help reduce skin irritation that may result from contact with sanitizing chemicals.

5. Enter the PowerPool™ slowly and cautiously. Be careful of your footing, and allow your body to gradually adjust to the water temperature. Exit slowly to accommodate relaxed leg muscles and possible light-headedness.

6. Soaking for too long may cause some users to feel nauseous, dizzy, or light-headed. If you wish to soak in high temperature water (40°C), leave the PowerPool™ after 15 minutes, shower, cool down and then return for another brief stay. In lower temperatures (e.g. 37.5°C - normal body temperature) most people can comfortably and safely soak for longer periods at one sitting. **Never use the PowerPool™ to swim, jog or exercise in hot water. Recommended water temperature for swimming and exercising is 27°C - 30°C**. If you have any questions about what is right for you, your family, or other guests, consult your doctor.

7. Always be sure to check the water temperature before entering, and while using the PowerPool™.

8. Never use the PowerPool™ while under the influence of alcohol or drugs.

9. Consult your doctor about potential harmful effects of using drugs or medications while swimming, jogging, and exercising or hot water soaking in your PowerPool™.

10. **Never use the PowerPool™ when you are alone.** The first rule of Aquatic Exercise is Safety. Always be sure that any PowerPool™ user is under the supervision of a responsible adult who is capable of rescuing the PowerPool™ user in case of an emergency.

11. **Never allow children or elderly adults to use the PowerPool™ unsupervised**.

12. Never allow anyone to jump or dive into

the PowerPool™. The water depth will not accommodate jumping or diving, and serious injury or possible death can result from these dangerous actions.

13. Consult your physician before beginning any new exercise regiment, including swimming, aqua-jogging, aquatic exercise and aquatic stretching.

14. When using the optional aquatic resistance exercise equipment take care to always wear shatterproof goggles to protect your eyes in case you misconnect the attachment device or should a band slip or break.

15. Never leave exercise equipment or any other objects in PowerPool™ when you are finished with them. They may create a trip or injury hazard f they are unseen below the surface of the water.

16. Closely monitor your physical condition when exercising in the PowerPool™. A general rule is that you should be able to talk normally while exercising. If you find it difficult to speak or think clearly during exercise, you should exit the PowerPool™ until you are back to normal heart rate and can breathe freely.

17. Display all safety signs and rules located in the Owner Package for PowerPool™. Make sure that all users and guests understand the rules and know how to use the PowerPool™ before allowing them to use it.

18. Swimming against the jets is similar to using a treadmill. You will want to pace your swim strokes and kicks to maintain your place in the water for an optimal workout. If you like to sprint during your workout, you can use the optional swim tether to give you maximum resistance when sprinting.

19. Always wear waterproof shoes when Aqua-Jogging for the best slip resistance and to protect your feet.

20. The bottom of the PowerPool™ has contours built in for added structural integrity. Make yourself aware of those contours so that you know where they are as you exercise.

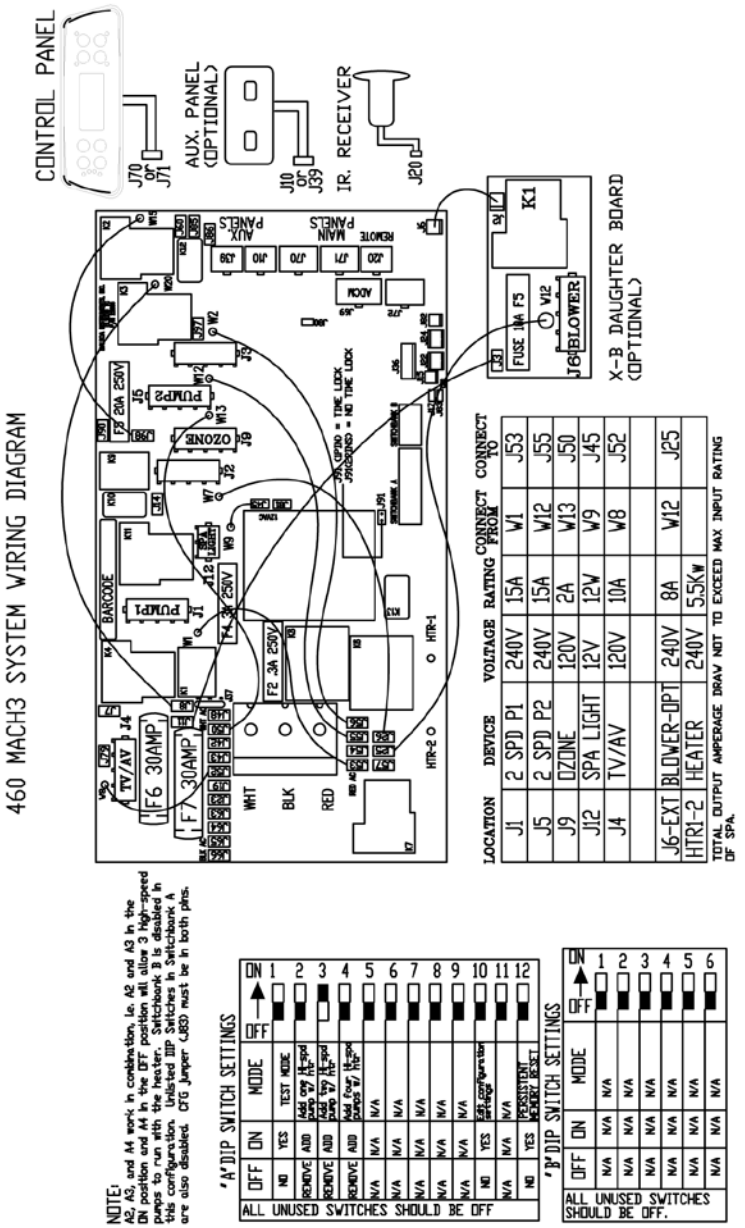
21. Always use swim-goggles when using your PowerPool™. Swim-goggles make it easier to see the bottom of the PowerPool™ when swimming so that you can fix your position in the swim-lane. Swim-goggles also protect your eyes from continuous splashing during exercise. Whenever using resistance exercise bands or swim-tether, we recommend that you use shatter-proof swim-goggles.

22. Whenever using the optional resistance exercise bands, be sure that they are positively clipped into the attachment hardware on the PowerPool™. After attaching, give the cords a tug to ensure that they are latched. Always remove them from PowerPool™ when you leave the PowerPool™. Keep resistance bands out of the reach of children.

23. Whenever using the optional swim-tether, be sure that it is positively seated in the pole retainer. If it is not properly installed, it can slip out of place and enter the PowerPool™ causing possible injury.

24. **Be safe, be healthy, have fun!**

460 SERIES SYSTEM WIRING DIAGRAM



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The information in this manual is accurate to the best of MAAX® Spas (Arizona), Inc.'s knowledge. However, MAAX® Spas (Arizona), Inc. assumes no responsibility for errors or omissions. Nor is any liability assumed for damages resulting from use of the information contained herein. Specifications subject to change without notice. Spas shown at variable percentage of actual size.

Congratulations on your purchase of an Powerpool™ from MAAX® Spas. Your Owner's Manual provides installation, operation and maintenance instructions.
Please review it and keep it for future references.

Save These Instructions
Owner's Record Information

Date Purchases :

Purchased From :

Phone Number :

Installed By :

Serial Number : Model :

MAAX® Spas dealer:

MAAX® SPAS

PowerPool™ By MAAX®

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