



*2006-2008
Owner's Manual*



EMERALD
Spas™

It's where you want to be™

SPA WARRANTY INFORMATION



Twenty-Five Year Full Structure Warranty

Should a defect in the fiberglass laminate result in a loss of water through the body and appear within twenty-five (25) years from the date of original purchase, Emerald Spa Corporation will, at its option, repair the spa shell unit or replace the shell with an original model or a spa of similar size and shape.



Seven Year Full Surface Warranty

Should there be a defect in the acrylic surface material of the body, resulting in blistering, cracking or delamination of the acrylic surface within seven (7) years from the date of the original purchase, Emerald Spa Corporation will at its option, repair or replace the spa shell unit with an original model or a spa of similar size and shape.



Emerald Manor Series Five Year Parts and Five Year Labor Warranty

Should there be a defect in the plumbing or power pack system resulting in failure of the plumbing or power pack to operate as described in the owner's manual within five (5) years from the date of original purchase, Emerald Spa Corporation will, at its option, repair or replace the plumbing system or power pack.



Emerald Estate Series, Chateau Series, and Villa Series Three Year Parts and Three Year Labor Warranty

Should there be a defect in the plumbing or power pack system resulting in failure of the plumbing or power pack to operate as described in the owner's manual within three (3) years from the date of original purchase, Emerald Spa Corporation will, at its option, repair or replace the plumbing system or power pack.

This warranty extends to the original purchaser only and commences on the date of original retail purchase. This warranty applies only to spas manufactured after December 1, 2005.

Durabilt™ Synthetic Cabinets Parts Warranty

Emerald Spa Corporation warrants their wood, Durabilt™ Synthetic Cabinets to be free from defects in materials and workmanship for the part/labor warranty time given to the respective models on the front of this card. The warranty takes effect from the date of original purchase. Should such a defect occur Emerald will provide only the replacement part(s) necessary to repair the Durabilt™ Synthetic Cabinet.

Warranty Labor Coverage

During the respective warranty labor coverage of the particular spa, Emerald has made an agreement with its authorized dealer on a schedule of warranty reimbursement. Any additional expense beyond this agreement, including but not limited to extra freight expense, travel time exceeding a normal service area and additional labor required to complete the warranted repair etc. are not covered under this warranty. The Emerald Spa Corporation authorized dealer reserves the right to assess additional charges required to complete the service call that are beyond the schedule of warranty reimbursement.

Please visit www.emeraldspa.com and click on "Information and Support" to register your Emerald Spa.

Spa warranty information continued on inside back cover.

INTRODUCTION

Congratulations on your purchase of the finest spa on the market today. Emerald Spa Corporation welcomes you to the Emerald Spa life-style! We are confident that this purchase will fulfill all your comfort, therapy and relaxation needs.

With proper care, your spa will provide many years of comfort and pleasure. Please take the time to read all of the instructions before you install your Emerald Spa. This Owner's Manual will help you understand all the features of your spa and ensure that you get the most from your investment.

Remember, your beautiful new spa is a powerful appliance! You owe it to yourself, your family and friends, to make sure that the spa is installed correctly and safely.

This manual explains safety precautions, installation instructions, operating directions, and maintenance procedures. If you have questions after reading this manual, please call Emerald Spa Customer Service at 1-800-766-7727.

Read and understand all safety, installation, operating instructions and all warnings and cautions before adding water or attaching electrical power.

Emerald Spa Purchase Information

Spa Model: _____

Power Pack Model: _____

Serial #: _____

Date of Purchase: _____

Warnings, Cautions, and Notes

Throughout this manual, various Warnings, Cautions, and Notes will appear. These comments range in importance from helpful hints to situations where the possibility of personal injury exists. Please take the time to read and understand them. The pictures and drawings may not reflect product changes that occurred after the printing of this manual.

Warnings, Cautions, and Notes appear as follows:



WARNING: Indicates a situation in which personal injury may occur.



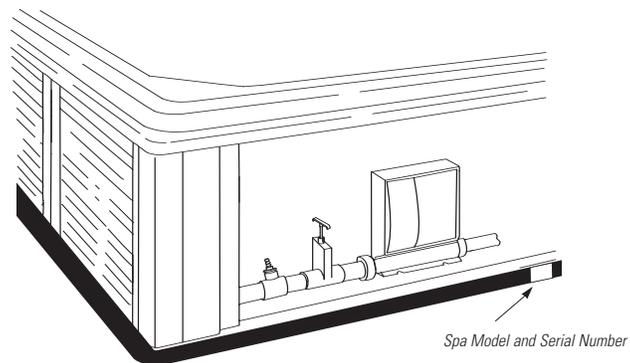
CAUTION: Indicates a situation in which damage to equipment or material may occur.



NOTE: Provides helpful information for proper operation of your Emerald spa.

Model and Serial Number Location

Refer to the illustration below to locate and record the model number and serial number of your Spa.



SAVE THESE INSTRUCTIONS

TABLE OF CONTENTS

INTRODUCTION

IMPORTANT SAFETY INSTRUCTIONS	4
▪ General	4
▪ 240V Hard Wired Connected Systems	4

IMPORTANT USER SAFETY INSTRUCTIONS	5
▪ To Reduce the Risk of Injury	5

SPA LOCATION	6
▪ Outdoor Considerations	6
▪ Indoor Considerations	6

INSTALLATION INSTRUCTIONS	7
▪ General Procedures	7
▪ 240V Systems	7-8

FEATURES AND CONTROLS	9
▪ Spa At-A-Glance	9
▪ Equipment Compartment	9-10
▪ Power Pack	10-12
▪ Spa Side Control SC-1 for Villa	13-14
▪ Spa Side Control SC-3 for Chateau	15-16
▪ Spa Side Control MC-2 for Estate and MC-4 for Manor	17-20
▪ In-Spa Features	21-24

STARTING AND USING YOUR SPA	25
▪ Installing Filter Elements	25
▪ Proper Water Level	26
▪ Bleeding Air for Dual Filter and Single Filter	26
▪ Testing the Ground Fault Circuit Interrupter (GFCI)	26-27
▪ One-Pump and Two-Pump Priming	27

SPA WATER CHEMISTRY	28
▪ Chemical Safety Tips	28
▪ Spa Frog In-Line System	29-32
▪ Spa Capacity	33
▪ pH Control	33
▪ Disinfecting Your Spa	34
▪ Ozone Generator	35
▪ Other Water Chemistry Considerations	35

MAINTAINING YOUR SPA	36
▪ Draining the Water	36
▪ Cleaning the Spa Shell	36
▪ Cleaning the Filter	37
▪ Relamping the Underwater Light	37
▪ Winterizing Your Spa	37
▪ The Spa Cabinet	37

TROUBLESHOOTING	38
------------------------------	-----------

ELECTRICAL SCHEMATICS	39-40
▪ SC-1 and SC-3	39
▪ MC-2 and MC-4	40

IMPORTANT SAFETY INSTRUCTIONS

General

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

- 1. READ AND FOLLOW ALL INSTRUCTIONS.**
- 2. WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 3.** A wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4mm²) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal siding, metal sliding doors, metal rails, metal water pipe, or conduit within 5 feet (1.5m) of the unit.
- 4. 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 spa unless they are supervised at all times.
- 5. DANGER:** Risk of injury. The suction fittings in this 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 your 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.
- 6. DANGER:** Risk of electric shock. Install spa at least 5 feet (1.5m) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected by a minimum No. 8 AWG (8.4mm²) solid copper conductor to the wire connector on the terminal box in the spa power pack that is provided for this purpose.
- 7. DANGER:** Risk of electric shock. Do not permit any electrical appliance, such as a light, telephone, or television within 5 feet (1.5m) of a spa.

240V Hard Wired Connected Systems

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

- 1. READ AND FOLLOW ALL INSTRUCTIONS.**
- 2.** Read and follow all General Safety Instructions provided above.
- 3.** A terminal marked "GROUND" is provided within the motor control enclosure. To reduce the risk of electrical shock, connect this terminal to the grounding terminal of the electric supply panel with a continuous green insulated copper wire equivalent in size to the circuit conductors supplying this equipment.
- 4.** This equipment must be provided with a ground fault circuit interrupter located in the power supply panel as installed by an electrician. Before each use of your spa, with the power turned on, push the test button. A red indicator should appear. Push the reset button, and the red indicator should disappear. IF THE INTERRUPTER FAILS TO OPERATE IN THIS MANNER, THERE IS A GROUND CURRENT FLOWING, INDICATING THE POSSIBILITY OF AN ELECTRIC SHOCK. Shut off the power to the spa until the source of the breakdown has been identified and corrected.
- 5.** The electrical service panel should be equipped with a 50-amp GFCI overcurrent protective device.
- 6.** The minimum supply conductor capacity is 50 amp and should be sized as follows: No. 6 AWG, or No. 8 AWG 75° C.
- 7.** The electrical supply for the spa must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors, to comply with section 422-30 of the National Electrical Code, ANSI/NFPA 70-2002. The disconnecting means must be readily accessible to the spa occupant but must not be within 5 feet of the spa.

SAVE THESE INSTRUCTIONS

IMPORTANT USER SAFETY INSTRUCTIONS



WARNING: As a spa owner, you should always review these instructions with first time or occasional users of the spa. Remember, they may not be aware of the possible risks associated with spa water temperature.

To Reduce the Risk of Injury

- 1. READ AND FOLLOW ALL INSTRUCTIONS.**
- 2. WARNING: TO REDUCE THE RISK OF INJURY,** do not permit children to use this product unless they are closely supervised at all times.
- 3. DANGER: RISK OF ACCIDENTAL DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use the spa unless they are supervised at all times.
- 4. WARNING: TO REDUCE THE RISK OF INJURY,** the water in a 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 for a 10 to 15 minute time period. Lower water temperatures are recommended for extended use [exceeding 10-15 minutes] and for young children.
- 5.** 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 spa water temperatures to 100° F [38° C].
- 6.** Before entering a spa, the user should measure the water temperature with an accurate thermometer such as a medical thermometer, since the tolerance of temperature regulating devices vary.
- 7.** The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
- 8.** Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.
- 9.** Persons using medication should consult a physician before using a spa, since some medications may induce drowsiness while other medications may affect heart rate, blood pressure and circulation.
- 10.** Extended use of your spa in water temperatures between 100° F and 104° F may cause HYPERTHERMIA (elevated body temperature). Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6° F. The symptoms include dizziness, fainting, drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include (1) unawareness of impending hazard, (2) failure to perceive heat, (3) failure to recognize the need to exit the spa, (4) physical inability to exit the spa, (5) fetal damage in pregnant women, and (6) unconsciousness, resulting in a danger of drowning.
- 11. WARNING:** The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia in spas.
- 12.** During Winter months where the temperature is consistently below freezing, check your spa periodically to ensure that it is operating correctly and that the power to the spa has not been interrupted as to protect the water lines from freezing.
- 13.** Do not use your spa alone.
- 14.** Make sure that the following emergency telephone numbers are listed at the nearest telephone: physician, hospital, ambulance, and police.
- 15.** Have at least one person in the family learn CPR (cardio-pulmonary resuscitation). It could save a life!

SAVE THESE INSTRUCTIONS

SPA LOCATION

Section Contents:

- **Outdoor Considerations**
- **Indoor Considerations**

Outdoor Considerations

There are many things to consider prior to locating your spa. The following lists cover some of the more common factors involved in choosing the ideal location.

- Local fencing and enclosure codes.
- Local electrical and plumbing codes.
- The view from your house.
- Your ability to supervise the spa.
- Wind direction and exposure to sunlight.
- Location relative to trees (falling leaves and shade).
- Dressing and bathroom location.
- Storage area for maintenance equipment and chemicals (storing chemicals inside your spa cabinet will void the warranty).
- Landscaping and evening lighting.
- Spa must be placed on a flat, level surface.
- Water is heavy (approximately 8 lbs. per gallon). If a spa is placed on flooring or decking, be sure the structure is strong enough to support the added weight.

Indoor Considerations

- Walls, ceiling, flooring, and woodwork must be able to withstand high humidity.
- You may need cross-ventilation fans or oversized dehumidifiers (or both) to remove excess humidity.
- Spa chemicals in the air may corrode certain metals in your home.
- Floor drains are needed to carry off water splashed from the spa.
- Recessed spas must be positioned to permit servicing from above or below floor.
- Water is heavy (approximately 8 lbs. per gallon). Be sure the flooring or decking is strong enough to support the added weight.
- We recommend against a second story location above finished living space to minimize the risk of water damage inherent with spa use.

INSTALLATION INSTRUCTIONS

Section Contents:

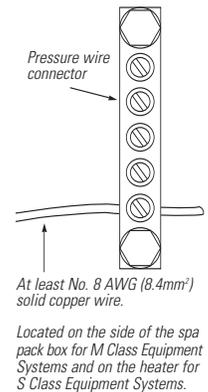
- General Procedures
- 240V Systems

General Procedures

This section covers the installation of your spa. All electrical steps must be performed by a licensed electrician. The spa must be connected to a proper power supply and meet all National Electrical Code (N.E.C.) and local code requirements. The connection must include the conductors necessary for operation and bonding, as required by N.E.C.

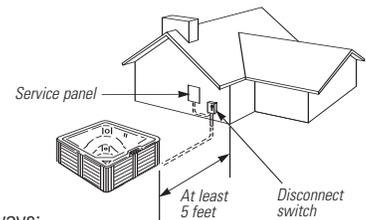
1. Remove the spa from its shipping container and retain all safety, operation, and warranty information.
2. Position the spa on a flat, level surface such as concrete, or a wood deck which provides adequate drainage.
3. Position the spa at least 5 feet from all metal surfaces unless each metal surface is permanently connected to a bonding wire, as indicated in step 4.
4. The spa may be installed within 5 feet of metal surfaces as follows:

- Installation must be in accordance with Article 680-(40-44) of the National Electrical Code, ANSI/NFPA 70-2002.
- Each metal surface must be permanently connected to a bonding wire which is attached to a pressure wire connector provided for that purpose.
- The pressure wire connector is located on the equipment system control enclosure.
- The bonding wire must be at least No. 8 AWG (8.4 mm²) solid copper wire, in accordance with article 680-43E.
- The bonding wire must be attached to the pressure wire connector and all metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet of the spa.



240V Systems (SC-1, SC-3, MC-2, MC-4)

1. Install a 50-amp, GFCI overcurrent protective device in the electrical service panel.
2. The electrical supply for the spa must include a suitable rated switch or circuit breaker to shut off the power supply (to comply with section 422-30 of the National Electrical Code, ANSI/NFPA 70-2002). This disconnecting means must be readily accessible to the spa occupant, **however it must not be within 5 feet of the spa** (see diagram).
3. With the spa placed in its final location, power can be routed in two ways:



Under the spa cabinet—See figure 1 on page 8

- Determine placement of hole in floor so that conduit may enter between the spa shell and the wooden cabinet.
- Move the spa to allow working room. Cut off the conduit above the floor surface.
- Use an LB (Left Bend) on the conduit to permit wire pulling if required.

Through a power entrance opening drilled by an electrician—See figure 2 on page 8

- Move the spa to allow working room. Use nonmetallic conduit and fittings. Cut off the conduit above the floor surface to permit the installation of an LB at the power entrance opening height.

240V Systems
[continued]

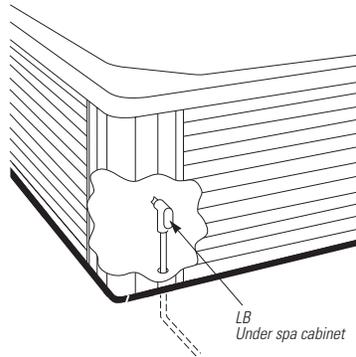


Figure 1

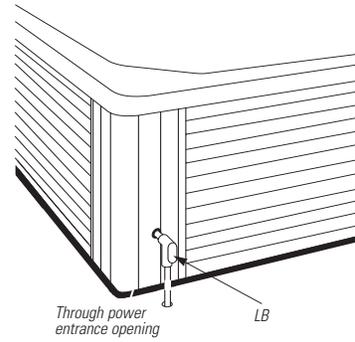


Figure 2

4. Pull four copper current carrying conductors (one each: black, red, white, green). Use either No. 6 AWG 60° C, No. 8 AWG 75° C, or No. 8 AWG 90° C wire, if spa is 50 feet or less away from its power supply.

NOTE

NOTE: The ground must be equal to or larger than the largest power conductor.

5. Reposition the spa at its final location and route the flexible conduit.
6. Using a 1" conduit connector at the end of the flexible conduit, route wires through an entrance hole cut by your electrician in the control enclosure, and attach the conduit connector to the control enclosure.
7. Attach power wires to the terminal block. See 240V wiring diagram inside the control enclosure cover. Attach the wires as follows and shown in graphic below:

SC SYSTEMS

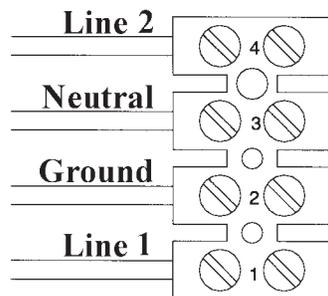
- Line 2 to terminal #4
- Neutral to terminal #3
- Ground to terminal #2
- Line 1 to terminal #1

MC SYSTEMS

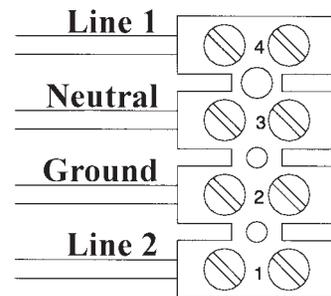
- Line 1 to terminal #4
- Neutral to terminal #3
- Ground to terminal #2
- Line 2 to terminal #1

8. Complete the conductor connections at the power supply panel.
9. Do *not* turn power on until instructed to do so in the "Starting and Using Your Spa" section.

240-Volt Power Input



SC-1 and SC-3



MC-2 and MC-4

NOTE

NOTE: Consult the Wiring Diagrams on Page 39 for 240 Volt to 120 Volt conversion on the SC-1 System Only.

FEATURES AND CONTROLS

Section Contents:

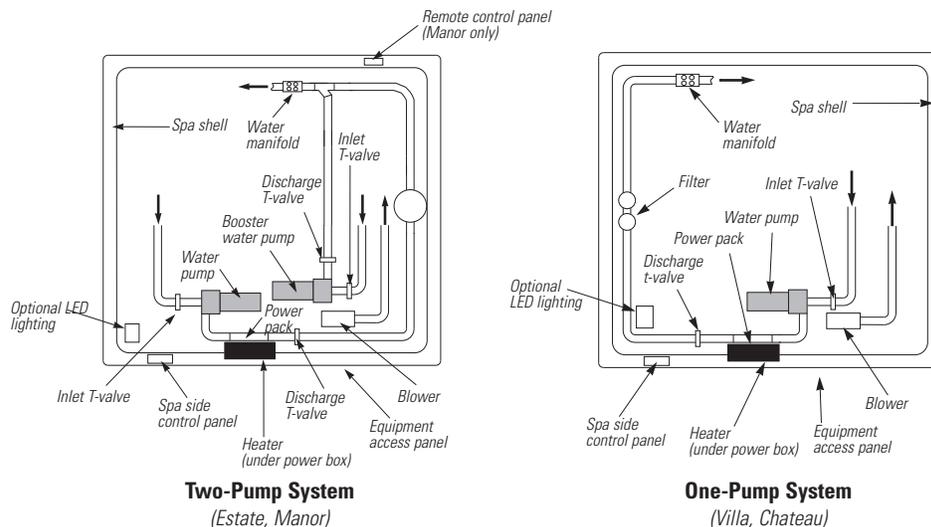
- Spa At-A-Glance
- Equipment Compartment
- Power Pack
- Spa Side Controls
- In-Spa Features

Spa At-A-Glance

Your Emerald Spa may be equipped with a variety of user controls and optional features. This section locates and describes each. Please take the time to recognize and understand the functions of these components and controls.

Spa At-A-Glance provides a pictorial overview of key user components.

The equipment compartment houses the “nerve center” of the spa and includes the following system components:



This diagram represents a generic one-pump and two-pump system. It is not intended to represent any specific model.

Equipment Compartment

Water Pump(s)

Emerald Spas have different pump systems, depending on the spa model.

Villa and Chateau spas have a single two-speed (water) pump and provide:

- Filtration, circulation and heat on low speed.
- Hydrotherapy jet action on high speed.

The Estate and Manor spas have a two (water) pump system which uses an additional booster pump to enhance jet action.

Air Pumps

Emerald Chateau, Estate, and Manor spas include an (air) pump (blower) to provide MassageAir™ therapy and an enhanced force of air to the water jets called High-Performance Jet Select™.



CAUTION: T-valves must be open when spa is in use. See Fig. 2.
T-valves must be in closed position before any plumbing is disassembled for service. See Fig. 1.

T-valves

All one-pump systems have two T-valves, located in the water circulation lines on either side of the power pack. Some models have two pumps, which include one or two additional T-valves located on either side of the booster pump.

To operate T-valve:

- To close, temporarily remove security clip and push T-handle down.
- To open, turn T-handle counterclockwise to unlock, pull up and secure with security clip.

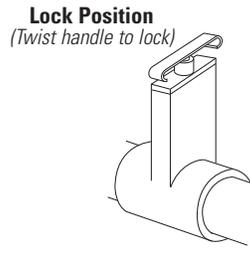


Fig. 1 Closed, Locked Position

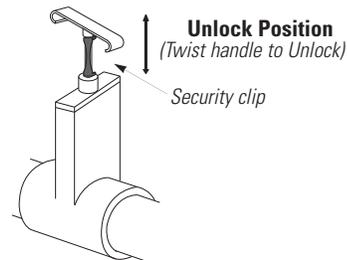


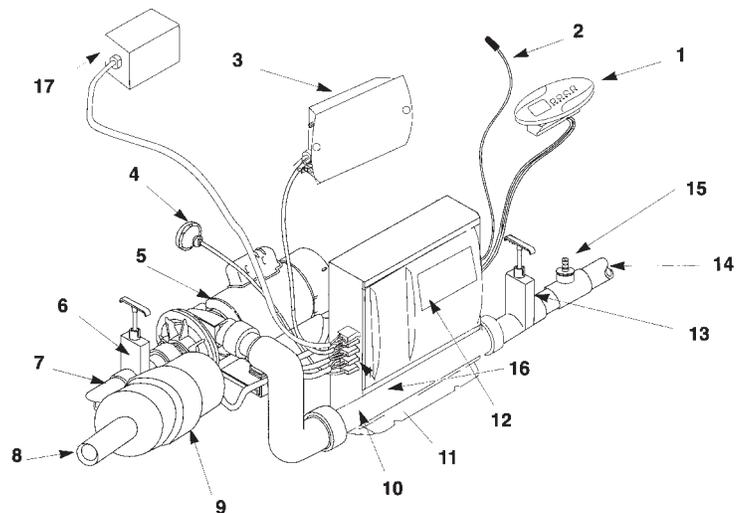
Fig. 2 Open, Detent Position

Power Pack One-Pump System

Below is a general description for the one water pump system of the Villa and Chateau spa systems used in your Emerald spa.

- | | |
|--|--------------------------------------|
| 1. Control panel | 10. Heater |
| 2. Temperature sensor | 11. Control outputs |
| 3. Ozone generator (optional) | 12. Power pack |
| 4. Light | 13. Water outlet T-valve |
| 5. 2-speed circulation/jets pump | 14. Water outlet line to spa |
| 6. Water inlet T-valve | 15. Ozone tee |
| 7. Water inlet line from spa | 16. Bonding Lug (on side of heater) |
| 8. Air line from air pump (blower) to spa (excluding Villa Models) | 17. LED source (optional on Chateau) |
| 9. Air pump (blower) (excluding Villa Models) | |

This diagram represents a generic one-pump system. It is not intended to represent any specific model.

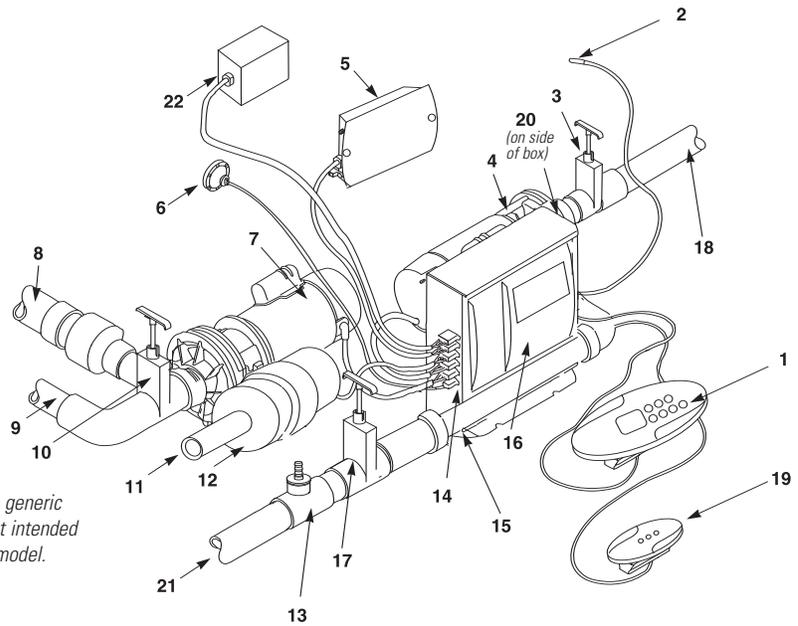


Power Pack
(continued)

Two-Pump System

All Estate and Manor models use a two water pump system. The following is a general description of this system.

- | | |
|--|--|
| 1. Control panel | 12. Air pump (blower) (2-speed) |
| 2. Temperature sensor | 13. Ozone tee |
| 3. Water inlet T-valve—pump 1 | 14. Control outputs |
| 4. 2-speed water pump | 15. Heater |
| 5. Ozone generator (optional) | 16. Power pack |
| 6. Light | 17. Water outlet T-valve—pump 1 |
| 7. Booster water pump—pump 2 | 18. Water inlet line from spa—pump 1 |
| 8. Water outlet line to manifold | 19. Auxiliary control panel (MC-4 only on Manor) |
| 9. Water inlet line from spa—pump 2 | 20. Bonding lug |
| 10. Water inlet T-valve—pump 2 | 21. Water outlet line to filter |
| 11. Air line from air pump (blower) to spa | 22. LED source (optional) |



This diagram represents a generic two-pump system. It is not intended to represent any specific model.

Power Pack
(continued)

The features of each Power Pack are summarized in the following chart:

	VILLA	CHATEAU	ESTATE/MANOR
Water Pump(s)	1.5 hp, 2 speed SC-1	4.8 hp, 2 speed SC-3	MC-2: (1) 4.8 hp and (1) 2 hp MC-4: (1) 4.8 hp and (1) 4.8 hp
Heater	1.0/4.0KW	4.0 KW	4.0 KW
Air Pump (Blower)	No	Yes	Yes
Light	Yes	Yes	Yes
Control Panel	Digital	Digital	Digital
Ozonator (optional) 120V	Ready	Ready	Ready
Voltage Requirement	240V (120v opt.)	240V	240V
Temperature Adjustment	Keypad	Keypad	Keypad
Automatic Time Outs	Yes	Yes	Yes
Preset Filter Cycles	Yes	Yes	Yes
Programmable Filter Cycles: Topside	Yes	Yes	Yes
Sensor Failure Detection	Yes	Yes	Yes
Flow Switch Error Detection	Yes	Yes	Yes
Smart Winter Mode	Yes	Yes	Yes
High Limit Protection with Reset	Yes	Yes	Yes
Heater/Status Indicator	Yes	Yes	Yes
Night Vision Backlight	Yes	Yes	Yes
Continuous Digital H₂O Temperature Display	Yes	Yes	Yes
Digital Time Display	No	No	Yes
Icon Representation of Functions	No	No	Yes
Digital Operational Status Display	No	No	Yes
Digital Diagnostic Display	Yes	Yes	Yes
Automatic Filtration	Yes	Yes	Yes
Automatic Air Pump (Blower) Purge	No	Yes	Yes
Automatic Water Pump Purge (Aux)	No	No	Yes
Temperature Lock (LocP)	No	No	Yes
Panel Lock (LocF)	No	No	Yes
Battery Back-Up Program Saver	No	No	Yes
Standby Mode (Pump disable or OFF)	No	No	Yes
Inverted Display	No	No	Yes
LED Lighting Capable	No	Yes	Yes
Economy Mode	No	No	Yes

Spa Side Control SC-1 for Villa



Start-up for SC-1 controls

Your spa control has been designed so that by connecting the spa to its properly grounded power source, the spa will automatically heat to 100° F.

NOTE

NOTE: Your spa equipped with the SC-1 is shipped in the 240V configuration. See the SC-1 schematics on page 39 if you plan to convert the SC-1 power system to a 120V configuration.

Starting the pump:



Press **Pump** key to turn pump on. Press a second time to change pump speed. A third time turns pump off. Please note that the pumps have a built-in time-out feature and will turn off automatically after 15 minutes.



The "Pump" indicator lights up when pump is on.

Turning the light on:



Press **Light** key to turn light on. Press a second time to turn light off. A built-in time-out feature automatically turns light off after two hours (can be manually deactivated).



The "Light" indicator lights up when light is on.

Setting water temperature:



Use **Up** or **Down** arrow key to change water temperature. Press and hold key to increase (or decrease) current temperature setting. The temperature setting will be displayed for 5 seconds to confirm your new selection.



The "Set Point" indicator displays the desired temperature, NOT the current water temperature! Water temperature can be adjusted in 1° increments from 59° F to 104° F (15 to 40° C). Water temperature setting defaults back to 100° when power is lost.

Automatic water pump and heater start:



When water temperature is 1° F (0.5° C) lower than the Set Point, the heater and pump will automatically turn on until water temperature reaches Set Point plus 1° F (0.5° C).

The "Heater" indicator lights up when the heater is on.

Programming the filter cycle duration:

The system is preset to automatically perform two, six-hour filter cycles per day, at 12-hour intervals commencing 12 hours after start-up. During a filter cycle, pump is activated for a programmed number of hours. To set the filter cycle duration:



Press and hold **Light** key for 5 seconds. The display will show a value that represents the filter cycle duration in hours.



Use **Up** or **Down** arrow key to change setting.
0 = no filtration (not recommended)
12 = continuous filtration



When the desired setting is displayed, press **Light** key again. The filter cycle will start. The "Filter" indicator lights up when a filter cycle is on.

Spa Side Control
SC-1 for Villa
(continued)

Programming the filter cycle duration (continued):

Note that after a power failure, the filter cycle duration will return to its default value (6 hours). In this case, the first filter cycle will start 12 hours after power has been restored. Note also that to prevent excessive water temperature caused by too long filter cycles, the system will cancel a filter cycle after 3 hours if water temperature raises more than 2° F (1° C) above Set Point. In this case, the "Filter" indicator will flash.

Troubleshooting:



The pump has started up for one minute on several occasions and "Filter" indicator is flashing.

Not a bug but a feature!

Our **Smart Winter Mode** protects your spa from the cold by turning the pump on for one minute several times a day to prevent water from freezing in pipes.



"OH" error message is displayed.

The system has shut down because the water temperature **in the spa** has reached 112° F (44° C). Only the **Smart Winter Mode** remains active. Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system.

Call your dealer or service supplier if problem persists.



The "Heater" indicator is flashing when the pump is running at high speed.

Not a bug but a feature!

The heater is automatically turned off when the pump is running at high speed to limit the electrical current draw.



"HL" error message is displayed.

The system has shut heater down because water temperature **at the heater** has reached 119° F (48° C). Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system. Call your dealer or service supplier if problem persists.

The display is flashing.

A power failure has occurred. Press any key to reset the system, then reprogram all desired parameters.



"Prr" error message is displayed.

A problem has been detected with the temperature probe.

Call your dealer or service supplier.



"FLO" error message is displayed.

The system detects no water pressure while the pump is running.

Check and open water valves. Check water level. Clean filter.

Call your dealer or service supplier if problem persists.



"FLC" error message is displayed.

A problem has been detected with the pressure switch.

Call your dealer or service supplier.

Spa Side Control SC-3 for Chateau



Start-up for SC-3 control

Your spa control has been designed so that by connecting the spa to its properly grounded power source, the spa will automatically heat to 100° F.

Starting the water pump:



Press **Pump** key to turn pump on. Press a second time to change pump speed. A third time turns pump off. Please note that the pump has a built-in time-out feature and will turn off automatically after 15 minutes.



The "Pump" indicator lights up when pump is on.

Starting air pump (blower):



Press **Blower** key to turn air pump (blower) on. Pressing a second time turns air pump (blower) off. A built-in time-out feature automatically turns air pump (blower) off after 15 minutes (can be manually deactivated).



The "blower" indicator lights up when air pump (blower) is on.

Turning the light(s) on: *(depending on your spa configuration)*



Spa Light Only: Press **Light** key to turn light on. Press a second time to turn light off. A built-in time-out feature automatically turns light off after two hours, unless it has been manually deactivated.



LED Light Only: Press **Light** key to turn LED light on to cycle through Red, Blue and Green. Subsequent pressing will change to the various solid colors (eight colors). Additional pressing of the light button will then cause an automatic color change to assorted colors. Then an additional press will cause a Blue/Green change. Yet another press will cause a "party mode" with all colors quickly changing.

NOTE

NOTE: When activating each color change another press must occur to turn the selection off before proceeding to the next featured light mode. Lastly, whichever color mode you are in when you exit your spa will be the first mode when you once again use your spa.



Spa Light: The "Light" indicator lights up when light is on.



LED Light: The "Light" indicator lights up when LED light is on.

Setting water temperature:



Use **Up** or **Down** arrow key to regulate water temperature. To increase (decrease) current temperature setting hold keypad until desired setting. When keypad is released and pressed again the setting will decrease (increase) the temperature. The temperature setting will be displayed for five seconds to confirm your new selection.



The "Set Point" indicator displays the desired temperature, NOT the current water temperature! Water temperature can be adjusted by 1° increments from 59° F to 104° F (15 to 40° C).

Automatic water pump and heater start:

When water temperature is 1° F (0.5° C) lower than the Set Point, the heater and pump will automatically turn on until water temperature reaches Set Point plus 1° F (0.5° C).



The "Heater" indicator lights up when the heater is on.

**Spa Side Control
SC-3 for Chateau**
(continued)

Programming the filter cycle duration:

The system is preset to automatically perform two, six-hour filter cycles per day, at 12-hour intervals commencing 12 hours after start-up. During a filter cycle, pump is activated for a programmed number of hours. To set the filter cycle duration:



Press and hold **Light** key for five seconds. The display will show a value that represents the filter cycle duration in hours.



Use **Up** or **Down** arrow key to change setting.
0 = no filtration (not recommended)
12 = continuous filtration



When the desired setting is displayed, press **Light** key again. The filter cycle will start. The "Filter" indicator lights up when a filter cycle is on.

Note that after a power failure, the filter cycle duration will return to its default value (six hours). In this case, the first filter cycle will start 12 hours after power has been restored. Note also that to prevent excessive water temperature caused by too long filter cycles, the system will cancel a filter cycle after three hours if water temperature raises more than 2° F (1° C) above Set Point. In this case, the "Filter" indicator will flash.

Troubleshooting:



The pump has started up for one minute on several occasions and "Filter" indicator is flashing.

Not a bug but a feature!

Our **Smart Winter Mode** protects your spa from the cold by turning the pump on for one minute several times a day to prevent water from freezing in pipes.



"OH" error message is displayed.

The system has shut down because the water temperature **in the spa** has reached 112° F (44° C). Only the **Smart Winter Mode** remains active. Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system.

Call your dealer or service supplier if problem persists.



The "Heater" indicator is flashing when the pump is running at high speed.

Not a bug but a feature!

The heater is automatically turned off when the pump is running at high speed to limit the electrical current draw.



"HL" error message is displayed.

The system has shut heater down because water temperature **at the heater** has reached 119° F (48° C). Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system. Call your dealer or service supplier if problem persists.

The display is flashing.

A power failure has occurred. Press any key to reset the system, then reprogram all desired parameters.



"Prr" error message is displayed.

A problem has been detected with the temperature probe.

Call your dealer or service supplier.



"FLO" error message is displayed.

The system detects no water pressure while the pump is running.

Check and open water valves. Check water level. Clean filter.

Call your dealer or service supplier if problem persists.



"FLC" error message is displayed.

A problem has been detected with the pressure switch.

Call your dealer or service supplier.

Spa Side Control MC-2 for Estate and MC-4 for Manor



Start-up for MC-2 and MC-4 controls

Your spa control has been designed so that by connecting the spa to its properly grounded power source, the spa will automatically heat to 100° F.

Starting the water pumps:

Press **Pump(s)** to turn Pump 1 on at low speed. Pressing a second time turns Pump 1 to high speed. A third time turns Pump 1 and Pump 2 to high speed, then a fourth press turns both pumps off. Please note that the pumps have a built-in time-out feature and will turn off automatically after 15 minutes.



The "Pump 1" icon lights up when Pump 1 is on at high speed. It flashes when Pump 1 is on at low speed.



The "Pump 2" icon lights up when Pump 2 is on.

Starting air pump (blower):

Press **Blower** once to turn air pump (blower) on at high speed. Pressing a second time turns air pump (blower) to low speed. A third time turns air pump (blower) off. A built-in time-out feature turns air pump (blower) off after 15 minutes, unless manually deactivated.



The "Blower" icon lights up when air pump (blower) is on at high speed. It flashes when air pump (blower) is on at low speed.

Turning the light on:

Pressing **Light** key turns light on at high intensity. Pressing a second and third time changes its intensity. Press a fourth time to turn light off. A built-in time-out feature turns light off after two hours, unless it has been manually deactivated.



The "Light" icon is displayed when light is on at high intensity. It flashes when light is on at medium and low intensity.

Turning the LED lights on (option):

LED Light Only: Press Light key to turn LED lights on to cycle through Red, Blue and Green. Subsequent pressing will change to the various solid colors (eight colors). Additional pressing of the light button will then cause an automatic color change to assorted colors. Then an additional press will cause a Blue/Green change. Yet another press will cause a "party mode" with all colors quickly changing.

NOTE

NOTE: When activating each color change another press must occur to turn the selection off before proceeding to the next featured light mode. Lastly, whichever color mode you are in when you exit your spa will be the first mode when you once again use your spa.



The "Light" icon is displayed when LED lights are on. It flashes when LED and spa lights are on at the same time.

Setting water temperature:

Use **Up** or **Down** arrow key to regulate water temperature. The temperature setting will be displayed for five seconds to confirm your new selection.



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

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

Automatic water pump and heater start:

When water temperature is 1° F (0.5° C) lower than the Set Point, the heater and pump will automatically turn on until water temperature reaches Set Point plus 1° F (0.5° C).



The "Heater" icon lights up when the heater is on. It flashes when there is a request for more heat but the heater has not yet started.

**Spa Side Control
MC-2 for Estate and
MC-4 for Manor
(continued)**

Inverted display:

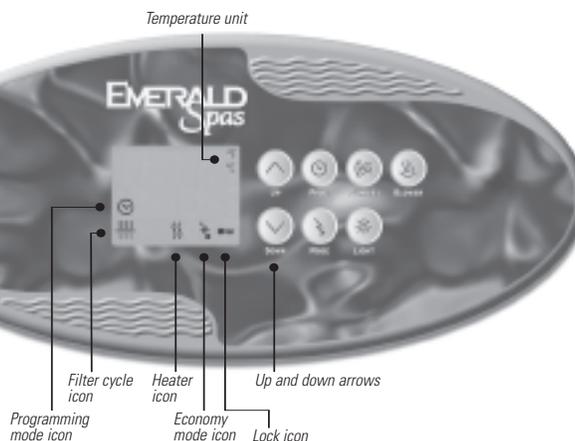
Press and hold **Blower** for five seconds to invert the display. Note that the ° F or ° C icon is not displayed in reverse mode. Follow the same procedure to return to default mode. If a power-up occurs, the display always returns to default mode.

Temperature display unit:

Press and hold **Light** key for five seconds to display water temperature in either Fahrenheit (°F) or Celsius (°C).

Time and temperature display:

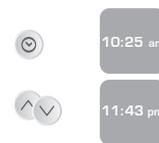
The display toggles every five seconds alternately showing the hourly time and the current water temperature.



Seven Step Programming Sequence

Setting the time—Step 1:

1. Enter Programming mode by holding down **Prog.** key for two seconds.
2. The display will show the current setting (hours).
3. Use **Up** and **Down** arrows to change setting.
4. Press **Prog.** key a second time.
5. The display will show the current setting (minutes).
6. Use **Up** and **Down** arrows to change setting.



Setting filter cycle start time and duration—Steps 2 and 3:

The system automatically performs two filter cycles per day, at 12-hour intervals. During the filter cycle, Pump 2 and air pump (blower) will run in high speed for one minute. Pump 1 will then run for a programmed number of hours. The "Filter Cycle" icon lights up when a filter cycle is on.

To program a filter cycle, you must enter: 1) the time you want the cycle to start, and 2) the duration of the cycle. If no filtering is required, the duration should be set to "0" (not recommended). For continuous filtering, the filter cycle duration should be set to "Fd12".

Setting filter cycle start time:

1. Press **Prog.** key a third time.
2. The display will show **FSxx**, with "xx" representing the starting hour.
3. Use **Up** and **Down** arrows to change setting.



Setting filter cycle duration:

1. Press **Prog.** key a fourth time.
2. The display will show **Fdxx**, with "xx" representing the duration in hours.
3. Use **Up** and **Down** arrows to change setting.



Spa Side Control MC-2 for Estate and MC-4 for Manor *(continued)*

NOTE

Setting filter cycle frequency—Step 4:

1. Press **Prog.** key a fifth time.
2. The display will show **FFxx**, with “xx” representing the frequency per day.
3. Use **Up** and **Down** arrows to change setting.

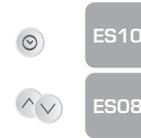


NOTE: Use economy mode when your spa will have long periods of non-use. In economy mode, the spa system will maintain the heat at 20° F below the set temperature. Depending on the ambient air temperature, your water temperature may not cool to 20° below the set temperature.

Setting economy mode start time and duration—Steps 5 and 6:

Setting economy mode start time:

1. Press **Prog.** key a sixth time.
2. The display will show **ESxx**, with “xx” representing the starting hour at which the system will maintain the temperature at the programmed set point.
3. Use **Up** and **Down** arrows to change setting.



Setting economy mode duration:

1. Press **Prog.** key a seventh time.
2. The display will show **Edxx**, with “xx” representing the duration in hours.
3. Use **Up** and **Down** arrows to change setting.



Storing settings in memory—Step 7

Press **Prog.** key an eighth time to store settings in the system’s non-volatile memory and to return to Normal mode.

Other Programming Features

Digital control pad lockout

This function allows you to prevent unauthorized parameter setting of the unit. This feature is especially helpful when young children have access to the keypad.

There are two modes you can choose from: full Lock or partial Lock. Full Lock means that all keypad functions are locked. Partial Lock means that the basic functions of the spa will remain accessible (water pumps, air pump (blower) and light), but it will be impossible to change the temperature Set Point, to override the economy mode or to enter the programming mode. When control pad is locked, the “Lock” icon will be displayed.

Locking your digital control pad:

1. Press and hold **Pump 1** key for five seconds.
2. The display will show **LocP**, with “P” representing partial Lock.
3. Release the key and the keypad will be in partial Lock mode. Keep key pressed down for five more seconds if you want to be in full Lock mode. The “LocF” message will then be displayed.



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

Economy mode

Press **Mode** key to switch from normal mode to economy mode. To save energy, the economy mode Set Point is 20° F (11° C) below the normal mode Set Point.

The “economy mode” icon lights up when economy mode is on.

There are two available economy operating modes:

noEc: No economy mode

Econ: Economy mode on during a programmed number of hours (see Steps 5 and 6)

**Spa Side Control
MC-2 for Estate and
MC-4 for Manor
(continued)**

NOTE

Selecting the desired economy mode:

1. Press and hold **Mode** key for more than two seconds.
2. The display will show the current mode (noEc or Econ).
3. Keep key pressed down until the desired mode is displayed.

After five seconds, the new setting will be programmed.

NOTE: Use economy mode when your spa will have long periods of non-use. In economy mode, the spa system will maintain the heat at 20° F below the set temperature.

OFF MODE: Press and hold Mode key for 10 seconds to turn the system down (i.e. to set it to Off mode) for 30 minutes. The "OFF" message is displayed. All keys are then disabled, unless you press and hold Mode key for 10 seconds to reactivate the system before the expiration of the 30-minute delay.

If the system is turned down using Mode key while the heater is on, the display will blink "Off" during the heater cool down period. Off Mode can be used when changing or cleaning filters during a filtration cycle.

Summary of control panel parameters

- **FSxx** Filter cycle start time
- **Fdxx** Filter cycle duration
- **FFxx** Filter cycle frequency
- **ESxx** Economy mode start time
- **Edxx** Economy mode duration

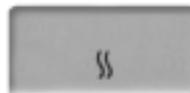
Troubleshooting:



Pumps have started up for one minute in several occasions and "Filter" icon is flashing.

Not a bug but a feature!

Our **Smart Winter Mode** protects your spa from the cold by turning pumps on for one minute several times a day to prevent water from freezing in pipes.



The "Heater" indicator is flashing when pumps are running at high speed.

Not a bug but a feature!

The heater is automatically turned off when pumps are running at high speed to limit the electrical current draw.



"Prr" error message is displayed.

A problem has been detected with the temperature probe.

Call your dealer or service supplier.



"OH" error message is displayed.

The system has shut down because the water temperature **in the spa** has reached 112° F (44° C). Only the **Smart Winter Mode** remains active. Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system.

Call your dealer or service supplier if problem persists.



"HL" error message is displayed.

The system has shut heater down because water temperature **at the heater** has reached 119° F (48° C). Do not enter the water! Allow water to cool down to 109° F (43° C), then press any key to reset the system.

Call your dealer or service supplier if problem persists.

The display is flashing.

A power failure has occurred. Press any key to reset the system, then reprogram all desired parameters.



"FLO" error message is displayed.

The system detects no water pressure while pumps are running.

Check and open water valves. Check water level. Clean filter. Call your dealer or service supplier if problem persists.



"FLC" error message is displayed.

A problem has been detected with the pressure switch.

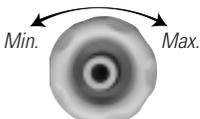
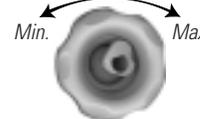
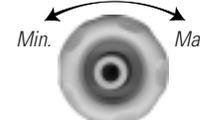
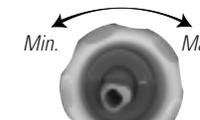
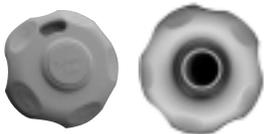
Call your dealer or service supplier.

In-Spa Features

Your spa may be equipped with a variety of therapy jets, controls, and fixtures. Refer to the following charts and identify those features installed on your spa.

NOTE

NOTE: Take care not to turn the jet face beyond the natural stopping point. If this does occur it may prevent the jet from functioning properly.

Air Therapy Jets (Excluding Villa)	When the air pump (blower) is on, air bubbles are released from the air therapy jets primarily located on the seats and the footwell. These jets create a mild vibrating effect that massages the body.	
Euro Jet*	Euro jets are fully adjustable and are widely used in seating locations throughout our entire line.	
Micro Cyclone Jet*	The Micro allows the nozzle to be positioned to deliver pinpoint therapy to a location. Turn the outer ring to also moderate the water flowing through the jet.	
Luxury Cyclone Swirl Jet*	The Cyclone swirl jet rotates 360 degrees at a rapid rate thus massaging a larger area. Turn the outer ring to also moderate the water flowing through the jet.	
Luxury Cyclone Directional Jet*	The Cyclone directional allows the nozzle to be positioned to deliver a broad therapy to a specific location. Turn the outer ring to also moderate the water flowing through the jet.	
Adjustable Swirl Cyclone Jet*	The Super Cyclone features a controllable velocity of water in either a straight position or in a rotation. Simply take your finger and click the nozzle of the jet down to cause the nozzle to move in a rotational pattern.	
3-Way Turbo Jet Turbo Air Control (Manor only)	<p>The function of this diverting jet is as follows:</p> <ol style="list-style-type: none"> 1. When both water pumps are engaged and the jet is turned all the way to the right (the 3 o'clock position) the Turbo and all other jets except the Tsunami (see next page) are functioning. 2. Whenever pumps are activated and the jet is in the middle (12 o'clock position), water pressure is realized in all the jets except the Turbo and Tsunami. 3. When both pumps are engaged and the jet is all the way to the left (the 9 o'clock position) all the jets in the spa are working. 	

NOTE

NOTE: Other jets may not operate when the turbo-jet is on.

Jet face appearance may be subject to change at any time.

** Stainless steel jet option.*

In-Spa Features (continued)

Waterfall Jet (Manor Only)



A standard feature on all Manor spas, the waterfall jet is located above the waterline. Utilizing the valve installed on the interior side wall of the spa, you can control the intensity of the water stream. Use for ambiance, relaxation or therapy for the neck and shoulders.

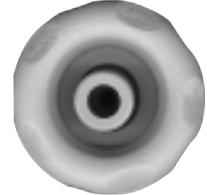


Super Cyclone Jet (Tsunami Jet) (Manor Only)



Air Control for Tsunami Jet

A standard feature on all Manor spas, the Tsunami jet is located just above the footwell. This jet works in coordination with the 3-way Turbo jet (see previous page). By turning the turbo jet to the 9 o'clock position with both pumps running, a large degree of water is forced into the Tsunami allowing a high volume of water to appear. Jet action is further enhanced by the Tsunami's own air control (labeled on top) installed on the top coping of the spa.



Individual Neck Jet Control (Manor Only)



Installed on all Manor spas is a separate valve controlling the intensity of the water pressure for the neck jets. Pressure is controlled by turning the face of the jet and/or by the use of this control valve (location on wall by left arm).



Drain

This feature is found on all models on the black base of the cabinet and is used for draining your spa. To operate:

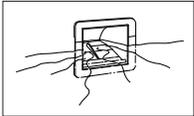
1. Unscrew the cap and attach a garden hose.
2. Turn the black nozzle (the part just behind where the cap screws on) counterclockwise and pull out to drain the water from your spa.
3. When finished draining, detach the garden hose, screw the cap back on and then push in and turn clockwise (the part just behind where the cap screws on).



In-Spa Features
(continued)

Cup Holders	<p>Located along the top edge of every spa are areas to set a cup or soda can. These cup holders are strictly for your convenience when you seek refreshments during use of your spa. DANGER: Alcoholic beverages are strictly prohibited in a spa.</p>	
Towel Warmer Option	<p>Optional on Manor spas is a special compartment built into a corner of the Manor cabinet identifiable with a handle for opening. Simply place your towel or robe in the compartment and the vented heat from the interior of the spa will keep it warm. DANGER: Do NOT use for chemical storage!</p>	
LED Light Option	<p>Optional on Chateau, Estate and Manor models is an LED light package. This option allows for an eight-color light selection to emit from the spa light, light nodes installed around the top perimeter of the spa coping and the Emerald logo installed on one side of the cabinet. To operate the LED lights (if installed) see page 15 for Chateau spas or page 17 if you own an Estate or Manor Spa.</p>	
Audio System Option	<p>The manufacturer's instruction manual for Emerald's Audio System is in the warranty bag located next to the power pack inside the spa cabinet. Consult this manual for important user instructions and proper operation of the system.</p>	
Subwoofers	<p>ESTATE and MANOR MODELS include a subwoofer mounted under the cabinet.</p> <p>ESTATE MODELS ONLY: The major components of Emerald's Elite Audio system are the "pop-up" stereo speakers and the stereo panel installed on the side of the cabinet. Please consult the enclosed stereo owner's manual for instructions on how to use your Emerald Elite Stereo. To "pop up" the speakers, press on the top when the speakers are in the closed position. To close speaker, push down until it engages.</p> <p>MANOR MODELS ONLY: The Emerald HydroVibe™ Audio System includes a mounted stereo in the towel warmer area, two flush mounted speakers, and a special remote panel that controls the operations of the HydroVibe Stereo mounted on the top coping. The HydroVibe uses transducer technology that allows for listening pleasure from inside the spa. The four transducers mounted to the underside of the spa shell create a unique speaker effect. Controlling the sound balance between these transducers and the external cabinet mounted speakers is achieved using the stereo's fade control. The Subwoofer works with the transducers when the transducers are on. Please consult the enclosed stereo owner's manual for proper operation.</p>	
		

In-Spa Features (continued)

Air Control Valves	The air intake valves are located in various locations along the top coping of the spa. Turn to increase or decrease the amount of air mixed with the water flow. More air adds to the massage effect.	
Light	This fixture is controlled by the "Light" button on all controllers (optional LED pictured here).	
Strip Skimmer	This skimmer is found on Villa and Chateau models. Its purpose is to skim the water surface. Always keep the water level at least 2/3 high on the skimmer or damage to the system may result.	
Weir Skimmer	This skimmer is found on Estate and Manor models. Its purpose is to skim the water surface. Always keep the water level at 2/3 high on the opening of the skimmer or damage to the system may result.	
Aromatherapy Option (NOT an option on the Villa models)	To use the aromatherapy feature, unscrew the cap and, as the picture to the right demonstrates, place special aromatherapy pellet bag inside. Replace cap. DO NOT remove pellets from the mesh bag. The scent will be disbursed primarily while the air pump (blower) is operating.	
Suction Grate	The suction grate is the intake opening for the water circulating system. This grate protects you from the powerful suction created by the pump(s) that power your spa.	



WARNING: Never block or remove the suction grate. Do not use spa if suction grate is removed!

STARTING AND USING YOUR SPA

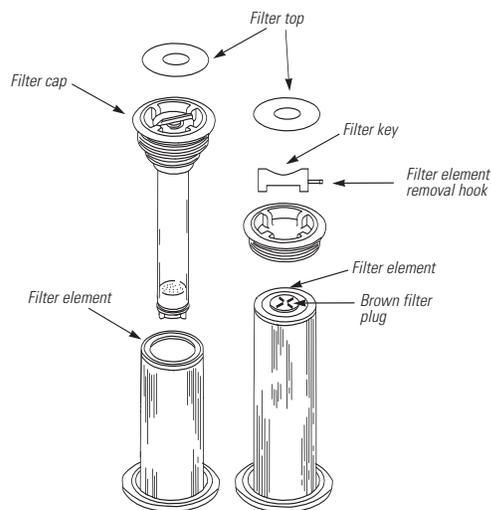
Section Contents:

- Installing Filter Elements
- Proper Water Level
- Bleeding Air
- Testing the GFCI
- One-Pump Priming
- Two-Pump Priming

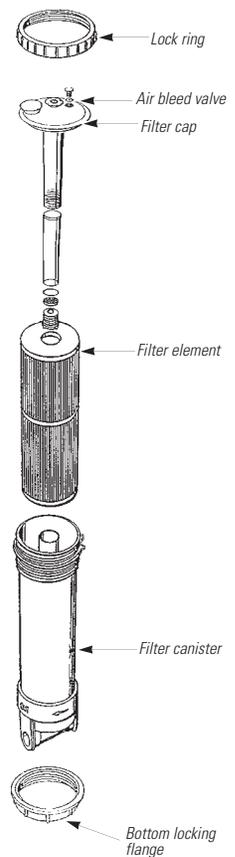
Installing Filter Elements

Placing element(s) in the Filter

1. Unpackage the filter element(s) located inside the cabinet to be inserted into the filter.
2. Unscrew the top of the filter canister(s) located on the top of the coping and insert the element with the largest hole into the appropriate filter housing.
3. Insert the element with the smaller hole into the filter canister that accepts it.
4. Insert the filter plug into the middle of the filter element with the smallest hole. This procedure allows for water to penetrate into the interior pleats of the element allowing for optimal filtration (for Space Saver II filter only) .



Space Saver II Filter
found on V110, C125, V215, C230,
C335, and E340 models



75 Sq. Foot Filter
found on C440, E450, C540, E550, M570,
C640, E650, M670, E750, M770, E850,
M870, E950, and M970 models

NOTE

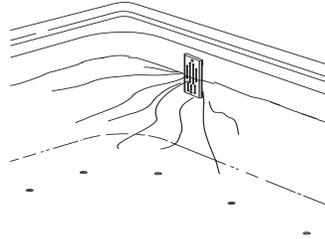
NOTE: The Filter Key allows the loosening/tightening of the filter caps for filter/spa maintenance on Dual Filter Systems only. The filter key's two parallel pegs are inserted into the filter cap and turned to the desired open/closed operation. The removal hook aids in lifting the elements from the interior of the filter.

Proper Water Level

Add water until level is at appropriate level for your model's skimmer (see page 24) or damage to system may result.



CAUTION: Low water level can damage the water circulating system and void your warranty. Read and understand all safety, location, and installation instructions before proceeding.



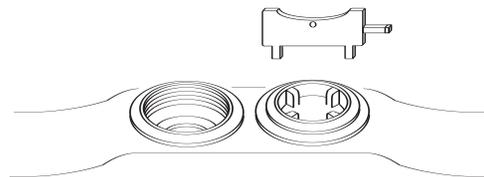
Bleeding Air

Dual Filter

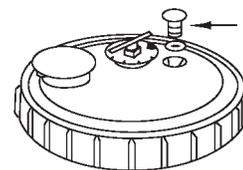
1. While the spa is off, use the filter key to unscrew and remove the filter caps. This allows for the large pocket of air naturally formed when the spa was filled with water to escape from the filter cavity.
2. Once the water level inside the filter housing has reached the same level as the water inside the spa, you can then replace the filter caps.
3. Tighten the filter cap snugly using the filter key. Be sure not to overtighten. When the spa is running, you should not see or hear any water leaking where the filter top meets the housing. If you see or hear water escaping, turn the spa off and tighten the filter lid.

Single Filter

1. While the spa is operating on low speed, turn the bleeder screw located on the top of the filter lid counterclockwise one half turn. This will allow air to escape.
2. When water appears, turn the screw clockwise to shut the valve until the water is no longer seen coming out. Be sure not to over-tighten so as not to crack the valve.



Dual Filter



Single Filter



CAUTION: Air must be bled from the system. Air in the system can damage the spa and void the warranty.

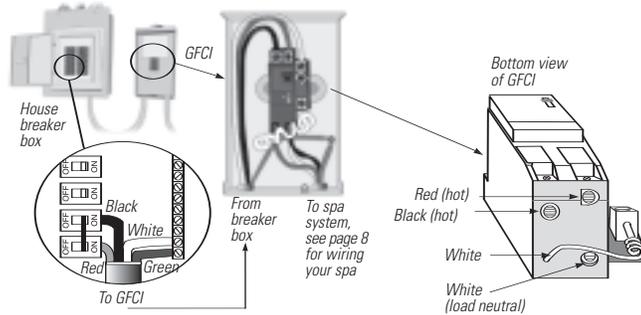
Testing the GFCI for spas equipped with SC-1 (240V), SC-3, MC-2 and MC-4

Your spa must be provided with a GFCI-circuit breaker located in the power supply panel as installed by your electrician. Turn on the circuit breaker and test the GFCI by pushing the test button. A red indicator should appear and your spa should stop operating. Push the reset button and the red indicator should disappear. The spa should begin to operate normally.



WARNING: If the GFCI fails to operate in this manner, there is a risk of electric shock! Shut off the main power source. Identify and correct problem before using the spa.

Testing the GFCI for spas equipped with SC-1 (240V), SC-3, MC-2 and MC-4
(continued)



Carry out a visual inspection to check for signs of incorrect wiring. Refer to supplied wiring diagrams at the back of this manual.

One-Pump Priming for spas equipped with Villa SC-1 and Chateau SC-3



CAUTION: Never run the system without circulating water. Doing so can damage the pump and void the warranty.



NOTE: If water does not flow within a minute or two, turn off power to the spa and repeat steps for bleeding the air on the page 26.

1. Press the **Pump** key pad. The pump will begin to operate in the high-speed mode; this will facilitate pump priming.
2. When your jets begin to operate vigorously, the pump is primed.

Two-Pump Priming for spas equipped with Estate MC-2 and Manor MC-4

Each pump must be primed separately. To accomplish this, follow these steps.

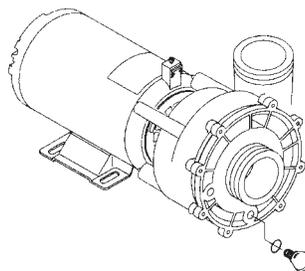
1. For MC-2 and MC-4 press the **Pump** key pad twice. The water pump will operate in the low speed mode on the first press and in the high speed mode on the second press. The high speed mode will facilitate pump priming.
2. When the jets begin to operate moderately, the water pump is completely primed.
3. Press the **Pump** key pad a third time to turn the second pump or booster pump on.
4. When the jets begin to operate more vigorously, the jets booster pump is completely primed. If you do not see any distinguishing difference in jet flow when pressing the pump key pad a third time then the booster pump may require direct priming.
 - A. Remove the equipment panel and locate the booster pump (see Two-Pump System diagram on page 11).
 - B. With the booster pump running, turn the pump drain plug counterclockwise until a steady stream of water appears. Once water appears, quickly tighten the plug and you should notice a more intense flow of water through the jets.
 - C. If no noticeable difference has occurred repeat step B.



CAUTION: Never run the system without circulating water! Doing so can damage pumps and void the warranty.



NOTE: If water does not flow within a minute or two, turn off all power to the spa and repeat steps for bleeding air.



SPA WATER CHEMISTRY

Section Contents:

- **Chemical Safety Tips**
- **Spa Frog® In-Line System**
- **Spa Capacity**
- **pH Control**
- **Disinfecting Your Spa**
- **Ozone Generator**
- **Other Water Chemistry Considerations**

Chemical Safety Tips

- Never mix different types of chemicals or contaminate them in any way.
- Do not exceed recommended dosages.
- After superchlorinating/brominating, wait until the disinfectant level is down to 3-5 parts per million (ppm) before using the spa.
- Keep chemicals out of reach of children and pets.
- Keep containers closed when not in use.
- Do not use contents of unlabeled containers.
- Never add water to chemicals. If called for by the instructions, add chemicals to water.
- Dispose of empty containers as instructed on the label.
- Never handle chemicals with your bare hands.
- Store chemicals in a cool, dry, clean place (not under spa).
- Remove cover when superchlorinating/brominating. Wait at least one hour (with circulating system or low-spa speed pump on) before replacing the cover. Doing so will prolong life of cover.

NOTE

NOTE: Check and maintain your water chemistry at least twice a week for proper levels (see page 33).

Spa Frog In-Line System

Your spa came with the most advanced, revolutionary sanitation system available today. When using the unique SPA FROG Mineral Cartridge with the exclusive SPA FROG Bromine Cartridge, you'll enjoy your spa more with LESS WORK and LESS BROMINE.

Less Work Because:

- Minerals continuously work to control bacteria for up to four full months.
- Cartridges last longer to eliminate daily maintenance.
- Cartridges are pre-filled for no measuring or mess.
- Simply adjust to your setting and relax for weeks.

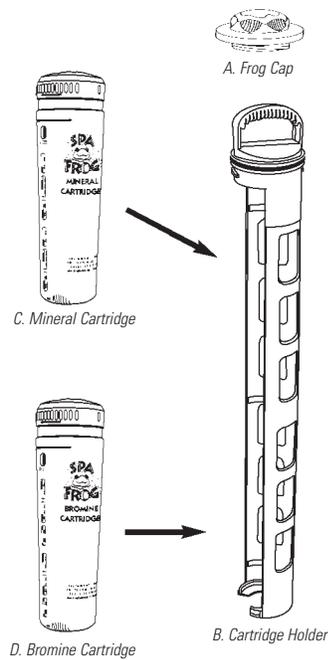
Less Bromine Because:

- With minerals in the water, bromine use is cut by up to 50%.*
- Bromine lasts longer: 2-4 weeks on a 350 gallon spa with average use.
- With minerals and low levels of bromine, the water feels softer.
- The system reduces odors and leaves the water crystal clear.
- SPA FROG has the only minerals that work with bromine.

*Compared to the ANSI/NSPI recommended minimums for bromine in a spa.

The SPA FROG In-Line System is made up of:

- A Frog cap that is easily distinguishable among the fittings on the top of the spa;
 - A Cartridge holder that pulls out of the system;
 - A Mineral Cartridge that controls bacteria in the water; and
 - A Bromine Cartridge that helps support the minerals while oxidizing contaminants like body oils.
- The cartridges are adjustable to meet your specific spa water care needs.



Cut-away view of cartridges snapped into holder and placed into the In-Line System

Spa Frog In-Line System (continued)

Start Up

Follow all directions on filling and balancing the water in your spa. Standard guidelines for balancing the water are as follows:

Water Balance Guidelines

pH:	7.2-7.8
Total Alkalinity:	60-120 ppm
Calcium Hardness:	150-400
Total Dissolved Solids:	<1500
Free Bromine:	1.0-2.0 ppm

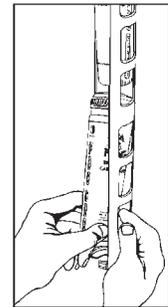
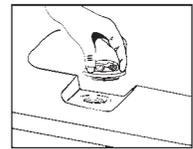
NOTE

NOTE: Bromine levels are lower only when used with FROG minerals.

- Use a metal out or sequestering agent if fill water is high in metals. Wait 24 hours before continuing start up.
- Shock spa to establish a 1.0-2.0 ppm chlorine or bromine residual and remove all contaminants. Add directly to spa following manufacturer's directions. Do NOT add through the SPA FROG System.
- When spa reaches operating temperature per your spa manufacturer's directions, set the Mineral and Bromine Cartridges according to directions on page 33 and insert them into the System.
- Open cap of SPA FROG In-Line System and set aside. DO NOT OPEN CAP WHILE JETS ARE ON.
- Remove holder by pushing down and turning counterclockwise before pulling out.
- Remove spent cartridge by pushing bottom out through openings in back of holder. Then grab cartridge and pull out. Drain water from hole openings to confirm it is empty. Then discard.

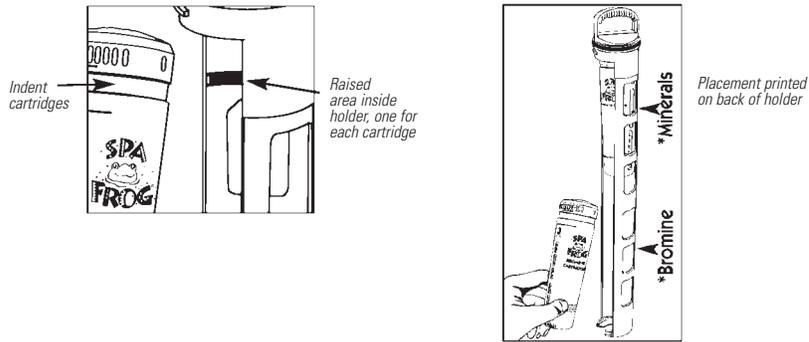
NOTE

NOTE: Mineral Cartridge may contain spent media after four months. Discard and replace.



**Spa Frog
In-Line System
(continued)**

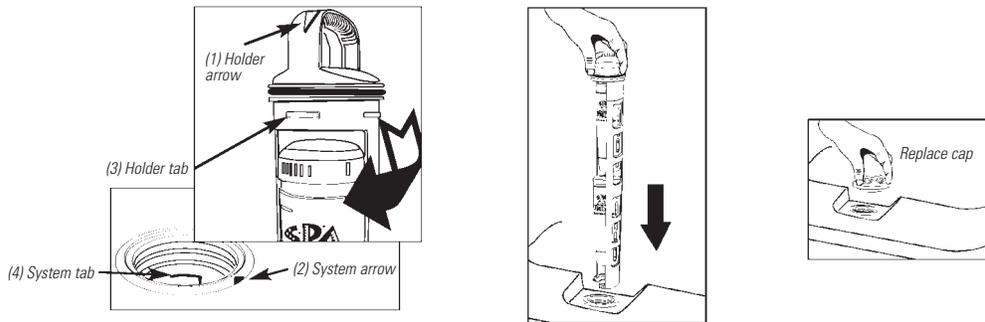
- Snap the Mineral Cartridge into the area marked “Minerals” (top portion) and the Bromine Cartridge into the area marked “Bromine” (bottom portion) making sure to line up the indentation at the top of the cartridges with the raised area on the holder.



NOTE

NOTE: Using Bromine Cartridge in the area marked “Minerals” can cause over bromination which shortens cartridge life.

- Slowly insert holder into system. Line up holder arrow (1) with system arrow (2). Push down until holder tabs (3) go past system tabs (4) and turn holder to the right (clockwise) until it stops. To ensure a locked position, attempt to pull holder up. If it stays in place, the lock is secure.



- Begin regular spa care procedures as soon as start-up is complete.

Adjusting and Replacing Mineral Cartridge:

Open Mineral Cartridge wide open to setting #6 by holding the top of the unit and turning the bottom counterclockwise until the #6 appears in the setting window.

The Mineral Cartridge must be replaced every 4 months. For ease in remembering, mark your calendar with the Reminder Stickers included in the warranty package with chemical cartridges or replace the SPA FROG Mineral Cartridge every time you drain and fill your spa (every 90 to 120 days—see spa manufacturer’s draining recommendations).



**Spa Frog
In-Line System
(continued)**

Adjusting and Replacing Bromine Cartridge:

As every spa is different, finding the right setting for the Bromine Cartridge will require monitoring your usage for the first week or two. Begin with an initial setting based on the chart below and monitor bromine levels daily or before each use, adjusting the cartridge by one setting per day until a 1.0-2.0 ppm level has been achieved. If the bromine level is too high, remove the cartridge from the system and adjust to the next lowest setting. The Bromine Cartridge needs to be replaced when empty. On most spas, it will last between 2 and 4 weeks. Always maintain 1.0-2.0 ppm bromine level.

Initial start-up setting

Daily Filter Time	Spa Size (gallons)		
	250-300	300-400	400-500
One hour	2	3	4
Two hours	2	2	3
Four hours	1	2	2

NOTE

NOTE: The more you use the spa, for instance when you first get it, the greater the setting to achieve a constant 1.0-2.0 ppm. (This may require a higher setting than what is listed in the chart.) If usage decreases or the bromine level is greater than 2.0 ppm, the setting should be lowered.

Regular Spa Care Procedures

Always follow the directions for operating your particular spa.

1. Run filtration system as directed by your spa manufacturer to maintain proper water flow through the SPA FROG In-Line System.
2. Regularly test water for pH, total alkalinity and bromine levels. Maintain a 1.0-2.0 ppm bromine level at all times.
3. Shock the spa with granular chlorine or a nonchlorine shock once a week or if water looks hazy. Additional shocking may be required if the spa is under heavy use. This is often the case when the spa is new.
4. Remember to replace Bromine Cartridge when empty and replace your SPA FROG Mineral Cartridge every 4 months or whenever you drain and refill spa.

NOTE

NOTE: Once wetted the time released mineral coating of the product is effective up to 4 months. After that time, even if you hear the spent media inside, it is no longer effective and must be replaced.

5. Lubricate o-ring twice a year with a silicone lubricant.

NOTE

NOTE: Floating SPA FROG system is used in the 100 and 200 models.



Spa Capacity

The following table lists the total water system capacity for all Emerald Spas and will help you to determine the dosage of chemicals.

SPA MODEL	USEABLE GALLONS	WEIGHT OF WATER (lbs.)	DRY WEIGHT (lbs.)	TOTAL USEABLE WEIGHT (lbs.)
110/125	170 gal.	1,360 lbs.	480 lbs.	1,840 lbs.
215/230	200 gal.	1,600 lbs.	580 lbs.	2,180 lbs.
335/340	280 gal.	2,240 lbs.	760 lbs.	3,000 lbs.
440/450	340 gal.	2,720 lbs.	840 lbs.	3,560 lbs.
540/550/570	360 gal.	2,880 lbs.	785/775/870 lbs.	3,665/3,655/3,750 lbs.
640/650/670	305 gal.	2,440 lbs.	730/775/870 lbs.	3,170/3,215/3,310 lbs.
750/770	315 gal.	2,520 lbs.	890/990 lbs.	3,410/3,510 lbs.
850/870	430 gal.	3,440 lbs.	900/1015 lbs.	4,340/4,455 lbs.
950/970	360 gal.	2,880 lbs.	900/965 lbs.	3,780/3,845 lbs.

NOTE

NOTE: Useable at the level noted on skimmer full level (see page 24)

pH Control

All water is either acidic, alkaline, or neutral. pH is defined as a method of measuring this characteristic. A pH level of 7.0 would be neutral. A pH level above 7.0 would be alkaline while a pH level below 7.0 would be acidic. The pH level of your spa water must be kept between 7.2 and 7.6. Above 7.6 the water will become discolored and cloudy. pH levels below 7.2 will cause corrosion to metals in the circulation system. Both high and low pH levels will cause eye irritation. Improper pH levels also reduce the effectiveness of disinfectants.



CAUTION: Do not use your spa until the pH level of the water is between 7.2 and 7.6. A pH level below 7.2 or above 7.6 may damage the spa shell and power pack, and void your warranty.

Maintain an ideal pH level as follows:

1. Test the pH level of the water regularly with a reliable test kit.
2. Adjust the pH level as required.
 - Increase pH by adding soda ash.
 - Decrease pH by adding sodium bisulfate.
3. Refer to the table below and determine the dosage level per 100 gallons.
4. Add chemicals to at least one gallon of water.
5. Pour the mixture into the spa with circulation system on.
6. Wait at least 3 hours. Recheck the pH level.

pH LEVEL

8.2	Above 7.6 <i>Add Acid</i>
7.8	
7.6 7.2	Ideal
6.8	Below 6.8 <i>Add Soda Ash</i>

HIGH pH—ADD SODIUM BISULFATE (pH down)

Test Reading	Dosage (per 100 gal.)
Above 8.4	.24 oz. (1 teaspoon)
8.0 to 8.4	.16 oz. (.7 teaspoon)
7.8 to 8.0	.08 oz. (.4 teaspoon)
7.2 to 7.6	Ideal

LOW pH—ADD SODA ASH (pH up)

Test Reading	Dosage (per 100 gal.)
Less than 6.5	.6 oz. (3.6 teaspoons)
6.5 to 6.8	.45 oz. (3 teaspoons)
6.8 to 7.2	.12 oz. (.7 teaspoons)
7.2 to 7.6	Ideal

NOTE

NOTE: If the instructions that accompany the pH adjusting chemicals differ from those given here, follow the instructions that come with the chemicals.

Alternative to SPA FROG system (do not use in conjunction with SPA FROG system)



WARNING: Risk of fire and/or explosion. Under no circumstance should you mix chlorine with bromine or other chemicals. Use one chemical only. Never mix. Never switch from one chemical to the other without thoroughly cleaning out the previously used chemicals.

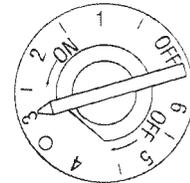
**Disinfecting
Your Spa**

Disinfectants [chlorine or bromine] have strong oxidizing properties that kill bacteria and destroy other materials.

Your spa is equipped with a disinfectant dispenser, enabling you to keep your spa clean and healthy with a minimum of effort. This dispenser is designed to use bromine or chlorine tablets of the slow dissolving type.

Adjust your disinfectant dispenser as follows:

1. Verify proper disinfectant level by checking the spa water with an appropriate test kit. A level between 3-5 ppm should be maintained.
2. Start by adjusting the control valve on the dispenser to position 3.
3. Make small gradual changes in the setting until your test kit verifies the proper setting (the higher the setting, the more disinfectant will be dispensed).
4. Increase the disinfectant level to 5-10 ppm once a week. This is called "superchlorination" or "superbromination." This procedure aids in the formation of active disinfectant.

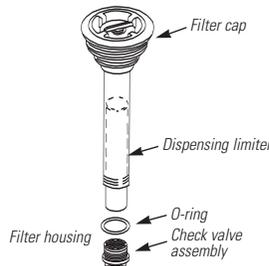


**Dispenser Adjustment for
both dual and single filters**

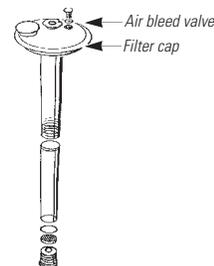
*The higher the setting, the more
disinfectant will be dispensed.*

Recharge your disinfectant dispenser as follows:

1. Turn off power at GFCI or circuit breaker before performing any service. MC-2 and MC-4 users can press the **Mode** key and hold for 10 seconds. The controller display will read OFF to let user know that it is safe to perform steps 2-4.
2. Remove disinfectant dispenser from filter housing.
3. Remove check valve assembly by turning counterclockwise.
4. Fill with chlorine or bromine tablets or sticks which are 1" in diameter.
5. Install check valve assembly. Do not overtighten.
6. Install dispenser on filter.
7. Turn on at GFCI or circuit breaker. For MC-2 and MC-4 spas to resume operation once again, press the **Mode** key and hold for 10 seconds. Spa will automatically resume after 30 minutes if user neglects to resume operation.



Space Saver II Filter



75 Sq. Foot Filter

Ozone Generator *[optional]*

An Ozone generator will supplement disinfectants and provide the following benefits:

- Kills bacteria and viruses
- Destroys matter which might discolor water
- Does not affect the pH level of the water
- Safe for bathers and equipment
- Has no "chemical" smell
- Automatic and requires little or no maintenance
- REDUCES the need for disinfectants. Does NOT eliminate the need.

Refer to your ozone generator owner's manual for information on service and maintenance.

Other Water Chemistry Considerations

Total Alkalinity

Total Alkalinity is important because it helps to keep the pH in the proper range. Test with an appropriate test kit, and adjust as needed following the instructions supplied with the test kit. If you are using chlorine as a disinfectant, adjust to 60-100 ppm. If you are using bromine as a disinfectant, adjust to 100-150 ppm. Higher levels may cause cloudy water and scale formations, while lower levels may lead to corrosion and uncontrollable pH variations.

Calcium Hardness

Proper calcium hardness levels will help you to maintain other water quality values such as pH and total alkalinity, and help to avoid cloudy water and/or scaling on the tub surfaces, equipment, and piping. Maintain the calcium hardness of your spa at 200 ppm when using chlorine as a disinfectant. For bromine, maintain the calcium hardness between 150-300 ppm. Test with an appropriate test kit and adjust as needed, following the instructions supplied with the test kit.

Total Dissolved Solids

Tap water contains 50-300 ppm total dissolved solids (TDS). When the level goes above 1500 ppm in a spa, the efficiency of sanitizers is reduced and corrosion is accelerated. To reduce TDS levels, replace some or all of the spa water.

NOTE

NOTE: When water evaporates, minerals from the water and the chemicals are left behind. As the level of these minerals increases, water treatment becomes more and more difficult. Therefore, at some point (between 4-12 weeks, depending on use), it is easier and less costly to drain and refill the spa instead of continuing to treat the same water.

MAINTAINING YOUR SPA

Section Contents:

- Draining the Water
- Cleaning the Spa Shell
- Cleaning the Filter
- Relamping the Underwater Light
- Winterizing Your Spa
- The Spa Cabinet



CAUTION: Do not allow the pump to run without water. Running the pump without water will cause pump damage and void the warranty.

Draining the Water

To drain your spa without taking access panel off:

1. Locate spa drain feature at base of spa; unscrew the cap and attach a garden hose.
2. Turn the black nozzle (the part just behind where the cap screws on) counterclockwise and pull out to drain the water from your spa.
3. When finished draining detach the garden hose, screw the cap back on and then push in and turn clockwise (the part just behind where the cap screws on).

NOTE

NOTE: Chemically treated water may damage plants. Place the garden hose in a safe discharge area.

NOTE: Some water will be left in the bottom of the spa and in your plumbing lines. This small amount of water can be mixed with fresh water without consequence. If 100% draining is required, a small submersible pump or a wet/dry shop vac should be used. Always call your dealer for assistance.

Cleaning the Spa Shell

Use a nonabrasive household cleaner to clean all spa shell surfaces and fixtures. Do not use scouring cleansers or solvents; damage to the acrylic finish will result.

Your Emerald Spa is manufactured using LUCITE XL 1000 continuous-cast cross-linked acrylic sheet. This material provides a strong chemical-resistant high gloss surface that is hard, nonporous, and impermeable to water.

Given proper care, the polished, lustrous surface of LUCITE XL 1000 sheet will retain its appearance for many years. To clean your spa be sure to use a soft absorbent cloth with any of the commercially available nonabrasive foam or liquid agents in general cleaning concentrations. Always rinse thoroughly with clean water and a soft chamois or moist cellulose sponge.

Cleaning agents containing strong abrasives such as scouring powders or strong solvents such as gasoline, acetone, or denatured alcohol should not be used to clean the acrylic surface of your spa.

Fine scratches may be minimized by the use of a mild automobile cleaner-polish. The cleaner-polish has a fine abrasive action, and its wax content tends to fill small scratches to make them less visible.

NOTE

NOTE: Do not use scouring cleansers or solvents; damage to the acrylic finish will result.

NOTE: Do not use strong solvents such as gasoline, acetone, or denatured alcohol; damage to the acrylic finish will result.

Cleaning the Filter

1. Turn off power at GFCI, circuit breaker before performing any service. MC-2 and MC-4 users can press the **Mode** key and hold for 10 seconds. The controller display will read OFF to let user know that it is safe to perform steps 2-4.
2. Using a filter key (for the Space Saver II Filter), open filters and remove elements. For larger filter, hold down lock mechanism and spin the outer ring counterclockwise.
3. Clean the filter element(s) as required:
 - Spray with a garden hose to remove trapped dirt.
 - Soak in a solution of water and filter cleaner solution to remove body oils and other contaminants or see your dealer for recommended cleaning supplies.
 - Inspect the elements for damage and replace as required.
 - Rinse thoroughly.
4. Place clean filter element(s) in housing and install filter tops.
5. Turn the power on at GFCI, circuit breaker. For MC-2 and MC-4 spas to resume operation once again, press the **Mode** key and hold for 10 seconds. Spa will automatically resume after 30 minutes if user neglects to resume operation.

Relamping the Underwater Light

The underwater light should be relamped from the under side of the spa as follows:

1. Disconnect the power from the spa.
2. Remove cabinet panel directly behind the light fixture.
3. Remove the old bulb and install a new bulb.

Winterizing Your Spa

Please see your local dealer for assistance on winterization.

NOTE

NOTE: Damage caused by improper winterization will NOT be covered under warranty.

The Spa Cabinet

Wood Cabinet

The red cedar cabinet of your spa is protected with a wood stain. It is normal for the cabinet to take on a weathered appearance with time and exposure to the elements.

Protect and revive the wood surface with a light sanding and the application of a wood preservative or tongue oil. Since Emerald uses only decay-resistant woods in its spa construction, you may choose to allow your cabinet to age with time and weather.

Durabilt™ Synthetic Cabinet

If you have purchased an optional Durabilt Synthetic Cabinet, know that the outer surface of the cabinet is made completely of a synthetic material. To clean, take a dampened rag with mild dish soap and wash the outside panels.

NOTE

NOTE: Do not apply varnish, shellac, or surface sealants to the wood. They tend to react with chemicals in the wood and the UV rays of the sun to cause yellowing, peeling, and flaking.

TROUBLESHOOTING



WARNING: Risk of electrical shock. Electrical troubleshooting should be done by qualified technicians.

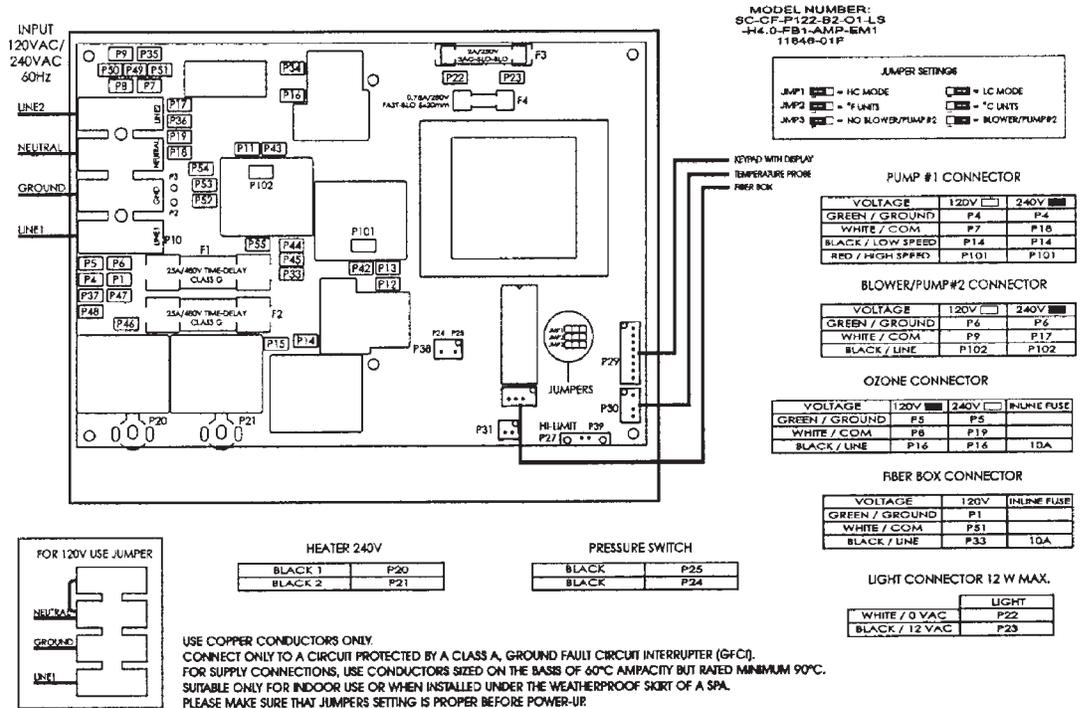


WARNING: Risk of electrical shock. Disconnect power cord from receptacle or turn power off at main service panel before removing fuse.

PROBLEMS	THINGS TO CHECK
Power system inoperative (No LED display on the panel).	<ol style="list-style-type: none"> 1. Not plugged in (120v). 2. Circuit breaker tripped or not turned on. 3. Ground fault circuit interrupter tripped. 4. Fuse in power system blown.
Fault indicated by spa control display message.	Please refer to the individual pages in this owner's manual that reference your particular controller.
Pump does not prime.	<ol style="list-style-type: none"> 1. Circulation T-valve closed. 2. Not enough water in the spa. 3. Air locked. Bleed air as described previously in this manual. See pg. 26 (filter) and/or pg. 27 (pump).
Hydrotherapy jets do not operate.	<ol style="list-style-type: none"> 1. Filter clogged. 2. Pump not primed. 3. Air intake valve(s) closed.
Spa does not heat.	<ol style="list-style-type: none"> 1. Thermostat set too low. 2. Low flow, pump not primed, or water level too low. 3. Pressure switch not sensing enough pressure. 4. Heater element defective.
Spa heats, but not to set temperature.	Spa not covered or not covered properly sealing the spa cover to the top edge of the spa. Heat loss is greater for an uncovered spa. High wind and low humidity also increase heat loss.

ELECTRICAL SCHEMATICS

SC-1 and SC-3



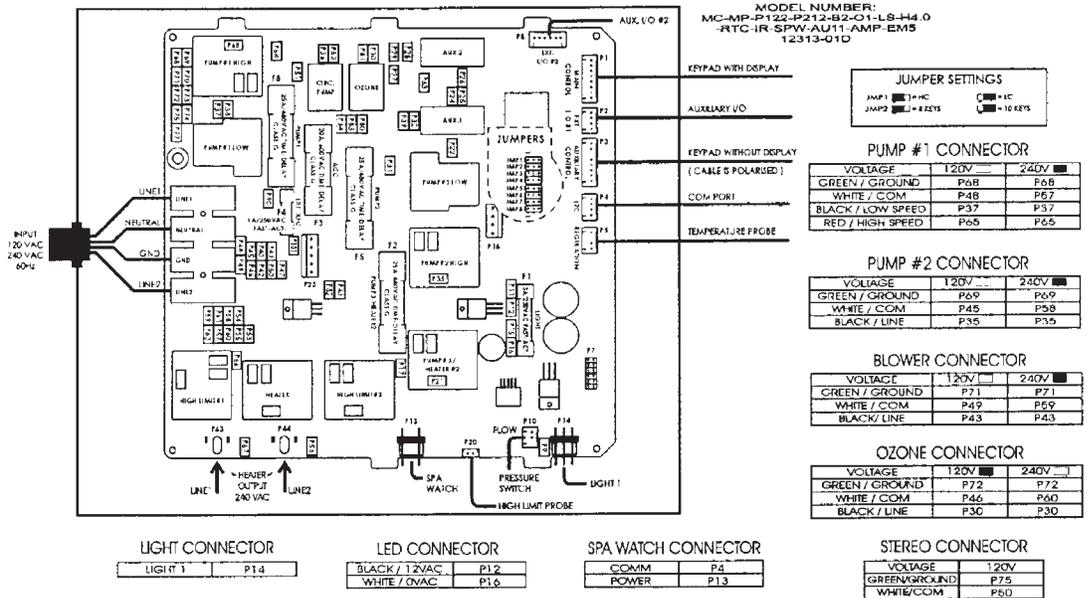
To Convert to 120 VAC Input

- Make sure all outputs are 120 V (pumps, ozone, blower...).
- Place a jumper cable between neutral and line 2 at input terminal block.
- Move JMP1 to right position (LC Mode).

USE COPPER CONDUCTORS ONLY.

FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60° C AMPACITY BUT RATED MINIMUM 90° C.

MC-2 and MC-4



USE COPPER CONDUCTORS ONLY.
CONNECT ONLY TO A CIRCUIT PROTECTED BY A CLASS A, GROUND FAULT CIRCUIT INTERRUPTER (GFCI).
FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60°C AMPACITY BUT RATED MINIMUM 90°C.
SUITABLE ONLY FOR INDOOR USE OR WHEN INSTALLED UNDER THE WEATHERPROOF SKIRT OF A SPA.
PLEASE MAKE SURE THAT JUMPERS SETTING IS PROPER BEFORE POWER-UP.

WARNING:
BEFORE OBTAINING ACCESS TO TERMINALS,
ALL SUPPLY CIRCUITS MUST BE DISCONNECTED



To Convert to 120 VAC Input

- Make sure all outputs are 120 V (pumps, light, blower...).
- Place a jumper cable between neutral and line 2 at input terminal block.
- Move JMP1 to right position (LC Mode).

USE COPPER CONDUCTORS ONLY.

FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60° C AMPACITY BUT RATED MINIMUM 90° C.

SPA WARRANTY INFORMATION CONTINUED

Obligation of Purchaser

The purchaser must establish by dated sales slip, invoice or installation receipt the date of original purchase. Transportation costs incurred to and from Emerald Spa Corporation for replacement spa, spa shell, plumbing, power pack or any part related to the spa are the responsibility of the purchaser. All costs for the removal and re-installation of the spa, spa shell or power pack are the responsibility of the purchaser.

Limitations

This warranty negates or limits to the terms of this warranty all other warranties, implied or expressed, except for those which cannot be negated or limited by the laws of the state in which the product is used. Emerald Spa Corporation does not authorize or permit any party, including its agents, distributors, or dealers to assume for it any other obligations or liability. In no event will Emerald Spa Corporation be liable for any special parts attached to or installed in a spa nor for injury to any persons or any claim for damages arising from the use, installation, or repair of the spa, including but not limited to, water and/or sewage costs, water damage to surrounding areas, rooms or furnishings. **In no event shall Emerald Spa Corporation be liable for any special, incidental, consequential, property or commercial damages.** The purchaser is responsible for providing adequate access to the pump and controls of the spa so that service may be properly performed. This warranty does not provide coverage for any item attached or installed on the spa after the date of manufacture. All warranty service must be performed by Emerald Spa Corporation or its authorized agent or warranty will be voided. All optional parts that are installed on your Emerald Spa, including Ozone Generator, Elite and HydroVibe™ Audio System, LED lighting are covered for 90 days by Emerald Spa Corporation after which you are covered exclusively under the warranty of the manufacturer(s) providing those components to Emerald Spa Corporation.

Exclusions

This warranty shall not apply to any acrylic spa shell that has not been installed in strict accordance with installation instructions provided in the owner's manual or local, city or county codes. This warranty does not apply to any part or system not manufactured by Emerald Spa Corporation, nor is Emerald Spa Corporation obligated in any way to aid in enforcement of warranties against the manufacturer of any such parts or systems. Pump shaft seal parts are warranted 2 years from initial start up of spa while labor is not included on these items. The stainless steel escutcheon on the stainless steel jet option, fuses, light bulbs, spa pillows, spa cover, cover accessories and o-rings are not covered under this warranty. This warranty shall not apply to any damages caused by accident, abuse, misuse, improper installation, exposure to fire or excessive heat, freeze damage, loss of water and chemicals, hazards of nature, nor to any other damage arising out of improper operation (ex. improper use of chemicals resulting in staining or discoloration). In addition, this warranty shall not apply if the failure is caused by acts of God or causes beyond the control of Emerald Spa Corporation.

Legal Right

This warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state. Some states do not allow limitation on the duration of warranties, expressed or implied, or of the time within which an action may be commenced, so some or all of these limitations may not apply to you. This warranty is not transferable to subsequent purchasers and is subject to the obligations, limitations and exclusions listed herein.

Please visit www.emeraldspa.com and click on "Information and Support" to register your Emerald Spa.



4150 East Paris Ave., Kentwood, MI 49512
800 766 7727 Fax 616 698 0861
www.emeraldspa.com