AQUA RITE®

Electronic
Chlorine Generator

OPERATION & INSTALLATION MANUAL

Serial #

Control _____

Cell _____

IMPORTANT SAFETY INSTRUCTIONS

When using this electrical equipment, basic safety precautions should always be followed, including the following:

- READ AND FOLLOW ALL INSTRUCTIONS

- Disconnect all AC power during installation

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

- A green colored terminal marked "Earth Ground" is located inside the wiring compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying the equipment.

- One bonding lug for US models (two for Canadian models) is provided on the external surface. To reduce the risk of electric shock, connect the local common bonding grid in the area of the swimming pool, spa, or hot tub to these terminals with an insulated or bare copper conductor not smaller than 8 AWG US / 6 AWG Canada.

- All field installed metal components such as rails, ladders, drains, or other similar hardware within 3 meters of the pool, spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than 8 AWG US / 6 AWG Canada.

- SAVE THESE INSTRUCTIONS

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OPERATION

Congratulations!

You have invested in the latest in electronic pool water purification technology; the AquaRite®. The AquaRite® is designed to give you years of enjoyment with worry free operation and the best in water quality for your swimming pool and/or spa.

The AquaRite® System

The AquaRite® is an automatic chlorine generation system for pool or spa sanitation. The operation requires a low concentration of salt (sodium chloride) in the pool water. These levels are low enough that it normally will not be tasted and will not cause eye irritation. The AquaRite® automatically sanitizes your pool by converting the salt into free chlorine which kills bacteria and algae in the pool. This process is called electrolysis. Chlorine will revert back to sodium chloride after killing the bacteria. These reactions will continuously recycle virtually eliminating the need to add sanitizing chemicals to your pool. The only time you may need to add more salt to the pool is when water is replenished due to backwashing, draining, or splashing (not evaporation).

The system consists of four basic parts: the electronic control, the electrolytic cell, the flow detection switch and the temperature sensor. The cell, flow switch and temperature sensor are plumbed into the pool/spa return piping. The flow switch informs the control that water is flowing and the generation process can start. The temperature sensor keeps the AquaRite® control calibrated regardless of pool temperature. The cell contains a series of specially coated electrode plates and is where the chlorine generation actually occurs. The amount of chlorine generated by the AquaRite® is a function of the filter time, pool salt level, temperature, and the setting on the Output Level adjustment.

The AquaRite® is designed to handle the purification needs of the average residential swimming pool of up to 40,000 gallons (150,000 liters), or the needs of commercial pools up to 25,000 gallons (95,000 liters). Check local codes for other restrictions. The actual amount of chlorination required to properly sanitize a pool varies depending upon bather load, rainfall, temperature, and the pool's cleanliness.

Bromine

The system can also be used to produce bromine instead of chlorine. This may be of interest when the use of stabilizer (cyanuric acid) is restricted, the pool temperatures will be very hot, or if some swimmers are sensitive to chlorine. To convert to bromine, simply add the normal amount of salt (sodium chloride) and then add an additional 2% of sodium bromide salt. In order to minimize confusion, the remainder of this manual will assume that chlorine is being produced.

Water Chemistry

As with any pool, it is important that you maintain chemical makeup of the pool water. The table on the top of page 2 summarizes the levels that are recommended by the National Spa and Pool Institute (NSPI). The only special requirement for the AquaRite® is the salt level. It is important to maintain these levels in order to prevent corrosion or scaling and to ensure maximum enjoyment of the pool. Test your water periodically or take a sample to a pool store for testing. Your local pool store can provide you with the chemicals and procedures to adjust the water chemistry.

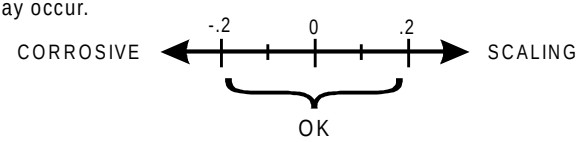
CHEMICAL	IDEAL LEVELS
Salt	2500 to 3200 ppm (3000 ppm best)
Free Chlorine	1.0 to 3.0 ppm
pH	7.2 to 7.8
Cyanuric Acid (Stabilizer)	60 to 80 ppm (80 ppm best)
Total Alkalinity	80 to 120 ppm (plaster pools) 125 to 150 ppm (painted, vinyl or fiberglass pools)
Calcium Hardness	200 to 275 ppm (plaster pools) 175 to 225 ppm (painted, vinyl or fiberglass pools)
Metals	0 ppm
Nitrates	0 to 20 ppm (0 best)
Saturation Index	-.2 to .2 (0 best)

Saturation index
The saturation index (Si) relates to the calcium and alkalinity in the water and is an indicator of the pool water "balance". Your water is properly balanced if the Si is 0 ±.2. If the Si is below -0.2, the water is corrosive and plaster pool walls will be dissolved into the water. If the Si is above +0.2, scaling and staining will occur. Use the equation and chart below to determine the saturation index.

Si = pH + Ti + Ci + Ai - 12.1

°C	°F	Ti	Calcuim Hardness	Ci	Total Alkalinity	Ai
12	53	.3	75	1.5	75	1.9
			100	1.6	100	2.0
16	60	.4	125	1.7	125	2.1
19	66	.5	150	1.8	150	2.2
			200	1.9	200	2.3
24	76	.6	250	2.0	250	2.4
29	84	.7	300	2.1	300	2.5
			400	2.2	400	2.6
34	94	.8	600	2.4	600	2.8
39	103	.9	800	2.5	800	2.9

How to use: Measure pool pH, temperature, calcium hardness and total alkalinity. Use the chart above to determine Ti, Ci,and Ai from your measurements. Insert values of pH, Ti, Ci and Ai into the above equation. If Si equals .2 or more, scaling and staining may occur. If Si equals -.2 or less corrosion or irritation may occur.



Salt Level:
The ideal salt level is between 2500-3200 ppm (parts per million) with 3000 ppm being optimal. If the level is low, determine the number of gallons in the pool and add salt according to the chart below. A low salt level will reduce the efficiency of the AquaRite® and result in low chlorine production. A high salt level can cause the AquaRite® to shutdown and may begin to give a salty taste to your pool (generally, the salt will begin to be tasted at a level of about 3500-4000 ppm). The AquaRite® will operate properly with salt levels up to 3500 ppm. If the salt concentration is above 3500 ppm, it should be reduced by adding water to the pool (partial draining may be necessary). The salt in your pool/spa is constantly recycled and the loss of salt throughout the swimming season should be small. This loss is due primarily to the addition of water because of splashing, backwashing or draining (because of rain). Salt is not lost due to evaporation.

The chart below will help you determine how much salt in pounds or (Kgs) that need to be added to reach the recommended levels. Use the equations on the bottom of the page (measurements are in feet/gallons and meters/liters) if pool size is unknown.

Current salt level ppm	Gallons and (Liters) of Pool / Spa Water									
	12,000 (45000)	14,000 (52,500)	16,000 (60,000)	18,000 (67,500)	20,000 (75,000)	22,000 (82,500)	24,000 (90,000)	26,000 (97,500)	28,000 (105,000)	30,000 (112,500)
0	301 (137)	351 (159)	401 (182)	451 (205)	501 (228)	551 (251)	601 (273)	651 (296)	701 (319)	752 (342)
250	276 (125)	321 (146)	367 (167)	413 (188)	459 (209)	505 (230)	551 (251)	597 (271)	643 (292)	689 (313)
500	251 (114)	292 (133)	334 (152)	376 (171)	418 (190)	459 (209)	501 (228)	543 (247)	585 (266)	626 (285)
750	225 (102)	263 (120)	301 (137)	338 (154)	376 (171)	413 (188)	451 (205)	488 (222)	526 (239)	564 (256)
1000	200 (91)	234 (106)	267 (121)	301 (137)	334 (152)	367 (167)	401 (182)	434 (197)	468 (213)	501 (228)
1250	175 (80)	205 (93)	234 (106)	263 (120)	292 (133)	321 (146)	351 (159)	380 (173)	409 (186)	438 (199)
1500	150 (68)	175 (80)	200 (91)	225 (102)	251 (114)	276 (125)	301 (137)	326 (148)	351 (159)	376 (171)
1750	125 (57)	146 (66)	167 (76)	188 (85)	209 (95)	230 (104)	251 (114)	271 (123)	292 (133)	313 (142)
2000	100 (46)	117 (53)	134 (61)	150 (68)	167 (76)	184 (84)	200 (91)	217 (99)	234 (106)	251 (114)
2250	75 (34)	88 (40)	100 (46)	113 (51)	125 (57)	138 (63)	150 (68)	163 (74)	175 (80)	188 (85)
2500	50 (23)	58 (27)	67 (30)	75 (34)	84 (38)	92 (42)	100 (46)	109 (49)	117 (53)	125 (57)
2750	25 (11)	29 (13)	33 (15)	38 (17)	42 (19)	46 (21)	50 (23)	54 (25)	58 (27)	63 (28)
3000	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
above 3500	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute

	Gallons (pool size in feet)	Liters (pool size in meters)
Rectangular	Length x Width x Average Depth x 7.5	Length x Width x Average Depth x 1000
Round	Diameter x Diameter x Average Depth x 5.9	Diameter x Diameter x Average Depth x 785
Oval	Wide Diameter x Narrow Diameter x Average Depth x 5.0	Wide Diameter x Narrow Diameter x Average Depth x 666

Salt: The Type to Use
It is important to use only sodium chloride (NaCl). This is common food quality or water softener salt. It is usually available at building supply stores in 40-80 lb. bags labeled "Coarse Solar Salt". It is also acceptable to use water conditioning salt pellets, however, it will take longer for them to dissolve. Do not use rock salt due to the products impurities. Do not use Iodized or non-caking salt.

Salt: How to Add
Turn the circulating pump ON and pour salt into the pool. DO NOT ADD SALT INTO SKIMMER. Allow the water to circulate for 24 hours before turning AquaRite® ON.

Always check stabilizer (cyanuric acid), when checking salt. These levels will most likely decline together. Use the chart below to determine how much stabilizer must be added to raise the level to 80 ppm.

POUNDS and (Kg) OF STABILIZER (CYANURIC ACID) NEEDED FOR 80 PPM										
Pool Stabilizer Measurement Before Adding	12,000 (45000)	14,000 (52500)	16,000 (60000)	18,000 (67500)	20,000 (75000)	22,000 (82500)	24,000 (90000)	26,000 (97500)	28,000 (105000)	30,000 (115000)
0 ppm	8.0 (3.6)	9.4 (4.3)	10.7 (4.9)	12.0 (5.4)	13.4 (6.1)	14.7 (6.7)	16.0 (7.3)	17.4 (7.9)	18.7 (8.6)	20.0 (9.2)
10 ppm	7.0 (3.2)	8.2 (3.7)	9.4 (4.3)	10.5 (4.8)	11.7 (5.3)	12.9 (5.9)	14.0 (6.4)	15.2 (6.9)	16.4 (7.4)	17.2 (8.0)
20 ppm	6.0 (2.7)	7.0 (3.2)	8.0 (3.6)	9.0 (2.2)	10.0 (4.5)	11.0 (5.0)	12.0 (5.4)	13.0 (5.9))	14.0 (6.4)	15.0 (6.8))
30 ppm	5.0 (2.3)	5.9 (2.7)	6.7 (3.0)	7.5 (3.4)	8.4 (3.8)	9.2 (4.2)	10.0 (4.5)	10.8 (4.9)	11.8 (5.4)	12.6 (5.8))
40 ppm	4.0 (1.8)	4.7 (2.1)	5.4 (2.4)	6.0 (2.7)	6.7 (3.0)	7.4 (3.4)	8.0 (3.6)	8.7 (3.9)	9.4 (4.2)	10.0 (4.5)
50 ppm	3.0 (1.4)	3.5 (1.6)	4.0 (1.8)	4.5 (2.0)	5.0 (2.3)	5.5 (2.5)	6.0 (2.7)	6.5 (2.9)	7.0 (3.2))	7.5 (3.4)
60 ppm	2.0 (.91)	2.4 (1.1)	2.7 (1.2)	3.0 (1.4)	3.1 (1.5)	3.7 (1.7)	4.0 (1.8)	4.4 (2.0)	4.8 (2.2)	5.2 (2.4)
70 ppm	1.0 (.45)	1.2 (.54)	1.4 (.64)	1.5 (.68)	1.7 (.77)	1.8 (.82)	2.0 (.91)	2.2 (1.0)	2.4 (1.1)	2.6 (1.2))
80 ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Controls

The Main Switch
AUTO: For normal operation, the Main Switch should be left in the "Auto" position. In this position the AquaRite® will produce chlorine according to the output level adjustment setting for the entire filtering/pumping cycle.

BOOST: When you have an abnormally high bather load, a large amount of rain, a cloudy water condition, or any other condition which needs a large amount of purification to be introduced, put the Main Switch in the "Boost" position. This electronically "super chlorinates" (shocks) the water for 24 hours (filter pump must be on during this time) or until the power has been turned OFF, whichever comes first. At the end of the Boost time, be sure to put the switch back into the "Auto" position.

OFF: The "Off" position prevents the AquaRite® from energizing the electrolytic cell. In this position there is no chlorine generation. NOTE: To service any of the pool equipment or the AquaRite®, turn the power OFF at the circuit breaker.

The Output Level Adjustment Knob
The Output Level Adjustment knob is located in the lower center of the AquaRite® control panel. This setting is used to control the amount of chlorine the AquaRite® generates. Raise this setting to increase chlorine level and lower it to decrease chlorine level.

Indicator LED's

POWER ON When illuminated, the AquaRite® has input power. When blinking, the AquaRite® senses too much salt in the pool and has shut down.

GENERATING On during normal operation. The "Generating" LED will blink when the AquaRite® is in boost mode (switch position in boost).

NO FLOW When illuminated, the flow switch has detected no flow and the AquaRite® has stopped generating chlorine. This LED will turn off approximately 15-20 seconds after flow resumes.

LOW SALT When flashing, the salt level is low but AquaRite® is generating at low efficiency. When illuminated steady, salt level is too low and AquaRite® has shut down.

Operation

By understanding how the AquaRite® operates, you'll be sure to use it more effectively for maximum convenience. Assuming that the water chemical levels are in the recommended range, there are three factors that you can control which directly contribute to the amount of chlorine the AquaRite® will generate:

1. filter time each day (hours)
2. the amount of salt in the pool
3. the Output Level Adjustment setting

A variance in any one of these factors from day to day will affect the amount of chlorine produced by the AquaRite®. Out of these three, two factors will remain relatively constant. The filter timer will power the AquaRite® for the same amount of time (cycle time) everyday and the salt level should be fairly constant. Therefore, you should only need to change the Output Level Adjustment setting to increase or decrease the amount of chlorine generation. Also, it is important to be aware that a change in filtering time or salt level will require some readjustments to the Output Level Adjustment setting to achieve the same chlorine generation level.

To find the optimum Output Level Adjustment setting, start at a fairly high setting and work downward. It will take a few days of adjustments to find the ideal setting for your pool/spa. Once determined, it should only take minor adjustments, if at all, to compensate for differing salt levels due to splashing, backwashing, rain, etc. Because the production of chlorine is affected by water temperature, it is important to check chlorine levels during periods of unusually high or low pool water temperatures. The AquaRite® control is designed to turn OFF at pool water temperatures below 40º F. If your pool will be below this temperature for any length of time, you must chlorinate manually.

NOTE: The AquaRite® control enclosure will become warm to the touch. The AquaRite® dissipates heat whenever the electrolytic cell is energized. The amount of heat dissipated is directly related to the amount of chlorine being generated.

Maintaining the AquaRite® System

The AquaRite® electronic control, temperature sensor and the flow detection switch are virtually maintenance free. The electrolytic cell which requires periodic inspection/cleaning, has a defined life of approximately 10,000 operational hours. It is recommended that you open and visually inspect the cell every 3 months or after cleaning your filter.

Servicing and Cleaning the AquaRite® cell: The AquaRite® electrolytic cell has a self cleaning feature incorporated into the electronic control's logic. In most cases this self cleaning action will keep the cell working at optimum efficiency. In areas where water is hard (high mineral content) and in pools where the water chemistry has been allowed to get "out of balance", it is especially important to frequently inspect the cell and clean if necessary. Also, if the efficiency of the AquaRite® system has decreased over time, the cell may need to be cleaned. Turn off power to the AquaRite® before removing the electrolytic cell. Once removed, look inside the cell and inspect for scale formation (light colored crusty or flaky deposits) on the plates and for any debris which has passed through the filter and caught on the plates. If no deposits are visible, reinstall. If deposits are seen, use a high pressure garden hose and try to flush the scale off. If this is not successful, use a plastic or wood tool (do not use metal as this will scratch the coating off the plates) and scrape deposits off of plates. Note that a buildup on the cell indicates that there is an unusually high calcium level in the pool (old pool water is usually the cause). If this is not corrected, you can expect to have to periodically clean the cell. The simplest way to avoid this is to bring the pool chemistry to the recommended levels as specified.

Mild Acid Washing: Use only in severe cases where flushing and scraping will not remove the majority of deposits. To acid wash, turn off power to AquaRite®. Remove cell from piping. In a clean plastic container, mix a 4:1 solution of water to muriatic acid (one gallon of water to one quart of muriatic acid). ALWAYS ADD ACID TO WATER - NEVER ADD WATER TO ACID. Be sure to wear rubber gloves and appropriate eye protection. The level of the solution in the container should just reach the top of the cell so that the wire harness compartment is NOT submerged. It may be helpful to coil the wiring before immersing the cell. The cell should soak for a few minutes and then rinse with a high pressure garden hose. If any deposits are still visible, repeat soaking and rinsing. Replace cell and inspect again periodically.

Winterizing

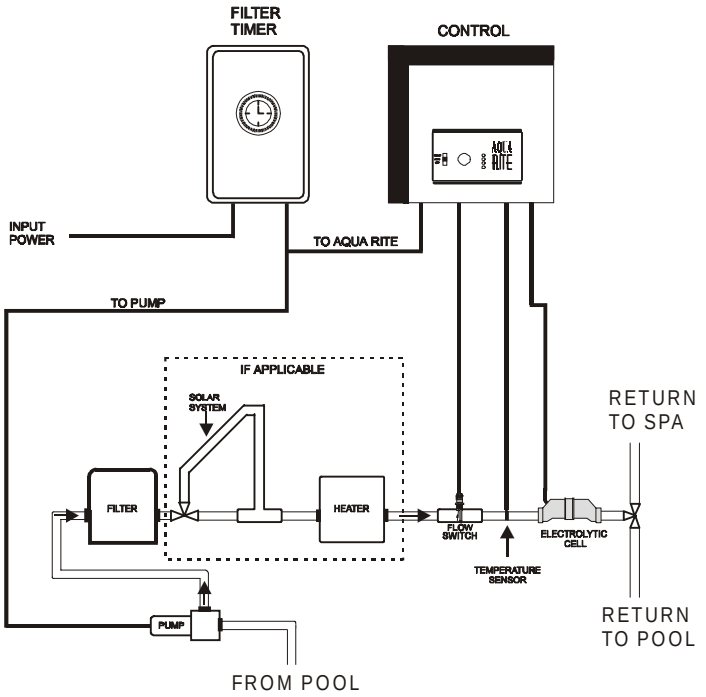
The AquaRite® electrolytic cell and flow detection switch will be damaged by freezing water just as your pool plumbing would. In areas of the country which experience severe or extended periods of freezing temperatures, be sure to drain all water from the pump, filter, and supply and return lines before any freezing conditions occur. The electronic control is capable of withstanding any winter weather and should not be removed.

Spring Start-up

DO NOT turn the AquaRite® on, until the pool water chemistry has been brought to the proper levels. This information can be found on page 2.

INSTALLATION

Read this entire section before starting installation. The following installation information is intended for the experienced installer familiar with both electrical wiring and PVC plumbing. Installation must be performed in accordance with Local and NEC codes.



Preparing Pool/Spa Water

Refer to page 2 for recommended chemical levels. The pool's chemistry must be balanced BEFORE activating the AquaRite®. NOTE: If the pool does not have new water, add 1 quart of metal remover and 1 quart of non-copper based algaecide to the pool, per manufacturers instructions. This ensures a quick, troublefree transfer to the AquaRite® system.

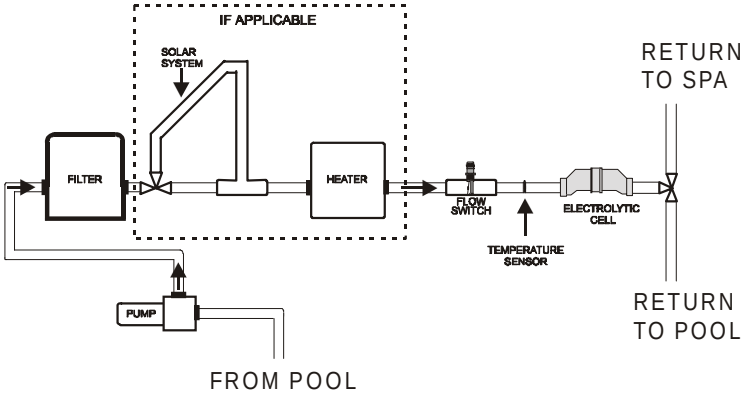
Mounting the AquaRite® Control

The AquaRite® is contained in a raintight enclosure that is suitable for outdoor mounting. The control must be mounted a minimum of 5 ft horizontal distance (or more if local codes require) from the pool/spa.

The control is designed to mount vertically on a flat surface with the knockouts facing downward. Because the enclosure also acts as a heat sink (disperses heat from inside the box), it is important not to block the four sides of the control. Do not mount the AquaRite® in a panel or tight enclosed area. The included "mounting feet" must be used for adequate cooling of the AquaRite®.

Plumbing

The flow switch, cell and temperature sensor should be plumbed in the return line to the pool/spa. Install after (downstream) all the pool equipment (filter, heater, solar, etc.). The electrolytic cell and flow switch tee fitting are designed to be plumbed into 2" PVC pipe. Adapters (not included) can be used for systems with 1½" plumbing.



Flow Switch: IMPORTANT: There must be at least a 12" (30cm) straight pipe run before (upstream) the flow switch. Make sure there are no valves, tee's or other equipment between the flow switch and the cell. To ensure proper operation, verify that the arrow on the flow switch (located at top of hex) points in the direction of water flow.

Temperature sensor: Install the temperature sensor near the cell. Drill a 3/8" diameter hole and remove all burrs and sharp edges. Insert sensor and "O"ring. Hold the assembly in place with the hose clamp, tightening just enough to stop leaks (do not overtighten).

Electrolytic Cell: Install using the unions provided. Tighten unions by hand for a watertight seal.

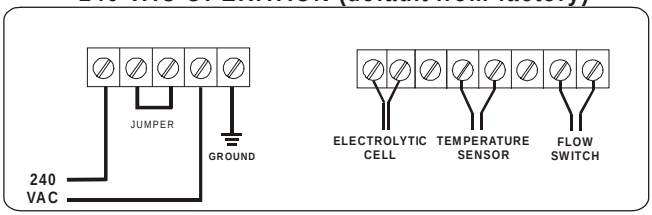
Wiring

Power must be shut off at the circuit breaker before performing any wiring. Be sure to follow Local and NEC electrical codes. Note that the AquaRite® uses both Class 1 and Class 2 wiring. A wiring divider is supplied to separate the high and low voltage wiring. Wiring the AquaRite® involves running input power (120 or 240VAC) from the load side of the filter pump timer. The cell, temperature sensor and flow switch cables must also be connected to the designated terminals. To provide safe operation, the AquaRite® must be properly grounded and bonded.

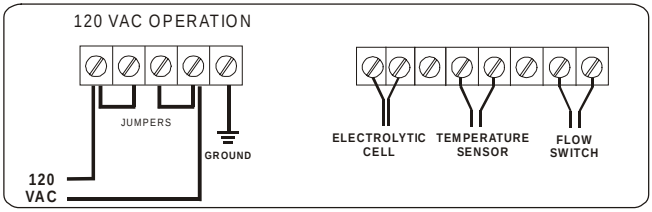
Refer to the wiring label on the AquaRite® as well as the diagram below to determine correct wiring connections. The AquaRite® is shipped from the factory with the configuration jumpers in 240VAC position. If using 120VAC, move the jumpers as shown below. The cell, flow switch and temperature sensor wiring is the same in both cases. For Canadian models, the AquaRite® should be connected to a circuit protected by a class A ground fault interrupter. Be sure to connect the ground wire to the green ground screw terminal.

A lug used for bonding is attached to the bottom of the AquaRite® enclosure. The AquaRite® must be bonded with an 8 AWG copper wire (6 AWG Canada) to the pool bonding system.

240 VAC OPERATION (default from factory)



120 VAC OPERATION



Troubleshooting

The AquaRite® System is simple to use provided that it has been installed correctly and the pool/spa water is properly prepared. If you do have a problem refer to the troubleshooting section below or call for technical assistance at 888-921-POOL. Technicians at the factory are available from 8:00 AM to 5:00 PM Pacific Time, Monday through Friday. Be sure to have the following information when you call:

1. Model and Serial # of control and cell
2. Date of installation
3. Installing Company or Dealer
4. Salt level
5. pH level
6. Chlorine level
7. Water temperature
8. Size of pool (gallons)
9. Filter time each day (hours)
10. Stabilizer level

1. Power LED not on

Check to make sure either 120VAC or 240VAC input power is connected to the proper screw terminals at the AquaRite® control. Verify input voltage with a voltmeter. If there is input power, the fuse may be blown. The AquaRite® circuit is protected by a 3AG style 15A SLO BLO fuse that is located on the circuit board. Disconnect power and remove cover panel. Check fuse with an ohmmeter and replace if necessary.

2. "Low Salt" LED illuminated or blinking

Check salt level in pool/spa. If salt level is low, add salt according to chart on page 4. If salt level is in the recommended range and the low salt LED is blinking or on, the electrolytic cell probably needs to be cleaned. Remove, inspect and clean according to instructions on page 6. If the problem still exists, check for low 120/240VAC input power. If so, you may need to run at higher salt levels, consult the factory for details. If not, the cell may be at the end of its life expectancy. Call your AquaRite® dealer for replacement.

3. "No Flow" LED illuminated

The AquaRite® has sensed a no flow condition and has stopped generating chlorine. Make sure you have at least 12" of straight pipe before the flow switch. If there is adequate flow and the LED is still on, check that the arrows on the flow switch (on top of hex) are pointing in the direction of flow. Turn off AquaRite® and disconnect flow switch wires at control. While the pump is running, check for continuity between the two flow switch wires. If no continuity, the problem is in the flow switch or wire run.

4. "Power" LED blinking

The AquaRite® has sensed too much salt in the pool water and has stopped generating chlorine. Check salt level and adjust.

5. "Power" LED ON, all other LED's OFF

The pool water temperature is below 40ºF. The AquaRite® is not designed to operate at these temperatures and will automatically shutdown. It will resume

normal operation when the temperature rises above 40ºF. Add chlorine manually if the pool water will be below this temperature for sustained periods.

6. Little or no free chlorine residual

Possible causes may be:

- Salt level too low (below 2500 ppm)
- Salt level too high (above 3500 ppm)
- Filter pump time too short (8 hours for average size pools)
- AquaRite® switch in OFF position
- Output level adjustment setting is too low
- high level of Nitrogen in pool water
- Low stabilizer (Cyanuric Acid)
- Very warm pool water temperature
- Excessive scaling on cell
- Yellow algae treatment recently used

Note that some yellow algae treatments will use chlorine at a very high rate and deplete the residual free chlorine. Manually shock the pool if indicated in the directions on the algae treatment. It still may be a matter of days before the pool returns to "normal" and chlorine tests will show the desired 1-3ppm free chlorine reading.

Five Year Limited Warranty-AquaRite

This warranty statement supersedes all warranty statements dated prior to January 1, 1999. This Five Year Limited Warranty applies only to the AquaRite Electronic Chlorine Generator (including the TurboCell). Refer to appropriate limited warranty statement for all other Independent Energy products.

Independent Energy, Inc. (IE) warrants the AquaRite to be free from defects in material or workmanship, under normal use and service on private, residential swimming pools for five years from date of manufacture, providing it is installed according to the installation instructions and specifications. The datecodes stamped on the AquaRite electronics unit and the TurboCell will be the sole determination of manufacturing date.

If a product is defective, in workmanship or materials and is removed within 12 months after manufacture, and is returned freight prepaid, Independent Energy will, at it's option, either repair or replace the defective product and return it freight prepaid. For year 2, IE will charge 20% of the current list price plus shipping charges. For year 3, IE will charge 40% of the current list price plus shipping charges. For year 4, IE will charge 60% of the current list price, plus shipping charges. For year 5, IE will charge 80% of the current list price plus shipping charges. IE will not assume any of the cost incurred in removal or reinstallation of the product.

The express warranty above constitutes the entire warranty of Independent Energy, Inc with respect to it's Aqua Collection products and IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL INDEPENDENT ENERGY, INC. BE RESPONSIBLE OR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER.

No wholesaler, agent, dealer, contractor, or other person is authorized to give any warranty on behalf of Independent Energy, Inc. This warranty is void if the product has been altered in any way after leaving the factory.

WARRANTY EXCLUSIONS

1. Material supplied or workmanship performed by others in the process of installing the AquaRite® Control or Cell.
2. Damage resulting from improper installation of the AquaRite® Control or Cell.
3. Problems resulting from failure to operate the AquaRite® Control or Cell in accordance with recommended instructions contained in product's owners guide.
4. Problems resulting from failure to maintain pool water chemistry in accordance with recommended levels.
5. Problems resulting from installing less than one AquaRite® unit per 40,000 gallons of pool water.
6. Problems resulting from tampering, accident, abuse, negligence, unauthorized repairs or alterations, fire, flood, lightning, freezing, external water, war, or acts of God.

ELECTROLYTIC CHLORINE GENERATOR
BASIC POOL MAINTENANCE REQUIREMENTS

	TEST	IDEAL RANGE	ADJUSTMENT REQUIRED
WEEKLY	Free Chlorine	1.0 - 3.0 ppm	Turn output dial up to increase, down to decrease -OR- increase or decrease pump filtration time
	pH	7.2 - 7.8	Too high - add muriatic acid Too low - add soda ash
MONTHLY	Alkalinity	(plaster pools) 80 - 120 ppm	Add baking soda to increase
		(vinyl/fiberglass pools) 125 - 150 ppm	Add acid as required to decrease
	Salt	2500 - 3200 ppm	Add salt as required to increase
QUARTERLY	Stabilizer	60 - 80 ppm	Add cyanuric acid to increase
	Calcium	(plaster pools) 200 - 275 ppm	Add calcium to increase
		(vinyl/fiberglass pools) 175 - 225 ppm	Drain and add water to decrease
	Electrolytic Cell	inspect & clean	Refer to section in manual

Questions?
Call Goldline® at (888) 921-POOL or your local dealer.

GOLDLINE® CONTROLS DIVISION
INDEPENDENT ENERGY INC. East Greenwich, RI 02818, USA 888-921-POOL

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