Aqua Rite® & Aqua Rite XL®
Rev. 1.59
Diagnostics Manual

Turbo Cell & Control Electronics

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Warning

High Voltage Electrocution Hazard

Hazardous voltage can shock, burn, cause serious injury and or death. To reduce the risk of electrocution and or electric shock hazards:

• Only qualified technicians should remove the panel
• Replace damaged wiring immediately
• Insure panel is properly grounded and bonded
Switching from Metric to US Standard

If the first reading (average salt) is displayed in decimal form instead of a number represented in thousands, then the unit has been set to ‘Metric Mode’.

Step 1
To change the unit from Metric Mode to US Standard, start by pressing the ‘Diagnostics’ button one time.

Step 2
Once showing the temperature in Celsius, move the switch up to ‘Super Chlorinate’ then back to ‘Auto’.

Step 3
Immediately the temperature reading should change to reflect a Fahrenheit value. If it does not repeat step 2.

Step 4
After 30 seconds the unit should settle back to the default reading. The reading should now reflect a number in thousands.
Changing the Default Display

If the first reading represents a number followed by the letter ‘P’, then the default reading has been changed to express the ‘Desired Output %’.

Step 1
To change the default reading back to the average salt, start by pressing the ‘Diagnostics’ button two times.

Step 2
When the unit reads ‘AL-4’ move the switch up to ‘Super Chlorinate’ and back to ‘Auto’.

Step 3
Continue moving the switch up to ‘Super Chlorinate’ and back to ‘Auto’ until the unit reads ‘AL-0’.

Step 4
It takes about 30 seconds for the unit to settle back to the default reading. The reading should now reflect the average salt level.
1. Check Salt & Inspect Cell
LED flashing or ON

The ‘Check Salt’ & ‘Inspect Cell’ LED’s will flash when the cell reports the salt level is between 2400-2700ppm. In this condition chlorine is still being produced. The ‘Check Salt’ & ‘Inspect Cell’ LED’s will be ON when the cell reports the salt level is 2300ppm or less. In this condition, chlorine production is interrupted.

NOTE: ‘Check Salt’ & ‘Inspect Cell’ LED’s may also be ON if the control is set for the wrong Cell type or the cell is unplugged.

Test the salt level in the pool using an independent testing method. If the salt level is between 2700-3400ppm, go to step 1B. If salt level is below the recommended range, add enough salt to achieve a salt level of 3200ppm. (Refer to Salt Chart, Page 27).

Inspect the turbo cell.

If cell looks like one of left, go to step 1C. If cell looks like one on right, clean cell. (Refer to Pages 19 thru 21). After the cell is clean go to step 1C to reset.
1. Check Salt & Inspect Cell
LED flashing or ON

Note: Resetting the average salt must be done within 60 seconds after starting the process. To ensure both polarities are reading salt accurately (within 500ppm of the independent test), conduct this reset two times consecutively.

Step I
Starting with the average salt reading. Turn the switch to ‘Off’, then back to ‘Auto’. Wait for the relay to click (about 5 to 10 seconds).

Step II
Press the ‘Diagnostics’ button 5 times, this will bring up the instant salt reading. The instant salt reading will start as -0. It will then fluctuate. Wait for the number to stabilize.

Step III
With the number stable (and the negative sign still present) move the switch to ‘Super Chlorinate’ then back to ‘Auto’.

Step IV
When the negative sign disappears, this number will reflect the new average salt reading. If this value is not reading within 500ppm of the independent test, then replace the cell. If this number is reading within 500ppm of the independent test and the ‘Inspect Cell’ LED is flashing, add salt until the level is above 2700ppm.
How To Set Turbo Cell Type

Before operation, the Aqua Rite must be configured for the chlorinator cell that will be used. “t-15” is the factory default. If the incorrect cell is chosen the salt level, amperage, and voltage will not be correct and the system will turn the chlorinator off.

**Step I**
Slide the Main Switch to the ‘Auto’ position.

**Step II**
Push the diagnostic button until ‘t - 15, t - 9, t -5 , or t - 3’ appears on the display.

**Step III**
To switch cell type, cycle slide switch to ‘Super Chlorinate’

**Step IV**
Slide switch back to ‘AUTO’. Repeat process until correct cell type has been selected.
How to Reset Average Salt Level

The Average Salt level needs to be reset for start up, when a board is replaced, when major adjustments are made to the pool water and when a cell is replaced. Note: new boards will display a factory default of 2800ppm.

Step I

To reset, move the switch to ‘Off’ and then back to ‘Auto’. Wait for the relay to click (5 to 10 seconds).

Step II

Press Diagnostics button 5 times to display the Instant Salt level. Wait for the number to stabilize.

Step III

When the instant salt level is stable (and the negative sign still present), cycle slide switch to ‘Super Chlorinate’ and back to ‘Auto’.
Adjusting Chlorine Output

Desired Output % Dial 1 to 100% sets the level of cell operation in % of operating time. Example: 50% (factory default) cell is operating and generating chlorine 50% of the total pump/filter operating time.

Note: If the chlorine level does not increase within 24 hours after increasing output, test water with independent tests to determine current salt, stabilizer, phosphate, and nitrate levels. More information related to chlorine production on Pages 29-30).

Note: Output is scaled back to 20% of desired output setting at 60° F and output stops at 50° F.
2. High Salt LED ON

The High Salt LED will be ON when the cell amperage is above the maximum limit. High Salt LED may also be ON if the control is set for the wrong Turbo Cell type. The LCD display will read ‘HI’.

Verify salt level is 2700-3400ppm and check with independent test to ensure accuracy.

Unlike low salt the system does not shut the chlorinator down when a specific salt level is reached. Instead the unit will suspend chlorination when the amperage exceeds a certain value. The chart below outlines the threshold of each cell type.

Maximum Current (Amps) before shutdown

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>Current (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-CELL-3</td>
<td>7.00</td>
</tr>
<tr>
<td>T-CELL-9</td>
<td>10.00</td>
</tr>
<tr>
<td>T-CELL-5</td>
<td>10.00</td>
</tr>
<tr>
<td>T-CELL-15</td>
<td>10.00</td>
</tr>
</tbody>
</table>

If salt level is above the range, partially drain pool and/or spa and refill with fresh water to achieve a salt level of 3200ppm, refer to page 10, Step 2A. If the salt level is not high, verify that the cell is set to the correct cell type then reset (follow steps on pages 6 and 7).
2. High Salt LED ON

To calculate how much water will need to be removed from a pool with too much salt, follow the formula provided below:

Part I: Take the average depth of the pool in inches and multiply that by 3200. Then divide that number by the actual salt level in the pool (based on the independent test).

\[
\text{Part 1: } \frac{\text{Ave. Pool Depth \times 3200}}{\text{Actual Salt level in Pool}}
\]

Part 2: Subtract the Ave. Pool Depth by the answer from part 1. This will give you the total number of inches to drain and replenish with fresh water to achieve a salt level of 3200.

\[
\text{Part II: } \text{Ave. Pool Depth} - \text{Answer from Part 1} = \text{Amount of Water to Drain}
\]

Example: a pool has an ave. depth of 54” and the salt level is 4500ppm

\[
\begin{align*}
\text{Example: Part I} \\
54 \times 3200 &= \frac{172800}{4500} = 38.4
\end{align*}
\]

\[
\begin{align*}
\text{Example: Part II} \\
54 - 38.4 &= 15.6”
\end{align*}
\]

Note: It is recommended to reduce the water level no more than six inches at a time before replenishing with fresh water. Failure to do so may result in damage to the pool structure or surface.
3. No Flow LED flashing or ON

‘No Flow’ LED will flash for up to 60 seconds on start-up (when continuity through the switch is being detected). ‘No Flow’ LED will be ON if there is a problem with flow detection (when continuity through the switch is not being detected).

If the ‘No Flow’ LED is flashing make sure the pump is primed and an adequate amount of water is passing through the flow switch element for at least 60 seconds (the required flow rate is 11 gpm). If after 60 seconds the LED does not go out proceed to step 3B.

If the ‘No Flow’ LED is ON make sure the flow switch is plugged into the bottom of the control box and the wire is not damaged. If the wire or connector is damaged replace the switch, if not proceed to step 3B.
Verify the flow switch has 12” of straight pipe before it. If the flow switch is installed too close to an outlet/bend, re-plumb the switch to a location where it will not experience as much turbulence. Rotate the flow switch until the raised surface (on the hexagonal nut) is oriented against the flow of water. If this does not correct the problem (after 60 seconds) of consistent flow, proceed to Step 3C.

Verify that the control box (where the flow switch plugs in) is not corroded or damaged. If no damage is present on the board then replace the switch and repeat the 60 second filter delay after the pump is activated, if after 60 seconds the ‘No Flow’ LED does not go out replace the board.
4. Display Only, Lights Only or Neither

Control box shows LCD display but no LED’s are illuminated.

If this is a new install or the circuit board was recently replaced, verify that the board is set up to receive the correct voltage. Jumpers on terminal TB1 are configured for 240 VAC (factory default), but there is 120 VAC applied to control box.

240VAC

120VAC

The top example is how the unit should be wired for 240VAC the bottom represents a 120VAC wiring configuration. Verify where jumpers are located in each diagram. If wiring is OK go to step 4B.
4. Display Only, Lights Only or Neither

Verify 18-33 VDC between black & red wires on main board

Step 4B
If no/low voltage, verify each wire is attached according to the instructions. If wire orientation is correct go to step 4D. If voltage OK, go to step 4C.

Reseat DSP Board

Step 4C
Remove and/or reseat DSP board. Pins may be shorted together or not making contact with connector. If pins are good, if voltage is less than 5VDC on pins 2 & 4, replace main board: (GLX-PCB-RITE)
Verify 220-240 VAC or 115-125 VAC at input terminal TB1.

If voltage is correct, go to step 4E. If no voltage, verify that the breaker and/or time clock are not off. Check input jumpers for correct position. 220-240 VAC: jumpers on 2 & 3 (factory default) 115-125 VAC: jumpers on 1 & 2 and 3 & 4

Verify 20-24 VAC between yellow wires

If voltage is good go to step 4G. If voltage is low or not present go to step 4F.
4. Display Only, Lights Only or Neither

Shut off power to the control box. Disconnect the blue, white, gray and violet wires from the main board and measure the following:

Test for continuity between the two legs of the 20 amp yellow ATO style fuse

Insert probes and measure resistance between the Blue & White wires and the Violet & Gray wires. The readings should be 2.0-2.9 Ohms.

If the readings of either of the two measurements are not 2.0 – 2.9 Ohms, the transformer is faulty and should be replaced (GLX-XFMR). If measurements are OK, reconnect wires and go to step 4G.

Replace fuse if blown. If fuse OK, go to step 4H.
4. Display Only, Lights Only or Neither

Verify 10-14 VAC between the Orange wire and the Green Grounding lug.

If no/low voltage, replace the main circuit board (GLX-PCB-RITE). If voltage is correct, replace the rectifiers (GLX-DRK).

PCB-RITE (GLX-PCB-RITE)

Rectifiers (GLX-DRK)
5. Low/High Cell temperature

The operating temperature range for the cell is 50° F to 140° F.

Verify actual water temperature

LCD display will read “COLD” when the water temperature is below 50° F
LCD display will read “HOT” when the water temperature is above 140° F
If the water temperature reads greater than 140° F, the cell temperature sensor is shorted and the cell needs to be replaced.

Output is scaled back to 20% at 60° F and output stops at 50° F
Cell cleaning frequency is dependent on several factors; pH and calcium levels in the water are the two that have the greatest effect on how often the cell requires cleaning. Maintaining pH at the levels recommended in the Operating Instructions (7.2 - 7.8) should result in the cell being cleaned 3-4 times a year in areas with hard water. Cells may be cleaned less frequently in soft water areas.

After removing the Turbo Cell from the plumbing of your pool; inspect the cell for white deposits between the plates inside of the cell. Please remember that even if you cannot see deposits on the cell it still may need cleaning. If no deposits are found (4A), the cell may have to be held towards ample amounts of light and angled in different directions to reveal smaller white deposits deeper within the nest of the cell.

Cell Cleaning Instructions

Hold to light to look for small deposits

Cell is dirty. Note the deposits.

CAUTION

ALWAYS ADD ACID TO WATER, NEVER WATER TO ACID. ALWAYS WEAR PROPER EYE PROTECTION AND PROTECTIVE GLOVES. USE IN A WELL VENTILATED AREA. MURIATIC AND OTHER ACIDS CAN CAUSE SEVERE INJURY, BURNS AND RESPIRATORY PROBLEMS IF NOT HANDLED PROPERLY. REFER TO THE MANUFACTURER’S DIRECTIONS FOR SAFE HANDLING.
We strongly recommend using a Goldline Controls cell cleaning stand. (GLX-CELLSTAND)

**Step 1:** Use a water hose to dislodge small debris.

**Step 2:** Use a solution of water and Muriatic acid. Stand the cell vertically in the solution. Mix 1 part acid to 4 parts water. The level of the solution should be slightly over the product label. Let the cell stand in the solution for 15 minutes (Fig. 6A below), then flip the cell over and let stand on the other end (Fig. 6B below) for an additional 15 minutes. Although the cord can be submerged, be sure that the connector does not come in contact with the solution. Inspect the cell after both sides have soaked. If there are no deposits after soaking, rinse with water and reinstall. If there are still deposits after soaking, repeat the soaking procedure until clean. The water/muriatic acid mixture can be stored for later use or it can be disposed. Follow chemical manufacturer’s recommendations when storing or disposing the water/acid solution.

After you inspect the cell (and clean, if necessary) press the small "diagnostic" button next to the display for three seconds to stop the flashing "Inspect Cell" LED and reset the countdown timer for another 500 operational hours.
Using the Goldline T-Cell Cleaning Stand

Follow the same safety and mixing instructions as described when using a container on page 19. Mix enough solution to fill the inside of the cell (Approximately 1.5 qts). Mix 1 part acid to 4 parts water.

Fasten the cell to the T-Cell Cleaning Stand with the cord side down (Fig. 6A below). Before filling cell with muriatic acid solution, put a container underneath to avoid any spills damaging the surrounding area. Fill the cell to the top with the solution and let soak for 15 minutes (Fig. 6B below). Empty the cell and inspect. If the cell is clean, rinse with water and reinstall. If there are still deposits after soaking, repeat the soaking procedure until clean. The water/muriatic acid mixture can be stored for later use or it can be disposed of. Follow the chemical manufacturer’s recommendations when storing or disposing the water/acid solution.

After you inspect the cell (and clean, if necessary) press the small "diagnostic" button next to the display for three seconds to stop the flashing "Inspect Cell" LED and reset the countdown timer for another 500 operational hours. If the cell was cleaned because of ‘Low Salt”, be sure to reset the average salt reading by following the instructions on page 7.
Check Salt & Inspect Cell LED flashing or ON

Troubleshooting Chart

Check Salt & Inspect Cell LED Flashing or ON

Set for correct cell type? (Page 6)

Yes

Salt level is 2700-3400ppm (Page 4)

Yes

Is the cell clean?

Yes

Reset average salt level (Page 7)

NO

NO

Set for correct cell type (Page 6)

NO

Salt reading within 500 ppm of independent test?

No

Measure system parameters in both polarities using new cell

Is the salt reading within 500ppm of independent test with new cell? (Page 4)

No

NO

Replace PCB

YES

Replace cell

Measure system parameters in both polarities using customer’s cell

Inspect Cell LED Flashing

Inspect/Clean cell

Press & hold Diagnostics button for 3 sec. to reset (Page 20)

NO

Add salt

NO

Clean the cell (Page 19-21)

Yes

NO

NO

NO

Problem solved

YES

Inspect Cell LED Flashing

Page 22
High Salt LED ON Troubleshooting Chart

High Salt LED ON

- Set for correct cell type? (Page 6)
  - YES
  - Salt level is 2700-3400ppm (Page 4)
    - YES
    - Is the cell clean?
      - YES
      - Problem solved
      - YES
      - Reset average salt level (Page 7)
        - YES
        - Replace PCB
        - YES
      - NO
      - Replace cell
    - NO
    - Clean the cell (Page 19-21)
      - YES
      - Reset average salt level (Page 7)
        - YES
        - Replace PCB
        - YES
      - NO
      - Replace cell
    - NO
    - Lower salt level to 3200ppm (Page 9-10)
  - NO
    - Set for correct cell type (Page 6)
No Flow LED Flashing Troubleshooting Chart

- No Flow LED flashing (Page 11-12)

  - Wait 60 seconds after pump starts
    - LED Off after 60 seconds
      - YES
      - Problem solved
      - NO
    - NO
    - 12” of straight pipe before switch (Page 12)
      - YES
      - Flow blocked, pump pressure increased
        - YES
        - Replace switch
        - NO
      - NO
      - Re-plumb switch
        - YES
        - Remove blockage, backwash
          - YES
          - LED Off after 60 seconds
            - YES
            - Problem solved
            - NO
          - NO
        - NO
        - LED Off after 60 seconds
          - YES
          - Problem solved
          - NO
  - NO
No Flow LED ON Troubleshooting Chart

No Flow LED ON (Page 11-12)

Pump running, valves positioned correctly?

Yes:

Flow switch plumbed correctly, arrows pointing in the direction of water flow

Yes:

Flow switch wire damaged

No:

Replace switch

No:

Re-align switch

No:

LED Off after 60 seconds

Yes:

Test with known good switch held closed

LED Off after 60 seconds

Yes:

Replace switch

No:

Replace switch

No:

Problem solved

No:

B

Flow blocked, pump pressure increased

Yes:

Remove blockage, backwash

LED Off after 60 seconds

Yes:

LED Off after 60 seconds

No:

LED Off after 60 seconds

Yes:

LED Off after 60 seconds

No:

LED Off after 60 seconds

Go to B
No LED’s/LCD Display Troubleshooting Chart

Lights Only, Display Only or Neither

- Jumpers are in correct position(s)
  - YES: Check 18-23 DC voltage between black & red wires (Page 14)
  - NO: Place in correct position(s) (Page 13)
- LED/LCD turns on
  - YES: Replace display
  - NO: LED/LCD turns on
- Check 18-23 DC voltage between black & red wires (Page 14)
- Check 3-5VDC display power on board. (Page 14)
- Check input voltage using DVOM (Page 15)
- Wire timer and/or breaker
  - NO: Replace rectifiers (Page 17)
  - YES: LED/LCD turns on
- LED/LCD turns on
  - NO: Replace PCB
  - YES: Problem solved
- Replace display
- Check 3-5VDC display power on board. (Page 14)
- Replace PCB
- Check 24 VAC orange wire against ground. (Page 17)
- Replace rectifiers (Page 17)
- Replace fuse
- Replace transformer
- Ohm out transformer (Page 16)
- Ohm readings are correct (Page 16)
  - YES: Check 20 amp fuse for continuity (Page 16)
  - NO: Replace fuse
- Correct voltage is present
  - NO: Replace PCB
  - YES: Problem solved
- Wire timer and/or breaker
  - NO: Replace rectifiers (Page 17)
  - YES: LED/LCD turns on
- Check input voltage using DVOM (Page 15)
- Check 20-24VAC voltage between yellow wires (Page 15)
- Correct voltage is present
  - NO: Replace PCB
  - YES: Problem solved

Go to C
# Salt Chart

## Pounds of Salt required for 3200 ppm

| Pool Size -- Gallons | 8,000 | 10,000 | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 | 22,000 | 24,000 | 26,000 | 28,000 | 30,000 | 32,000 | 34,000 | 36,000 | 38,000 | 40,000 |
|---------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0                   | 213   | 267    | 320    | 373    | 427    | 480    | 533    | 587    | 640    | 693    | 747    | 800    | 853    | 907    | 960    | 1013   | 1067   |
| 200                 | 200   | 250    | 300    | 350    | 400    | 450    | 500    | 550    | 600    | 650    | 700    | 750    | 800    | 850    | 900    | 950    | 1000   |
| 400                 | 187   | 233    | 280    | 327    | 373    | 420    | 467    | 513    | 560    | 607    | 653    | 700    | 747    | 793    | 840    | 887    | 933    |
| 600                 | 173   | 217    | 260    | 303    | 347    | 390    | 433    | 477    | 520    | 563    | 607    | 650    | 693    | 737    | 780    | 823    | 867    |
| 800                 | 160   | 200    | 240    | 280    | 320    | 360    | 400    | 440    | 480    | 520    | 560    | 600    | 640    | 680    | 720    | 760    | 800    |
| 1000                | 147   | 183    | 220    | 257    | 293    | 330    | 367    | 403    | 440    | 477    | 513    | 550    | 587    | 623    | 660    | 697    | 733    |
| 1200                | 133   | 167    | 200    | 233    | 267    | 300    | 333    | 367    | 400    | 433    | 467    | 500    | 533    | 567    | 600    | 633    | 667    |
| 1400                | 120   | 150    | 180    | 210    | 240    | 270    | 300    | 330    | 360    | 390    | 420    | 450    | 480    | 510    | 540    | 570    | 600    |
| 1600                | 107   | 133    | 160    | 187    | 213    | 240    | 267    | 293    | 320    | 347    | 373    | 400    | 427    | 453    | 480    | 507    | 533    |
| 1800                | 93    | 117    | 140    | 163    | 187    | 210    | 233    | 257    | 280    | 303    | 327    | 350    | 373    | 397    | 420    | 443    | 467    |
| 2000                | 80    | 100    | 120    | 140    | 160    | 180    | 200    | 220    | 240    | 260    | 280    | 300    | 320    | 340    | 360    | 380    | 400    |
| 2200                | 67    | 83     | 100    | 117    | 133    | 150    | 167    | 183    | 200    | 217    | 233    | 250    | 267    | 283    | 300    | 317    | 333    |
| 2400                | 53    | 67     | 80     | 93     | 107    | 120    | 133    | 147    | 160    | 173    | 187    | 200    | 213    | 227    | 240    | 253    | 267    |
| 2600                | 40    | 50     | 60     | 70     | 80     | 90     | 100    | 110    | 120    | 130    | 140    | 150    | 160    | 170    | 180    | 190    | 200    |
| 2800                | 27    | 33     | 40     | 47     | 53     | 60     | 67     | 73     | 80     | 87     | 93     | 100    | 107    | 113    | 120    | 127    | 133    |
| 3000                | 13    | 17     | 20     | 23     | 27     | 30     | 33     | 37     | 40     | 43     | 47     | 50     | 53     | 57     | 60     | 63     | 67     |
| 3200                | ideal | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  | ideal  |
| 3400                | ok    | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     | ok     |
| 3600+               | dilute| dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute | dilute |

**Note:** Prior to adding salt, always test water with independent tests to determine current salt and stabilizer levels.

### How to add salt

Brushing the salt around will speed up the dissolving process. Do not allow the salt to sit in a pile at the bottom of the pool. Salt water is heavier than fresh water so the salt water will tend to accumulate at the deepest part of the pool. Run the filter system with the suction coming from the main drain for 24 hours to evenly distribute the salt throughout the pool.

**Note:** Refer to the Plasters recommendations for cure time before adding salt.
<table>
<thead>
<tr>
<th>Model</th>
<th>Aqua Rite Pro</th>
<th>Aqua Rite XL</th>
<th>Aqua Trol</th>
<th>Aqua Logic</th>
<th>Aqua Plus</th>
<th>Pro Logic</th>
<th>SwimPure Plus</th>
<th>SwimPure Plus w/Control</th>
<th>H40</th>
<th>SmartPure Sanitizer II</th>
<th>Splash CLEAR</th>
<th>SP40</th>
<th>Guardian</th>
<th>Nature Soft</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-CELL 3 &amp; GLX-CELL-3-W (pools up to 15K Gal)</td>
<td>1.10 or later</td>
<td>1.50 or later</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>4.10 or later</td>
<td>1.50 or later</td>
<td>4.10 or later</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>GLX-CELL 5 &amp; GLX-CELL-5-W (pools up to 25K Gal)</td>
<td>All Revisions</td>
<td>1.50 or later</td>
<td>X</td>
<td>All Revisions</td>
<td>All Revisions</td>
<td>All Revisions</td>
<td>1.50 or later</td>
<td>All Revisions</td>
<td>X</td>
<td>X</td>
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1. With Firmware Revision 1.55 (5/8/2009) the cycle time (reverses polarity) changed from 120 minutes (2 hrs) to 180 minutes (3 hrs). When you set the ‘Desired Output %’ dial on the main panel this sets the level of salt cell operation as a percent of the operating time of each cycle. 50% is the factory default. Below are simple examples for 2 and 3 hr cycle times.

   • **2 hr cycle**  If the output is set at 50% and the total time for operation is 8 hrs, the salt cell will operate (and produce chlorine) for 50% (1 hr) of each 2hr cycle for a total of 4 hrs.

   • **3 hr cycle**  If the output is set at 50% and the total time for operation is 9 hrs, the salt cell will operate (and produce chlorine) for 50% (1.5 hrs) of each 3 hrs cycle for a total of 4.5 hrs

2. Super-chlorinate is an additional option to use in order to ‘catch up’ in chlorine production when making adjustments to the desired output level. Move the switch to ‘Super Chlorinate’ to enable. This will cause the system to produce chlorine at 100% output for 24 hours. Once 24 hours expires, the chlorine output dial will once again drive the chlorine output percentage.
3. It is possible that the displayed salt level can be significantly different from the actual salt level (when measured in the water with a tester). This can happen as a result of a dirty cell or from a cell that has began aging. Low salt should always require a cell cleaning first and then an actual meter measurement of the salt level in the water. If the cell is clean and the level of salt measured in the water is correct, then the cell has began to age, which results in a lower calculated salt level. This is an acceptable situation, assuming the level of free chlorine in the pool is appropriate. NEVER add additional salt in this circumstance.

4. If the free chlorine is not appropriate and the steps in item 2 have been followed and addressed as needed, then the ‘Desired Output %’ needs to be increased in a 25% increment (for example from 50% to 75%) to allow for the salt cell to operate for a longer period (% of total operating time) in order to produce a sufficient amount of chlorine as the cell begins to age. Allow 24 hours and re-test free chlorine. Increase in increments of +10% if required. Keep in mind this is assuming the chemistry parameters are correct in the pool and there is nothing that is creating a significant chlorine demand.
# Reading Serial Numbers:

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