How to Clean the Electrolytic Cell

IMPORTANT: Using gloves and eye protection during this process is recommended. Always add acid to the water, never water to the acid. The Electrolytic Cell has the self-cleaning Reverse Polarity feature built-in, which prevents mineral deposits from forming rapidly. However, the Cell may eventually need to be manually cleaned. The frequency of mineral build-up is dependent upon the balance of the pool's water chemistry, specifically the Saturation Index.

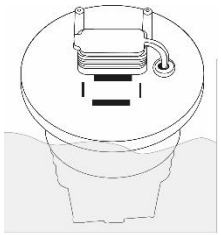
Important: Ensure the electrical connector on the top of the Cell does not come in direct contact with water or acid. If this occurs, rinse immediately with freshwater, then rinse with rubbing alcohol and allow to dry thoroughly.

In most circumstances, the Clean Cell LED indicator will be illuminated solidly when the cell needs to be cleaned. **Do not** insert metal or any hard objects inside the cell during cleaning, this will void the warranty. Follow these steps to clean the cell:

Before removing the Cell for cleaning or replacement:

1) Turn off all pool equipment, disconnect unit from power, close supply line valves if applicable.
2) Detach unit from the plumbing by unscrewing the Threaded Collars around the PVC unions where the Cell attaches to the return line plumbing.
3) Disconnect the Cell from the Control Module by unscrewing the Threaded Collar at the top of the clear Cell Housing. **Place the cap over the electrical connection.** Make sure the electrical connection does not get wet.
4) Remove entire Cell from the Cell Housing, then remove the O-ring from the Cell.

To clean the Cell of mineral buildup:



1) In the Cleaning Vessel, mix one part muriatic acid into ten parts water. Ensure that there is enough cleaning solution to cover the Cell blades. Be sure that Cleaning Vessel is stable so as to remain upright and prevent spilling.
2) Lower Cell into Cleaning Vessel, ensuring that cleaning solution covers Cell blades.
3) Wait for foaming to stop. Allow solution to soak for no more than fifteen minutes.
4) Properly dispose of acid solution, and use a hose to generously flush any remaining debris out of the Cell.
5) Look inside the cell to check that no debris or scaling remains. Repeat steps 2-4 if necessary.
6) Reinstall Cell and Control Module on to return line. Note: The Cell body can only fit in one direction into the Cell Housing, so be gentle and flip the other way if necessary; be sure to remove the cap from the Cell electrical connection.

Note: If mineral build-up is severe, more than one cleaning may be necessary to dissolve remaining solids. The cleaning solution may stop fizzing because the acidity of the cleaning solution has been neutralized by the amount of mineral scale, not because all of the scale has been removed. Inspect cell plates closely with a bright light after cleaning. If you see any remaining scaling, debris, or physical blockages through Cell, repeat the cleaning process as needed. If “CLEAN CELL” comes back on soon after cleaning, verify salinity and then clean cell again.

Quick Reference

See previous sections for more detailed explanations to common scenarios, diagnostic readings, and warning lights.

SCENARIO:	POSSIBLE CAUSE:	SUGGESTED ACTION:
Low or no chlorine residual in pool	Insufficient Chlorine Output Level	Increase Output Level. This is often required seasonally with increasing temperatures.
(Also cloudy water, green pool)	Insufficient run time	Increase run time to at least 1 hour per 10° ambient temp. Ensure 1.5-2x filter turnover.
	Heavy pool use, inclement weather, organic matter	Activate Super CL mode or chemically shock pool.
	Water chemistry issues, such as: Low Chlorine Stabilizer Low salt in pool Phosphates in pool Nitrates in pool	Contact pool professional, ensure all chemicals on page 8 are within range.
	Cell is dirty, clogged, or has excessive scaling or mineral build-up	Remove Cell from plumbing, inspect and clean (see page 11).
	Inactive unit, flow switch not triggered	Inspect Flow Switch, verify sufficient water flow
	Inactive unit, power is off	Turn on system, or see “No Power”
Low or no Chlorine residual in pool after recent installation	Water chemistry was not balanced prior to system installation and a high chlorine demand persists	Contact pool professional, ensure all chemicals on p.6 are within range, chemically shock pool if necessary. Run system at maximum output.
	System hasn’t been running	Double check all connections, verify system runs in sync with circulation pump.
No Power	System is turned off	Turn system on, verify circulation pump is active
	Problem with input power, voltage, or configuration of system wiring	Have a professional test input power & ensure correct wiring configuration & connections.
	Reset has tripped	Allow one hour to cool.
	Other malfunction in unit	Contact customer support
Chlorine Output LED blinking	The level has been increased/decreased	This is normal after pressing +/-, or during low temperature
Clean Cell LED is on (Has priority over salinity LED indicators)	It is time to clean the Electrolytic Cell.	The Cell must be cleaned (see page 11 for instructions).
	Salinity is out of range	Verify salinity (see pages 6-7).
	Cell efficiency has been greatly reduced	Inadequate water flow exists, or Cell must be replaced.
Low Salt LED is on	Salinity is out of range	Manually verify salinity (see pages 6-7).
	Cell is dirty or clogged	Inspect and clean Cell if necessary.

WARNING – Always make sure the input power is completely disconnected before attempting any troubleshooting procedures.
All troubleshooting should be done by a qualified professional.

No Flow LED is on	Insufficient water flow or air bubbles	This may happen temporarily if there is air in the lines at initial startup. Check water level, pump cavitation, air or blockages in plumbing, and all valves & seals. Clean filters & strainers.
	Obstruction or build up on or around flow switch paddle	Dismantle Cell and remove debris to ensure flow switch paddle moves freely.
Water leak	O-Ring improperly seated	Ensure O-Rings are clean and in good condition.
	Threaded collars are cross-threaded or pipes are misaligned	Inspect threads for damage, ensure that each screws back on without resistance.
Cell frequently has mineral buildup	This is due to imbalanced water chemistry and a high Saturation Index	Ensure that your Saturation Index is at or near zero, in order to avoid damage or premature cell failure. (page 8)
Cell never or rarely has mineral buildup	Water may be corrosive due to imbalanced water chemistry and a low Saturation Index	Ensure that your Saturation Index is at or near zero, in order to avoid damage or premature cell failure. (page 8)
Cold Water LED is on	Winter Mode is activated	Water temp is less than 64°. No further action req.
Chlorine Output level does not reach 100%	Cell is dirty or clogged	Clean Cell (see page 11).
	Damaged Cell or Cell cable	Contact Customer Support.
Cell Life Low LED is on	If salinity is within range, system has reached the end of its lifespan, cell blades are worn.	Cell is reaching its working capacity limit. Cell must be replaced once "Cell Life Low" LED is on and Chlorine Output setting won't reach 100%. Replacement cells are readily available for purchase from your local dealer or at www.circupool.com
System Error LED is blinking	Debris is stuck in the electrical connection between Cell and Control Module	Remove Control Module from the Cell. Clean the electrical connection from any debris stuck in it. Wipe with a dry cloth.
	Other communication problem between Cell and Control Module	Contact Customer Support
System Error LED is on	Debris is stuck in the electrical connection between Cell and Control Module	Remove Control Module from the Cell. Clean the electrical connection from any debris stuck in it. Wipe with a dry cloth.
	Cell blades are dirty or worn	Inspect Cell for debris or scaling, clean if necessary. Replace Cell if damaged or worn.
	A more serious error has occurred	Contact Customer Support.
All LED lights flashing	Salt level may be greatly out of range	Manually verify salinity (see pages 6-7).

For more information or troubleshooting, visit www.circupool.com/help

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