

CELL MAINTENANCE

Where calcium levels are below 200ppm, the mineral content is low and the water is correctly balanced, little or no maintenance to the cell is normally required. The automatic reversing of the electrode polarity will be sufficient to dissolve the calcium scale formed.

Periodic inspections must however be made to ensure scale and or debris is not forming or building up on the electrodes within the cell. If a calcium scale has formed it must be removed by cleaning in an acid solution.

Where calcium levels are higher than 200ppm and or mineral content is high, regular inspections of the cell must be performed. If calcium scale is present, the cell must be cleaned in an acid solution. The higher the water temperature, the greater the capacity for the water to deposit scale on the cell. Each pool will vary with regard to the frequency of cell maintenance. Factors which increase the cell cleaning frequency are:

- Calcium Hardness above 200ppm
- High water temperatures
- Low water velocity
- Poor water balance
- Excessive salt level
- Electrode breakdown (See [How To Test If The Pool Lab Chlorinator Is Producing Chlorine](#) in FAQ or consult your pool professional)

TO REMOVE AND INSPECT THE ELECTRODE

1. Switch off power to the chlorinator and pump(s).
2. Close all relevant valves – especially where the cell is located lower than the pool water level, or where the pump(s) are significantly above the water level.
3. Unplug the cell cable from the cell, and place cable end in a dry location.
4. Loosen the large cell nut, and remove it from the cell.
5. Carefully remove the electrode from the cell housing. Where the cell is located above the pool water level, and the cell is not completely isolated by valves, beware that there may be a vacuum in the cell housing. This can sometimes make the electrode difficult to remove. Take care not to lose the O-ring.
Depending on your system setup, the vacuum can sometimes be relieved by briefly pushing down on the multi-port valve handle on a sand filter, or by opening a relief or drain valve momentarily.
6. Visually inspect for debris accumulated at the bottom of, or between the electrode plates. Most debris can usually be cleared by simply dunking the electrode up and down rapidly in water. Excessive debris could indicate a filtration problem.
 - * **DO NOT USE A METAL TOOL TO REMOVE DEBRIS AS THIS WILL DAMAGE THE ELECTRODE COATING**
 - * **DO NOT ATTEMPT TO MANUALLY REMOVE ANY CALCIUM SCALE**
7. Visually inspect between the electrode plates for calcium build up. This appears as a hard white material that coats the surface of the plates and can also bridge the gap between the plates. Electrode plates should be smooth and matte black.

CLEANING THE ELECTRODE – CALCIUM SCALE

You will need hydrochloric acid (33%), and a plastic container or bucket deep enough to stand the electrode vertically in with the electrode plates fully submerged. The container or bucket should be preferably not too broad, as this will require a larger amount of acid. A standard 10 Litre bucket is usually acceptable. You will also need safety goggles and protective gloves.

1. Remove any loose debris from the electrode by dunking it up and down rapidly in water.
2. In your container or bucket mix approximately 1 part hydrochloric acid to 5 parts water. Make the solution slightly too shallow at first, then top up later with water to just cover the electrode plates.

Note: Less acid can be used (down to 1:10 ratio) if the calcium build up is not too excessive, but the cleaning process will take longer.

ALWAYS PUT WATER IN THE CONTAINER FIRST, THEN ADD ACID.

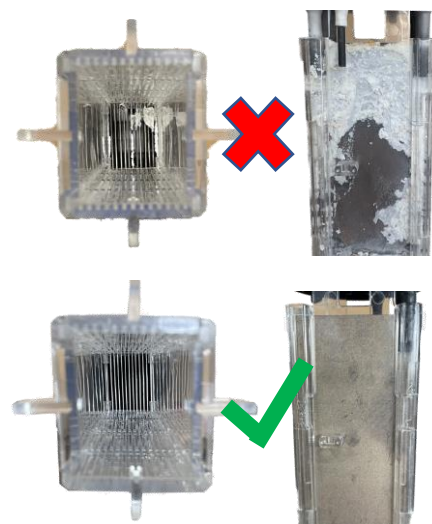
3. Carefully place and stand the electrode in the container, **taking care NOT to submerge the top part** where the electrical connector is. Top up the container with fresh water if required until the electrode plates are just covered by the solution.

Note: ACID REACTING WITH THE CALCIUM SHOULD PRODUCE BUBBLES

4. Leave the electrode in the solution until the bubbles stop. The reaction will usually be fast initially, then slow down.
5. Once you are satisfied the reaction has stopped, carefully remove the electrode from the solution, and rinse with fresh water.

Note: If calcium scale was excessive you may need to repeat this process with a fresh acid solution.

6. Visually inspect the cell to ensure you are satisfied it is clean. If some scale-like build up remains and it appears that acid is not removing it, then it may not be calcium scale. You can try rinsing the cell with hot tap water (not boiling water) which can sometimes help.



RE-INSTALLING THE ELECTRODE

1. Visually inspect the condition of the O-ring, and replace if necessary.
2. Apply a small amount of silicone grease to the O-ring if required.
3. Fit the O-ring to the cell head, ensuring it is on the bottom side of the cell head flange (same side as the electrode plate bundle).
4. Fit the electrode into the cell housing, and orient it so that the cell cable can plug into the cell easily and comfortably.
5. Fit the cell nut, and tighten by hand only.
6. Connect the cell cable to the cell.
7. Open any valves that were closed prior to the electrode being removed.
8. Re-connect power to the chlorinator and pump(s).
9. Run the system – and check for any leaks.