



## ElectroStrainer Troubleshooting Guide

### Cell End of Life

Each ElectroStrainer® model has minimum, maximum, and optimal flow rate values, as shown below:

MODEL	ES-200 ES-200-PS	ES-150 ES-150-PS	ES-125	ES-100
Inlet/Outlet NPT	2" (DN50)	1.5" (DN40)	1.5" (DN32)	1" (DN25)
Optimal Flow	20-40 gpm (75-151 lpm)	12-30 gpm (45-114 lpm)	6-17 gpm (23-64 lpm)	3-12 gpm (11-45 lpm)
Min/Max Flow	10-75 gpm (38-284 lpm)	8-50 gpm (30-189 lpm)	4-30 gpm (15-114 lpm)	3-20 gpm (11-76 lpm)

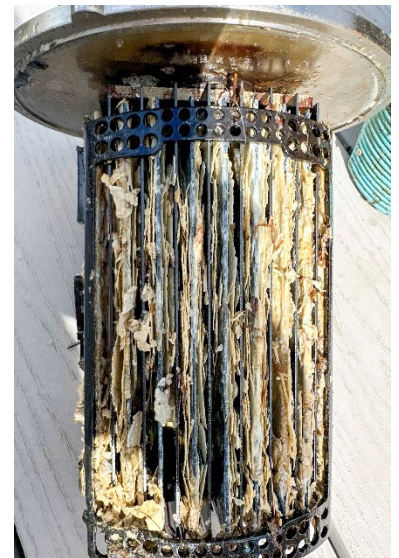
The average life expectancy of an ElectroStrainer Cell is 2-4 years. Cell life is dependent on flow rate, hours of use, seawater quality, and other factors. ElectroStrainer Cells that are supplied with higher seawater flow rates will deplete faster than those receiving lower flow rates. Refer to the value shown in gallons (or liters) per minute on the Control Unit screen to see the current flow rate.

### End of Life

The first indication that the ElectroStrainer Cell is beginning to deplete or reach the end of its life expectancy is the appearance of calcium scale. This scale forms when the metal-oxide coating on the Cell plates has worn off.

If calcium scale is present and continuously getting worse, first find out the age of the Cell. This can be done by viewing the CELL Menu on the Control Unit or by asking the customer.

To view the CELL Menu, press Menu, then Cell, then OK. There will be a number followed by the letter D in the format XXXD. The number indicates the number of DAYS the Control Unit has been in operation. For example, "365D" means the Control Unit has been in operation for 365 days, or one year. If only one Cell has been used with the system, then this number is equal to the number of days the Cell has been used. NOTE: If multiple Cells have been used with the system or if the Control Unit has been replaced previously, then the number shown will not accurately reflect the age of the current ElectroStrainer Cell.



*Calcium scale is often the first indication of the ElectroStrainer Cell nearing the end of its life expectancy.*

If the ElectroStrainer Cell is approaching the 3-4-year mark or more, then it's likely time to replace the Cell.

If the Cell is 2-3 years old, check the ElectroStrainer system's flow rate. If the flow rate exceeds the optimal flow rate range for that model system, then it's likely time to replace the Cell.

**Voltage**

Another way to determine if the ElectroStrainer Cell needs to be replaced is to access the LOG/DIAG Menu. To do this, press and hold the Up and Right arrows at the same time for 10 seconds or until the menu appears. Scroll up/down so that ENABLED is seen, then press OK.

You should now see new numbers on the home screen. Check the voltage (V) reading. When the Cell is at its end of life, the voltage will be at 4.0 V in one or both cycles. The cycle will be indicated in the bottom line of the display. Cycle 1 is indicated with one dot (.), and cycle 2 is indicated by two dots (:). In between cycles, the power will disappear, and a dash (-) will appear. Please watch the display for a minimum of 10 minutes to get an accurate voltage reading.

**Increase in marine growth**

An increase in marine growth in the strainer basket or downstream of the ElectroStrainer is another indication that the Cell may be at end of its life expectancy. Remove the Cell Electrode from the ElectroStrainer Canister and make sure there is no growth between the Cell plates.

**Next steps**

If you have determined that the ElectroStrainer Cell is at or near the end of its life expectancy, use the following chart to order a replacement:

PART NO	DESCRIPTION	ELECTROSTRAINER MODEL
300074-042	Replacement Cell ES-200	ES-200 and ES-200-PS
300074-041	Replacement Cell ES-150	ES-150 and ES-150-PS
300074-040	Replacement Cell ES-125	ES-125
300074-039	Replacement Cell ES-100	ES-100

If you have determined that the ElectroStrainer Cell is not nearing or at the end of its life expectancy by following the steps outline above but you are still experiencing trouble, please contact ElectroSea Service at support@electrosea.com or (561) 257-5739.

