


ELECTROSTRAINER™ System



Quick Start Guide

Models: ES-200/ES-150, ES-125/ES-100

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ELECTROSEA®

GENERAL

DO

1. Refer to the ElectroStrainer Installation and Operation Manual for complete instructions.
2. If seawater lines are impacted with barnacles and marine growth, then ElectroSea recommends professional descaling **before** installation of the ElectroStrainer System.
3. All ElectroStrainer seawater plumbing connections must be performed by a qualified marine installation professional.
4. All seawater connections should use marine grade hose that is double clamped with two stainless steel clamps, reversing the clamps. Failure to properly secure seawater connections could result in sinking the vessel.
5. Confirm the vessel is operating in seawater with salinity greater than 20 parts per thousand. Seawater with low salinity (brackish or freshwater) will prevent ElectroStrainer from operating.
6. Use only original parts supplied by ElectroSea. They are made of special titanium, stainless and other high quality materials. Use of non-factory or substitute parts will void the Warranty.



**FOR PARTS AND ACCESSORIES
CONTACT ELECTROSEA**

**WWW.ELECTROSEA.COM
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DO NOT

DO NOT install ElectroStrainer on a seawater system that is clogged with existing marine growth or other obstructions to seawater flow.

DO NOT PERFORM ACID DESCALING OF SEAWATER CIRCUIT AFTER ELECTROSTRAINER CANISTER HAS BEEN INSTALLED.

DESCALING ACIDS OR CLEANING CHEMICALS WILL DAMAGE ELECTROSTRAINER CANISTER ASSEMBLY, CELL, AND VOID THE WARRANTY.

DO NOT TOUCH THE ELECTROSTRAINER CELL PLATES OR USE ANY TYPE OF MECHANICAL BRUSH.

THE ELECTROSTRAINER CELL PLATES CONTAIN A SPECIAL METAL OXIDE COATING THAT WILL BE PERMANENTLY DAMAGED IF YOU HANDLE IT.

DO NOT connect dissimilar metals to ElectroStrainer.

DO NOT use non-factory parts and/or accessories.

Electrical Connection Overview

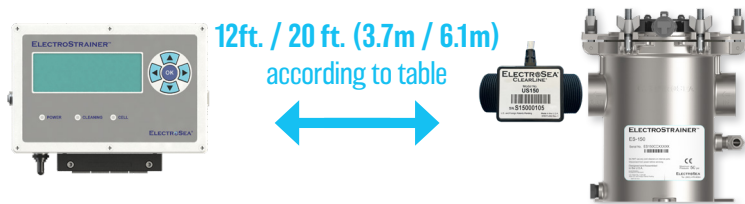
DO

1. ElectroStrainer Control Unit must be located within:

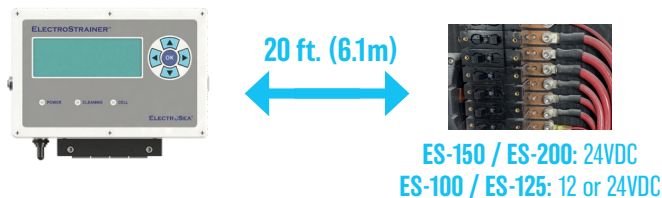
	ES-100	ES-125	ES-150	ES-200
Canister Assembly	20 ft. (6.1m)	20 ft. (6.1m)	12 ft. (3.7m)	20 ft. (6.1m)
Flow Sensor	20 ft. (6.1m)	20 ft. (6.1m)	12 ft. (3.7m)	20 ft. (6.1m)
Power Source	20 ft. (6.1m)	20 ft. (6.1m)	20 ft. (6.1m)	20 ft. (6.1m)

OPTIONAL CABLE ACCESSORIES:

PART NUMBER	DESCRIPTION
CBL01-CC-EXT-15FT	15' (4.6m) Cell Extended Cable
CBL01-CC-EXT-20FT	20' (6.1m) Cell Extended Cable



2. Connect ElectroStrainer Control Unit to constant 24VDC power source. (Note: ES-100 and ES-125 can use 12/24VDC.) Connect the **RED (+)** and **YELLOW (-)** wires of the Power Cable to this source according to the appropriate electrical standards (i.e. ABYC).



3. Connect vessel bonding wire to ElectroStrainer bonding terminal according to appropriate bonding standards (i.e. ABYC).



DO NOT

DO NOT cut, extend, or splice the 12ft. (3.7m) Cell cable. Longer Cell cables are available from ElectroSea.



NOTICE Modification of cell cable will impair ElectroStrainer operation.

DO NOT connect multiple Cell cables together.

DO NOT connect ElectroStrainer (ES-150 / ES-200) to non-24VDC power source.

DO NOT connect the red (+) and yellow (-) power wires to the incorrect polarity.

DO NOT connect ElectroStrainer to an intermittent power source. Intermittent or stagnant seawater that is not continuously electrochemically treated allows growth of marine microorganisms.



DO NOT perform acid descaling after ElectroStrainer has been installed. Descaling acids will damage the ElectroStrainer Canister Assembly, Cell and void the Warranty.

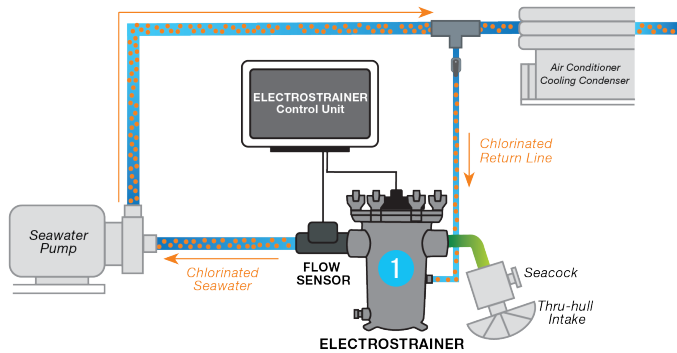
Plumbing and Mounting Options

DO

Make fewest changes to vessel's factory plumbing as possible.

NOTICE Check manufacturer's seawater flow specifications of all downstream equipment.

- The Canister Assembly should be installed **before the pump**, and **before** any seawater cooled equipment such as air conditioners, chillers, etc. **If there is an existing sea strainer, then remove it and install ElectroStrainer Canister Assembly in the same location.**

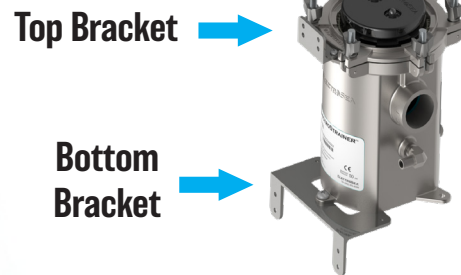


- ElectroStrainer Canister Assembly must be mounted so it is level.
- ElectroStrainer Canister Assembly should be mounted at or below the waterline.

OPTION A Base Tab Mounting



OPTION B Side Mounting



DO NOT

DO NOT exceed ElectroStrainer maximum pressure according to the table below.

MODEL	MAX PRESSURE
ES-150/ES-200	70 PSI
ES-100/ES-125	50 PSI

DO NOT decrease seawater flow below manufacturer's specifications for downstream cooling equipment.

DO NOT install ClearVis Flow Sensor on ElectroStrainer input or in incorrect direction/orientation on the output.

DO NOT place elbows or restrictions between Canister Output and ClearVis Flow Sensor.



NOTICE Limit the use of 90° elbows as they restrict flow and cause pressure drop.

NOTICE Failure to SHUT-OFF all seacock valves in the seawater circuit before ElectroStrainer Canister installation could result in sinking the vessel.

NOTICE ElectroStrainer Canister is made of 2205 Duplex Stainless Steel for high corrosion resistance. Do not connect dissimilar metals to it if possible.

DO

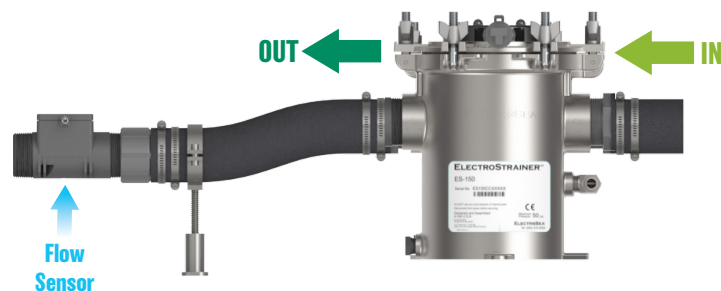
Canister Assembly and Flow Sensor

The Canister Assembly has directional IN and OUT labels. Seawater MUST enter at the IN port and flow through and exit at the OUT port according to the marked labels.

1. The ClearVis™ Flow Sensor has a flow direction arrow and seawater must enter and exit according to the marked arrow.
2. ClearVis Flow Sensor MUST BE installed on the same seawater line/pipe as the ElectroStrainer Canister. The Flow Sensor tells the ElectroStrainer how much chlorine to generate.

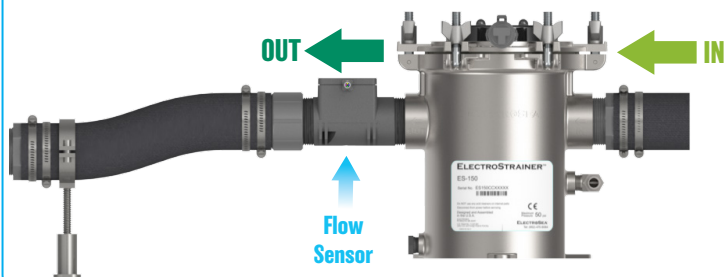


BEST: 12" of straight hose before and after Flow Sensor



The "BEST" location for the ClearVis Flow Sensor is after the Canister output with at least 12" of straight hose before and after the Flow Sensor. The ClearVis Flow Sensor can also be installed on the pressure side of the pump.

ACCEPTABLE: Flow Sensor at ElectroStrainer output with 12" straight hose after Flow Sensor

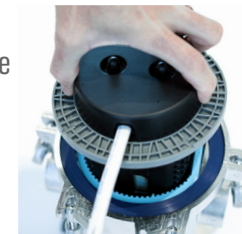


An "ACCEPTABLE" location for the ClearVis Flow Sensor is on the output of the ElectroStrainer Canister with at least 12" of straight hose after the Flow Sensor.

DO NOT

DO NOT block or restrict access to the top of ElectroStrainer.

NOTICE ElectroStrainer must be accessible from the top to remove the basket and Cell for service.



DO NOT install 90° elbows or other flow restrictive plumbing fittings immediately after the ClearVis Flow Sensor output. The Flow Sensor will be unable to obtain a consistent reading and ElectroStrainer may be unable to enter the CLEANING mode.



DO NOT let the weight of the hose or any plumbing hang unsupported.

NOTICE Use hose hangers, hose straps or hose support brackets that are attached securely to a bulkhead, stringer or other solid object to relieve any force on the ClearVis Flow Sensor when connected to ElectroStrainer Canister.

NOTICE Failure to use hose clamps could result in a seawater leak or hose disconnection, causing damage to property and/or the vessel sinking.

NOTICE All seawater flowing through the ElectroStrainer Canister Assembly must flow through the Flow Sensor.

DO NOT split or divert seawater before the ClearVis Flow Sensor as this will tell the Control Unit to generate an incorrect amount of chlorine.

DO

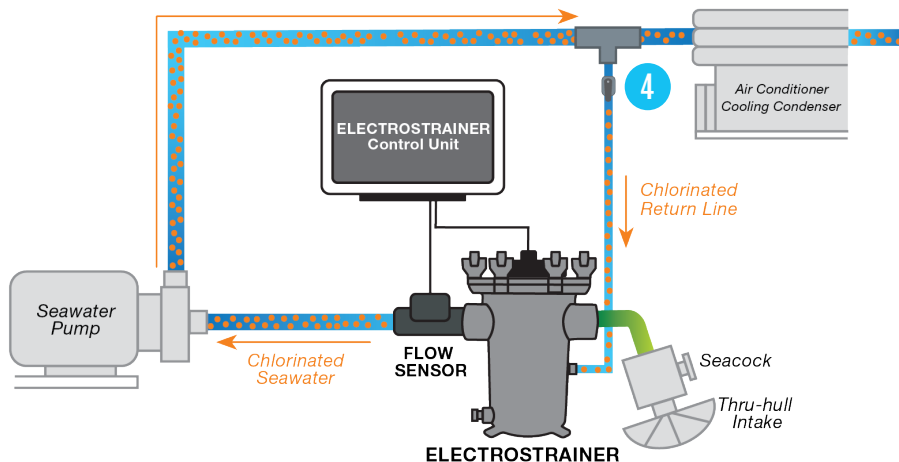
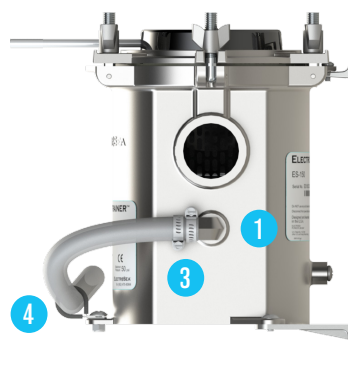
Chlorination Return Line to Canister

The chlorination return line provides the greatest protection from biofouling in the ElectroStrainer Basket, however ElectroStrainer will perform adequately without it.

1. The chlorinated return line should be connected from the pressure side of the pump to the Canister Assembly's 90-degree fitting located under the inlet port.
2. Connect this chlorination return line with a tee-fitting and ball valve to the pressure side of the pump.

NOTE: The source for the chlorinated return line must be after the seawater pump (on the pressure side) and after the ClearVis Flow Sensor.

3. Secure the tubing with two hose clamps, reversing directions, and clamp securely.
4. Secure the chlorinated return line tubing with Strain Relief Clamp. The Strain Relief Clamp can be connected to the feet or wall bracket. Use included mounting screw or nut and bolt.



DO NOT

DO NOT source the chlorinated return line on the suction side of the pump

NOTICE ElectroStrainer can be installed without a chlorinated return line.

NOTICE The chlorinated return line decreases the overall flow rate to downstream equipment. Check downstream equipment flow requirements .

DO NOT add a chlorinated return line if this will result in low flow to the cooling equipment.

NOTICE IF THE CHLORINATED RETURN LINE WILL NOT BE USED, THEN USE ONLY THE SPECIAL 2205 ALLOY PLUG PROVIDED.

DO NOT USE ANOTHER TYPE OF METAL PLUG as this will void the Warranty.

NOTICE There may be a small amount of biogrowth if the chlorinated return line is not used.

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