

# Installation Reference

## One+ C Cell with PN 101111 Mounting Bracket

Please read all the instructions listed below to familiarize yourself with the project before attempting to perform any of the work. These instructions are appropriate for either the P4 or P5 Version of the One+ C Cell. **Required materials:** electrical hardware to make connection to bus bar. **Required tools:** saw horses, hoist and lifting strap, scissors, and 2 x crescent wrenches.

### Installation Sequence

1. Unpack the One+ C Cell carefully! First remove any exposed nails or screws that could damage the Cell.
2. Remove all the C Cells from the top row before removing any from a lower row. Use two persons to lift the C Cell.
3. Move the first C Cell to a pair of saw horses and carefully place down.
4. Locate Bracket (PN 101111, Photo #1), Spacer (PN 101110), and 3 sets of 1/2" - cc bolt/lock washer/flat washer and nut hardware.
5. The Bracket is adjustable from a min of 150 to 210 mm (6 to 8-1/4 in). Measure the width of the rim of the tank and add ~12 mm (1/2 in).
6. See Photo #2. Place the Spacer on the outside of one of the Tabs, place the Bracket over the Spacer and secure with the 3 bolt sets.
 

**Note:** The Electric cable needs to be secured to one of the 6 bolted connections (on the inside portion of tab. See photo #2). Decide which is best for your situation and attach as required. Make sure the nuts are snug.
7. Repeat for the other Tab.
8. Before other C Cells are worked on install the first one in order to test the Bracket location for best fit.
9. If the E-coat tank is full, then a leak Check must be done BEFORE the Cell is placed into the E-coat bath.
10. Place the C Cell on a piece of cardboard in a mostly vertical position and attach the lifting strap. Fill the C Cell with only DI water. Wipe up any water that has spilled and let it sit for 30 minutes.
11. Look for evidence of any leaks after 30min. The ion-exchange membrane does have a finite amount of water permeability and it is normal to see some moisture appear on the membrane as it begins to 'sweat', especially in times of high humidity. If after 30 minutes there is more than 350 ml/hr of leak rate, then set aside and follow the repair procedure later in this document.
12. Once the C Cell has passed the leak check is ready to be moved over into the E-coat tank enclosure. Insure the Cell is full of DI water if it is to be lowered into E-coat paint.
13. Move the C Cell to the approximate position and gently lower into place, do not drop the Cell or let it swing, which could damage the membrane and void the warranty.
14. Inspect the fit of the Bracket over the rim of the tank. Decide if it needs to be adjusted. If not then tighten all 6 bolt sets to 25 Ft-lb (max). If adjustment is needed then do so and take note of the new width for the second C Cell and so on.
15. Loosen one of the 6 bolt sets and attach the lug of the power cable. Retighten to 25 ft-lb max. Attach the other end to the appropriate bus bar.

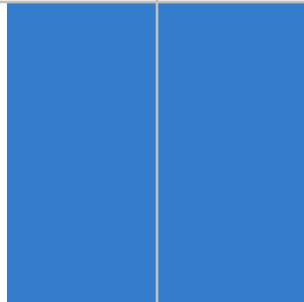


Photo #1 Showing Bracket PN 100111 installed with 3 x 1/2" Bolt hardware. Round hole is for lifting

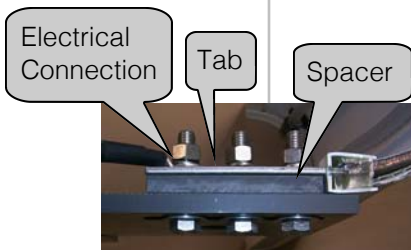


Photo #2 Showing Bracket (PN 100111) i& Spacer (PN 101110) bolted to a Tab.

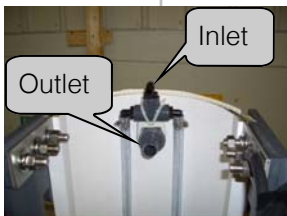
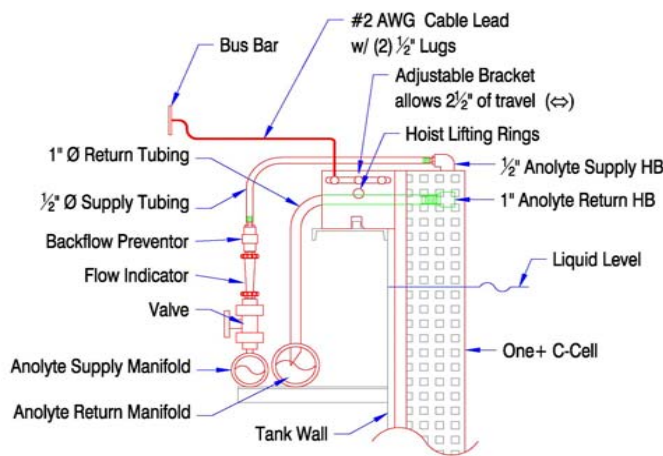


Photo #3 Showing Electrolyte supply on top and Electrolyte Return on the Bottom

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16. Attach the 1/2" I.D. PVC electrolyte supply tubing to the PVC hose barb located just above the Electrolyte Overflow outlet (See photo #3). Cut the PVC tubing to length and attach the other end to the Electrolyte flow indicator on the Supply Manifold. You may use a cup of DI water to dip the ends of the tubes into first before inserting over the hose barbs.
17. Cut one end of the 1" I.D. Electrolyte return PVC tubing with a 45 degree angle and insert into the return manifold (only insert about 3/4 - 1 inch so as not to block the flow of Electrolyte). Cut the other end square and push over the Outlet hose barb fitting. Do not use too much length nor allow the tubing to kink in any fashion.
18. Open the Electrolyte valve until about 7-12 liters/min (2-3 gpm) begin to flow through the Cell.
19. Note the sketch below is typical for all One+ C Cells, but does not show Bracket PN 101111.



Partial Side View

## Repair Procedure

1. Once a C-cell has been identified as a leaker (could be new or old C-cell) it will need to be repaired. Small hole up to 1" diameter can be repaired with a 2 part epoxy offered by UFS (Use PN 164039).
2. If leak checking when C-cell is new and needs to be repaired simply drain water and place it on a set of saw horses and let C-cell dry out. If it is in the e-coat bath it will need to be thoroughly rinsed with DI or RO water to prevent paint solids from drying on the face of the membrane.
3. Fill C-cell with DI or RO water and locate the leak.
4. Once leak is found mark it with a sharpie.
5. Drain C-cell and let it dry out on the saw horses (C-cell is parallel to the floor). **Note:** the 2 part epoxy will not adhere to the membrane if it is wet membrane must be thoroughly dried out.
6. Mix 2 part epoxy and spread a generous amount at the leak point.
7. Let it sit 24 HRS before leak checking again. If C-cell does not leak after being repaired proceed back to #12. If C-cell still leaks repeat procedure until repaired.