

## Trouble-shooting

1. Before purging the refueling station of all gases it is advisable to check that it is all working. Therefore place two 1.5V AA batteries (it is highly recommended to use either nickel metal hydride or alkaline batteries) into the battery compartment which is located in the base of the refueling station (see picture 1a below). Pour water into the water tank until the water level reaches  $\frac{1}{2}$  cm from the top (see picture 1b below). To power the refueling station using the batteries, move the switch on the refueling station to the “DC” side. The lights will now be flashing and the oxygen bubbles will form on the right side of the water tank. If the bubbles are appearing from the centre of the water tank, move the switch on the refueling station to the “off” position immediately. This is because water is not able to get the electrolyzer and so is likely to dry up and potentially damage the electrolyzer permanently. To resolve this issue, you must follow these steps:
  - a) Make sure the switch is in the “Off” position
  - b) Remove the input valve connector from the end of the hose attached to the syringe.
  - c) Making sure all the air is out the syringe, carefully position the hose over the hole on the inside and right side of the water tank, over the hole where the oxygen bubbles should be forming (see picture 1c and 1d below).
  - d) Use the syringe to draw water through the system and carefully watch the tubes and electrolyzer to make sure they are filling with water.
  - e) Once this is completed, wait 2-3 minutes before operating the refueling station again.
  - f) To check for Hydrogen production, after you move the refueling station switch to “DC” again, put the end of the Refueling Station’s Hydrogen hose blue refueling input valve connector into the water of the water tank so that hydrogen bubbles can be seen forming at the end of the Hydrogen hose.
  - g) If there are no Hydrogen bubbles coming from the end of the hose, check the grey rubber pressure valve cap on the side of the refueling station is pushed firmly over the pressure valve (see picture 1e).



1a



1b



1c



1d



1e

2. If the fuel cell has been left for a while and is not activating it needs to be warmed up and a simple way to do this is by short circuiting the fuel cell. Follow these steps to activate your fuel cell:

- a) Move the switch on the refueling station to the “DC” side and check the lights are flashing and the oxygen bubbles are forming on the right side of the water tank.
- b) Take the Refueling Station’s Hydrogen hose blue refueling input valve connector off, and connect it too the fuel cell (see picture 2a)
- c) Connect the hydrogen storage cylinder from the H-racer onto the other nozzle of the fuel cell (see picture 2b).
- d) Then using the red wire with the double headed banana plugs, connect one end to the red jack and the other end to the black jack in the fuel cell (see picture 2c and 2d below).
- e) Keep the wire connected for 5 minutes, and then disconnect, after a further 5 minutes repeat the connection for a further 10 minutes.
- f) Leave there for 5 minutes and then disconnect the wires. It’s better to repeat this connection process keeping the wires in for another 5 minutes and after that the fuel cell is ready to use.



2a



2b



2c



2d

3. If the fuel cell is still not working, it is recommended that a few drops of distilled water are added to the fuel cell and left to absorb before it is used. Follow these steps to hydrate your fuel cell:
  - a) Remove the blue input valve connector off the end of the hose attached to the syringe provided.
  - b) Draw 0.2ml of distilled water into the syringe (see picture 3a below).
  - c) With the distilled water in the syringe now attach the open end of the syringe hose to one of the nozzles sticking out of the fuel cell, slowly pushing the distilled water into the fuel cell from the syringe (see picture 3b below). Allow this to sit for an hour and then go to the step 2 above.



3a



3b

4. If your H-racer is now functioning effectively, please proceed to step 5, on page 27 of the user manual. Otherwise contact us on [support@horizonfuelcell.com](mailto:support@horizonfuelcell.com).