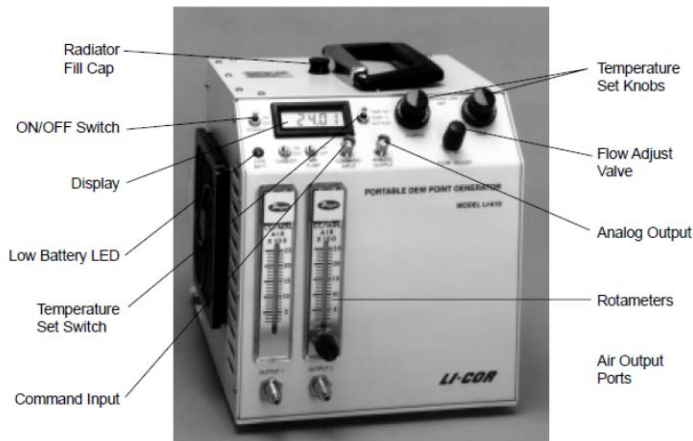


Setting up the LI-610 Dew Point Generator

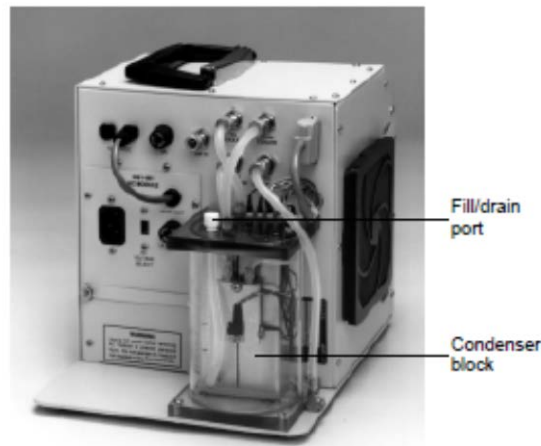
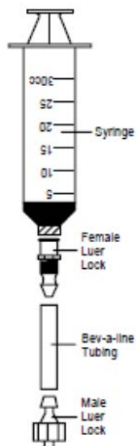
1. Fill the radiator w/ DI water

- Remove the black cap from the top of the instrument and use a squirt bottle to fill with DI water until you see the water.
- Plug in and turn the instrument on to draw the water through the water pump into the radiator reservoir (make sure that the cooler switch is set to on). Turn the machine off.
- Add approximately 2 ml of algicide to the radiator reservoir
- Continue to fill in this manner until the water remains visible in the fill tube (where you put the water) with the instrument off (approximately 200 ml).



2. Fill the Condenser Block w/ DI water

- Remove the plastic capnut on the condenser block fill/drain port
- Attach a female Luer lock to a 30 ml syringe, then a short piece of Bev-a-line tubing, then to a male luer lock
- Draw water into the syringe, attach the male Luer lock to the fill/drain port and slowly push water in to the condenser block until the water level is midway between “min” and “max”
- Empty the excess water from the syringe and then push air into the condenser block to remove any water which may adhere to the side of the tube (which can cause false readings in the fill tube)
- Repeat this process until the water level is adequate (approximately 25 ml).
- Excess water can be removed by drawing water out of the tube with the syringe
- Monitor the water level while the instrument is in use and add as needed



Calibrating the LI-7000 CO₂/H₂O Analyzer

1. Set the zero (1 Point Match)

- Hook up the tubes on the analyzer as follows:
 - 0 gas to A in
 - A out to B in
- In the Li-7000 software connect to your LI-7000
- Under the "Configure" menu select "Configuration", then select the "Reference" tab and make sure that "Estimated" is selected for both CO₂ and H₂O
- Then select the display tab and select the following by clicking it and then clicking the "Text" button
 - CO₂ A um/m
 - CO₂B um/m
 - H₂O A mm/m
 - H₂O B mm/m
 - H₂O A dpC
 - H₂O B dpC
- Under the "Remote" menu, select "User Calibration"
- Calibrate H₂O first because the CO₂ calculation depends on the H₂O value
- Wait for the H₂O and CO₂ readings to stabilize, then select "Make cell A read 0" on the drop down menu under H₂O Action; click Do H₂O Cal and check that the reading from the instrument for H₂O A mm/m are close to 0
- Do the same for CO₂ Action
- Now select "Make cell B match cell A" for H₂O then CO₂

2. Check that the B cell is reading correctly

- Hook up the tubing as follows:
 - 0 Gas to B in
 - Scrubber to Pump in
 - Pump out to A in
 - A out to Scrubber
- Check that the B cell is reading close to 0 for both CO₂ and H₂O

4. Setting the Span for H₂O

- Hook up the Output 1 tube from the Li-610 to the B in on the Li-7000
- Turn on the Li-610 and set the Temperature Set Switch to Temp Set; you want the temp at about 5°C below ambient temp (13°C works well);
- Change the Temp Set Switch to Temp °C and wait for a few minutes for the reading to match the temp set
- In the Li-7000 software go to the "Configure" menu select "Configuration", then select the "Reference" tab and make sure that "Exact: 0" is selected for CO₂A and "Exact: Dry" for H₂O A

- Go to "Remote", then "User Calibration", and when the reading for H₂O stabilizes select "Make B read..." from the dropdown menu under H₂O Action and enter the temperature you set the Li-610 to in the box and select °C; Click "Do H₂O check" and check that the reading is around your desired value

4. Setting the Span for CO₂

- Change to the 614 ppm CO₂ tank
- In the "User Calibration" screen, select "Make cell B read...", enter 614 and click "Do CO₂ check"; make sure that the reading is close to 614 ppm

Draining the Li-610

- Disconnect the tubes from the "From Cooler" and "To Condensor" fittings on the condenser block
- Attach a short piece of tube between the same two fittings
- Place the tube you disconnected from the "From Cooler" fitting in a beaker
- When you turn the instrument on, water will be forced out of the tube
- Water can be removed from the condenser block by attaching the syringe to the fill/drain fitting (as described above) and pulling the water out with the syringe