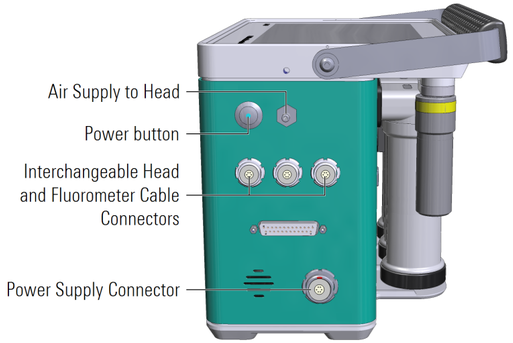
Welcome to the LI-6800

Portable Photosynthesis System

Quick Start Guide

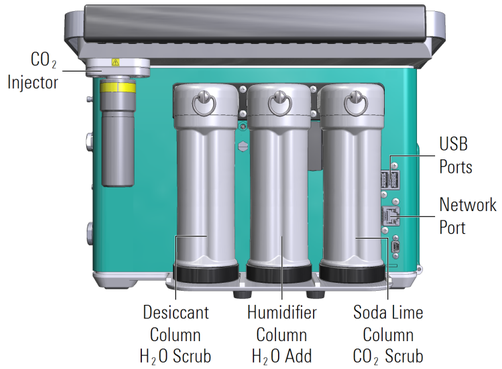
Console: Air Conditioning, Cable Connectors, and Display

The right side has the power button as well as connections for the head cable, fluorometer cable, air supply, and power cable.



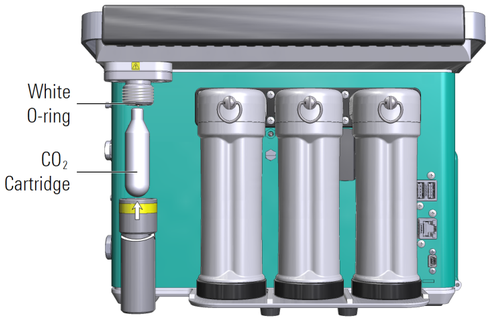
Air Conditioning

The back side has the air conditioning columns and network connector (LAN). The USB ports support an external storage device that can be used to store data and configuration files.



CO_2 Source

Check to be sure the O-ring is in place, then insert an 8-gram CO_2 cartridge (food grade, oil free) into the holder. Tighten the holder until you encounter slight resistance, then quickly twist the holder about ½ turn further to pierce the cartridge. A CO_2 cartridge will last about 8 hours after it is pierced, whether you use it or not.



Chemical Column Checklist

The CO_2 scrub column, desiccant column, and humidifier column are each labeled on the top. Here is a quick checklist for filling the columns:

- Detach the columns one at a time so they do not get mixed up. Turn the clasp ¼ turn counterclockwise and pull it away from the console.
- Fill the desiccant and soda lime columns to ½ cm from the top. Leave enough room to shake the column gently to break up channeling. Fill the humidifier column with water.
- Be sure the O-ring and threads are clean and dry. Wipe them to remove dust and water before reassembling.

Note: Be sure to install the columns in the correct location. If a column is installed in the wrong place, the instrument will not work correctly.

Desiccant Column

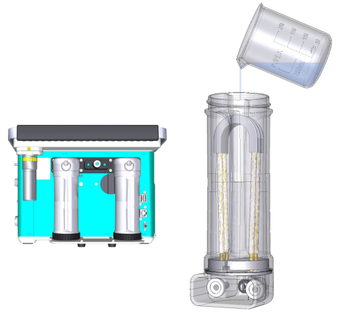
Fill the **H_2O Scrub** column with fresh Sorbead® Orange CHAMELEON® silica gel beads. Tighten the cap until it compresses the O-ring slightly, then reinstall the column.

You can also use Drierite® in the desiccant column.

Humidifier Column

Fill the **H_2O Add** column with water. Tighten the cap securely and then reinstall the column.

Important: If you are using an older column with Stuttgarter Masse substrate, do not fill the column with water. Your instrument will be damaged if the Stuttgarter Masse column has too much water in it. See the instruction manual for more information.



Soda Lime Column

Fill the **CO_2 Scrub** column with Soda Lime. Clean dust off of the threads and tighten the cap until it compresses the O-ring slightly. Reinstall the column.

Attach the Head Cables and Quantum Sensor

The head cable bundle has a tube and cable. Attach one end to the head connectors and the other to the console connectors. If you are using the fluorometer, connect the fluorometer cable to one of the two interchangeable head connectors.

The LI-190R Quantum Sensor connects to the head handle. Follow the instructions on the LI-190R installation guide.

Powering the LI-6800

The LI-6800 can be powered with a battery or from a power outlet.

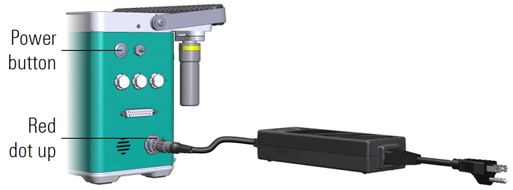
The batteries will charge in the LI-6800 any time it is powered from an outlet.

Power On

The power adapter is compatible with 100 to 240 VAC, 50 or 60 Hz power.

To **power on**, briefly press the power button.

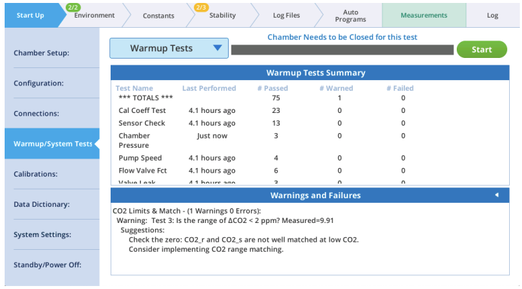
> **Caution:** Do not connect or remove the head cable when the LI-6800 is powered on! Doing so will damage the electronics.



To **power off**, briefly press the power button or tap **Start Up > Stand-by/Power Off > Power Off**. Then follow the on-screen prompts.

System Tests

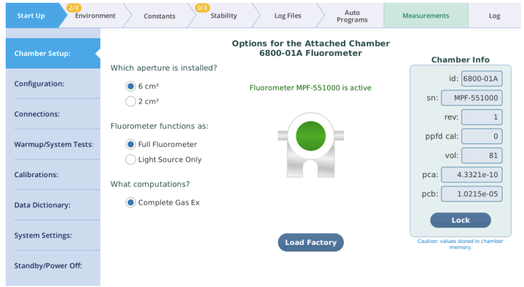
With the chamber closed, run the **Warmup Tests** under **Start Up > Warmup/System Tests**. Do the tests every day when you start up the instrument and any time you change a chamber or chemicals.



The Warmup Tests take less than 15 minutes. If the tests reveal any issues, resolve them before taking measurements.

Chamber Setup

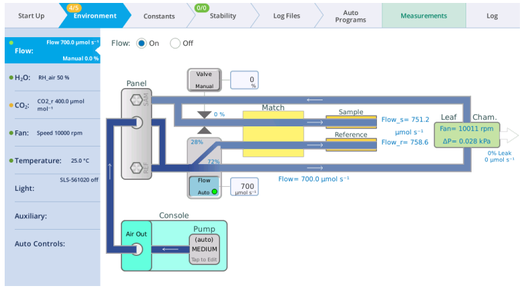
Under **Start Up > Chamber Setup**, select the chamber aperture, if applicable, and set the flux computations, if applicable.



The options available will depend on which chamber is attached. See the instruction manual for details.

Set up Your Configuration

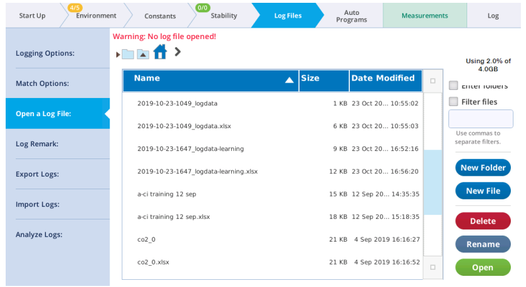
Go through each tab to set up everything as needed, which will vary depending on your measurement type, experiment, and chamber. For example, to set conditions in the leaf chamber, go through the **Environment** tab, as shown below.



You can save or load an existing configuration file under the **Start Up > Configuration** tab.

Configure Data Logging and Matching

Create a log file and **match** the analyzers. Go to **Log Files > Open a Log File** and tap **New File** to create and open a new data file.



You can configure automatic matching under **Log Files > Match Options**. Or match manually under the **Measurements** tab.

> **Remember:** Your gas-exchange measurements are only as good as your match, so match early and match often!

Take a Tour

Don't be afraid! Take a self-guided tour to learn what is where.

Learn Online

Go to https://www.licor.com/env/support/LI-6800/home.html for:

- Videos that show how to set up the instrument, take a survey measurement, download data, and more.
- Using the LI-6800: Complete operating instructions.
- Using the LI-6800 Soil CO_2 Flux Chamber: Instructions for the soil chamber.
- Using Background Programs on the LI-6800: Instructions that describe how to write programs to control the instrument.
- Software updates

Hands-on Training and Support

Your instrument includes a certificate for hands-on training. Training courses cover photosynthesis measurements and the LI-6800. Contact LI-COR to enroll.