

# Using An External CO<sub>2</sub> Source with TARGAS-1

Some experiments may require the need to connect the directly to a larger external CO<sub>2</sub> gas tank mixture that can provide the TARGAS-1 with a specific CO<sub>2</sub> concentration (for example, 400 ppm with balance of air/nitrogen) as opposed to using the small CO<sub>2</sub> cartridges. The TARGAS-1 offers a simple solution that does not require the need to purchase additional hardware.

**Important:** To maintain the best accuracy, it is highly recommended to use CO<sub>2</sub> gas tank mixtures traceable to NIST (or similar standards) with accuracy of  $\leq 1\%$ .



- Using a known, accurate CO<sub>2</sub> mixture as described above, and a low-pressure regulator, connect to the TARGAS-1 **Air In** gas port on the TARGAS-1 console as shown above with a T-piece and vent pipe to avoid overpressure.
- From the **Main Menu**, set the flow rate on the CO<sub>2</sub> regulator to a rate to 250 cc min.
- Set the TARGAS-1 to **PLC5 Mode**.
- Set **CO<sub>2</sub>r** to 100% of ambient.
- Set **H<sub>2</sub>O**r to 100% of ambient.



Check the vent pipe to ensure that you have excess flow out of it (a flow meter is handy to have here). Also make sure that the link pipe is in place connecting the **GAS IN** and **REF OUT**.



**Please Note:** A reduction in CO<sub>2</sub> concentration will result in an increase of H<sub>2</sub>O concentration.



If you would like to learn more about this application or speak with one of our experienced technical staff, please feel free to get in direct contact with us via any of the contact information listed below:

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