Using An External CO$_2$ Source with TARGAS-1

Some experiments require the need to connect directly to an external CO$_2$ source for more precise, steady control of the reference gas. The TARGAS-1 offers a very simple solution for doing just that and it does not require the need to purchase additional hardware.

Gas source with known CO$_2$ mixture connects to the TARGAS-1

AIR IN port

Vent pipe for excess CO$_2$

From CO$_2$ gas source

- Using a known, accurate CO$_2$ mixture, and a low pressure regulator, connect to the **Air In** gas port on the TARGAS-1 console as shown below with a T-piece and vent pipe to avoid overpressure.

- From the **Main Menu**, set the flow rate on the CO$_2$ regulator to a rate to 250 cc min.

- Set the TARGAS-1 to **PLC5 Mode**.

- Set **CO$_2$r** to 100% of ambient.

- Set **H$_2$Or** 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$_2$ concentration will result in an increase of H$_2$O concentration.