

Costech CHN Analyzer Start Up and Shut Down

Pre-Run Instrument Check (when the instrument has been in stand by):

1. Check the tanks pressures. Below 500 tanks should be replaced. Pressures on tank regulators should be set as follows:
He=38 psi
O₂=25 psi
Air=40 psi
2. Check gas flows with flow meter. **It is best to set the flow of gases on instrument by checking them with the flow meter, than just looking on the dial!**
He= 100mL/min
O₂= 25-30mL/min
3. Check instrument pressures. Instrument pressures should read on the gauges as follows:
He= 1.2 Bar
O₂= 1.0 Bar
Air=2.5 Bar
4. Conduct a static leak check.
Leak check cannot be done in gas stand-by mode. Press F3 to take gases out of stand by. Leak check should be done when instrument is warmed up.
Place cap on He vent.
On the instrument panel, turn He regulator clockwise to increase pressure, wait 10 seconds. Then turn the regulator counter clockwise until loose. Watch He gauge for 1 minute. If gauge drops > 0.25 Bar then press F3. Loss of pressure means that there is a leak in the system.

Repeat this leak check for oxygen.

Unscrew the white tubing connected below the sample tray and using the flow meter, check flows. Adjust flow to 100mL/min using the Purge regulator.

5. Starting up the Instrument (**Start only if the instrument passes leak check**)

Press WORK

Enter

Press REMOTE

Enter

6. Let ovens heat up (approximately 20-30 minutes). When all LEDs are green then instrument is ready.

Left=1000 C

Right=650 C

Oven=60 C

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7. While instrument is heating up enter sample information on computer.
8. Computer instructions:
 - 8.1. Open EAS program
 - 8.2. Log in (your login name does not matter)
 - 8.3. Under ECS1 Method, go to File, Open Method, and select NC.met
 - 8.4. Under ECS1 Method, go to Analysis, Sample Table
 - 8.5. In Sample Table, open New (the program will initially open the sample table from the last run)
 - 8.6. Click the check marks for as many sample rows as needed
 - 8.7. Enter sample information
 - 8.7.1. Sample ID
 - 8.7.2. Weight (for unknowns, check standards, and standards)
 - 8.7.3. EA Sample Type – select sample type from dropdown menu
 - 8.7.4. For standards, enter level (low to high would be 1-4 or whatever is appropriate) under LV
 - 8.7.5. For standards, select appropriate standard from the EA standard name menu
 - 8.7.6. Click on calibration window, then on Nitrogen. Make sure first 4 samples on the list have check marks and uncheck the rest of the samples if running a 4 standard curve. Repeat for Carbon and SAVE
 - 8.8. To run samples, go to Sample Table -> Run
 - 8.9. To pause, go to Sample Table -> Pause and -> Resume to resume analysis
 - 8.10. Chromatograms can be closed manually
 - 8.11. Export summary table to get data, which has to be manually saved (computer does not have internet access, so cannot email data)
9. Shutting Down the Instrument
 - Press ABORT
 - Enter
 - Press ST-BY
 - Enter