

Lucidity GC-FID and GAS Guide:



The Lucidity GC-FID is the smallest, most affordable, most robust, easiest to use fully functional Gas Chromatograph instrument on the market with the lowest cost of ownership.



Lucidity GC-FID and Autosampler

All purchased instruments will arrive in the Lucidity packaging.

All purchased Lucidity GC-FID and autosamplers come complete with

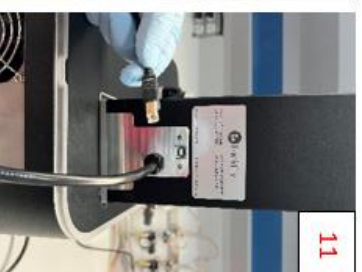
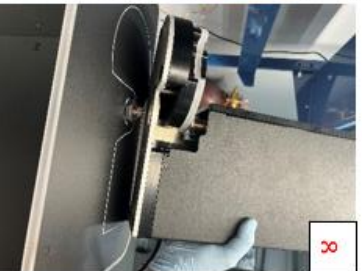
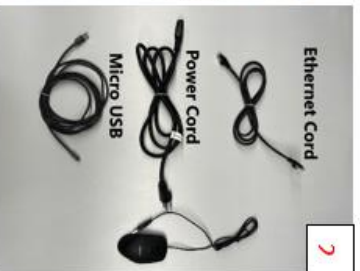
- Laptop containing Lucidity Software
- Starter Column
- Various consumables, such as: autosampler vials, caps, septa, liners, and syringes with needles.

This guide is designed to be used as a quick synopsis for unboxing and using the Lucidity GC-FID.



Figure 1: Contents that come with purchased GC-FID

GC-FID Quick Assembly Guide



GC-FID Connection

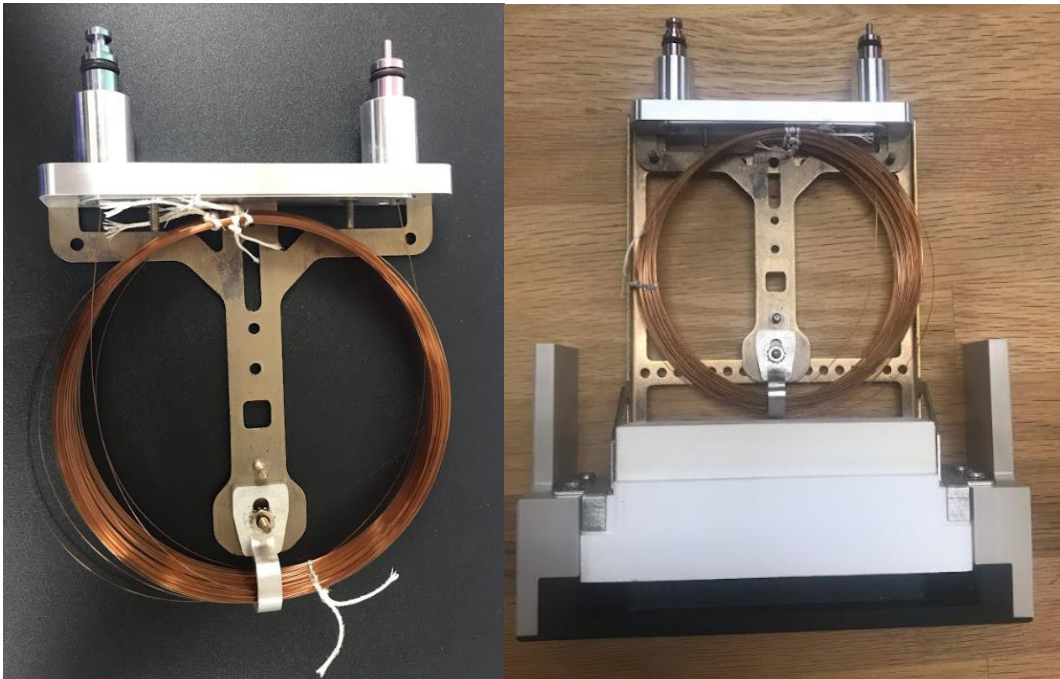
- 1) Back panel of GC-FID
- 2) Connection cords for GC-FID
- 3) Connect ethernet cord to back of GC-FID (CPU COMMS)
- 4) Connect ethernet cord to laptop
- 5) Connect power cord to GC-FID (GC PWR)
- 6) Connect required air lines (air, carrier, and H2)
 - Use provided wrench to tighten lines by $\frac{1}{4}$ turn
- 7) GC-FID connections complete

Autosampler Connection

- 8) Place autosampler on GC-FID (self-aligning system)
- 9) Connect autosampler power cord (AS PWR)
- 10) Connect autosampler communication line to [autosampler](#)
- 11) Connect autosampler communication line (AS COMMS)
- 12) All connections complete (GC-FID with autosampler)

Lucidity GC-FID Column:

Any commonly available GC column (with very few limitations) can be used for analysis in the Lucidity GC-FID. Column can be installed onto the Lucidity column holder or ordered preinstalled on a column holder. The Lucidity columns are unique in the sense that they have to be wound to a smaller coil diameter of 3.5 inches to be placed on the column compartment for installation. Column guards can be used in conjunction with the column holder.



Column Storage rack containing up to 4 columns

Column Installation Video:

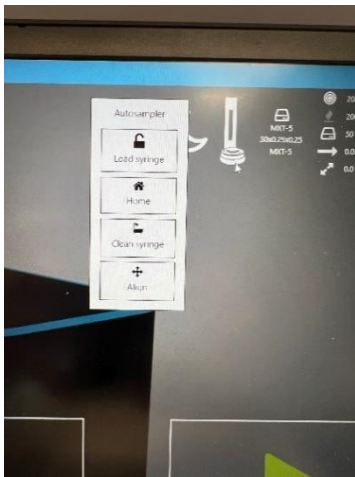
<https://www.youtube.com/watch?v=TvopAWml-XQ>

Autosampler:

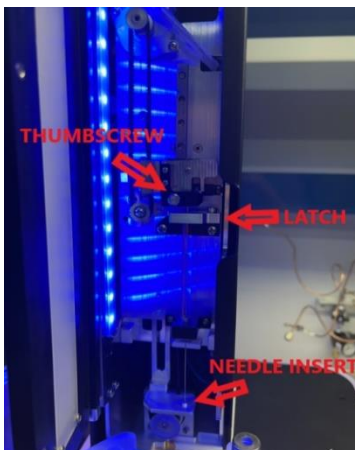


Lucidity GC-FID Autosampler comes equipped with a 16 sample turn-table.

Syringe Installation:



- 1) Click on autosampler icon in the Lucidity Software
- 2) Click load syringe
 - i. This will move syringe hold to allow the syringe to be placed into position
- 3) Open latch
- 4) Insert syringe
 - i. Ensure that needle is properly seated in the foot (needle must be lined up in the hole properly)
- 5) Close latch
- 6) Click home button on software in the autosampler icon
- 7) Tighten thumbscrew



Please see link for more information (video):

<https://www.youtube.com/watch?v=4sL9ODHj0eA>

LED SENSORS:

Lucidity GC-FID and Autosampler are equipped with LED lights that will signify instrument modes:

GC-FID LED colors

Orange - Startup/Initializing instrument

Cyan w/Blue Rotating - Awaiting connection to application

Solid Blue – Idle (And connected to application)

Light blue - Method running

Blue pulsing - Cooldown after method run

Solid green - Ready for method run

Red pulsing - Method canceled or Connection to Application Closed

Pink - Sleep mode

GC-FID Autosampler colors

Yellow - Startup/Initializing

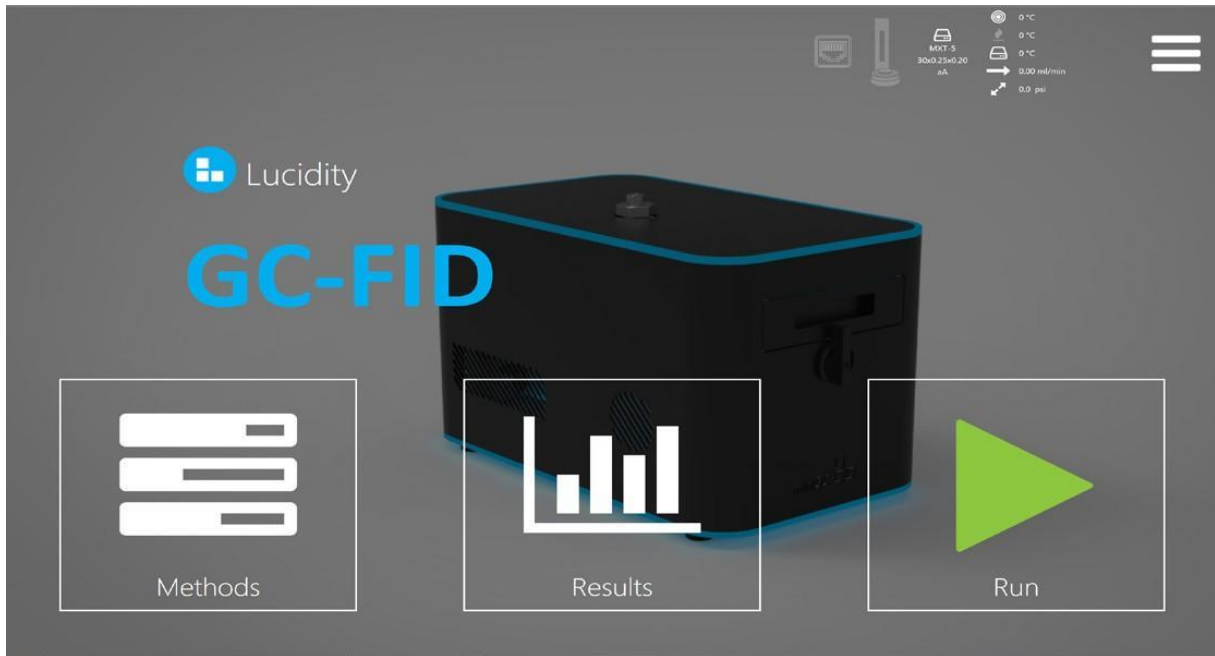
Cyan w/Blue Rotating - No connection to instrument

Solid Blue - Ready

Red Moving - Configuration error

Red - Error/Timeout

SOFTWARE:



Methods:

The Methods tab allows users to set-up instrument parameters for analysis, calibration curves, and reports.

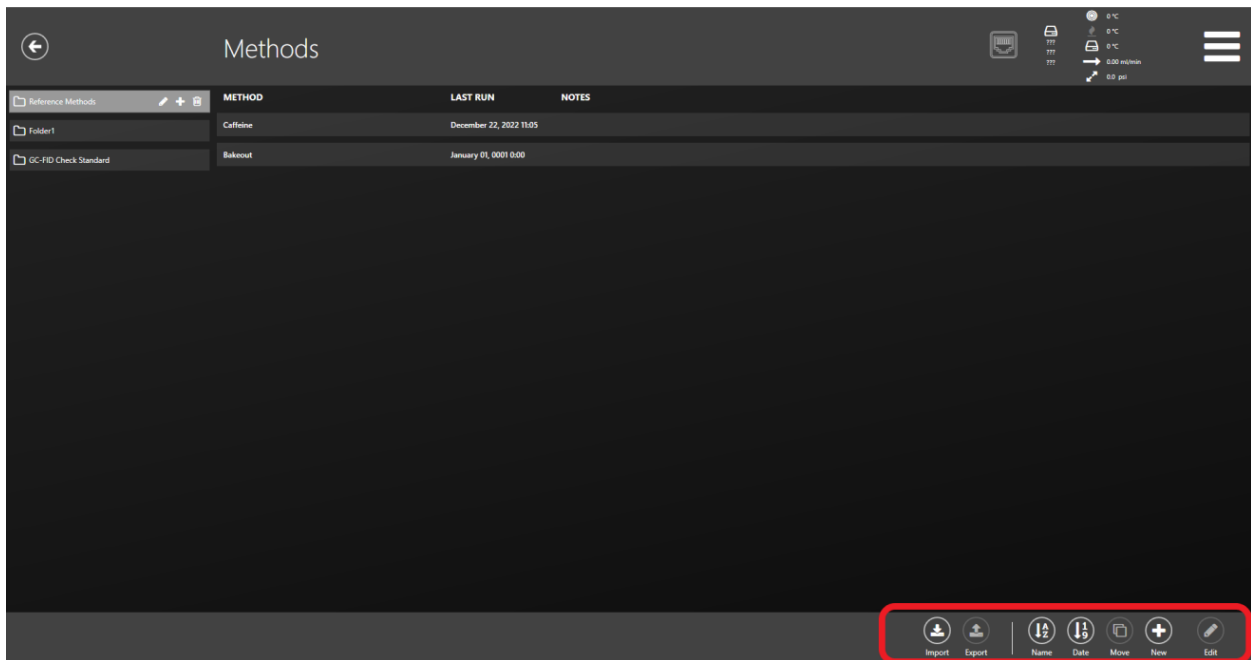


Figure A

Figure A, displays method main screen. Methods can be edited and created from method main screen. Noted in the red circle (Figure A) are the options for editing, importing and creating methods.

Figure B displays editable parameters (circled in red):

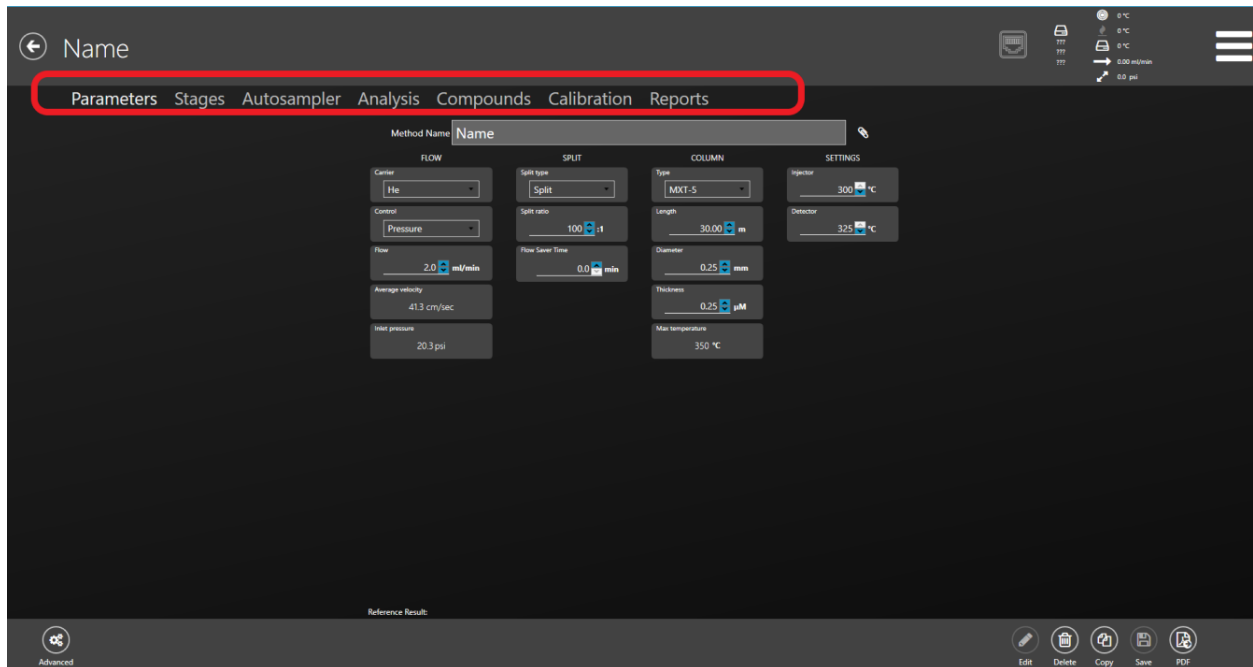


Figure B

Calibration Curves:

A calibration curve can be utilized for quantitation. Figure C displays location for calibration curve entry. Select the "edit" tab and enter in standard values. All desired units can be entered into software. Once amounts are entered, use the results entry portion to select the result that is representative of that particular standard value. The Lucidity software will then build a calibration curve.

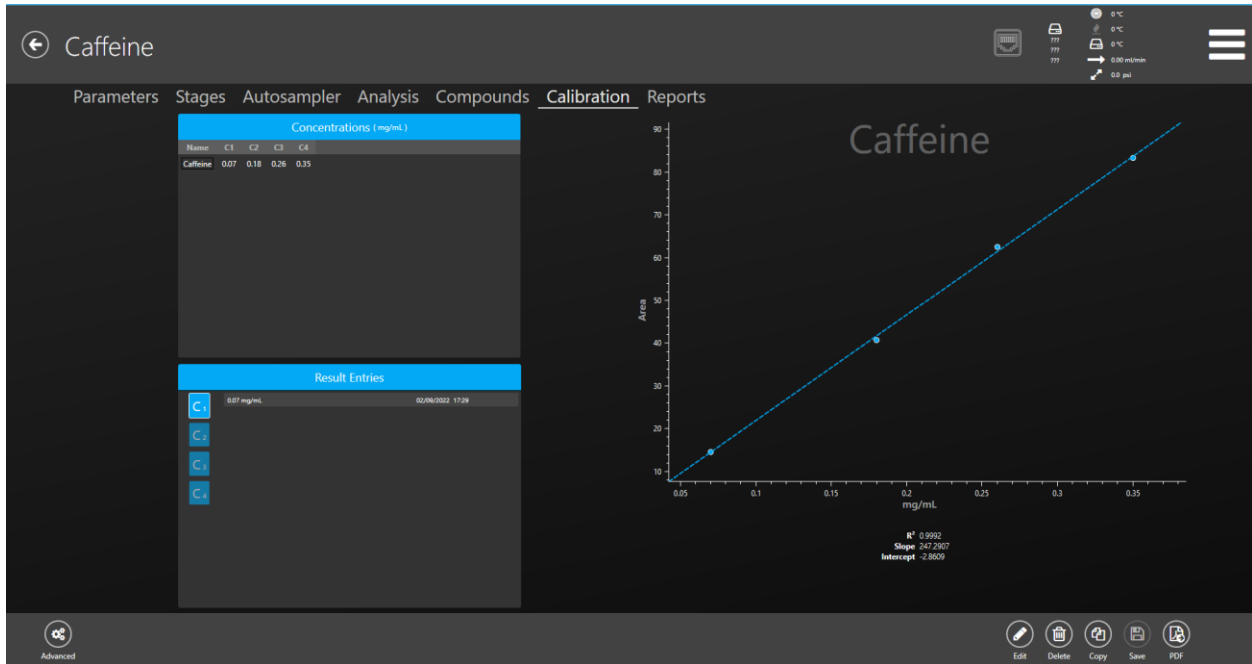


Figure C

Results:

The results tab allows users to view, integrate and interpret results. Figure D displays results. All results flagged in Figure D have been selected as standards.

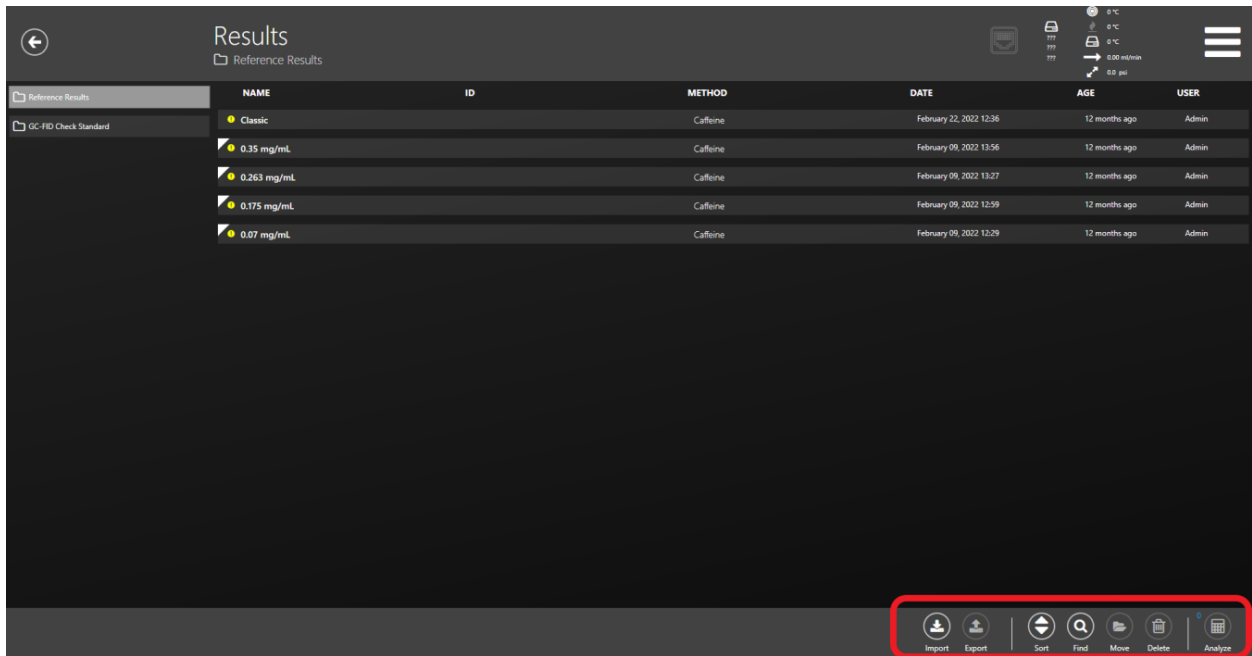


Figure D

Figure E displays an individual result file. Integration parameters in Figure E can be seen by the red arrows.

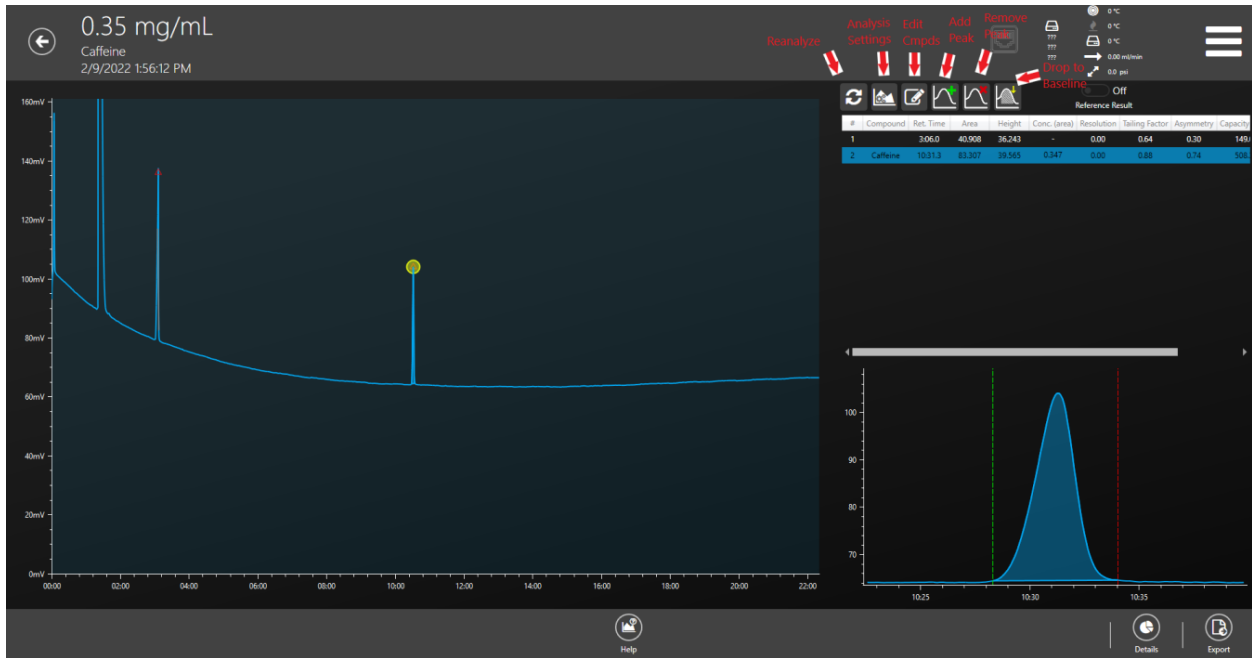


Figure E

Run:

The Run tab is used to set up a batch file for analysis. Figure F displays run tab home screen. From this screen an analysis can either continue a batch, create a new one from scratch or load an existing template.

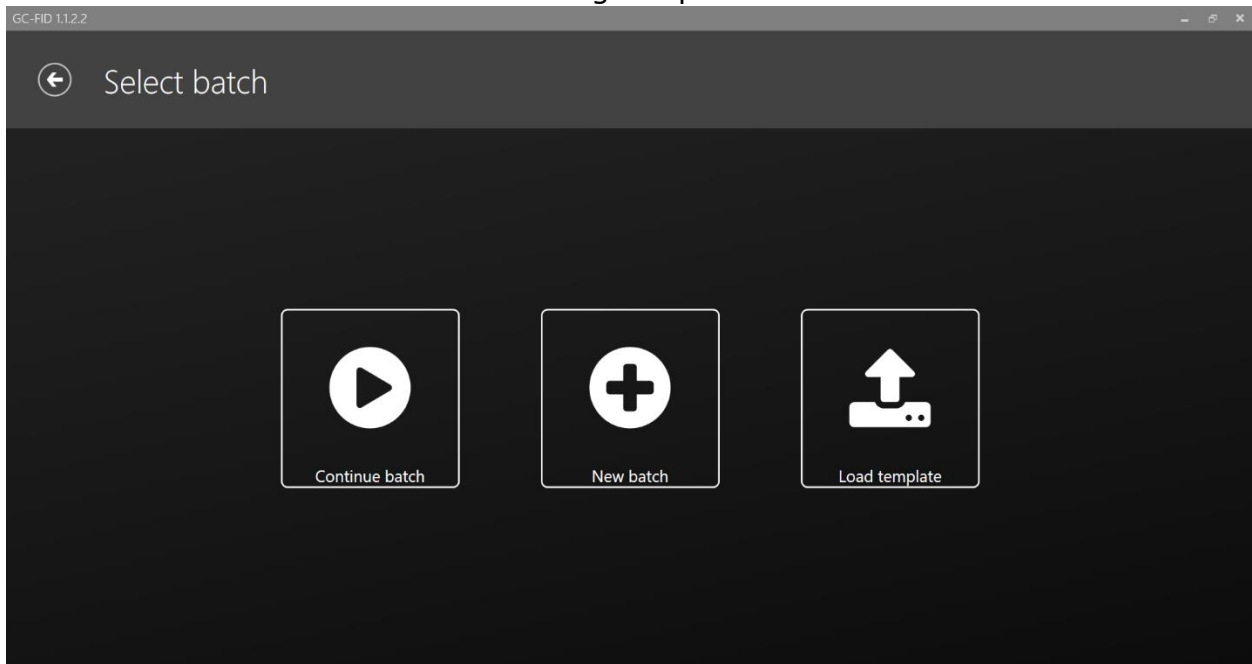
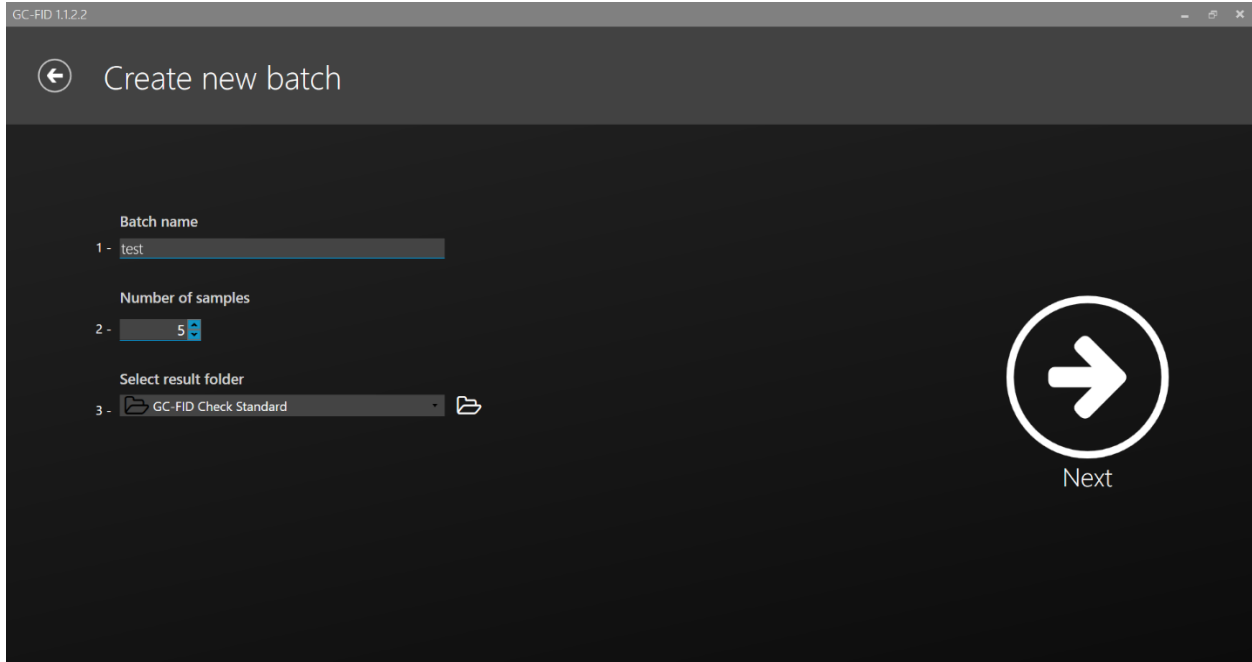


Figure F

The next 3 images display an example of creating and starting a new batch.



GC-FID 1.1.2.2

← Create new batch

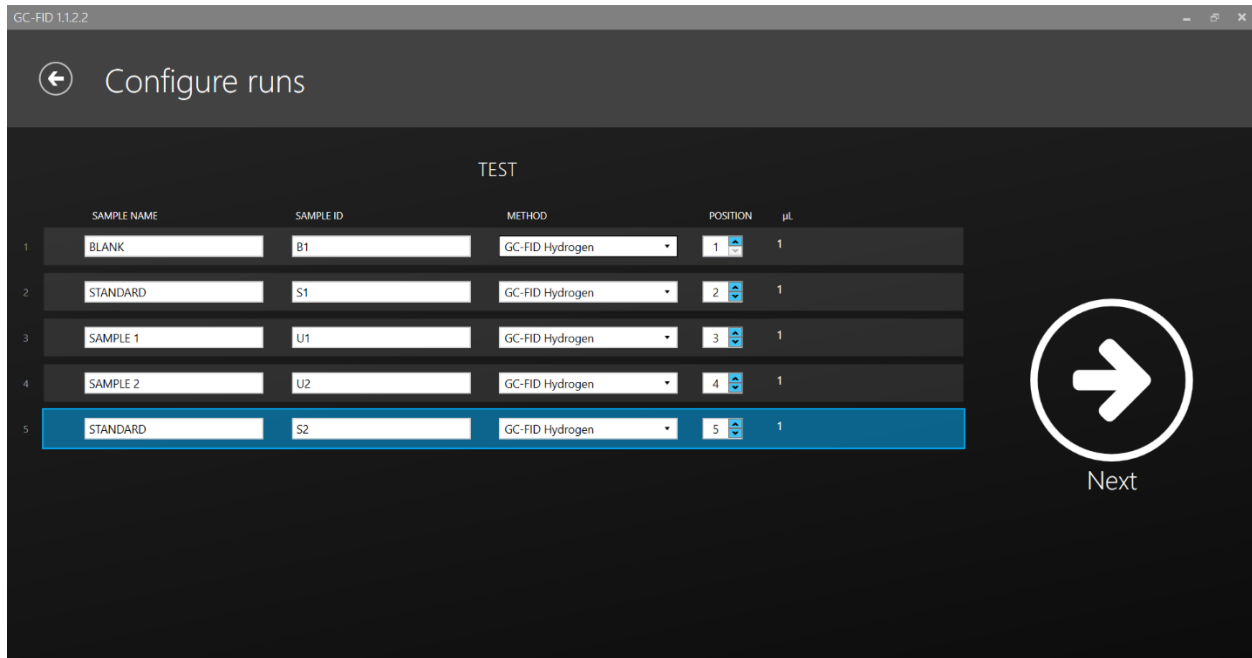
Batch name
1 - test

Number of samples
2 - 5

Select result folder
3 - GC-FID Check Standard

Next

New Batch Creation Screen



GC-FID 1.1.2.2

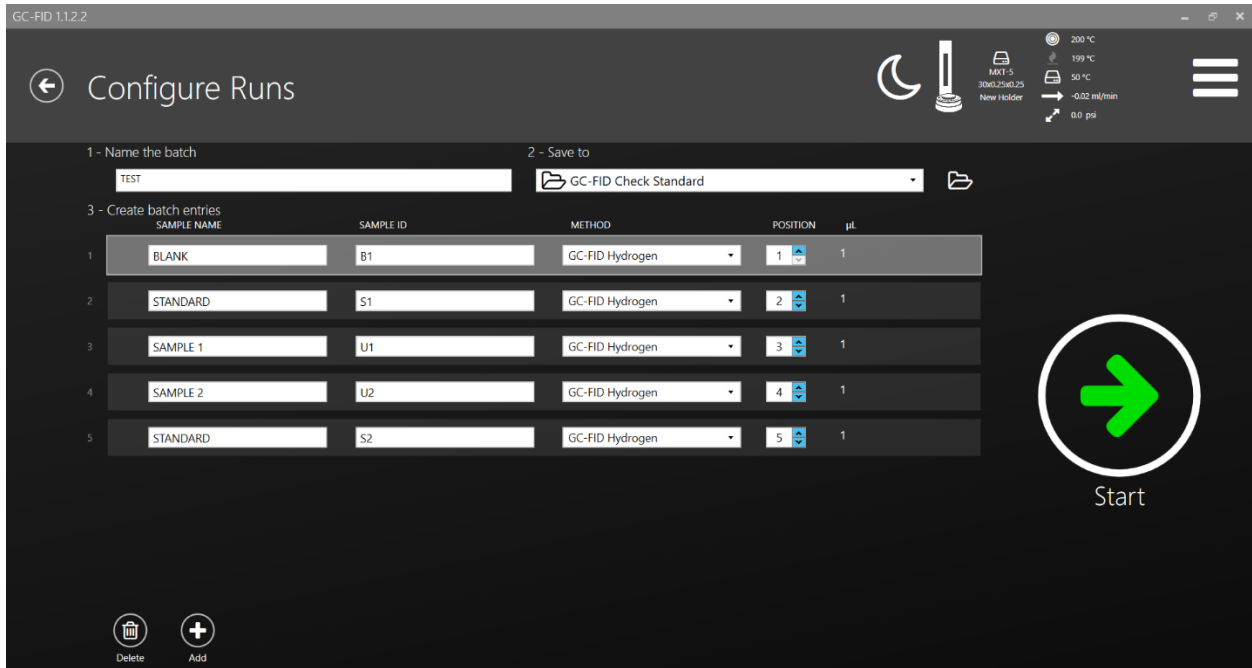
← Configure runs

TEST

	SAMPLE NAME	SAMPLE ID	METHOD	POSITION	µL
1	BLANK	B1	GC-FID Hydrogen	1	1
2	STANDARD	S1	GC-FID Hydrogen	2	1
3	SAMPLE 1	U1	GC-FID Hydrogen	3	1
4	SAMPLE 2	U2	GC-FID Hydrogen	4	1
5	STANDARD	S2	GC-FID Hydrogen	5	1

Next

Setting up new batch



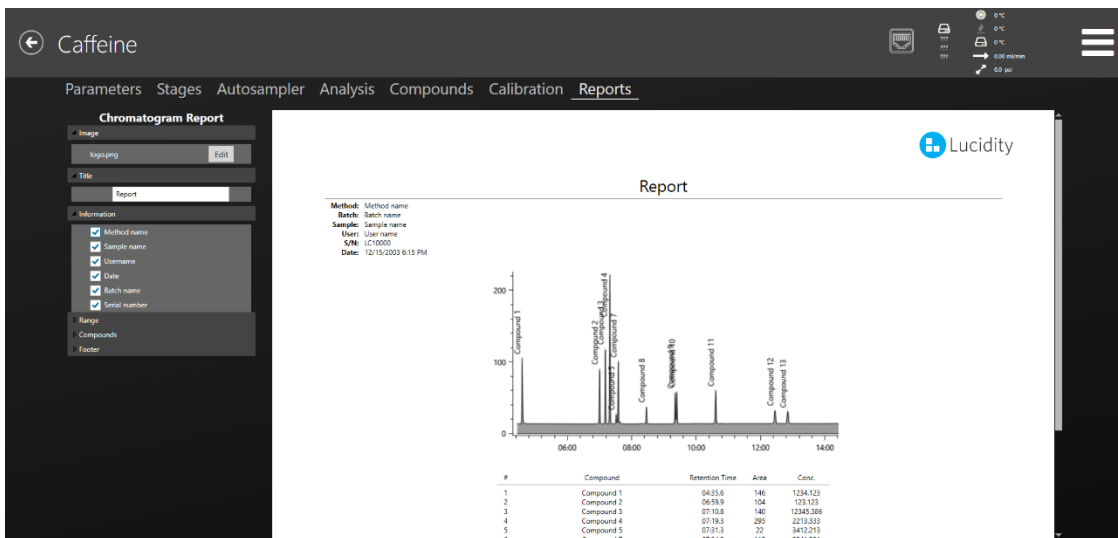
Starting a new batch

Reports

Reports can be created and edited within the Methods Tab. An example can be seen in the image below captioned "Report Exp".

The Lucidity Software has an ease of use reporting style that allows the user to simply check all desired report parameters, such as:

Method name, batch name, report title, header, logo, and all result information (area, %RSD, peak height, etc.)



Report Exp



Lucidity GAS:



The Lucidity GAS is a gas generator that produces all required gasses to run the Lucidity GC-FID. The Lucidity GAS creates Hydrogen (for use as both the carrier gas and a FID fuel gas) and High Purity Compressed Air (for use as an FID fuel gas). There are no external filters or regulators required.

Connection Guide for Lucidity GAS to Lucidity GC-FID:



Connection lines must connect to the proper outlet. Lucidity GC-FID and Lucidity GAS have labeled ports for proper connection.



Connection ports on the back of the Lucidity GAS are push connects. Please insert proper line into proper port (labeled appropriately) and push until secured.



Connect proper line to Lucidity GC-FID. Us provided wrench to tighten lines by ¼ turn.



Once properly connected, open air valves to allow proper flow.