

The miniGC

By Lucidity



The miniGC from Lucidity is the smallest, easiest to use, lowest cost fully functional Gas Chromatograph (GC) available. Through revolutionary design and patented technology Lucidity has been able to create a GC that gives comparable results to the traditional larger, more expensive GCs but in a much smaller, much easier to user, much more affordable package allowing organizations to deploy GC technology in many more places than they ever could before. The miniGC is changing where GC is used, who is using it, and how many systems an organization can obtain.



Size: 27cm wide x 46cm long x 29cm tall

Price: A fraction of the price of the conventional GCs

Ease of Use: The easiest to use GC on the market. Self-installable in 15 minutes.

Features

Major Features of the miniGC include:

- **Shoebbox Size:** The miniGC has by far the smallest footprint of any fully functional GC out there. It's about that of a shoebox while about twice the height of a shoebox. This makes the system ideal for putting in multiple locations, being able to move it when needed, and makes it very easy to install.
- **Rapid Oven Heating & Cooling:** With the smallest oven of any fully functional GC on the market, the miniGC can ramp all the way to 400C at 60C/min and can cool from 400C to 50C in 5 minutes, meaning it heats faster and cools faster than any of the traditional GCs. This allows for much faster analysis times and much less down time between runs.
- **Time High Temp Oven:** The oven can be programmed up to 400C making the miniGC capable of handling very difficult applications where you want to analyze very nonvolatile compounds. This is one of the reasons the miniGC has very similar operating capabilities as the traditional larger, more expensive systems rather than being limited to

much lower temperatures and therefore a smaller range of very volatile compounds as in portable systems.

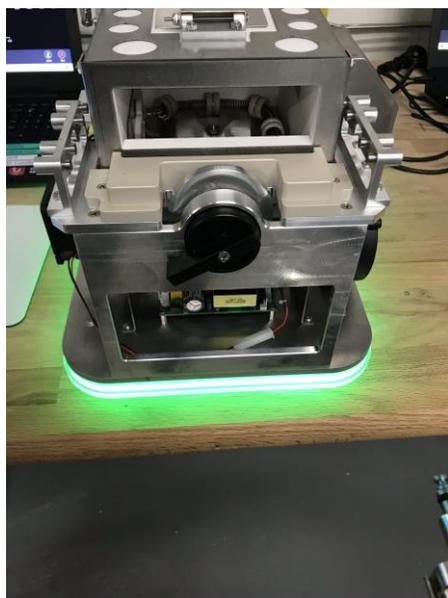
- **Split / Splitless Injection Port:** The injection port is another key feature that makes the miniGC a true fully functional GC. With its sophisticated flow controllers and refined, inert flow path, it is capable of operating in any of the split or splitless modes that users of high end, fully functional systems are used to and makes it capable of handling very concentrated and very dilute samples.
- **Removable Column Cartridges:** One of the biggest pains with conventional GCs is installing and removing columns. The miniGC allows you to install and remove standard GC columns as easily as you can put a video game cartridge into a gaming console, while eliminating potential user error that usually leads to small leaks or incorrect positioning of the column ends resulting in poor chromatography.
- **Powerful, User-Friendly Interface:** We have custom designed our user interface with the customer and ease of use in mind. Our goal has always been to create an extremely powerful interface allowing full functionality but while also being extremely easy to navigate with no training required. If it requires a manual to use, it's probably too complicated.
- **Ease of Installation & Training:** Between training videos, intuitive helpful software, and the Check Standard, and the size of the system, the miniGC is incredibly easy to install and can be installed and running samples in 15 minutes.

Removable Column Cartridges



Changing columns has never been easier. Conventional metal capillary chromatography columns can be installed into our column holders and then the columns can be changed as easily as video game cartridges into a gaming console. The miniGC also keeps track of what runs are run on what columns and warns users if they attempt to run the wrong column with the wrong method.

Rapid Heating / Cooling Oven



We have created an oven that is a fraction of the size of the conventional GC ovens, allowing for much faster heating rates and much faster cooling rates than conventional GCs, which results in much faster runs and much less down time between runs. We can heat up to 60C / minute from 40C all the way to 400C, and we can cool from 400C to 50C in 5 minutes.

Our unique oven design also allows for the columns to easily be interchanged through the front of the oven via the column holder and for the column ends to securely seal into the injection port and detector manifolds. No more tightening nuts and ferrules inside the oven!

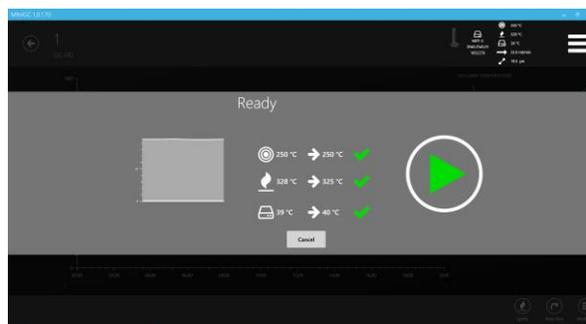
Interface

The miniGC software is the most intuitive GC software available. It is based on modern consumer electronics interfaces that require no user guides because their operation is so intuitive. And yet it also gives the user control of all the same parameters they are used to having control over. Enhanced simplicity without compromising capability.



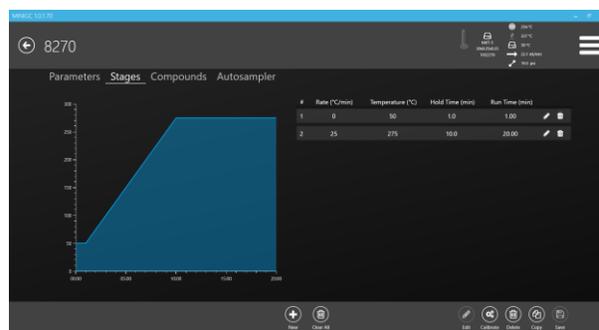
The home screen is only usually one click away and allows you to go directly into a run, access methods, access results, or access and change any parameters through the live dashboard that follows you through the software so you can always see the status of the system.

Upon entering the run screen you are able to create a sequence to run or run a single sample. Upon choosing a run name and a method to run, the user sees the status of the run parameters as they approach the method setpoints. Once the setpoints have been reached the user can start the run.

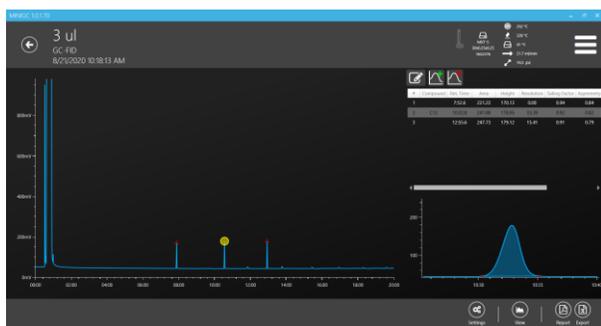


Once the run has begun you see the chromatogram in real time as well as the method proceeding in real time in a very clutter free easy-to-understand graphical layout.

The user can also go into the method library where they can access different methods, organize them into folders, edit them, delete them, or create new methods. Method creation and editing is very straightforward so even those new to chromatography can create



methods. Methods can also be imported and exported across different systems.



The results viewer allows users to view all the different results, organize them into folders, view them one at a time or view multiple results overlaid. The software auto-identifies peaks and integrates them giving a list of peaks and their areas, heights, and more. The software will also match compounds with these peaks based on retention times. Results can be imported or

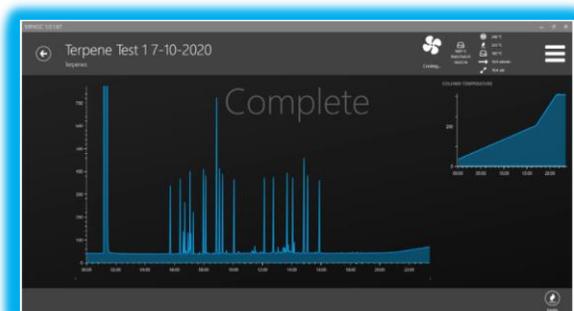
exported and overlaid with any other results on any other system. Reports can also be generated based on these results.

We have designed control and data viewing software for our miniGC that is the easiest to use GC software available while allowing full control of the system. The miniGC comes with a laptop with the software that connects to the miniGC via an ethernet cable. The software and all future upgrades are free and open source to anyone so our software can be seamlessly integration with any LIMS system and the data can be exported into cvs for external data viewing and analysis. Watch the software demo videos on our website

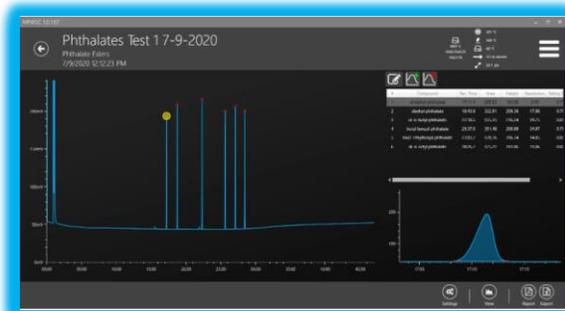
[\(https://luciditysystems.com/products/minigc/minigc-interface/\)](https://luciditysystems.com/products/minigc/minigc-interface/) to see the software in action.

Results

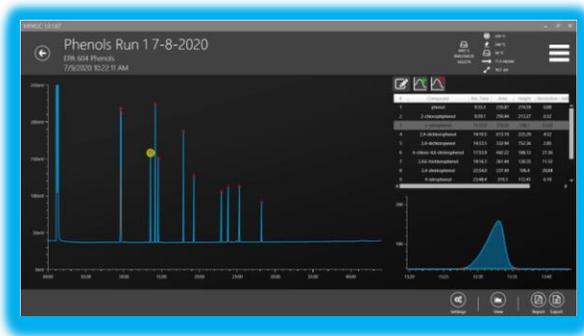
Seeing is believing. Although the miniGC is small, affordable, and easy-to-use, its results are comparable to larger, more expensive conventional GCs. These results were generated in miniGCs using the same methods and samples as conventional GCs and the chromatograms are indistinguishable.



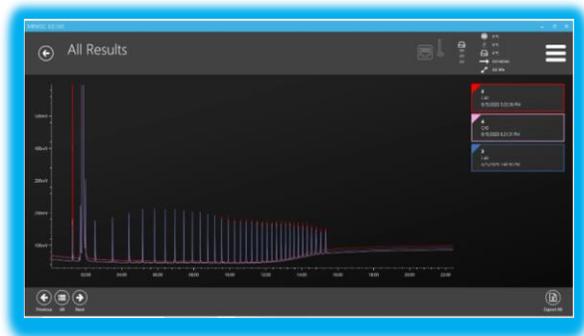
Phthalates



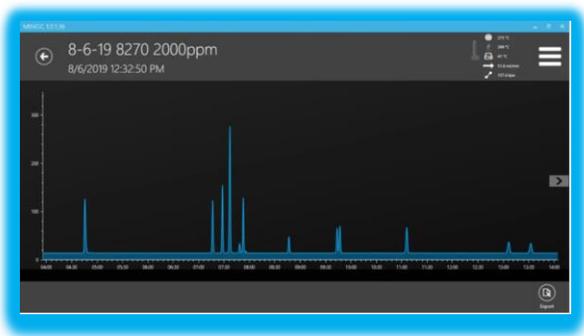
Terpenes



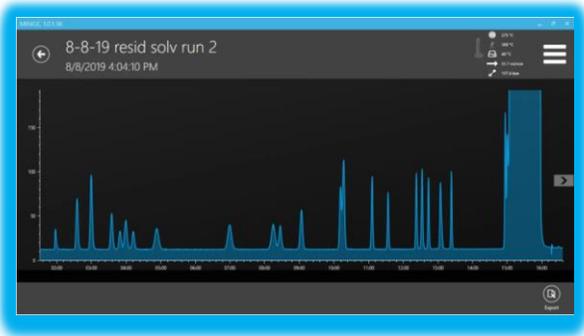
Phenols



C7-C40 Saturated Alkanes



Semivolatiles



Residual Solvents

For more results and to see the conventional results and methods visit our website (<https://luciditysystems.com/products/minigc/minigc-results/>).

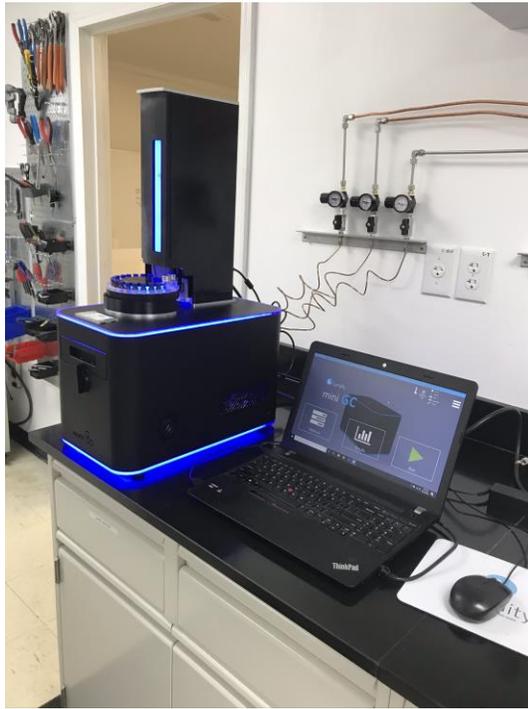
Accessories

The miniGC comes with an Accessory Kit that includes everything you need to start running samples including a column, a laptop with software, the Check Standard, and some tools and supplies to keep you running.

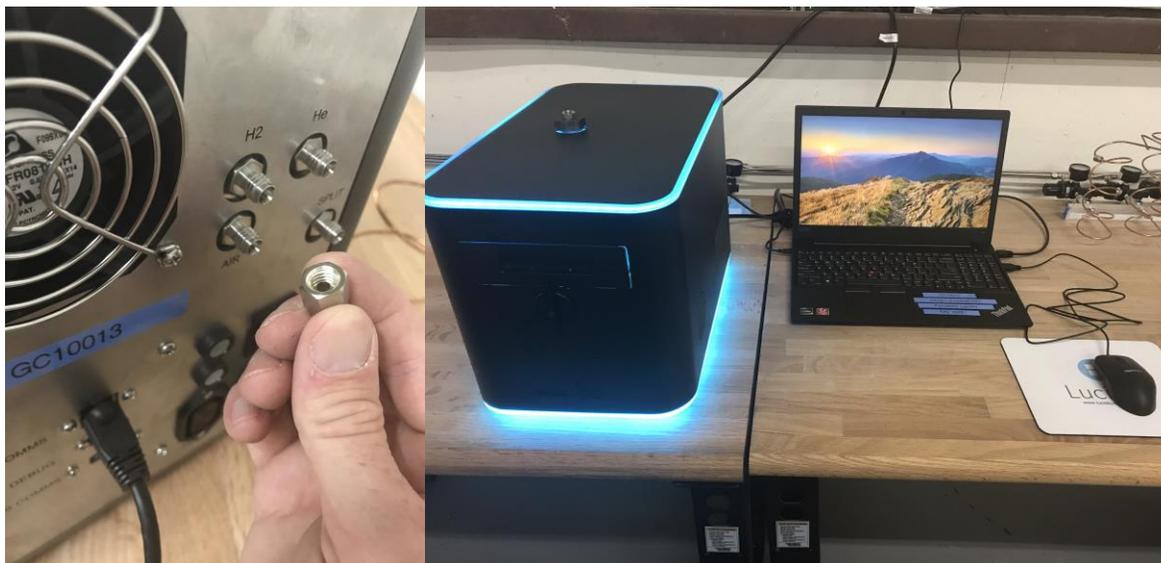
In addition you can also buy the miniGC Autosampler that easily magnetically attaches on top of the miniGC and has a 16 position turntable for liquid sampling.

Other types of autosamplers can be connected as well.

Also available is a Column Storage Rack that allows users to store columns that are not in use in a convenient rack that saves space and seals the ends of the columns when not in use.

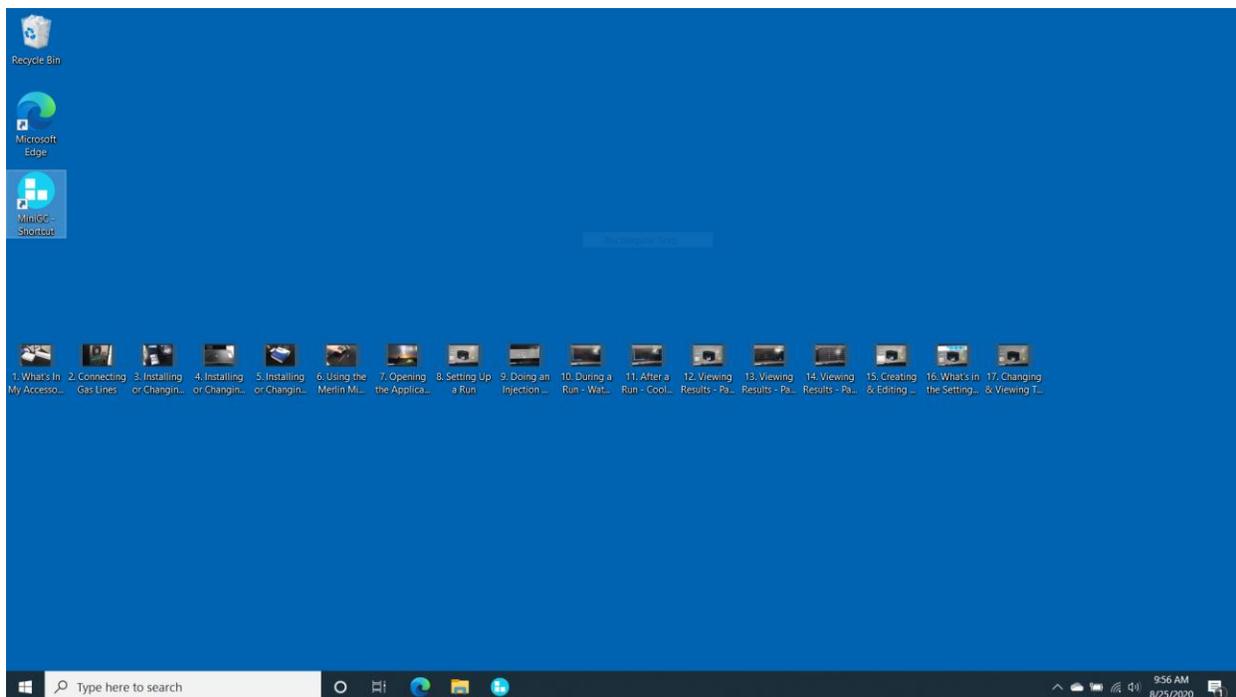


Easy Installation



The miniGC arrives in small box and contains everything you need to run samples minus the needed gasses. Before the system arrives you receive an Installation Guide with pictures guiding

you step by step through unpacking the system and setting it up. Once you have turned on the laptop that comes with the system, in addition to the system software you will see a series of 3-5 minute videos that show take you through installation and operation of the system.



The system can be set up in 15 minutes and running samples if you have your gas connections ready. And this is one of the big benefits of the miniGC. It is more like purchasing and setting up a consumer product than a piece of laboratory instrumentation. Because of the size and weight of the system, it's small power requirements, its ease of use, the intuitive interface, and the use of training videos and installation guides, we're able to make the miniGC extremely simple to deploy quickly and easily anywhere testing needs to be done.

The Check Standard

The Check Standard is a standard provided with the miniGC that we run in every single miniGC produced as part of our checkout procedure. We run 3 runs of this Check Standard in every miniGC and save these runs in the results. We also include a Check Standard in the Accessory Kit of the miniGC, so when a user receives their miniGC they can run the Check Standard at any time and overlay the result on the 3 runs performed at checkout.

The training videos show live runs of us running the Check Standard so you can follow along and do the same and we encourage each user to run the Check Standard as the first thing they do so they can familiarize themselves with system as well as performing a check to ensure the system is working properly after shipment.

At any point after installation if a user is concerned about the proper operation of the system they can run the Check Standard and send us the results for quick diagnosing of the problem.



Why Buy a miniGC?



With the size, cost, and ease of use of the miniGC you can deploy many more GCs in your organization than you were previously able to. You can place them in more locations closer to where the analysis needs to be done and you can put them in the hands of people who are less experienced. The results from these systems can be compared to conventional GCs so they can fit right in with the larger, more expensive GCs you might have and they can match the chromatograms and

results you are used to seeing. If you previously were unable to justify buying a GC, now one is in reach, if you were limited in where you could place them in your organization because of budget or lack of trained personnel, now you're not, if you were previously buying used equipment because of budget concerns, now you can buy new.

We are not changing the way gas chromatography is done, we are simply making it much easier and much more affordable to do.

Specs

- Power: 100-260V, 50-60Hz input power
- Injection Port: 2 Zone programmable temps, Split, Splitless
- FID Detector, ~100ppb detection limit
- Column: Compatible with any commercially available metal capillary columns up to 60m in length and with any ID and film thickness
- Column Oven: 60C/min heating from 40C to 400C, cools from 400C to 50C in 5 minutes
- Weight: 35 lbs (16 kg)
- Footprint: 10.5" (27 cm) wide x 11.5" (29 cm) tall x 18" (46 cm) long
- Uses standard GC inlet liners and GC injection port septa
- Includes external Windows based applications software and laptop

Lucidity

For more information on who we are and what we do please visit <https://luciditysystems.com/>.