

Small Size, Big Impact

Agilent 8850 GC system





Unleash the Power of Small

This GC withstands the toughest demands

Limited bench space. Sustainability goals and rising energy costs. Pressure to turn around more samples in less time. Faced with these challenges, it's more important than ever for your lab to maximize productivity, efficiency, and uptime. And the Agilent 8850 GC is designed and engineered to help you do just that.

This gas chromatograph is the smallest high-performance benchtop GC on the market, taking just half the bench space of traditional instruments. It combines powerful intelligence features with a compact footprint, while enabling even novice users to diagnose common problems and perform extended routine maintenance and troubleshooting. So, you can minimize downtime and maintain your reputation by providing on-time, dependable results.

What's more, the 8850 GC builds on the legacy of the Agilent 6850 GC and delivers the chromatographic performance and rugged reliability you expect from Agilent.



Keep samples flowing through your lab by working smarter, not larger

Fast analysis

A small, precisely designed air-bath oven enables industry-leading, fast temperature ramps (up to 300 °C/min) and short cool-down times.

Energy efficiency

Using 45% less power than other GCs, the 8850 helps your lab reduce energy costs and meet sustainability goals.

Compact size

The 8850 GC has the same footprint as the Agilent 6850 GC, yet it delivers the same performance of the Agilent 8890 GC.

Redundancy

With a footprint about half that of an 8890 GC, you can fit two instruments, and run two methods simultaneously, in the same valuable bench space.

Easy transition from the 6850 GC

The 8850 GC uses familiar consumables and software, minimizing method development, start-up, and training time.

High performance

Featuring the same electronic pneumatics control (EPC), inlets, and detectors found in the 8890 GC, the 8850 GC delivers the same unparalleled repeatability, precision, and sensitivity.

System flexibility

The 8850 lets you expand your analytical capabilities by connecting to Agilent single quadrupole and triple quadrupole mass spectrometers.

All the performance, half the space

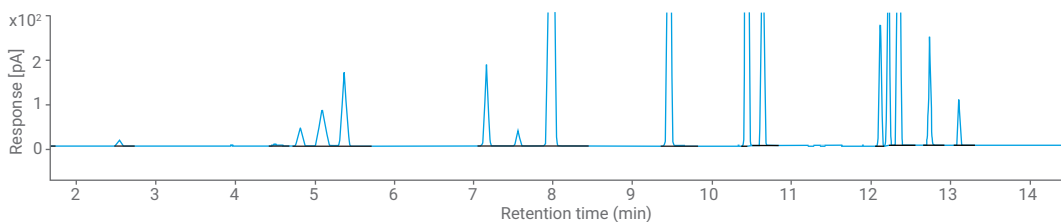
The 8850 GC uses the same proven components as the Agilent 8890 GC. Both provide state-of-the-art performance for unsurpassed retention time and quantitation repeatability, as seen for similar Class 2A residual solvent applications below. Both data sets demonstrate a maximum area and RT precision of 3.45% and 0.033%, respectively.

Despite different hardware configuration and oven programs, reliable and comparable data is collected across both instruments.



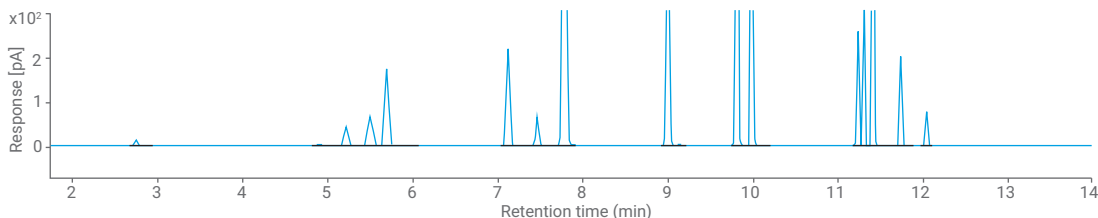
Agilent 8890 GC

He carrier gas



Agilent 8850 GC

He carrier gas



Huge benefits in a small package

The 8850 GC is equipped to make a big impact on productivity by increasing uptime, reducing sample turnaround time, and advancing your lab's reputation for providing reliable answers.

At home on any bench

The 8850 GC is small enough, rugged enough, and simple enough to operate close to process areas, so you can monitor your production processes without interruption.

Inlets and detectors for your analytical needs

Quality Agilent GC detectors and inlets provide the selectivity and sensitivity that your application requires. Analyze diverse samples with split/splitless, multimode, purged packed, or cool on-column inlets, as well as flame ionization (FID), single and triple quadrupole mass spectrometers (MS), and thermal conductivity (TCD) detectors.

Full-function touch screen

The available touch screen provides a visual report of the system configuration, allowing you to update the active method, perform routine maintenance, and check GC instrument status.

No-hassle maintenance

A unique top-opening lid lifts the column out of the oven, allowing convenient access to inlet and detector connections. Easy-open side panels let you reach key internal components when needed.

Backflush

The Agilent Purged Ultimate Union (PUU) enables fast, flexible backflush. This technique offers significant benefits, including reduced cycle times, less maintenance, fewer recalibrations, elimination of carryover or ghost peaks, longer column life, and better data.

Transfer line interface (XLSI)

This accessory allows you to connect a headspace sampler and an automatic liquid sampler to the same inlet on the GC.

Familiar consumables

The system uses the same consumables as the 8890 and 8860 GCs and is compatible with the same columns as the 6850 GC. A wide choice of 5" capillary and packed metal columns is available to suit your every application.



Fully compatible with MS

The 8850 GC with an Agilent single quadrupole or triple quadrupole MS expands the range of applications you can perform. These GC/MS systems are the fastest and smallest available, taking just two-thirds the benchspace of traditional instruments.



Unleash the potential **Agilent 5977C GC/MSD**

This reliable workhorse is well suited for environmental impurities, food testing, chemical and petrochemical analysis, and the analysis of forensic and pharmaceutical compounds. System intelligence makes monitoring easy and actionable.



Reach a higher plane of productivity **Agilent 7000E triple quadrupole GC/MS**

Do you perform multiclass, multiresidue analysis in challenging matrices? The 7000E GC/TQ delivers the answers you seek with unequivocal robustness. Built-in instrument intelligence—including smart diagnostics and monitoring—reduce downtime and simplify operations.




Redefine performance **Agilent 7010D triple quadrupole GC/MS**

Go beyond all limits with the 7010D GC/TQ. HES 2.0 ion source technology enables ultratrace-level detection limits, while heated gold quadrupoles deliver unparalleled results with remarkable uptime.

Flexible, automated sample preparation and introduction

Boost GC and GC/MS productivity and accuracy with automated sample preparation and introduction options, including autosamplers, headspace, and sampling valves.

Automatic liquid samplers offer sample capacity of 16, 50, or up to 1,458 2 mL vials on the PAL3 Series 2 ALS. Sample preparation capabilities—including SPME and SPME Arrow, dilution, solvent addition, agitation, centrifugation, wash steps, and more—are possible with the PAL3.



Intelligent GC simplifies life inside and outside the lab

The 8850 GC is the newest addition to the family of intelligent GCs that monitor system health, alert you to potential issues, and help you solve problems. That means you can plan your work—including maintenance—rather than react to unexpected downtime.

Know that your GC is ready to run before you begin

Initiate diagnostic tests at any time through the touch screen or browser interface.

Keep your GC operating at its best

The 8850 GC continuously monitors setpoints and reference voltages. When issues are identified, an alert appears on both the touch screen and the browser interface.

Maximize uptime

Automated diagnostics evaluate and provide feedback on instrument health. Guided maintenance helps even novice users perform tasks right the first time.

Check on your instruments anytime, from anywhere

Now you don't have to be in your lab to make sure that things are running smoothly. With its intuitive browser interface, the 8850 GC lets you remotely view setup information, troubleshoot problems, check for leaks, pause and start sample runs, and manage method development.

Access expertise across your organization

Remote connectivity enables troubleshooting from any location, expanding your pool of GC experts. When necessary, guided troubleshooting saves time by allowing users to provide information to specialists.



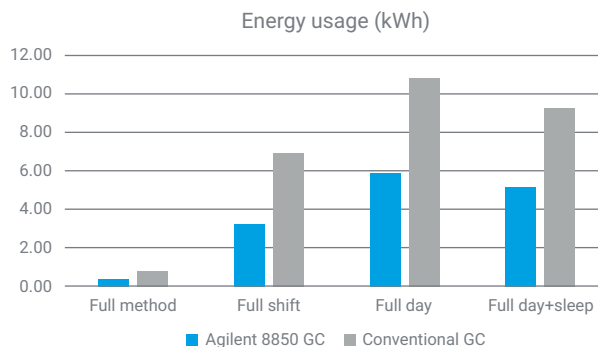
Helping you meet your sustainability goals

Labs with GC instruments have unique sustainability challenges due to their resource-intensive nature. These 8850 GC features can lower your environmental impact while boosting productivity.

Compact oven design Save power and space while speeding up your analysis.

GC intelligence Smart features help you monitor and reduce resource use.

Sleep mode Reduce power and gas consumption during periods of inactivity.



The 8850 GC used 45% less energy than conventional GC systems in this analysis of pesticides.

Upgrade to efficiency and earn credit toward your new 8850 GC

Agilent Trade-In and Buyback services let you trade in your 6850 or another older GC for cash or credit. So, you can get the funds you need to upgrade to the latest technologies. [Learn more](#)

Let Agilent do all the work



Packaging



De-installation



Collection



Earth-friendly disposal



No hidden costs



Handle the hassles of the helium shortage

The 8850 GC uses less electricity and can help you conserve helium—a non-renewable resource—or switch to another carrier gas.

Helium conservation module

Minimize helium use with our optional helium conservation module. It automatically switches the carrier gas supply to nitrogen during GC idle time, keeping the flow path inert and the system at temperature during standby mode. Combine with Agilent Gas Saver to use even less helium.

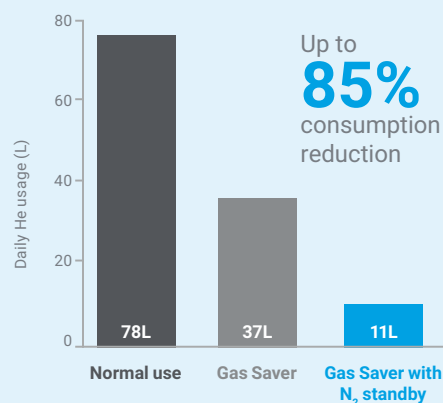
Hydrogen sensor module for hydrogen carrier gas

The Agilent 8850 GC offers built-in hydrogen safety features. The optional hydrogen sensor module continuously checks for free hydrogen in the column oven. If a leak is detected, the instrument will perform a series of actions including venting, turning off the hydrogen gas supply, and shutting down thermal zones.

[Learn more](#) about conserving helium or converting to an alternative carrier gas.

Minimizing helium usage

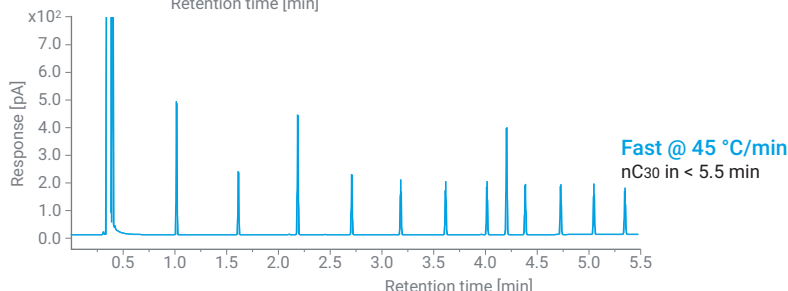
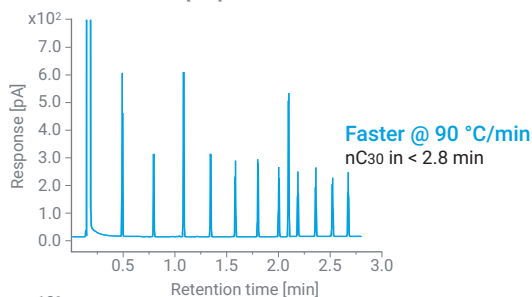
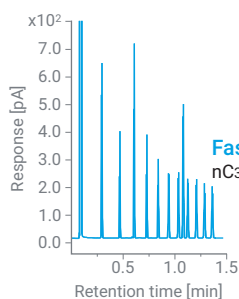
Comparison of helium consumption on a GC run cycle



[Calculate](#) your savings

Incomparable speed, incredible precision

Fast, faster, and fastest oven options enable impressively short run times for increased productivity.



Whether you require higher sample throughput, shorter turnaround times, or quicker start-up after maintenance downtime, the Agilent 8850 GC has the speed you need.

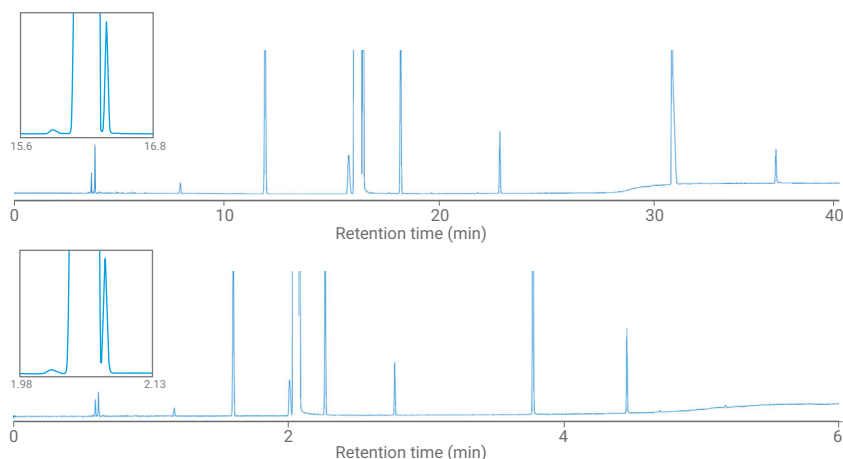
The hydrocarbon ladder chromatograms illustrate productivity gains possible using the maximum oven temperature ramp rate of the different power models.*

Chromatographic performance is maintained as the analysis speed increases by a factor of more than three.

* Regional availability

Energy and chemicals: Solvents by ASTM D7504

Monocyclic aromatic hydrocarbons are important commodity chemicals used to manufacture polymers. Method D7504 defines an approach for measuring overall chemical purity and the content of key impurities using gas chromatography.



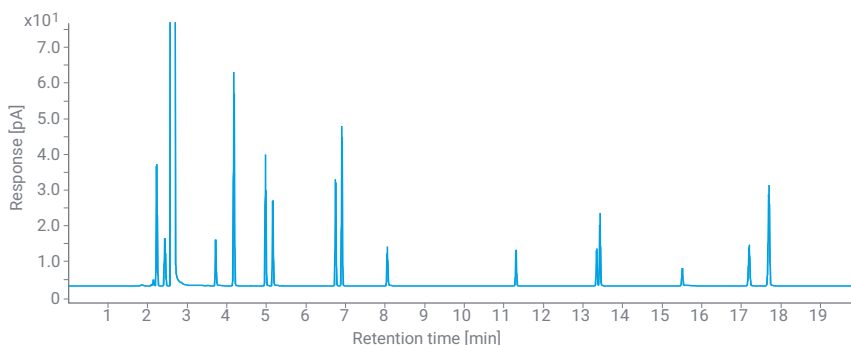
The 8850 GC offers the flexibility to run conventional methods using helium carrier gas (top) or fast methods using hydrogen carrier gas (bottom). Insets show D7504 *p*-xylene and *m*-xylene resolution requirements are easily met using either approach.

More than a match for challenging applications

The performance of the 8850 GC meets your toughest requirements for accurate, precise, and consistent results.

Materials testing: Solvents and additives in lithium battery electrolytes

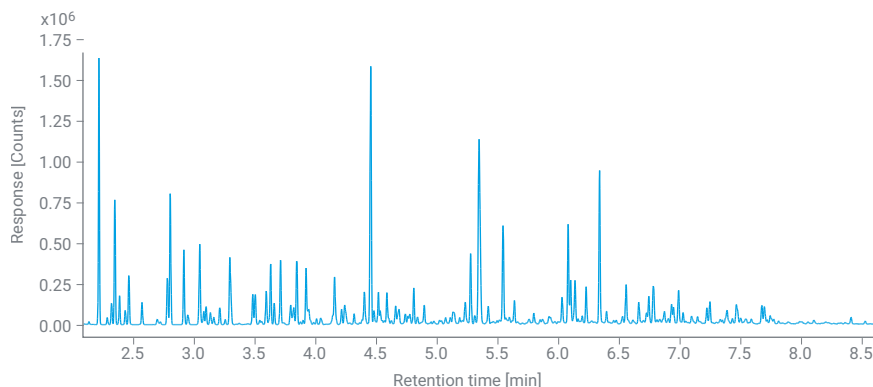
Analyzing and identifying the composition of carbonate compounds and additives in the electrolyte of lithium-ion batteries is of great significance for performance studies and quality control. This method combines the 8850 GC with FID, providing an easy-to-use, cost effective, and stable platform for electrolyte analysis.



The 8850 GC equipped with a DB-1701 column and using helium as the carrier gas, exhibits outstanding performance in analyzing the 13 key components in the electrolyte.

Energy and chemicals: Aromatics in gasoline by ASTM D5769

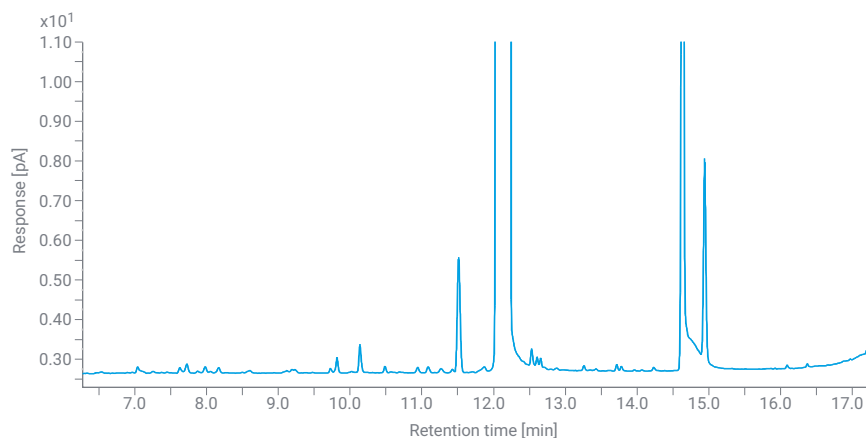
Total aromatic content in gasoline is a key measurement for product quality and regulatory compliance. The 8850/5977C GC/MSD system is a fast, robust, and energy-efficient solution for D5769 in a compact form factor.



The 8850-MSD system delivers excellent linearity for 24 individual aromatic species including toluene with an R^2 of 0.99996 in a total runtime of 9 minutes.

Advanced materials: NMP solvent purity for semicon and rechargeable battery production

NMP is an industrial solvent used across many critical industries such as semiconductors, lithium-ion battery, and pharmaceuticals. It is necessary to accurately quantify the purity to ensure industrial processes proceed as expected, without production or performance issues.



The 8850 GC, coupled with OpenLab CDS, accurately quantifies NMP solvent purity and monitors trace-level known and unknown impurities.

Intuitive software
designed to enhance
your 8850 GC
experience



Seamless control, from sample to report

To maximize the potential of your 8850 GC, OpenLab software provides the best solution for QC environments. OpenLab CDS lets you maintain quality and reliability with role-based access controls and comprehensive audit trails. The integration optimizer provides a fast way to optimize integration parameters to improve the accuracy of results in real time.

MassHunter software streamlines your workflow by delivering complete control from tune to data analysis and report generation. This powerful software is ideal for all GC/MS applications—including single quadrupole and triple quadrupole.

In addition, OpenLab ChemStation and OpenLab EZChrom software both support the 8850 GC. The system is also compatible with third-party chromatography data systems.



When you buy columns and supplies from Agilent, you're buying more than just products

Get your GC columns and supplies from one source—Agilent. You'll benefit from stringent Agilent quality-control specifications, enhancing the performance of your instrument.



GC columns

Agilent J&W GC columns deliver the lowest bleed levels, highest inertness, and tightest column-to-column reproducibility. A wide choice of 5" capillary and packed metal columns is available to suit your every application.

[Learn more](#)



Nonstick BTO inlet septa

Preconditioned, bleed temperature optimized (BTO) septa are designed to sustain inlet operating temperatures up to 400 °C without risk of flow path contamination. [Learn more](#)



Ultra Inert gold plated GC inlet seal

Eliminate leaks at split/splitless injection ports, improving sensitivity and prolonging column life. [Learn more](#)



Graphite/Vespel column ferrules

Combining the material properties of high-performance polyimide and graphite, these ferrules resist deformation and prohibit oxygen intrusion into the flow path. [Learn more](#)



Ultra Inert inlet liner

These inert liners feature a proprietary deactivation process that eliminates potential active sites located throughout the interior of the liner. [Learn more](#)



Gas Clean filter kit

Reduce column damage and sensitivity loss. Gas Clean filters ensure a contaminant-free gas line, and smart sensors alert you when filters are saturated and need replacing. [Learn more](#)



ADM Flow Meter and electronic leak detector

Combines the two most critical GC flow path monitoring tasks into a single hand-held cartridge system. [Learn more](#)



GC autosampler syringes

Durable syringes feature a specialized plunger head that aligns with the sampler's stroking mechanism to improve injection accuracy and improve plunger longevity. [Learn more](#)

New to Agilent GCs?
Transitioning from the 6850 GC?
We're here to help you succeed.



When it comes to adding new instruments to the lab, no two experiences are quite the same. What's more, a shortage of time and staff can make it difficult to implement new technologies to their fullest potential.

Get on the fast track to better outcomes with Agilent CrossLab. CrossLab is an Agilent capability that integrates services and consumables to support workflow success, improve productivity, and enhance operational efficiency. We offer a wide range of products and services to help you manage your instruments and your lab operators for best performance.

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