Agilent

Trusted Answers

Every Sample, Every Day

Operational efficiency for your GC and GC/MS labs with the Agilent 8860B gas chromatography system

The Agilent 8860B GC system

Go Beyond Routine Analysis

Maintaining your competitive edge depends on the timeliness and accuracy of the data generated by your instruments and staff. The Agilent 8860B GC system helps your lab rise to the challenge. Representing more than the latest generation of the consistent, reliable GC workhorse, the 8860B combines advanced analytical abilities and multi-method flexibility with reduced downtime, simplified operation, and enhanced sustainability. The result: You can expand your productivity and profitability with every sample, every day.

Performance

If your lab is consistently short on time for daily sample runs, don't waste a single minute. The Agilent 8860B delivers next-level reliability and performance, so you can maximize sample throughput.

Intelligence

Increasing accuracy and uptime are easier when your system can check for leaks, detect issues, and walk you through repairs. With Agilent GC Assist, the 8860B lets you maintain your GC like an expert.

Sustainability

Reducing waste and conserving resources are no longer optional. The 8860B uses technology to meet sustainability goals and improve efficiency, helping you achieve your desired business outcomes.

Working together, performance, intelligence, and sustainability expand the boundaries of **productivity** and **profitability**.

Performance that drives reliable, high-quality data

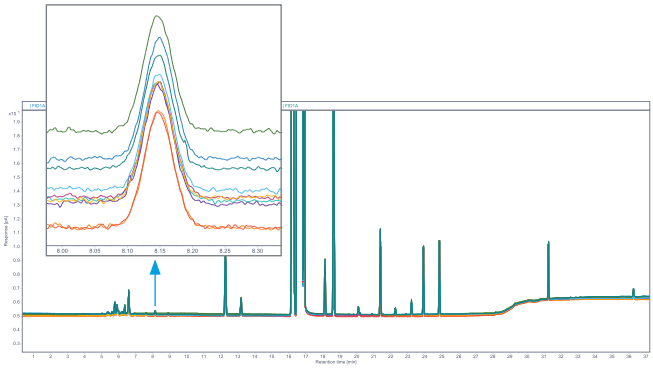
Getting—and staying—ahead requires accurate identification, reliable quantification, and the specificity to differentiate complex mixtures. The 8860B GC expands upon state-of-the-art GC reliability and industry-leading chromatographic performance for retention time and area count repeatability. New time-saving technologies also allow you to run more billable samples.

Analyze more samples every day with DSI capabilities

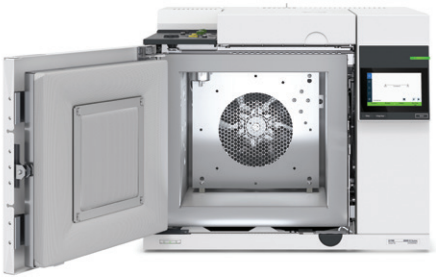
The 8860B GC provides enhanced sample throughput with new dual sample injection (DSI) capabilities. Expanding the allowable configuration to two autosamplers allows users to double their sample capacity.

Achieve excellent repeatability across multiple injections

Consistent GC performance is essential for dependable quality control—delivering repeatability, sensitivity, and long-term stability. This system meets all specifications for regulatory methods such as ASTM D7504.



Full chromatogram for ASTM D7504 with repeatability of 5 ppm benzene meeting ASTM criteria.



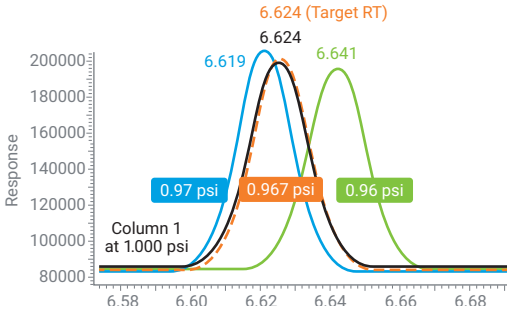
Shine a new light on your connections and components

Make maintenance easier and faster with a built-in oven light that illuminates the internal space on the 8860B GC. That means you can perform tasks like troubleshooting and column installation in less time—and with fewer errors.

Retention time locking (RTL) ensures consistency and seamless method transfer

Standardize your QA/QC measurements between systems in the same lab or at different locations using RTL. Precisely match retention times between Agilent GC systems using the same method and column configurations, ensuring long-term repeatability and retention time consistency.

RTL works by evaluating the relationship between inlet parameters and retention time during three to five reference runs. It then calibrates the system using the results. Later, you can match the original retention times on the locked method by performing a single relocking analysis.



7th-generation EPC and advanced digital electronics set a new benchmark in pressure setpoint precision (to 0.01 psi)—improving RTL precision for very-low-pressure applications.

Obtain more consistent results with less rework

Electronic pneumatics control (EPC) ensures repeatability of retention times and peak areas. Digital electronics keep your setpoints constant from run to run and operator to operator.

Simplify manual operation

Electronic pneumatics regulation (EPR) is an easy-to-use alternative to traditional manual pneumatics operation. It's more precise than pressure gauges and eliminates the need for bubble meters.

Meet the next evolution of GC separation

The Agilent 8890B GC system maximizes productivity with high-quality data, outstanding flexibility, and unparallelled confidence for all users.

The Agilent 8850 GC system combines intelligence with the smallest, fastest high-performance benchtop GC on the market.

Intelligence that powers productivity

The Agilent 8860 GC was part of a new breed of intelligent GC systems that monitored system health, alerted you to potential issues, and helped you solve problems. Now, cutting-edge onboard processors enable advanced Agilent GC Assist that lets you maintain and diagnose your GC and MS systems with unprecedented confidence. That means you can reduce downtime, simplify troubleshooting, and shorten turnaround times without sacrificing data quality.

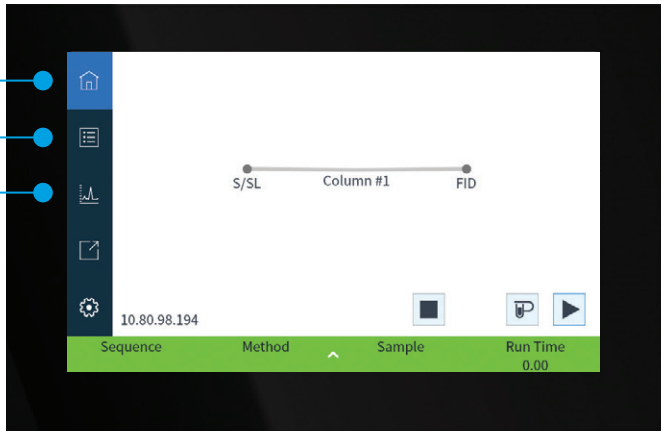
Routine analysis that's anything but routine

Intuitive touch screen interface gives you real-time access to instrument status and information.

Home screen
Provides at-a-glance updates on the system configuration and flow path.

Instrument actuals screen
Allows you to customize and identify frequently used setpoints for quick accessibility.

Plot screen
Confirms that analyses are progressing as intended.



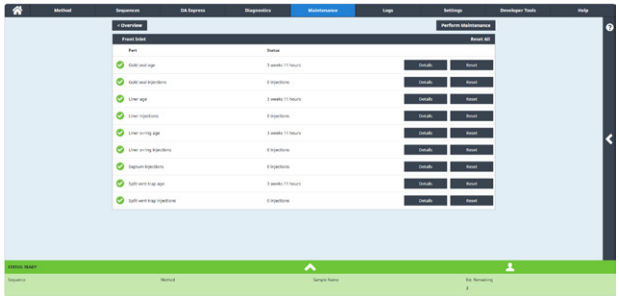
Experience the benefits of GC Assist—intelligent control right at your fingertips

Proactively minimize unexpected downtime without having to stand at the instrument.

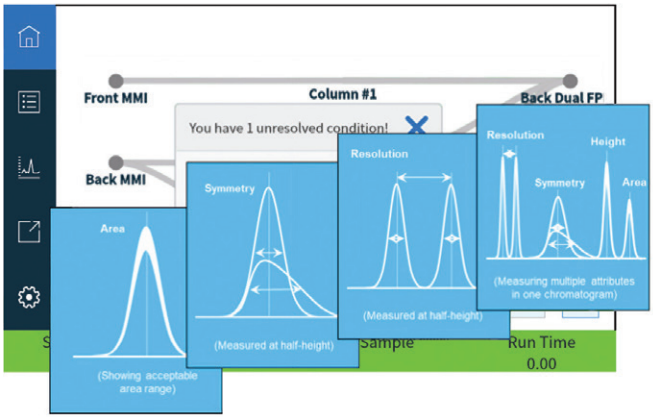
- Gain access from any browser (tablet, laptop, or PC).
- Edit GC methods and sequences without the need for a data system.
- Call up Diagnostics, Maintenance, Logs, and Help menu items.
- Review logs or consult the user manual, right at your desk.
- Check instrument status and run diagnostics from any place within reach of your secure lab network.

Newly integrated GC Assist interface reduces downtime and keeps you in control

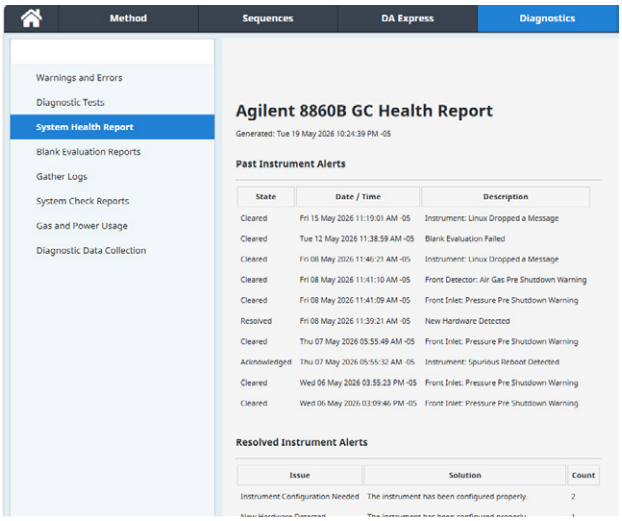
Next-level performance facilitates GC Assist capabilities for maintenance and diagnostics.



Early maintenance feedback (EMF) is a built-in predictive maintenance feature that tracks the usage and condition of key consumables and components. EMF provides advance notification of when maintenance is likely needed, rather than waiting for a failure to occur.



Confirm that your GC chromatography is performing as expected. Diagnostics for peak evaluation of GC detector data allows you to analyze retention time, area, height, and symmetry for targeted peaks. By trending and reporting these results over time, these diagnostics enable users to quickly verify system performance and detect problems before they impact analytical results.



The GC Assist System Health Report delivers a consolidated, real-time snapshot of instrument configuration, operating status, maintenance needs, and diagnostic results to support proactive maintenance and faster troubleshooting.

End-to-end diagnostics maintain system health and maximize uptime with GC Assist

Unexpected instrument downtime disrupts lab operations, especially if you don't know the source of the problem. The 8860B monitors its own vitals, giving you a real-time view of system health.

System health features:

- User-initiated diagnostic tests
- Automatic diagnostic tests
- GC health parameters monitoring
- Self-guided diagnostic troubleshooting
- Early maintenance feedback (EMF) counters
- GC performance monitoring
- Self-guided maintenance procedures

Other features:

- Enhanced method diagnostics
- Storage of results
- Improved help guides

Partnering for sustainability and business success

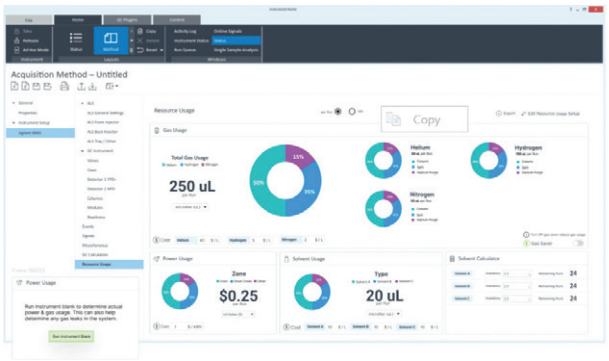
Sustainable thinking transforms the way researchers, scientists, and manufacturers approach their products, processes, and supply chains. However, it can be a challenge for labs to reduce their environmental impact while continuing to optimize workflows and lower costs.

Labs with GC and GC/MS systems have unique sustainability challenges due to the resource-intensive nature of these instruments. The 8860B guides you toward more sustainable practices with new resource management capabilities.

Monitor resources and improve profitability with new gas and power usage reporting

Sample reruns and lengthy troubleshooting waste valuable resources, which impacts sustainability goals. The 8860B GC features integrated resource management tools—that you can access in seconds from the GC Assist interface—to optimize gas consumption, extend consumable life, and minimize your lab's environmental footprint.

Gas and power usage trend charts let you see the effects of gas use during idle, sleep/wake methods, and system shutdown.



Method-based gas, solvent, and power monitoring alerts you to potential waste. For example, if your actual gas use is 10% higher than predicted, a pop-up will warn you of a potential gas leak. You will then be led through a leak and restriction maintenance procedure.

Prevent disruptions and protect our planet by managing your helium use

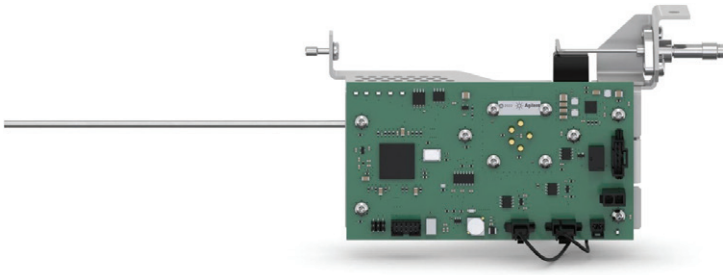
Helium has long been the carrier gas of choice for GC and GC/MS analyses. However, the global helium shortage has reduced the availability—and increased the cost—of helium gas, jeopardizing the day-to-day operations of labs that depend on gas chromatography. Here are some strategies for conserving helium and converting to an alternative carrier gas.

Helium conservation module

Extend the life of your helium tanks by up to 30 times. The Agilent helium conservation module allows you to use helium for your GC runs and switch to a different gas (typically nitrogen) when your GC is idle. That means you can achieve better control of laboratory operating expenses and avoid workflow disruptions.

Alternative carrier gas support

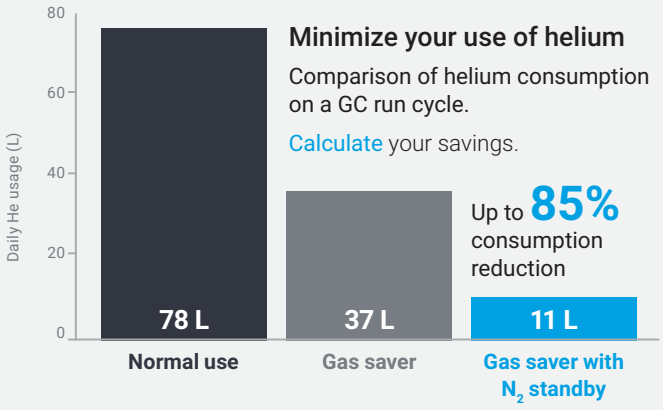
Alternative carrier gases like hydrogen and nitrogen are popular low-cost options. The 8860B GC offers built-in hydrogen safety features. The optional Agilent Hydrogen Sensor Module Series 2 continuously checks for free hydrogen in the column oven. If a leak is detected, the instrument will perform a series of actions including venting, turning off the hydrogen gas supply, and shutting down thermal zones.



Agilent Hydrogen Sensor Module Series 2

Resources to help conserve or convert your GC/MS carrier gas

- Handle the Hassles of the Helium Shortage
- Helium Conservation Cost Savings Calculator
- Agilent EI GC/MS Instrument Helium to Hydrogen Carrier Gas Conversion User Guide
- Agilent Hydrogen Safety Manual



At Agilent, we believe that intelligence, productivity, and sustainability are interlinked

Working toward sustainability is an integral part of how we conduct business and respond to our customers' challenges. Together, we can help your lab achieve its sustainability goals—while increasing output, maintaining accuracy, and staying competitive.

Partnership with My Green Lab

Agilent has joined with My Green Lab to have our instruments independently audited for their Accountability, Consistency, and Transparency (ACT) label. ACT labels provide information about the environmental impact of manufacturing, use, and disposal of a product and its packaging, so purchasers can make informed, sustainable choices. Agilent 8860, 8890, and 8850 GC systems have been comprehensively evaluated and have earned ACT labels.

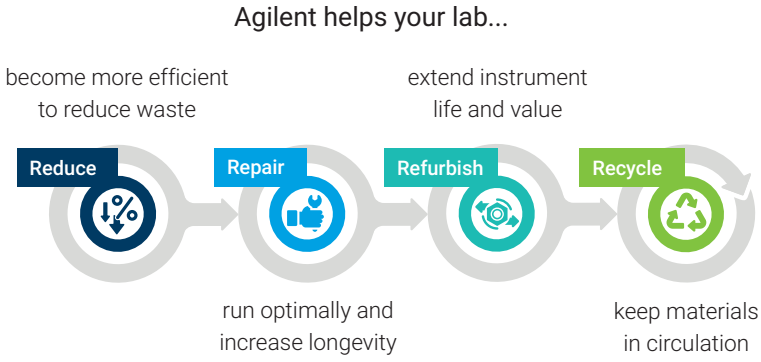
my green lab. ACT® Ecolabel

Trade-in and Buyback

The Agilent Trade-in and Buyback Program covers everything from deinstallation, shipping, packaging, and customs fees—free of charge. The program is available in over 20 countries and uses reusable return packaging where possible. You may also get cash or credit for returned instruments.

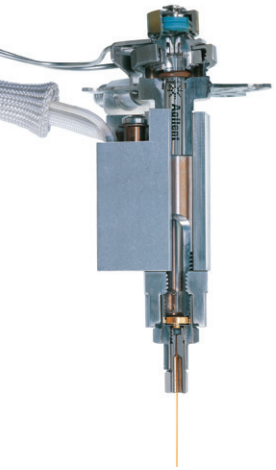
Waste reduction strategies for lab instruments

Building a more sustainable laboratory can feel overwhelming. Agilent offers a range of programs and services to help labs reduce resource consumption and minimize waste. From relocation and repair to trade-in, recycling, and reuse programs, these solutions support a more sustainable lab environment by extending instrument life and enhancing operational efficiency—all while advancing circular economy principles.



Maximize your investment with an ecosystem of supplies, software, and support designed to ensure your entire analytical workflow operates at peak potential.

Meet all your analysis needs with flexible GC configurations



Inlets

Optimize your system with a wide inlet selection:

- Split/splitless (SSL) for large bore and all capillary columns
- Purged packed injection port (PPIP) for wide bore capillary and packed columns
- Programmable cool on-column (PCOC) for columns ≥ 0.250 mm id
- Gas sample valves (GSV) for gas sample and switching applications
- Liquid sample valves (LSV) for liquefied sample applications involving gases at high pressure

Detectors

High-sensitivity detectors accommodate every sample type:

- Flame ionization detector (FID)
- Thermal conductivity detector (TCD)
- Electron capture detector (ECD*)
- Nitrogen-phosphorus detector (NPD)
- Single-wavelength flame photometric detector (FPD Plus)
- Sulfur/nitrogen chemiluminescence detector (SCD/NCD)
- Single quadrupole mass detector (MSD)

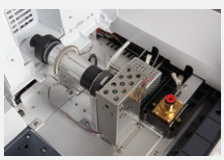
** Not available in Japan. Check for availability in your region.*

Discover the possibilities
Agilent 5977C GC/MSD

Designed to provide robust, day-in, day-out performance with mass spectrometry compatibility. The 8860B is fully compatible with an Agilent single quadrupole system, like the 5977C GC/MSD.

Industry spotlight: Configurations that suit a broad range of routine GC applications

Energy and chemicals
The Agilent 8860B GC provides flexible detector positioning for analyses that require configurations for a combination of up to three gas or two liquid sampling valves. An optional auxiliary EPC gas module or pneumatic control module provides added supply gases and capabilities needed for more complex GC analyses.



Environmental and food safety
You can configure the 8860B up to two inlets and three detectors for maximum flexibility. A common configuration would be FID and ECD, with a third detector (such as FPD Plus) used simultaneously—or later in another type of analysis.

Agilent autosamplers: The perfect partners for the 8860B GC

Agilent autosamplers eliminate manual errors and provide unmatched reproducibility during sample injection. From smaller runs of up to 16 samples to larger runs of up to 150 samples or more, there's an autosampler that will keep you on track and on time.

7693A ALS
16/150-vial capacity

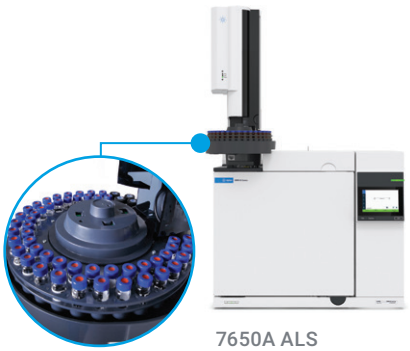
8860B offers capability to perform dual simultaneous injection

Inject new performance into your GC
Agilent 7693 Series automatic liquid sampler (ALS)

With the fastest injection time of any GC autosampler, the Agilent 7693 Series ALS virtually eliminates thermal discrimination. It minimizes variability and manual errors with enhanced capabilities—such as 3-layer sandwich injections, heating, mixing, and barcode reading. What's more, its modular design lets you upgrade from 16 vials to 150 vials as your lab expands.

Intermediate vial capacity with high precision
Agilent 7650A automatic liquid sampler (ALS)

For labs that process fewer than 50 samples per day, the robust Agilent 7650A ALS maximizes sample throughput. It provides the same high-speed injection as the 7693 Series ALS to virtually eliminate thermal discrimination. Plus, it includes the enhanced sampling capability of 3-layer sandwich injections.



7650A ALS
50-vial capacity

8697 headspace sampler
48/120-vial capacity

Automatically introduce volatile compounds from almost any sample matrix
Agilent 8697 headspace sampler

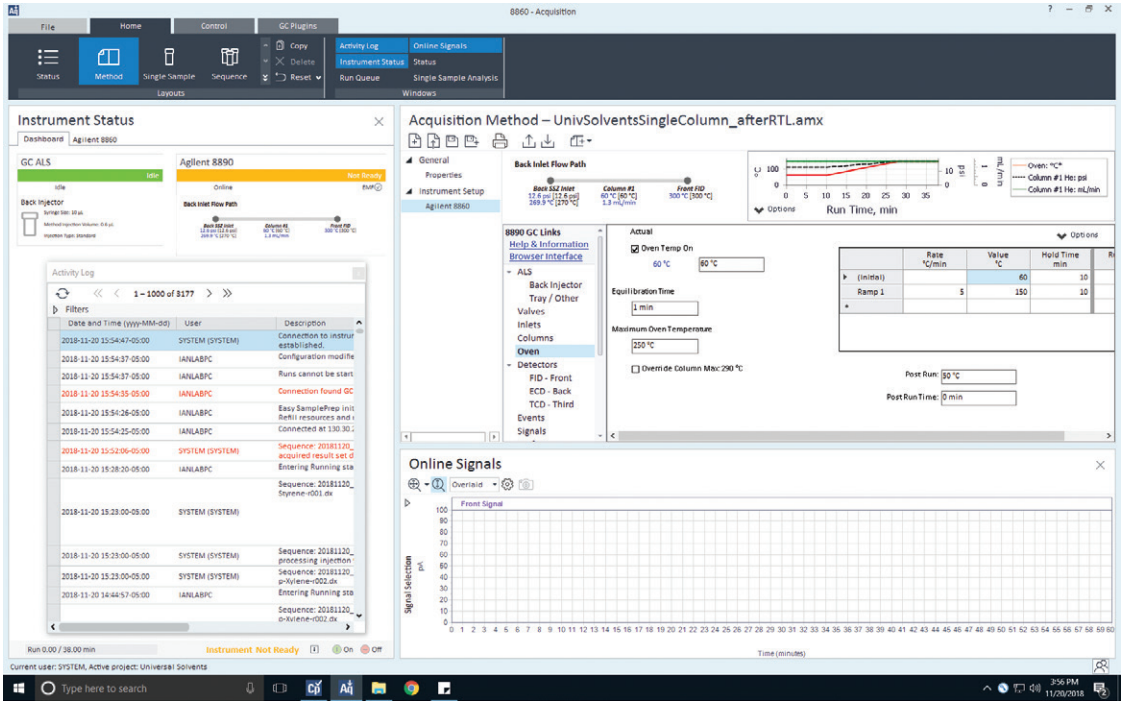
Agilent 8697 headspace samplers are easy to learn, use, and maintain. They integrate directly with Agilent 8890, 8850, and 8860 GCs, so they can expertly guide users through the tasks required to keep the whole system running optimally. These tasks include automatic leak checks, guided troubleshooting, downloadable system logs, retention time and resolution charting, and consumables tracking.

A complete GC workflow that ensures precision without pressure

In a world of evolving regulations and tightening deadlines, you need more than just hardware. You need a workflow that accelerates your next move. Leverage five decades of analytical innovation to ensure your lab stays compliant, connected, and completely in control.

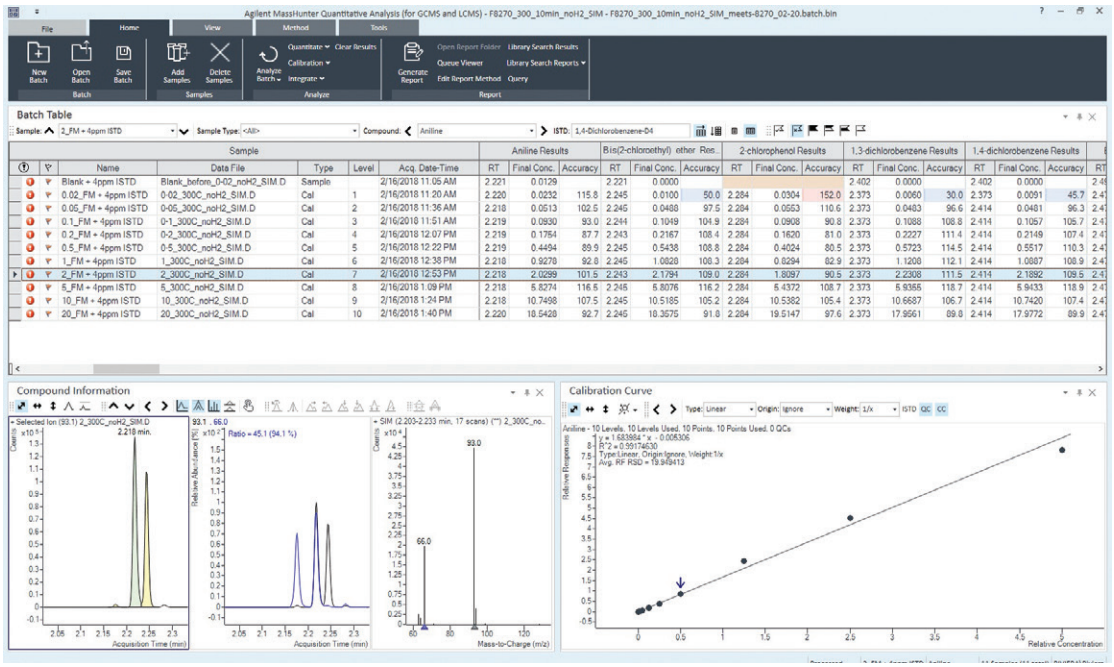
Capture, analyze, and share data
Agilent OpenLab CDS

- Highest efficiency in production labs
- Intuitive Help & Learning speeds onboarding
- Best choice for data integrity OpenLab CDS ChemStation edition
- Most comprehensive support of analytical workflows
- Best solution for R&D and method development OpenLab EZChrom edition and EZChrom Compact
- Extensive automation toolkit
- Simplified client/server solution



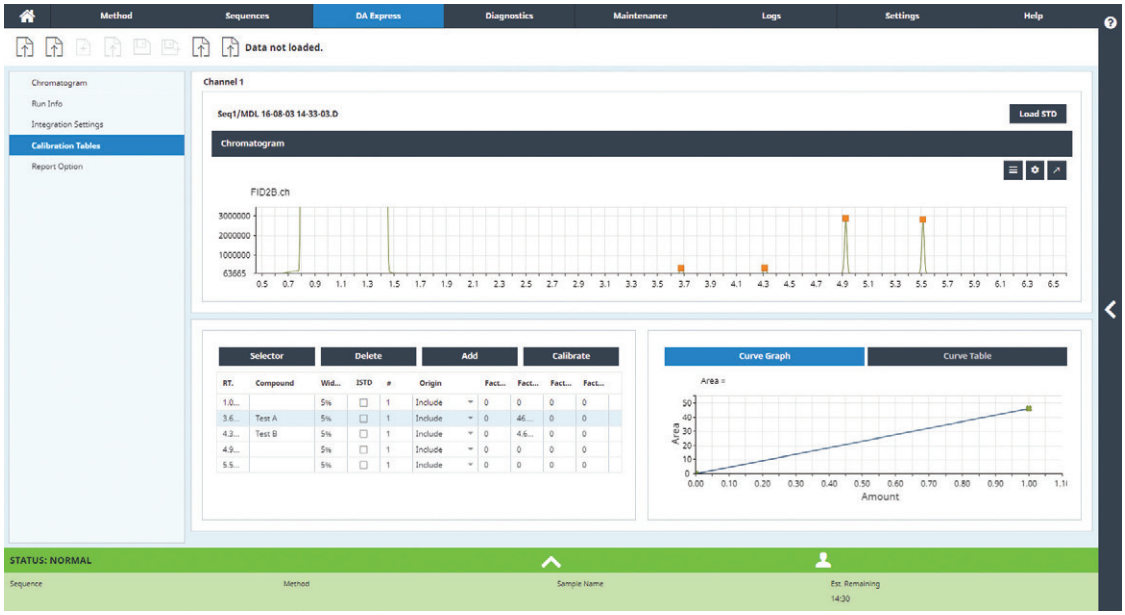
Streamline operations and boost productivity
Agilent MassHunter software

- Enable powerful data collection, processing, and reporting
- Breeze through application-specific workflows with comprehensive GC and GC/MS single quadrupole support



Simplified data analysis
DA Express data analysis software

- For routine GC applications that do not require extensive data processing or compliance support
- Accessible through the GC browser interface
- Easily integrate signal data, build calibration curves, and create result reports
- Does not require a chromatography data system



With Agilent columns, supplies, and services, you get more than just products

You also benefit from stringent Agilent specifications and consistent quality, enhancing the sensitivity and performance of your instrument. Agilent is your one-stop source for consumables that let you assemble complete solutions for every application. What's more, comprehensive workflow guides capture the experience and expertise of the Agilent team.

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 need. 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

The two most critical GC flow path monitoring tasks are combined 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

Self Tightening column nuts

An innovative design makes these column nuts especially well-suited for oxygen-sensitive detectors such as MS and ECD. Their tight connection remains leak free even after hundreds of injections. Learn more

Genuine replacement parts for Agilent detectors

Minimize background interference, low signal counts, and response changes while maximizing performance, signal output, and uptime. All parts are backed by the Agilent service agreement—plus a 90-day warranty from the date of shipment. Learn more

Put our insights to work for you

Agilent CrossLab
From Insight to Outcome

CrossLab is an Agilent capability that integrates services and consumables to support workflow success, improve productivity, and enhance operational efficiency. In every interaction, we strive to provide insight that helps you achieve your goals. We offer a wide range of products and services—from method optimization and training to full-lab relocations and operations analytics—to help you manage your instruments and your lab for best performance.

Learn more about Agilent CrossLab services.

New to Agilent GCs? Transitioning from the Agilent 7860 GC?

When it comes to adding new instruments to your lab, no two experiences are quite the same. We're here to help you succeed with flexible service and support options.

Agilent CrossLab installation

Agilent CrossLab installation ensures that all hardware and relevant software are unboxed and installed properly. An Agilent expert will make sure your new GC system is free from defects and missing items, tested against manufacturing specifications, and ready for operators to begin training.

Agilent CrossLab Method Consulting Services and Agilent University

Method consulting services offer Agilent expertise to customers looking to improve and expand their lab workflows. They consist of four key products: method maintenance, method optimization, method implementation, and method development.

Agilent University offers flexible, cost-effective training options to help you boost efficiency, minimize downtime, and make a stronger impact on your lab's success. Choose the training format that suits you best—including in person, virtual, and online.

Agilent CrossLab service plans

Agilent CrossLab service plans, on-demand repairs, and preventive maintenance services help you maintain productivity and minimize downtime.

Agilent CrossLab Connect Smart Alerts

Agilent CrossLab Connect Smart Alerts gives you key insights into instrument health—reducing unplanned downtime and sustaining instrument performance for optimal throughput. As part of CrossLab Connect, Smart Alerts notifies you the instant an instrument stops running and when it's time to perform preventive maintenance or replace key consumables.You can also send a service request directly to Agilent using the Remote Assist feature.

The people behind your service and support

Agilent CrossLab connects you to a global network of experts who strive to deliver insight in every interaction to support your success. From instrument maintenance and repair, relocation and inventory management services, to compliance and software solutions, or consulting and education, Agilent CrossLab is here to help protect your Agilent and non-Agilent instruments. So you can transform your laboratory operations in the best ways possible.

Here's what sets CrossLab service engineers apart

10 years
Average instrument repair experience

96%
Parts available right away

Millions
Parts accessible at our world-wide logistics centers

85%
Repairs fixed during first visit

30,000
Technical training days

>1,850
Field service engineers worldwide

50+
Technology platforms covered

1–2 days
Typical turnaround time for priority service calls

Promising 10 Years of Value

The Agilent Value Promise reflects the utmost confidence in our unrivaled industry standards for quality system design and manufacturing.

From the date you purchase select Agilent chromatography, spectrometry, and spectroscopy instruments, we guarantee at least 10 years use or residual-value credit toward an upgraded replacement. Because we stand behind our systems, our guarantee maximizes your return on investment by ensuring your purchase is safe.

Learn more:
www.agilent.com/gc/8860b

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