

# Efficient. Easy. Economical. Effective. This Is How You GC

Agilent GC productivity resources



# We're Committed to Making Your GC Analysis Everything It Can Be

For over 55 years, Agilent has led the way with industry-changing GC and GC/MS instruments, consumables, services, software, and more. All can help you streamline your laboratory workflows, while helping you meet your organizational and personal goals.

But that's just the part of the story. Nearly 60% of lab managers\* have told us that increasing throughput and productivity are their most critical lab objectives. And to make it happen, they need a true knowledge partner.

## That's why we created this e-book

It's packed with insights for taking your GC lab to the next level—and addressing your analytical and workflow challenges.

To help you find what you're looking for quickly, we've broken down the material into four attributes:

- **Efficient.** Start your lab down the path to getting more done, faster.
- **Easy.** Simplify operations for experts and nonexperts alike.
- **Economical.** Transform your bottom line with transformative innovations.
- **Effective.** Produce quality data the first time... and every time.

All are critical to ensuring the timeliness and accuracy of the data generated by your GC instruments.

To learn more about ensuring greater analytical accuracy—and better days in the lab—visit [www.agilent.com/chem/gc](http://www.agilent.com/chem/gc)

\*Learn more about our *Understanding Key Challenges and Pain Points in the Global Laboratory Market* survey results.

## Efficient

55%\* of survey respondents say that they want to boost lab efficiency over the next 18 months

When everything's working smoothly, you spend less time troubleshooting problems and more time delivering results. You can also plan and stick to your budgets—and keep your team happy with their work.

However, you must carefully balance the need for speed and efficiency with the demand for quality. Agilent smart GCs give you reliable results on location, so you can spend more time on what matters, where it matters.



# Resources to Help You Boost Throughput and Productivity



## Fast ramp

Adding pillow to the Agilent 8890 GC improves oven ramp rates. Agilent Intuvo with direct column heating speeds ramp rates up to 250 °C/min. The fastest heating rates—1,200 °C/min—can be achieved with low thermal mass technology for the 8890 GC.

## Product page

 [Direct Column Heating](#)

## Application notes

-  [Ultrafast Simulated Distillation of Middle Distillates Using ASTM Method D7798 on the Agilent Intuvo Gas Chromatograph](#)
-  [Quality Control of Fragrance Samples by GC-FID: Method Transfer from the Agilent 7890 GC to the Agilent Intuvo 9000 GC](#)
-  [Analysis of Distilled Spirits Using an Agilent 8890 Gas Chromatograph System](#)
-  [Method Translation of HJ679-2013 for Intuvo](#)
-  [Analysis of Total Petroleum Hydrocarbons in Environmental Samples Using UltraFast Gas Chromatography](#)
-  [Fast Analysis of Pesticide Residues in Food Samples Using GC/MS/MS](#)

## Technical overview

-  [Simplifying Method Translation to Intuvo](#)

## Videos

-  [Pesticide Residue Analysis with Intuvo 9000 GC](#)
-  [The Agilent Intuvo 9000 GC System Story](#)



## H<sub>2</sub> carrier

Hydrogen has excellent chromatographic qualities and can increase your throughput. The Agilent hydrogen sensor detects leaks early, and puts your system into standby mode, if necessary.

### Application note

 [Gas Chromatographic Analysis of Fusel Oils in Distilled Alcoholic Beverages](#)

### Webinar

 [Strategies to Save Helium and Best Practice for Alternative GC Carriers](#)

### Podcast

 [Helium: No Laughing Matter](#)

## Method translator

A GC method translator is built into all Agilent Chromatography Data Systems within the GC SW Driver. It is also available in the browser interface for Agilent 8860 and 8890 GCs, and as a [free download](#).

### Application notes

 [Analysis of Distilled Spirits Using an Agilent 8890 Gas Chromatograph System](#)

 [Method Translation of HJ679-2013 for Intuvo](#)

### Technical overview

 [Simplifying Method Translation to Intuvo](#)

### Agilent University course

 [GC Calculators: An Introduction \(GC-MULTI-2190e\)](#)



## Portable GC

Configured with up to four GC channels, the Agilent 990 Mobile Micro GC provides fast, lab-quality results anytime, anywhere. Batteries and gas canisters keep you independent of gas and power for eight hours or more. And an optional mobile license lets you wirelessly connect via phone or tablet.

### Brochure



[Fast, Reliable GC Analysis In or Out of Your Laboratory](#)

### Application notes



[Biogas Analyzer Based on the Agilent 990 Micro GC](#)



[BTEX Analysis with the Agilent 990 Micro GC System](#)



[Fast Analysis of Natural Gas Using the Agilent 990 Micro GC Natural Gas Analyzer](#)



[Analysis of Tetrahydrothiophene \(THT\) in Natural Gas Using the Agilent 990 Micro GC](#)

### Poster



[990 Micro Gas Chromatograph Quick Start](#)

## Oven insert (pillow)

Minimize the oven volume heated, increasing temperature ramp rates and decreasing cool-down times. Our pillow can occupy the front half of the GC or GC/MS oven when you configure your system for inlet and detector in the back position.

## Simultaneous injection

A GC configured with two towers and Agilent OpenLab CDS enables dual-simultaneous injection—saving you time by doubling your sample throughput. You can also maximize capacity by adding a sample tray.

### Brochure



[Inject New Performance into Your Gas Chromatography](#)

### Application notes



[Analysis of Organophosphorus and Organochlorine Pesticides in Fruit and Vegetables Using an Agilent 8890 GC with Four Detectors](#)



[Optimizing Productivity and Reliability for Monocyclic Aromatic Hydrocarbon Purity Analysis According to ASTM D7504 on the Agilent 8890 GC System](#)

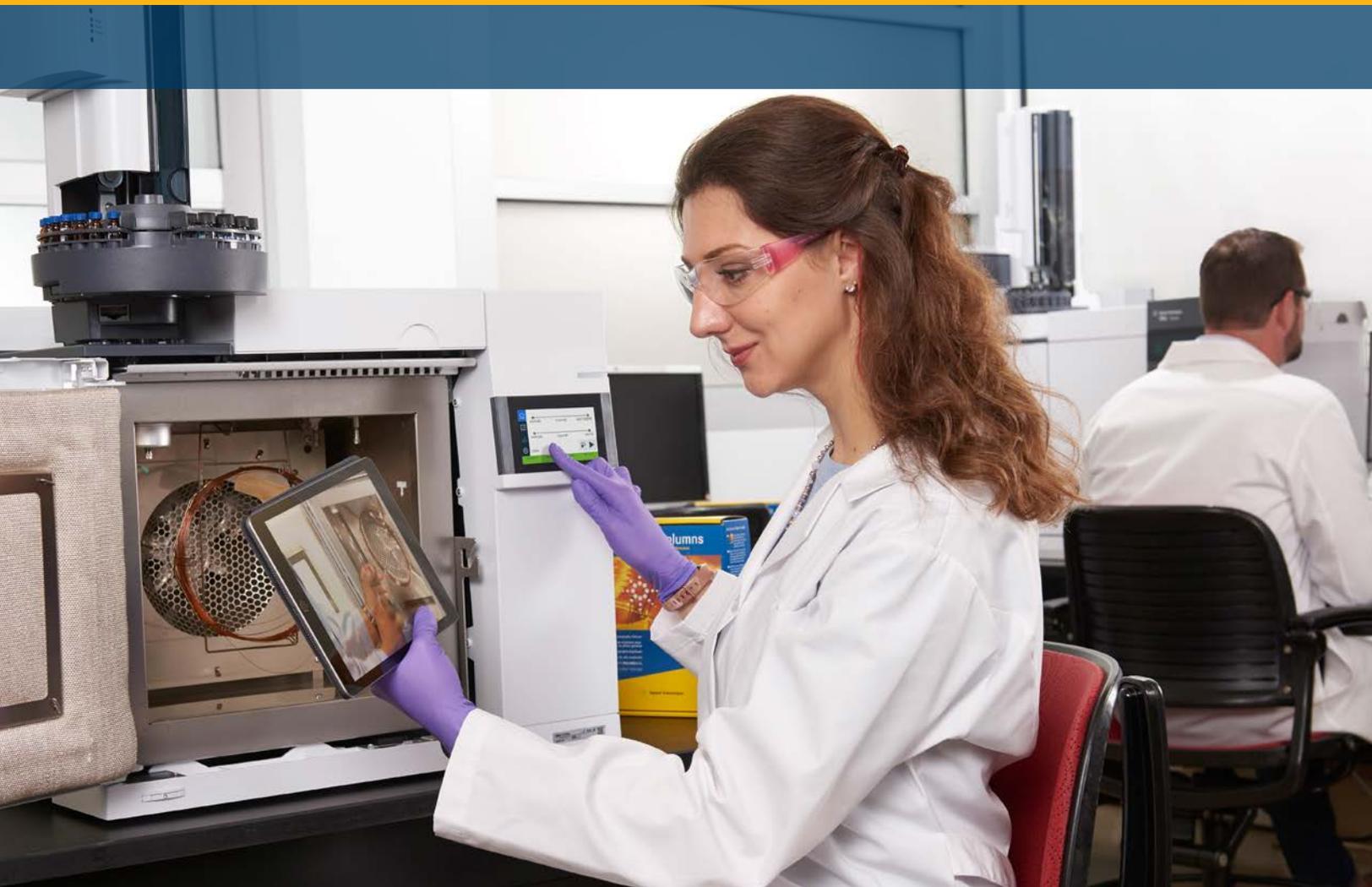


## Easy

42%\* of survey respondents would like to improve the working environment for their lab team

When you are under constant pressure for speed, training laboratory technicians can seem like an insurmountable challenge.

Agilent GC systems feature built-in help—along with installation guides, user manuals, safety manuals, and site-preparation documents. Users can even access tutorial videos, quick-start guides, and maintenance instructions. And online resources, such as the [Agilent YouTube Channel](#) and [Agilent Community](#), are always just a click away.



# Resources to Help You Simplify Operations for Both Experts and Nonexperts

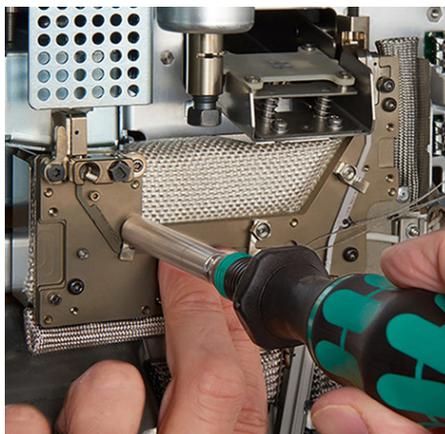


## Click-and-run connections

Coupling two planar face seals together with a torque driver ensures a leak-free seal—with no overtightening. Automatic leak detection makes sure that the connections remain leak free. Agilent Intuvo 9000 GC can even log your leak tests to document that the seal was made and maintained properly.

## Product pages

- [Intuvo 9000 GC System](#)
- [Ferrule-free Direct Connections](#)



## Touch screen

Our full-function touch screen provides at-a-glance system configuration, allowing users to update methods, perform maintenance routines, and check instrument status.



## Self Tightening column nut

Create a leak-free connection—without expensive upgrades, adapters, or tools—and maintain a leak-free seal even after hundreds of injections. What's more, a locking collar lets you lock the column in place, allowing for accurate, repeatable column installations.

### Videos

- [Self Tightening Column Nut Installation – Inlet & Detectors](#)
- [Self Tightening Column Nut Installation – MS Interface](#)

### Webinar

- [GC Column Installation Made Easy](#)

### Product page

- [Self-Tightening Column Nuts for GC](#)



## Agilent University

Unlock the full potential of your Agilent instruments with affordable, effective training—delivered in the format that fits your needs.

### Product page

- [Agilent University](#)

### Video

- [Agilent University – A Complete Curriculum of Learning Solutions](#)



### Discount page

- [Agilent University ePass](#)

## e-Familiarization

Agilent e-Familiarization materials let you learn on demand and at your own pace, and are included with all new Agilent instruments and software. Your Agilent service engineer will tailor the Familiarization service to the topics most important to you.

### Brochure

- [Agilent CrossLab Solutions for Familiarization](#)



# Economical

51%\* of survey respondents want to maximize instrument use and reduce costly downtime

Calculating return on investment (ROI) involves multiplying a short-term benefit over the lifetime of the investment. But Agilent has a powerful new metric: return on innovation.

By providing savings and efficiencies that impact every function, Agilent GC systems help you maximize profitability and minimize costs.



# Resources to Help You Transform Your Bottom Line



## Agilent Intuvo 9000

Intuvo answers the problems of challenging sample matrices, compromised data, and user technical limitations. How? By incorporating innovations such as solid-state column heating, ferrule-free seals, and Guard Chip technology. Intuvo even lets you run ~250 incremental samples per year.



### Brochure

 [Dream Bigger: Agilent Intuvo 9000 System](#)

### Catalog

 [Agilent Intuvo 9000 GC System Columns and Supplies](#)

### White paper

 [Improving Return on Innovation in Gas Chromatography](#)

## Modular autosampler

The Agilent 7693A automatic liquid sampler provides fast, precise injections, and its modular design allows the sampler to grow with your lab. You can even add a second tower for dual-simultaneous injections.

### Brochures

 [Inject New Performance into Your Gas Chromatography](#)

 [Agilent Has the Right Sample Introduction Product for Your Lab](#)

### Application note

 [Automated Sample Preparation for Profiling Fatty Acids in Blood and Plasma Using the Agilent 7693 ALS](#)

### Videos

 [7693A Automated Liquid Sampler](#)

 [The Agilent Intuvo 9000 GC System: Return on Investment. Return on Innovation.](#)

## DA Express

Running a GC application that does not require extensive data processing or compliance support? Agilent DA Express for the Agilent 8860 GC simplifies data analysis and makes it easy to integrate signal data, build calibration curves, and create reports directly on the GC.

### Data sheet

 [Agilent DA Express: Data Analysis for 8860 GC](#)



## Helium conservation module

This module bridges two electronic pneumatic control (EPC) channels to deliver a single carrier gas flow to your GC. So you can use helium for your GC runs, and switch to an alternate gas (such as nitrogen) when your GC is idle. A third EPC channel serves as a purged vent to prevent cross-contamination of gases.

### Flyer

 [Prevent Business Disruptions by Managing Your Helium Usage](#)

### Webinars

- [▶ Converting Helium Carrier Gas GC Methods to Nitrogen and Hydrogen](#)
- [▶ Conversion of the Agilent EI GC/MSD Systems from Helium to Hydrogen Carrier Gas](#)
- [▶ View How to Combat the Helium Shortage: Making the Switch from Helium to Hydrogen or Nitrogen Carrier Gas](#)

### Presentations

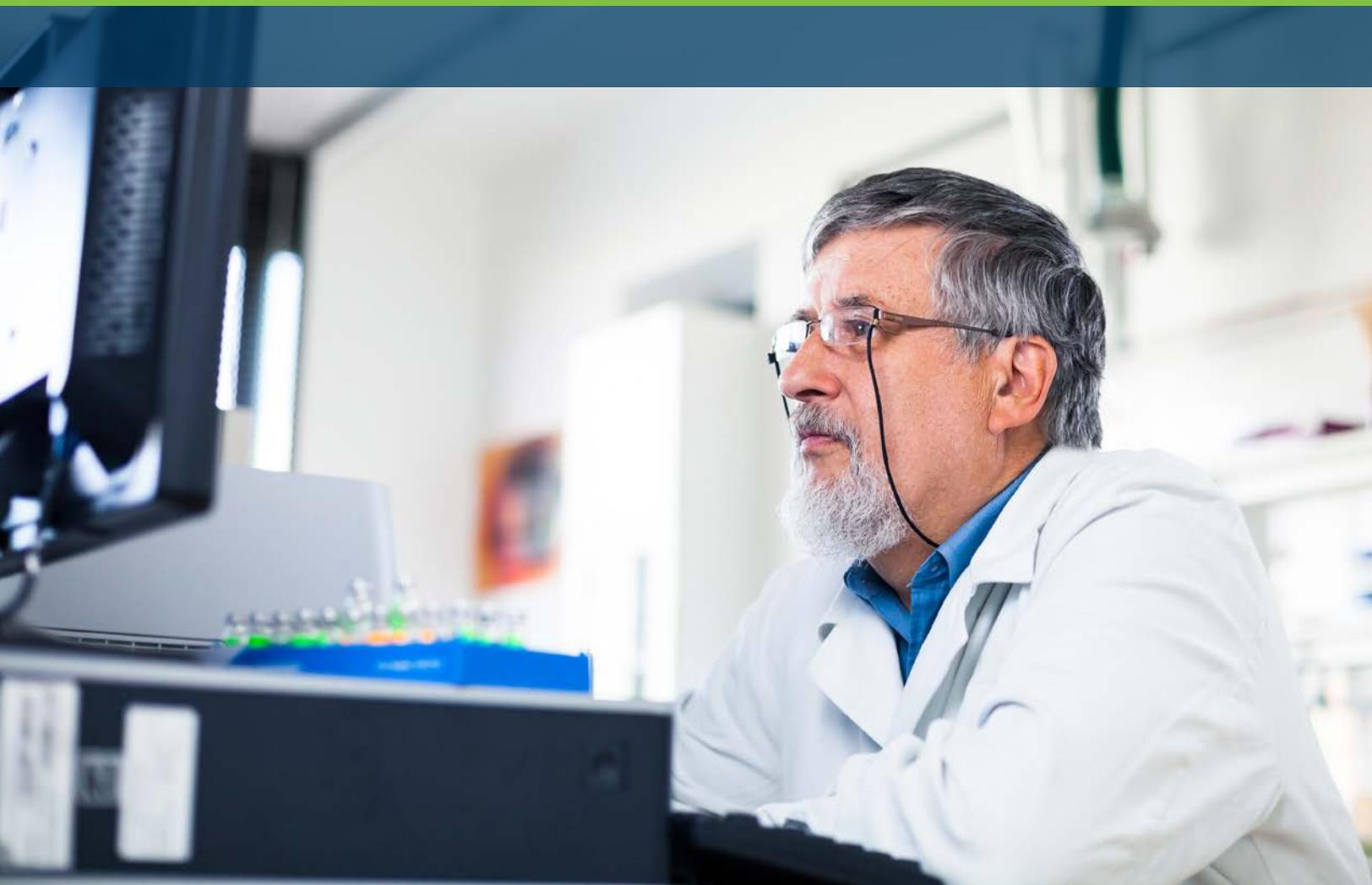
-  [Reducing Pressure on Operational Budgets: Helium Conservation Strategies for GC and GC/MSD](#)
-  [Helium Conservation and Converting GC Methods to Nitrogen and Hydrogen Carrier Gas](#)



## Effective

59%\* of survey respondents want to increase the reliability of their results

Success depends on the timeliness and accuracy of the data generated by your instruments and staff. That's why, at Agilent, we innovate with purpose. And every step of the way, your goals become our goals: improving user experience, laboratory operation, and business success.



# Resources to Help You Meet Your Analytical Needs Today and Tomorrow



## Intelligence

Built into Agilent 8890, 8860, and Intuvo 9000 GC systems, self-aware features enable remote connectivity. Plus, autonomous routines help avoid common GC problems, and self-guided maintenance procedures offer step-by-step instructions.

## Brochure

 [Intelligent and Configurable: Meet Your Analytical Needs Today and Tomorrow](#)



## Application note

 [Using the PSD for Backflushing on the Agilent 8890 GC System](#)

## Videos

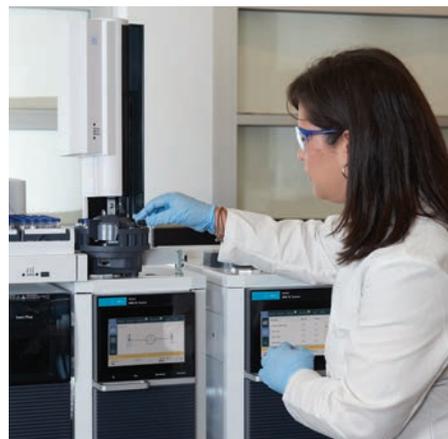
-  [Don't Let Septum Leaks Ruin Your Day](#)
-  [Easy Gas Clean Filter Replacement](#)
-  [Agilent J&W GC Columns with Smart Key](#)

## Webinar

-  [Put Your Smart GC to Work – Enable Remote Connectivity and Take the Guesswork Out of GC Maintenance](#)

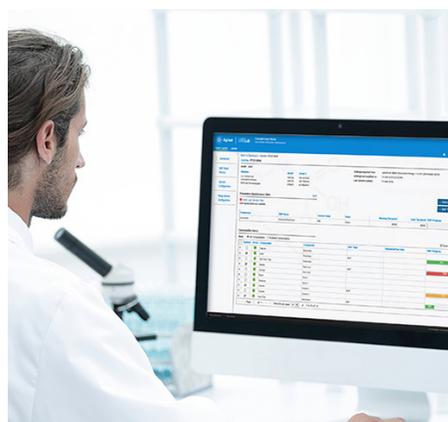
## Electronic pneumatic control (EPC)

Agilent smart GC instruments feature core microchannel-based EPC, which protects against gas contaminants—such as particulates, water, and oils.



## Smart Alerts

Reduce downtime and sustain instrument performance. Agilent CrossLab Smart Alerts software is easy to install—with no Internet connection required. The software monitors instrument use and notifies you by email when to replace key consumables and perform preventive maintenance.



## Product page

 [Workflow Diagnostics: Smart Alerts](#)

## Infographic

 [Agilent Smart Alerts: Insight-Driven Instrument Maintenance](#)

## Flyer

 [Minimize Unplanned Downtime with Smart Alerts](#)

## Presentation

 [Smart Alerts: Usage-Driven Instrument Maintenance](#)

## Videos

 [Introduction to Data-Driven Instrument Maintenance](#)

 [Adding Systems to Smart Alerts](#)

## Gas Clean filter

The Agilent Gas Clean filter system delivers high-purity gases to your instruments, reducing the risk of column damage, sensitivity loss, and downtime. Its sensor reads the color indicator and alerts you when the filter needs to be replaced.

### Brochure

 [Delivering Clean Gases for Accurate Analyses](#)

### Videos

-  [Easy Gas Clean Filter Replacement](#)
-  [Agilent Clean Gas Solutions](#)

## Agilent OpenLab software

Save time managing software and training your staff. OpenLab lets you control your Agilent GC, LC, single quadrupole GC/MS, and LC/MS systems—as well as other vendors' instruments. Plus, new tools in OpenLab CDS speed up your analysis, interpretation, and reporting workflows, so you can identify key information and improve turnaround time.

### Brochure

 [Designed for the Modern Chromatography Lab](#)

### Videos

-  [See the Future Unfold with OpenLab Software](#)
-  [See How the Future Is Unfolding in Your Lab](#)
-  [See How the Future Is Unfolding for Your Business](#)
-  [The OpenLab CDS Story: One Lab. One Software.](#)

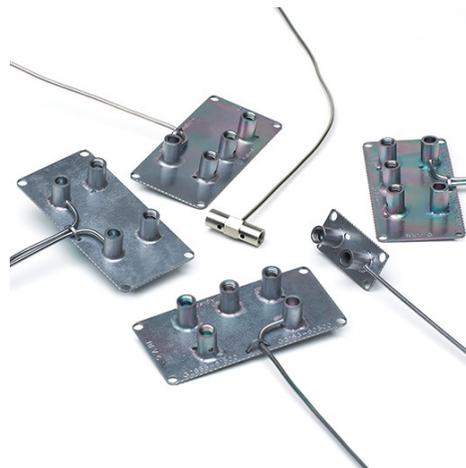
### Webinar

-  [OpenLab CDS Webinar Series](#)



## Agilent capillary flow technology (CFT)

Our CFT low thermal mass devices are oven mountable, inert, and make use of flexible metal ferrules to ensure leak-free connections. They allow GC and GC/MS operators to make reliable, leak-free, capillary connections that increase the type of analyses the GC system can perform.



### Brochures

-  [Capillary Flow Technology: GCxGC Flow Modulator](#)
-  [Capillary Flow Technology: Splitters](#)
-  [Capillary Flow Technology: Deans Switch](#)
-  [Capillary Flow Technology: Purged Ultimate Union](#)
-  [Capillary Flow Technology: Backflush](#)

### Application note

-  [Analysis of Sulfur-Containing Compounds in Diesel and Residual Fuel Oil with Heart-cutting Multidimensional GC](#)

### Browser interface

Direct connectivity lets you access an instrument—and its key features—from virtually anywhere.

### Webinar

-  [Put Your Smart GC to Work – Enable Remote Connectivity and Take the Guesswork Out of GC Maintenance](#)



## Retention time locking (RTL)

RTL provides the ability to keep the same retention time even after column maintenance, column trimming. RTL also allows Agilent GC or GC/MSD systems running the same method and nominal column to have the same compound retention times, in the same lab or from lab to lab.

### Application notes

-  [Retention Time Locking of Organochlorine Pesticides on an Agilent 8860 GC System Using the OpenLab RTL Wizard](#)
-  [Ensuring System Suitability for Cis-Trans FAMES Analysis by AOAC 2012.13 on an Agilent 8890 GC with Retention Time Locking](#)



## Agilent CrossLab services

CrossLab is an Agilent capability that integrates services and consumables to support workflow success and important outcomes like improved productivity and operational efficiency. Through CrossLab, Agilent strives to provide insight in every interaction to help you achieve your goals. CrossLab offers method optimization, flexible service plans, and training for all skill levels. We have many other products and services to help you manage your instruments and your lab for best performance.

Learn more about Agilent CrossLab, and see examples of insight that leads to great outcomes, at [www.agilent.com/crosslab](http://www.agilent.com/crosslab)

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