

# Beyond All Limits

Agilent 7010D triple quadrupole GC/MS





# Introducing the Agilent 7010D Triple Quadrupole GC/MS

As you've grown and adapted to market changes over the last decade, you've relied on Agilent to be your partner. Now once again, you spoke and we listened.

Meet the Agilent 7010D GC/TQ. It goes beyond all limits with redefined high-end robustness, ultratrace-level detection, and dedication to sustainability and transparency. Plus, its novel high-efficiency source (HES) 2.0 provides attogram-level sensitivity, while heated gold quadrupoles and JetClean ion source deliver performance and uptime that are second to none.

When using the latest MassHunter Acquisition 13.0 software, you'll also experience a modern, intelligent interface that remains comfortably familiar.



**HES 2.0 ion source technology** maximizes uptime while delivering industry-leading limits of detection. So, you can maintain your competitive edge.



**Enhanced maintenance feedback** for the detector and rough pump lets you monitor common consumables to maximize their lifetime.



**Mobile access features** mean you don't have to be in your lab to make sure things are running smoothly.



**Major enhancements to retention time locking** improve functionality and provide a seamless, user-friendly method.

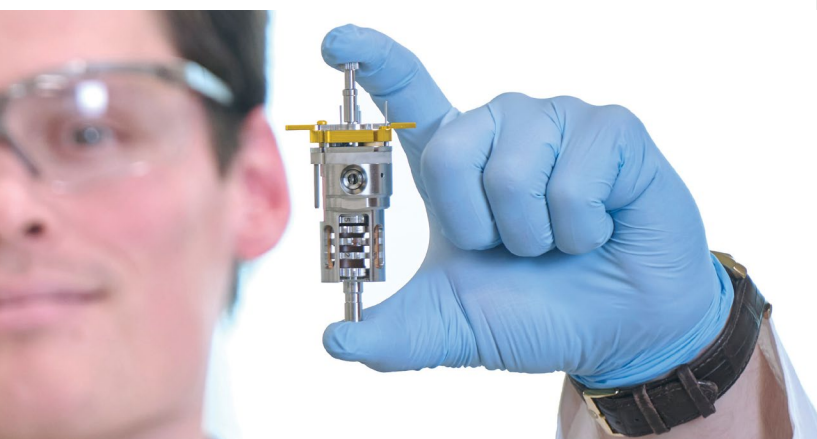
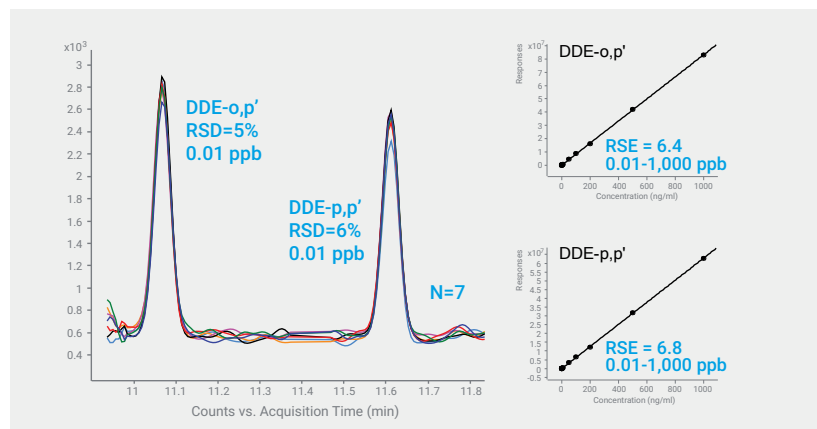


**Agilent J&W 5Q GC columns** combine ultra inert performance with ultra low-bleed technology and ultrafast conditioning.

# Designed with you in mind

## Attogram-level detection limits

Sensitive instrumentation, coupled with the excellent selectivity of the 7010D GC/TQ, helps you meet the demands for ultratrace-level detection while reducing the need for costly sample preparation.



## Maximum uptime

The HES 2.0 delivers more than just leading sensitivity—it delivers robustness. By improving the efficiency of carrier gas deflection, the HES 2.0 and heated hyperbolic gold quadrupoles work together to minimize unplanned downtime and maximize long-term performance. The resulting uptime means a rapid return on investment.

## Built-in intelligence

Features such as SWARM autotune and early maintenance feedback enhance instrument performance and diagnostic capabilities. Additionally, MassHunter Optimizer for GC/TQ streamlines MRM optimization and method translation, while retention time locking ensures consistent retention times across analyses. These innovations not only enhance performance but also contribute to an improved user experience.



*"The intelligence of our Agilent GC/TQ systems has played a major role in improving our productivity and data quality—especially SWARM autotune! It's very fast!"*

— Dr. Andreas Kapaklis  
Department Team Leader  
TESTEX AG



# Boundary-stretching technology

## Generate quantitative answers with the utmost confidence in your data

Building the world's most trusted GC/TQ systems is an ongoing process. With every step, we increase speed, improve functionality, and incorporate new analytical capabilities, while never losing sight of the most important objective—your business results.

### Advanced detector technology

A triple off-axis detector configuration minimizes helium noise and boosts sensitivity, ensuring exceptional detection limits and prolonging the electron multiplier's lifespan.

### Gold-plated monolithic quartz quadrupole

Heated hyperbolic quadrupoles isolate and transmit ions efficiently and clearly, with high precision and sensitivity.

### High-performance hexapole collision cell

The collision cell design, combined with linear acceleration technology, guarantees precise ion control, superior sensitivity, and fast MRM speeds for diverse analytical applications.

### JetClean self-cleaning ion source

Maximizing uptime has never been easier. JetClean increases productivity by minimizing or eliminating time spent venting, disassembling, cleaning, reassembling, retuning, and recalibrating the instrument. So you can reduce manual cleaning frequency by 80% or more, depending on your application.

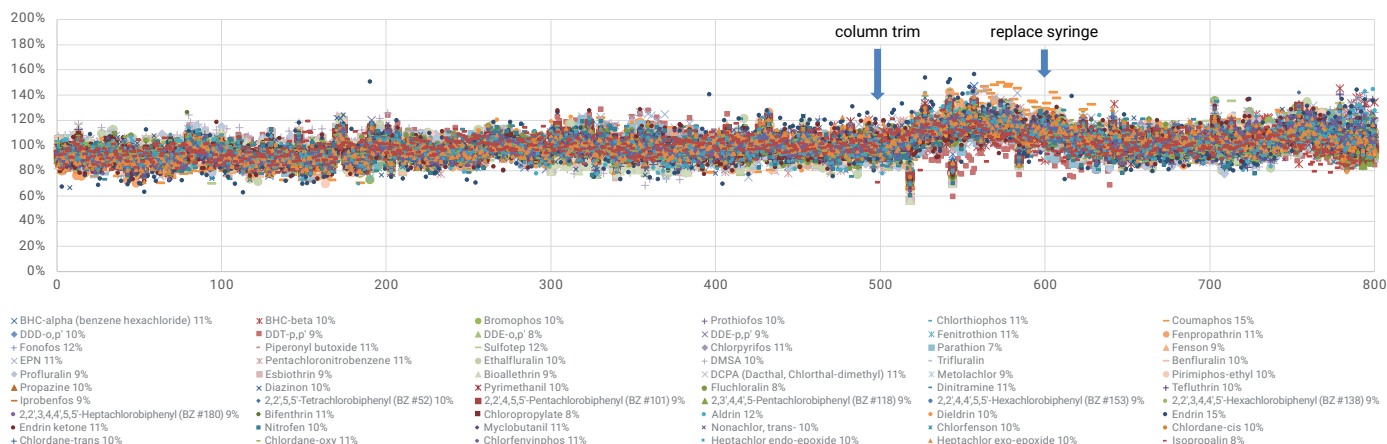
### Next-generation HES 2.0

The HES 2.0 delivers confident ultratrace-level analysis, even in complex matrices, with unrelenting stability. Its ruggedness makes it ideal for the high-throughput applications that demand the lowest limits of detection.

# Unparalleled high performance and uptime

The 7010D GC/TQ is more than a match for your most challenging applications. Innovation within the optics path delivers greater sensitivity, improved data quality, and the most robust 7010 series GC/TQ to date.

Response stability at 2 ppb in black tea plotted for 60 pesticides with over 800 injections



## Unrelenting sensitivity: Analysis of pesticides in black tea

The 7010D GC/TQ system, equipped with the HES 2.0 ion source, consistently delivers high sensitivity for complex analyses, including pesticide detection in a black tea matrix. Achieving remarkable stability at ultratrace levels (2 ppb), the 7010D exhibits very low relative standard deviations (RSDs), even for challenging pesticide targets.

The system demonstrated increased efficiency over 800 injections, attributed to the implementation of mid-

column backflush and a temperature-controlled MMI inlet. Maintenance was minimal, necessitating just one column trimming. Additionally, the septum and liner were replaced after every 100 injections, along with routine injector syringe maintenance. Most notably, the HES 2.0 ion source maintained consistent performance without the need for cleaning interventions. System and method ruggedness was demonstrated through maintaining measurement accuracy with good precision (RSDs < 20% for 176 compounds) for black tea extract spiked at 2 ppb and sequentially analyzed over 800 runs spanning over 17 days of continuous analysis.



# 100 million injections and counting

Since 2014, analysts worldwide have performed over 100 million injections on Agilent 7010 series GC/TQ instruments. Throughout this time, regulations and limits of detection have steadily evolved.

The future-proof 7010D GC/TQ adopts design improvements informed by the needs and experiences of laboratories worldwide. As the market leader, Agilent anticipates upcoming challenges and remains one step ahead of key changes. With an unwavering commitment to innovation, Agilent continues to redefine industry standards, ensuring the 7010D GC/TQ remains at the forefront of analytical excellence.

*"In our laboratory, sensitivity and instrument uptime are critical to maintaining productivity and delivering results to our customers. Our 7010 GC/TQ systems not only fulfill these requirements but exceed them and deliver exceptional data every time."*

— Dr. Agustin Pierri  
Technical Director  
Weck Laboratories, Inc.

*"After more than 5,000 injections, the 7010D GC/TQ system continues to demonstrate exceptional sensitivity and maintains its robust performance analyzing complex matrices like spices and dry herbs."*

— Mari Carmen Saura  
Technical Director  
Laboratorio Químico Microbiológico

*"Over a period of 8 months, we carried out around 3,600 measurements of QuEChERS extracts... the HES 2.0 exhibited excellent performance and robustness in terms of intensity and signal resolution over the entire period."*

— Athanasios Nitsopoulos  
CEO  
Labor Friedle GmbH



Agilent 7010D GC/TQ



Agilent 7010A GC/TQ



Agilent 7010B GC/TQ



Agilent 7010C GC/TQ





## MassHunter Acquisition 13.0: Modern, intelligent, and familiar

Introducing MassHunter Acquisition 13.0 for all GC/MS applications—including single quadrupole, triple quadrupole, and Q-TOF.

- New streamlined retention time locking interface improves usability.
- Easy sample prep technology simplifies the automation of extraction, addition, heating, and mixing to perform derivatizations, internal standard additions, serial dilutions, and similar tasks.
- What's more, MassHunter software unifies operators of all levels to drive confident results. It also supports multiple applications with easy-to-use method templates.



## Make data management smarter, simpler, and safer

Traditional data management systems are error prone and burdensome, because each instrument's data must be managed individually and manually. Partner with Agilent to accelerate your transition to a networked model, and bring these advantages to your lab:

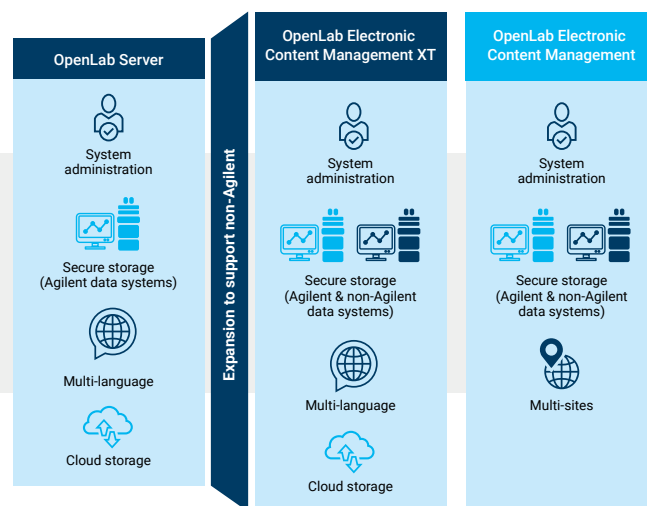
- **Connectivity:** Instrument integration makes it easy to collect, organize, and secure data.
- **Efficiency:** Collaborate and find the right information to answer questions quickly, and save both time and money when updating instruments and software.
- **Security:** Employ and enforce data integrity strategies while minimizing the risk of data breach or loss.
- **Compliance:** Ensure data security, control access, and comply with national and EU electronic record regulations.

The Agilent approach to data management provides a single point of access to data generated from instruments, data systems, and lab software. What's more, all of this integration happens behind the scenes. Your lab staff do not have to change the way they work or how they interact with their software.

With access to data from a single source, analysts can collaborate without compromising data integrity, and create consistent processes for workflows such as method rollouts. Information quality, information sharing, and efficiency can improve dramatically as well.

### Flexible solutions for all data management

Overcome the limitations of ad hoc data management with a range of integrated, centralized options that can support instrument data in all formats.





# Committed to making your GC/TQ analysis everything it can be

For over 50 years, Agilent has led the way with industry-changing GC and GC/MS instruments, consumables, services, software, and more. Partner with us and, together, we can streamline your laboratory workflows while helping you make great strides toward your analytical and organizational goals.

## Simplify life inside and outside the lab

Intelligent Agilent GC systems are designed to 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.



### Agilent 8890 GC system

Meet your analytical needs today and tomorrow. The 8890 GC delivers fast, accurate results with flexible configuration capabilities that address specific analysis demands. When accurate results are critical and instrument uptime is a must, this intelligent, high-performance GC consistently exceeds expectations.



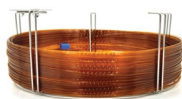
### Agilent Intuvo 9000 GC system

Eliminate obstacles to GC productivity. Intuvo 9000 is built to deliver fast analysis and high throughput while simplifying your laboratory workflow. Click-and-run connections let you change columns in less than one minute and ballistic direct column heating offers faster GC cycle times and improved reproducibility.

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

You also benefit from stringent Agilent quality-control 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.



## Agilent J&W 5Q GC columns

Meet the new gold standard for GC/MS. Agilent J&W 5Q GC columns combine industry-leading ultra inert performance with ultra low-bleed technology. They ensure optimal analyte delivery to your quadrupoles, so you can stretch your science to the limit.



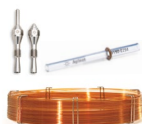
## Self-tightening column nut and ferrule

This unique, stainless steel GC column nut delivers a finger-tight connection without expensive upgrades, adaptors, or tools. An innovative design maintains a leak-free seal even after hundreds of injections.



## Gold-plated ferrules

Agilent gold-plated ferrules ensure complete inertness and are ideal for capillary flow technologies like backflush. Their unique mechanical design makes it easy to create a leak-free connection with no retightening required.



## Inert flow path supplies

Create an inert flow path from injector to detector. Ultra Inert columns and liners ensure optimal signal-to-noise performance while delivering the lowest bleed levels, highest inertness, and tightest column-to-column reproducibility.



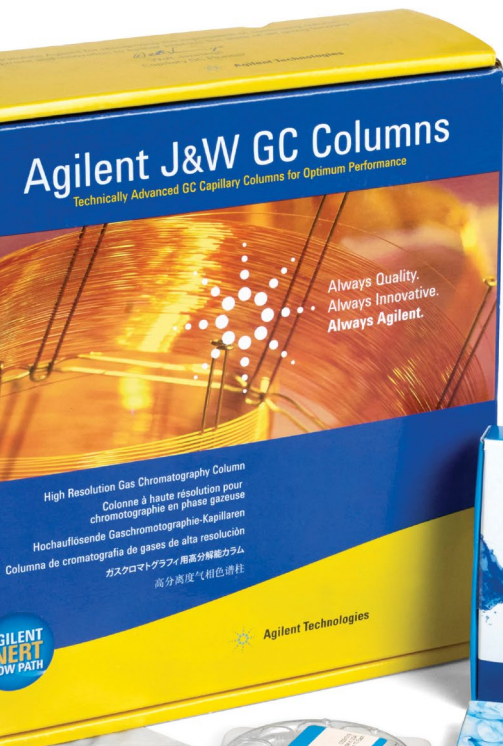
## Gas Clean filter kit

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.



## Quiet Cover

Tranquility can be hard to come by while your noisy rough pump is running. But with a high-quality Agilent Quiet Cover, you and your pump can coexist peacefully, with reliable noise control, less risk of pump overheating, and easier pump maintenance.







## Partnering for sustainability and business success

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

At Agilent, we believe that efficiency, 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 partnered 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. The Agilent 7010D—along with Agilent 7000E, 5977C, 8860, 8890, and Intuvo 9000 GC systems—has been comprehensively evaluated and has earned the ACT label.

[Learn more about My Green Lab](#)

### The Agilent net-zero commitment

Since our founding, Agilent has worked to reduce our energy, waste, water, and CO<sub>2</sub> emissions. Now we're taking it a step further. We're proud to announce that we will achieve net-zero greenhouse gas emissions by 2050. Our comprehensive approach to net zero includes Paris Agreement climate targets, clearly defined interim goals, and a commitment to the Science-Based Targets Initiative.

[Read more](#)



## Supporting your success

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 CrossLab at [www.agilent.com/crosslab](http://www.agilent.com/crosslab)

>2,200

Agilent-certified  
service professionals  
worldwide

400+

Certified training  
courses offered yearly

Up to 90%

of Agilent-certified  
service professionals hold  
advanced degrees

7.5 years

Average instrument  
repair experience

80%

of problems fixed  
within one day



50+

Technology  
platforms covered

2.5 days

Average time to arrive  
on site

Millions

Parts accessible  
at our worldwide  
logistics centers

96%

Parts available  
right away

50%

of all issues resolved  
remotely with Virtual  
Technical Support

## 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 of 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/gcms/7010d-gc-tq](http://www.agilent.com/gcms/7010d-gc-tq)

GC column selection tool:

[selectgc.chem.agilent.com](http://selectgc.chem.agilent.com)

Inert flow path:

[www.agilent.com/en/promotions/inertflowpath](http://www.agilent.com/en/promotions/inertflowpath)

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