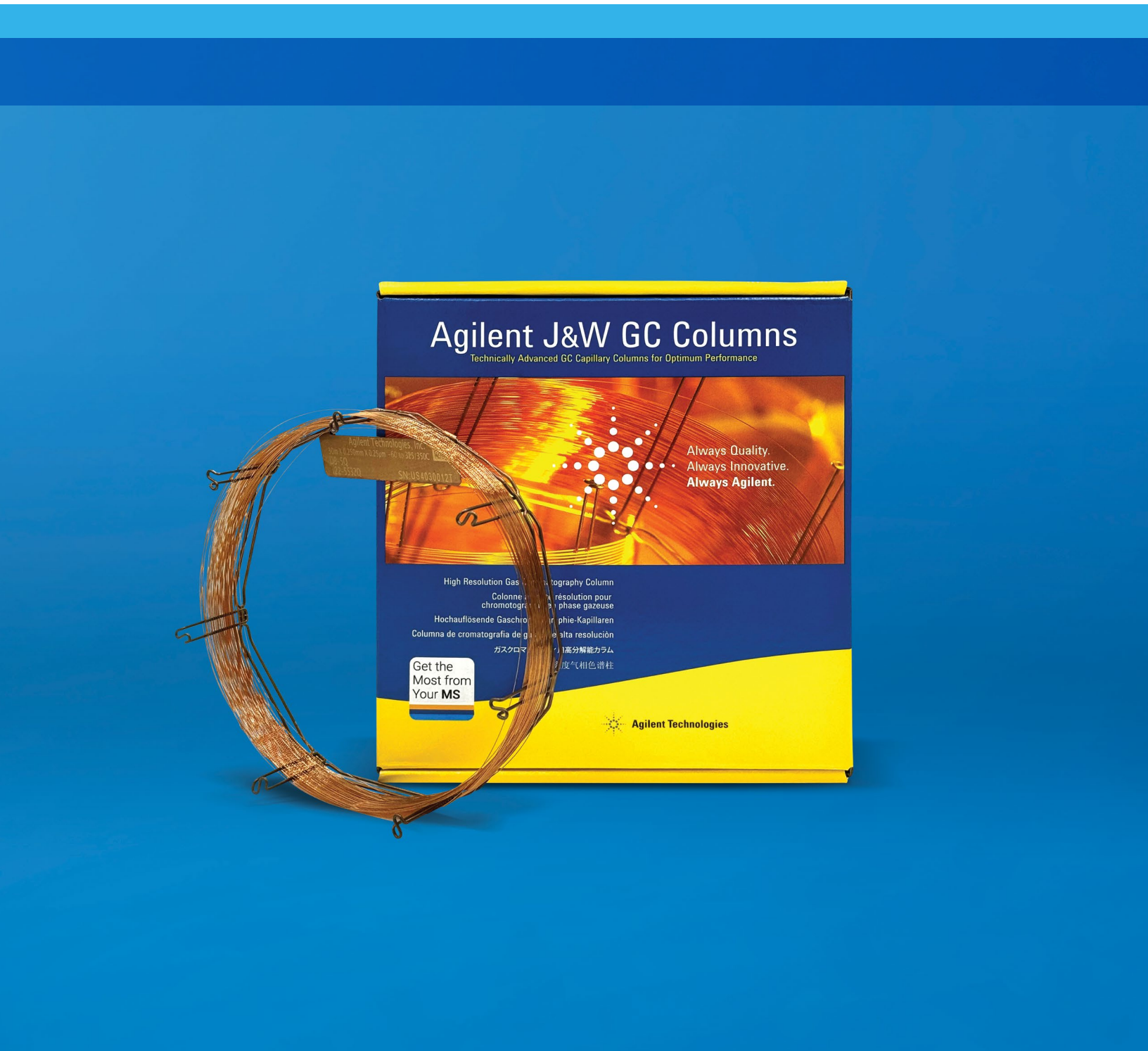
Agilent

Trusted Answers

Get the Most from Your MS

Agilent J&W DB-5Q and HP-5Q GC columns

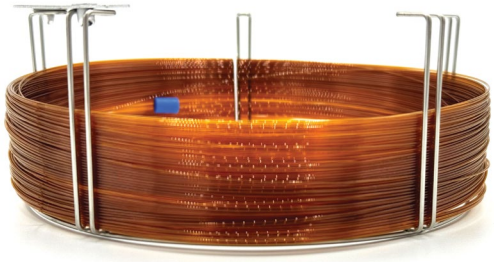


Agilent J&W
5Q GC columns

The New Gold Standard for GC/MS

As mass spectrometry continues to push the boundaries of sensitivity and speed, you need a column that can do the same

Agilent J&W 5Q GC columns are designed to ensure optimal analyte delivery to your quadrupoles. They combine industry-leading ultra inert performance with ultra low-bleed technology, setting a new standard for GC/MS column reliability and productivity.



- **Ultra low-bleed** performance enhances data accuracy with high spectral fidelity and stable baseline integration.
- **Ultra inert performance** increases sensitivity for active, trace-level analytes and provides balanced deactivation for multiclass analyte panels.
- **Ultrafast conditioning and outstanding column durability** improve uptime by minimizing the frequency of column changes.
- **Compatibility with any GC/MS system** ensures a seamless fit for all Agilent GC platforms. Agilent J&W 5Q GC columns are available in high-efficiency, hydrogen-compatible, and backflushing dimensions.

Industry-first Agilent J&W innovations have continually raised the bar for GC column performance

1991

Agilent J&W introduces DB-5ms—the first GC column designed for low-bleed MS applications.

2008

The launch of Agilent J&W Ultra Inert (UI) columns sets a new benchmark for column inertness.

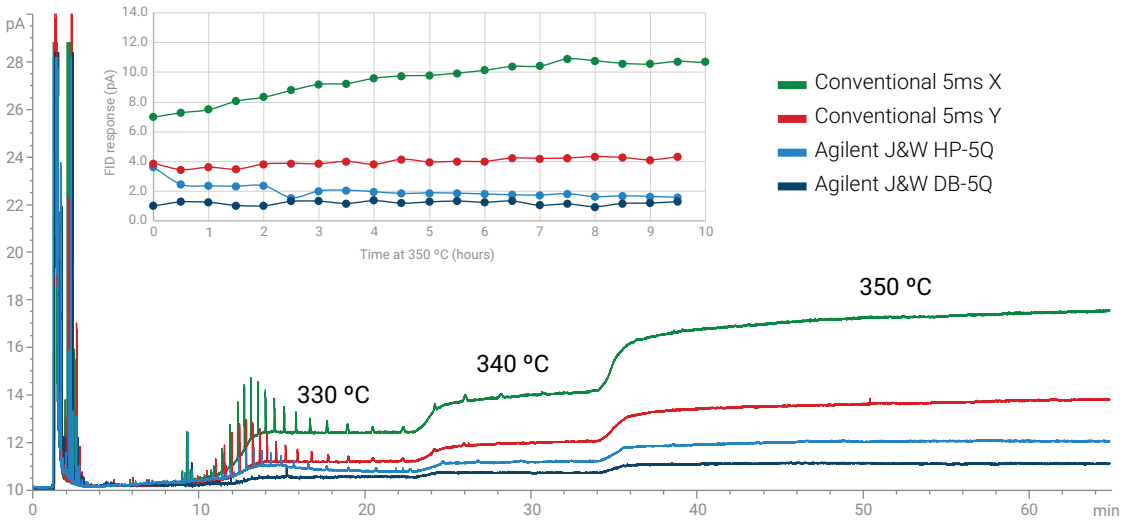
2024

Agilent J&W introduces 5Q GC columns, setting the standard for bleed, inertness, and durability.

Ultra low-bleed performance simplifies mass spectral identification

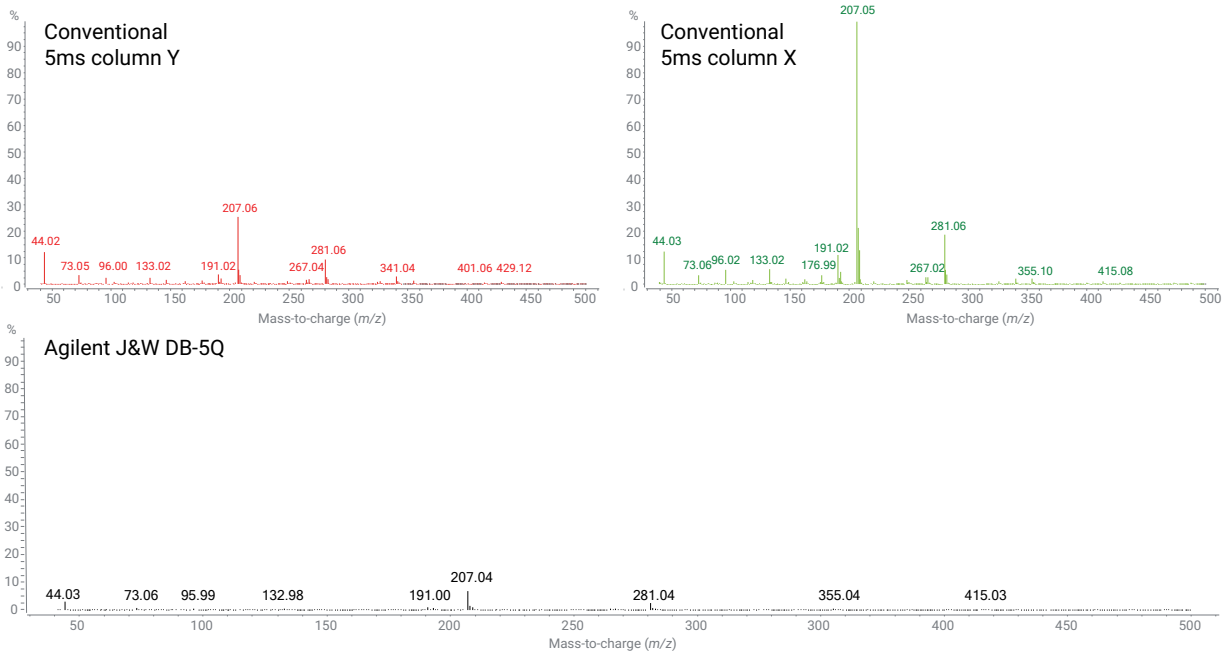
As GC columns undergo high-temperature cycling, column bleed can elevate baselines and create spectral interference, lowering the quality of your data. Agilent J&W 5Q GC columns were designed with an ultra low-bleed chemistry that significantly reduces the impact of column bleed.

Bleed spectra of multiple 5ms type columns



Compared to conventional 5ms columns, Agilent J&W 5Q GC columns have significantly lower bleed profiles, resulting in more stable baselines. A more stable baseline ensures accurate integration, especially for trace-level analytes with low signal-to-noise ratios.

Bleed spectra at 330 °C

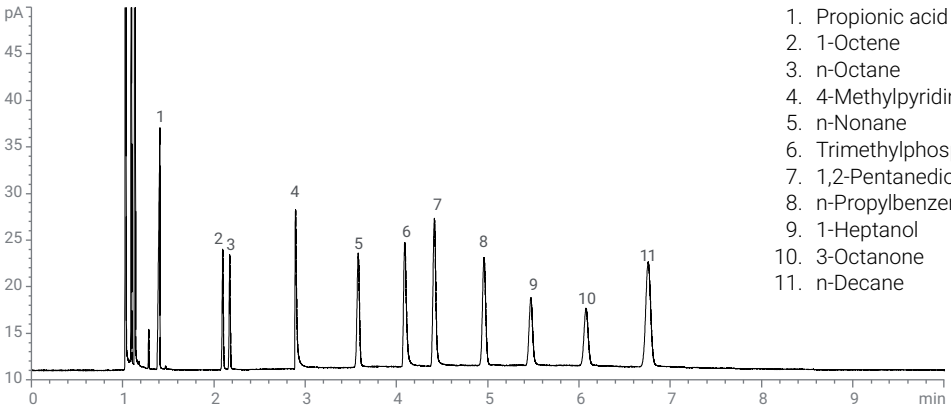


When a GC column is exposed to high temperatures, the stationary phase can degrade, generating interfering siloxane ring ions (usually *m/z* 207 and *m/z* 281) in your mass spectral data. Agilent J&W 5Q GC columns significantly reduce interfering ions, maintaining accuracy and spectral fidelity.

Ultra inert performance lets you confidently quantify low-level, active compounds

A noninert GC column can cause peak tailing, resulting in signal loss and lower sensitivity. To achieve the increasingly low detection limits that tough regulatory requirements demand, we recommend Agilent Ultra Inert GC columns.

Industry-leading ultra inert deactivation chemistry is at the core of Agilent J&W 5Q GC columns. They provide exceptional peak symmetry for active analytes, both acidic and basic, and are a great choice for large, multiclass analyte methods.



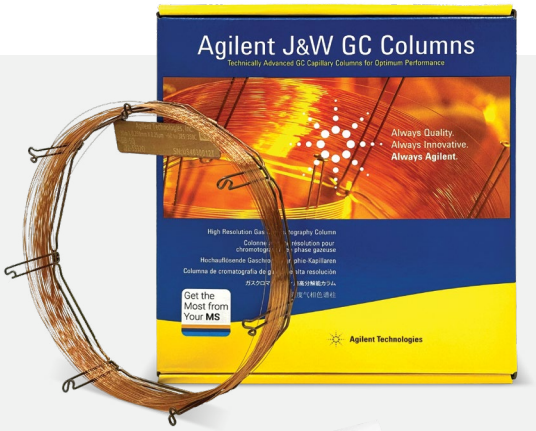
1. Propionic acid
2. 1-Octene
3. n-Octane
4. 4-Methylpyridine
5. n-Nonane
6. Trimethylphosphate
7. 1,2-Pentanediol
8. n-Propylbenzene
9. 1-Heptanol
10. 3-Octanone
11. n-Decane

Every Agilent J&W 5Q column is tested with our demanding Über One test probe mixture to ensure consistent, reliable performance for challenging active analytes.

An inert GC column is only the beginning

For trace-level analysis of active compounds, an inert flow path from injection to detection is essential—and now, easy to accomplish.

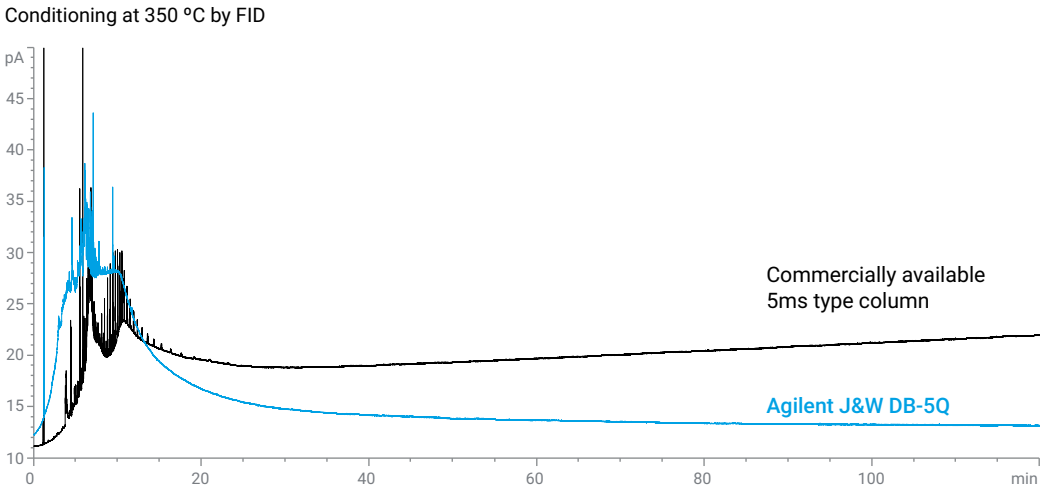
Agilent Inert Flow Path solutions minimize activity along every step of your GC and GC/MS flow path. So, you can improve system performance, ensure better results, and process more samples without unplanned maintenance and recalibration. Learn more



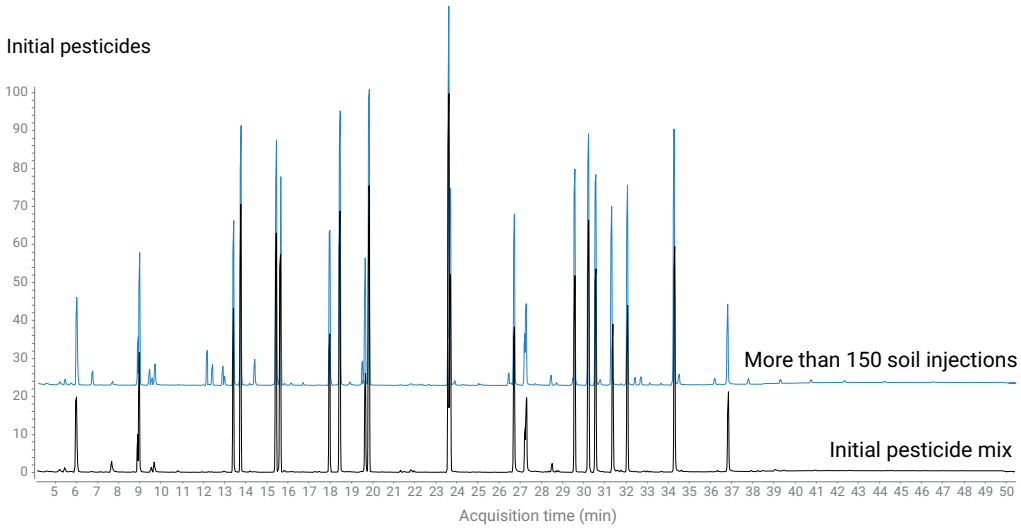
Unparalleled uptime:
The ultimate investment for your lab

Maintaining sophisticated, high-volume MS workflows under tight regulatory and time constraints can be a constant challenge. Unplanned downtime, often the result of needed maintenance, is a frequent cause of laboratory inefficiency and extra costs.

One way to boost productivity is by making column changes faster and less frequent—and the Agilent J&W 5Q GC columns were built to do exactly that. They're designed to optimize sample throughput with fast conditioning and outstanding durability even at high operating temperatures. So, you can reduce the need for column exchanges.



Agilent J&W 5Q GC columns condition to a stable baseline in under two hours, getting you back to your analysis quickly. In this chromatogram, all columns tested were new, and conditioning was performed at 350 °C.

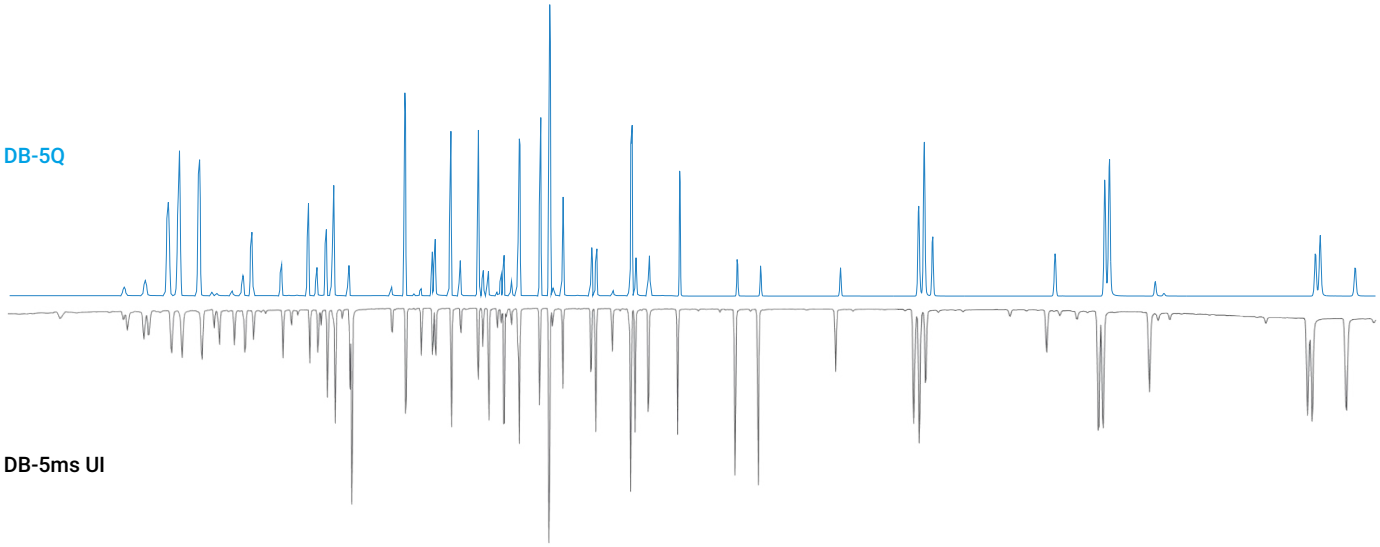


After 150 injections of a pesticide mix extracted from soil matrix, no peak shifting or loss of peak shape was observed on the DB-5Q column.

Matching selectivity enables seamless implementation

Selectivity differences can make it difficult to transition to new columns. Agilent J&W 5Q GC columns have identical selectivity to our 5ms and 5ms UI columns, so they easily fit into your existing retention time libraries and methods.

Semivolatile mix (SVM-8270-1) analyzed on DB-5ms UI and DB-5Q columns



GC/MS semivolatile mix analyzed on DB-5ms UI and DB-5Q GC columns. Comparing a multicomponent GC/MS pesticide mix illustrates the selectivity matching between the two columns.

Your perfect partner for Agilent instruments

Agilent J&W 5Q GC columns are designed to enhance the performance of our intelligent, reliable, and innovative GC and GC/MS systems. They're available in our popular DB and HP families and feature a broad range of dimensions to support conventional, high-efficiency, and hydrogen carrier workflows.

Standard 7-inch columns are best for Agilent 7890 and 8890 GC instruments and all competitive instruments with air-bath ovens.

Smaller 5-inch columns are designed for the Agilent 8850 GC.

Smart keys are only compatible with the Agilent 8890 GC system. Smart keys enable immediate identification and use monitoring of your GC column.

Intuvo columns feature a compact, planar design that works efficiently with the fast, direct heating and cooling technology of the Agilent Intuvo 9000 GC.

Agilent GC and GC/MS systems can confidently use hydrogen carrier gas as an alternative to helium

The Agilent HydroInert source is an innovative GC/MS ion source optimized to reduce chromatographic challenges while using hydrogen carrier gas. The Hydrogen Sensor Module checks for free hydrogen in the GC column oven, which may come from flow path leaks. When properly calibrated, it triggers a shutdown of all hydrogen gas flows before the oven's hydrogen level reaches 1%—well below dangerous readings. Learn more

Ordering information

High efficiency and hydrogen carrier gas columns

Part number	Description	Recommended use
121-5512Q	DB-5Q 10 m x 0.18 mm x 0.18 µm, 7 inch	Perfect for mid-column backflushing
121-5512Q-KEY	DB-5Q 10 m x 0.18 mm x 0.18 µm, w/smart key for 8890 GC	
19091S-571Q	HP-5Q 10 m x 0.18 mm x 0.18 µm, 7 inch	
19091S-571Q-KEY	HP-5Q 10 m x 0.18 mm x 0.18 µm, w/smart key for 8890 GC	
121-5522Q	DB-5Q 20 m x 0.18 mm x 0.18 µm, 7 inch	Ideal for fast, high-throughput, and hydrogen carrier
121-5522Q-INT	DB-5Q 20 m x 0.18 mm x 0.18 µm, Intuvo	
19091S-577Q	HP-5Q 20 m x 0.18 mm x 0.18 µm, 7 inch	
19091S-577Q-INT	HP-5Q 20 m x 0.18 mm x 0.18 µm, Intuvo	
121-5523Q	DB-5Q 20 m x 0.18 mm x 0.36 µm, 7 inch	
121-5523Q-INT	DB-5Q 20 m x 0.18 mm x 0.36 µm, Intuvo	
121-5542Q	DB-5Q 40 m x 0.18 mm x 0.18 µm, 7 inch	For converting 30 m x 0.25 mm x 0.25 µm to hydrogen carrier
19091S-574Q	HP-5Q 40 m x 0.18 mm x 0.18 µm, 7 inch	
122-5542Q	DB-5Q 40 m x 0.25 mm x 0.25 µm, 7 inch	For high-capacity hydrogen carrier methods
19091S-434Q	HP-5Q 40 m x 0.25 mm x 0.25 µm, 7 inch	

Leak-free connections extend column life and control column bleed

Agilent self tightening column nuts deliver a finger-tight connection without expensive upgrades, adaptors, or tools. Their smart design maintains a leak-free seal even after hundreds of injections. Learn more

Conventional MS formats

DB-5Q	
Part number	**Description**
122-5502Q	DB-5Q 5 m x 0.25 mm x 0.25 µm, 7 inch
122-5502Q-INT	DB-5Q 5 m x 0.25 mm x 0.25 µm, Intuvo
122-5512Q	DB-5Q 15 m x 0.25 mm x 0.25 µm, inch
122-5512Q-INT	DB-5Q 15 m x 0.25 mm x 0.25 µm, Intuvo
122-5512Q-KEY	DB-5Q 15 m x 0.25 mm x 0.25 µm, w/smart key
122-5532Q	DB-5Q 30 m x 0.25 mm x 0.25 µm, 7 inch
122-5532QE	DB-5Q 30 m x 0.25 mm x 0.25 µm, 5 inch cage
122-5532QIG	DB-5Q 30 m x 0.25 mm x 0.25 µm, integrated guard
122-5532Q-INT	DB-5Q 30 m x 0.25 mm x 0.25 µm, Intuvo
122-5532Q-KEY	DB-5Q 30 m x 0.25 mm x 0.25 µm, w/smart key
122-5536Q	DB-5Q 30 m x 0.25 mm x 0.50 µm, 7 inch
122-5536Q-INT	DB-5Q 30 m x 0.25 mm x 0.50 µm, Intuvo
123-5532Q	DB-5Q 30 m x 0.32 mm x 0.25 µm, 7 inch
123-5536Q	DB-5Q 30 m x 0.32 mm x 0.25 µm, 7 inch
122-5562Q	DB-5Q 60 m x 0.25 mm x 0.25 µm, 7 inch
122-5562Q-INT	DB-5Q 60 m x 0.25 mm x 0.25 µm, Intuvo
122-5562Q-KEY	DB-5Q 60 m x 0.25 mm x 0.25 µm, w/smart key

HP-5Q	
Part number	**Description**
19091S-430Q	HP-5Q 5 m x 0.25 mm x 0.25 µm, 7 inch
19091S-430Q-INT	HP-5Q 5 m x 0.25 mm x 0.25 µm, Intuvo
19091S-431Q	HP-5Q 15 m x 0.25 mm x 0.25 µm, 7 inch
19091S-431Q-INT	HP-5Q 15 m x 0.25 mm x 0.25 µm, Intuvo
19091S-431Q-KEY	HP-5Q 15 m x 0.25 mm x 0.25 µm, w/smart key
19091S-433Q	HP-5Q 30 m x 0.25 mm x 0.25 µm, 7 inch
19019S-433QE	HP-5Q 30 m x 0.25 mm x 0.25 µm, 5 inch cage
19091S-433Q-INT	HP-5Q 30 m x 0.25 mm x 0.25 µm, Intuvo
19091S-433Q-KEY	HP-5Q 30 m x 0.25 mm x 0.25 µm, w/smart key
19091S-133Q	HP-5Q 30 m x 0.25 mm x 0.50 µm, 7 inch
19091S-133Q-INT	HB-5Q 30 m x 0.25 mm x 0.50 µm, Intuvo
19091S-413Q	HB-5Q 30 m x 0.32 mm x 0.25 µm, 7 inch
19091S-113Q	HB-5Q 30 m x 0.32 mm x 0.50 µm, 7 inch
19091S-436Q	HP-5Q 60 m x 0.25 mm x 0.25 µm, 7 inch
19091S-436Q-INT	HP-5Q 60 m x 0.25 mm x 0.25 µm, Intuvo
19091S-436Q-KEY	HP-5Q 60 m x 0.25 mm x 0.25 µm, w/smart key

Ensure peak performance with Agilent columns and supplies

Agilent is your one-stop source for GC consumables for every application. Our GC columns, supplies, and accessories are designed and optimized for Agilent GC instruments and meet the industry's tightest quality-control specifications. What's more, comprehensive workflow guides share the experience and expertise of the Agilent team. Learn more

Always Quality. Always Innovative. Always Agilent.

Pioneering GC column innovation for 50 years

2024 marks the 50th anniversary of Agilent J&W GC columns. Throughout these five decades, our industry-first products have set the foundation for the GC columns we know today. Agilent J&W also has the industry's most extensive and innovative column portfolio, and every step of our manufacturing process is well established and highly controlled.

As you strive to maximize the productivity and performance of your GC instrumentation, you can count on Agilent J&W GC columns. Learn more

Learn more:
www.agilent.com/gcms/5q-columns

Find a local Agilent customer center in your country:
www.agilent.com/chem/contactus

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