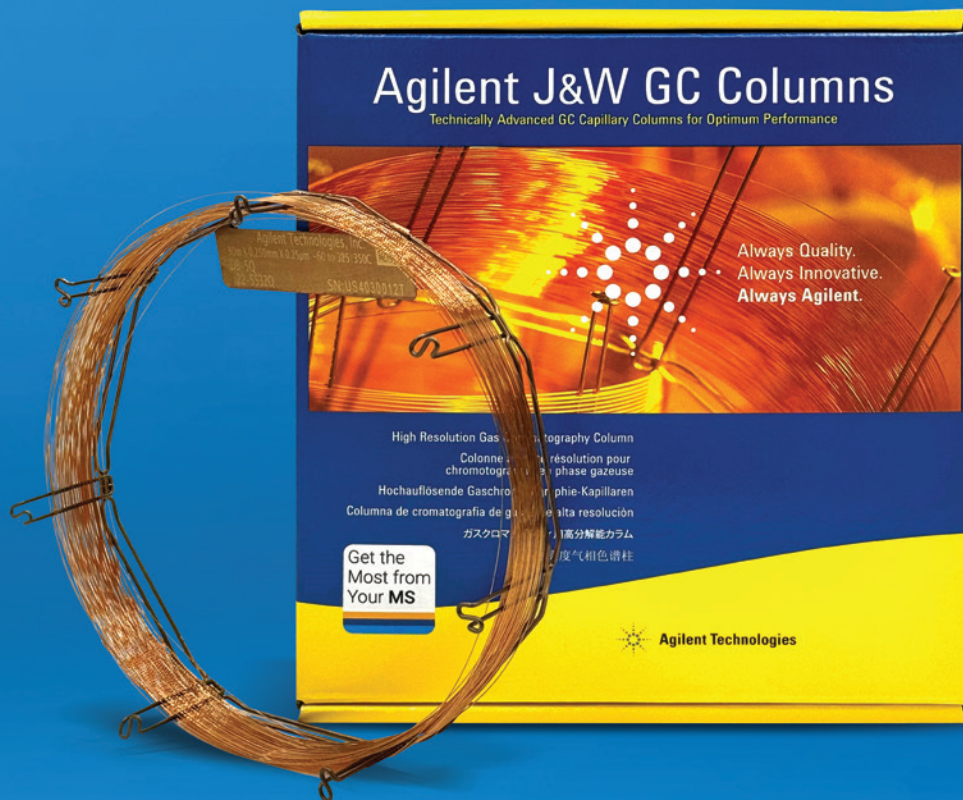


# Get the Most from Your MS

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

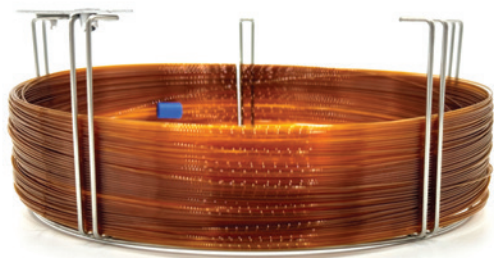


Agilent J&W  
5Q GC columns

## 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.
- **Identical selectivity to current 5ms columns** simplifies adaptation to existing retention time libraries and retention time locking.
- **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.



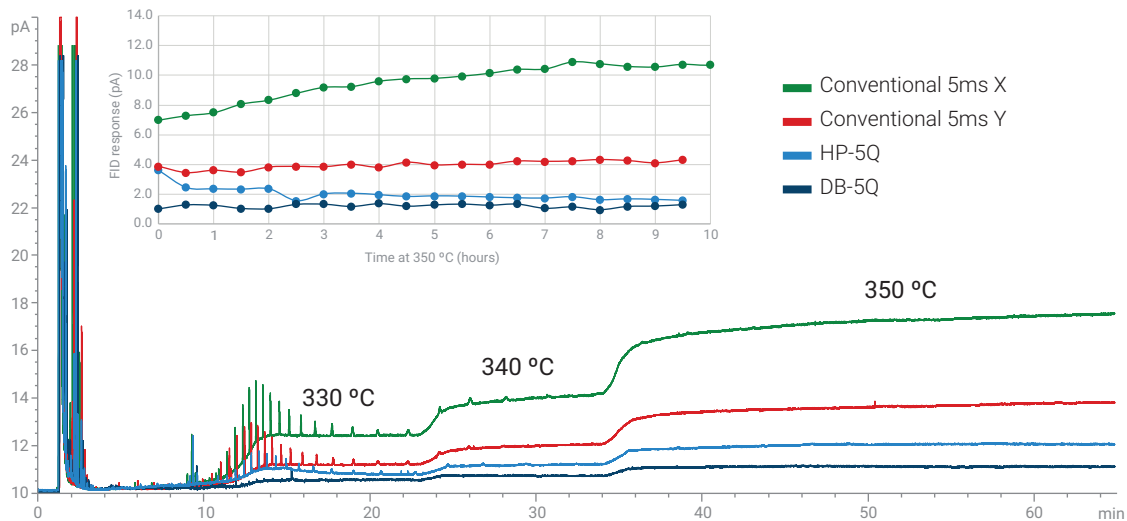
**2024**

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

# Ultra low-bleed performance simplifies mass spectral identification

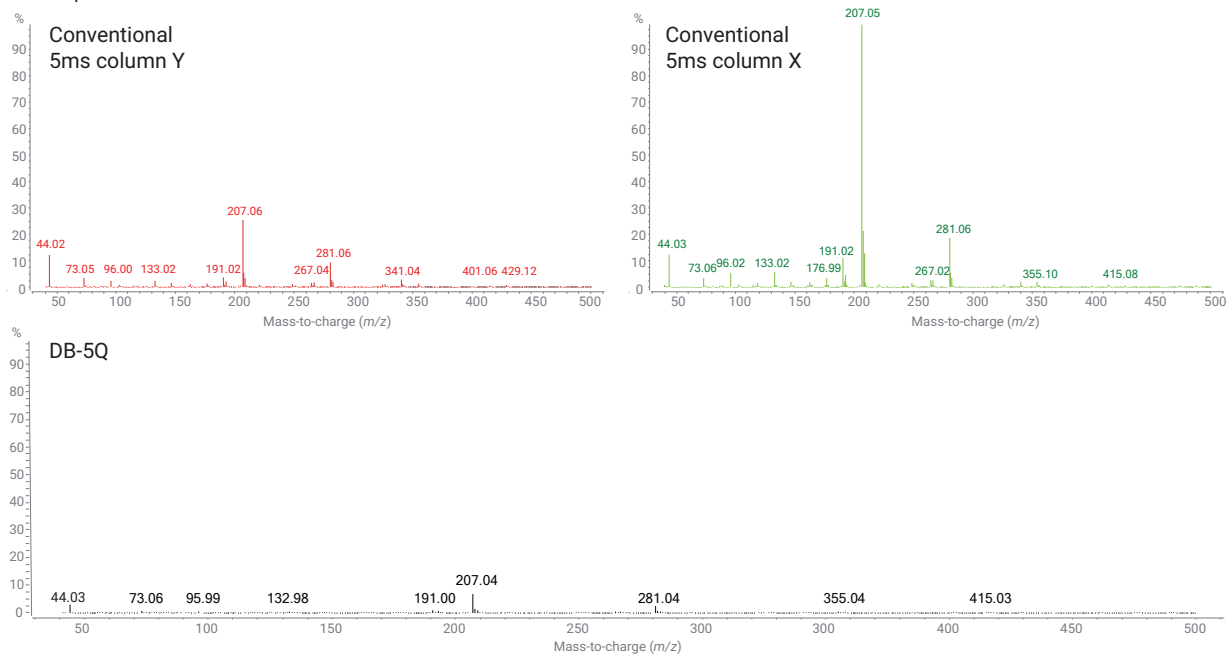
As GC columns undergo high-temperature cycling, column bleed can elevate baselines and create spectral interference, lowering the quality of your data. Agilent J&W 5Q GC columns were designed with an ultra low-bleed chemistry that significantly reduces the impact of column bleed.

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

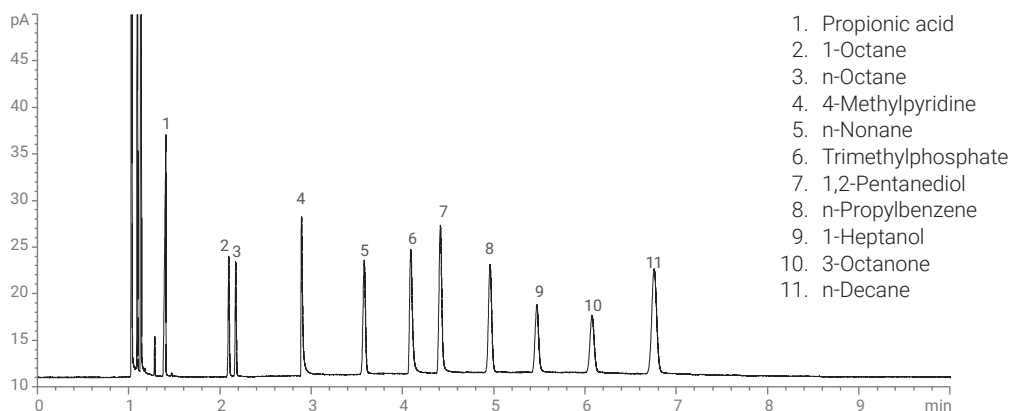


When a GC column is exposed to high temperatures, the stationary phase can degrade, generating interfering siloxane ring ions (usually  $m/z$  207 and  $m/z$  281) in your mass spectral data. Agilent J&W 5Q GC columns significantly reduce interfering ions, maintaining accuracy and spectral fidelity.

# 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.

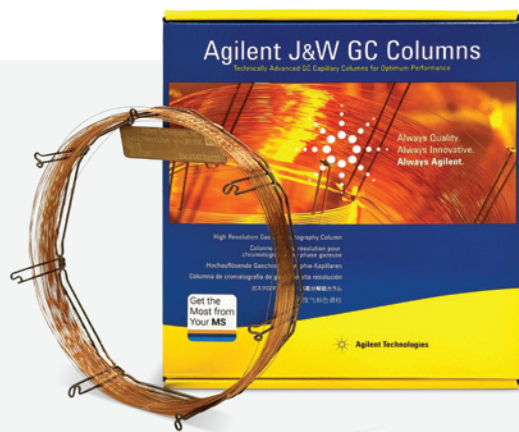


Every Agilent J&W 5Q column is tested with our demanding UBER One test probe mixture to ensure consistent, reliable performance for challenging active analytes.

## 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](#)

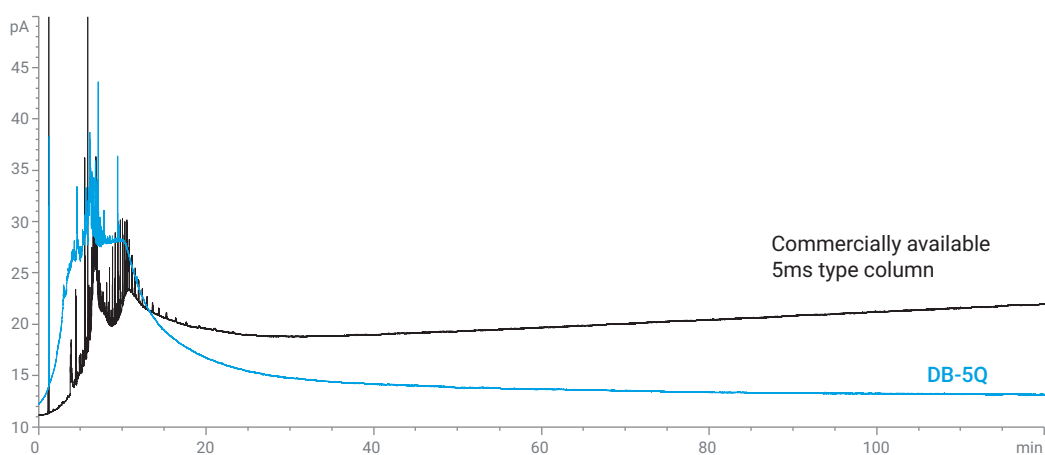


# Unparalleled uptime: The ultimate investment for your lab

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.

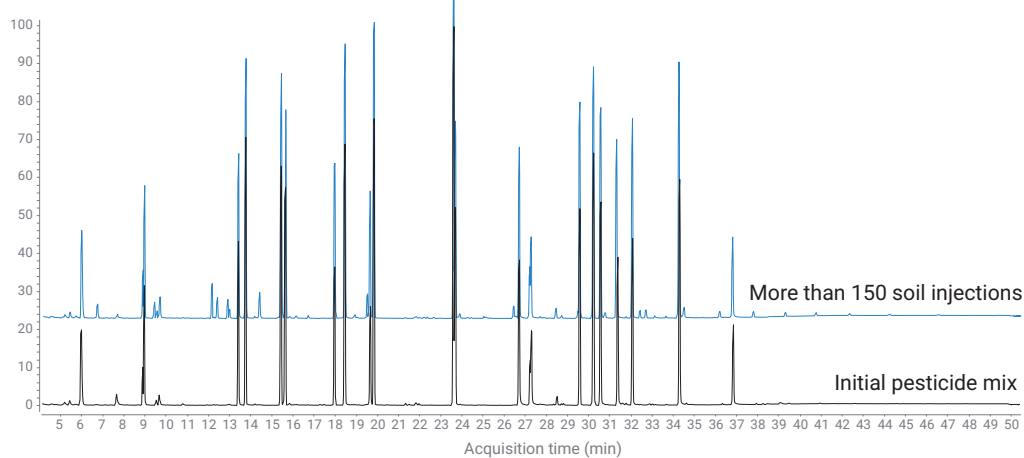
One way to boost productivity is by making column changes faster and less frequent—and the Agilent J&W 5Q GC columns were built to do exactly that. They're designed to optimize sample throughput with fast conditioning and outstanding durability even at high operating temperatures. So, you can reduce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

Conditioning at 350 °C by FID



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.

Initial pesticides

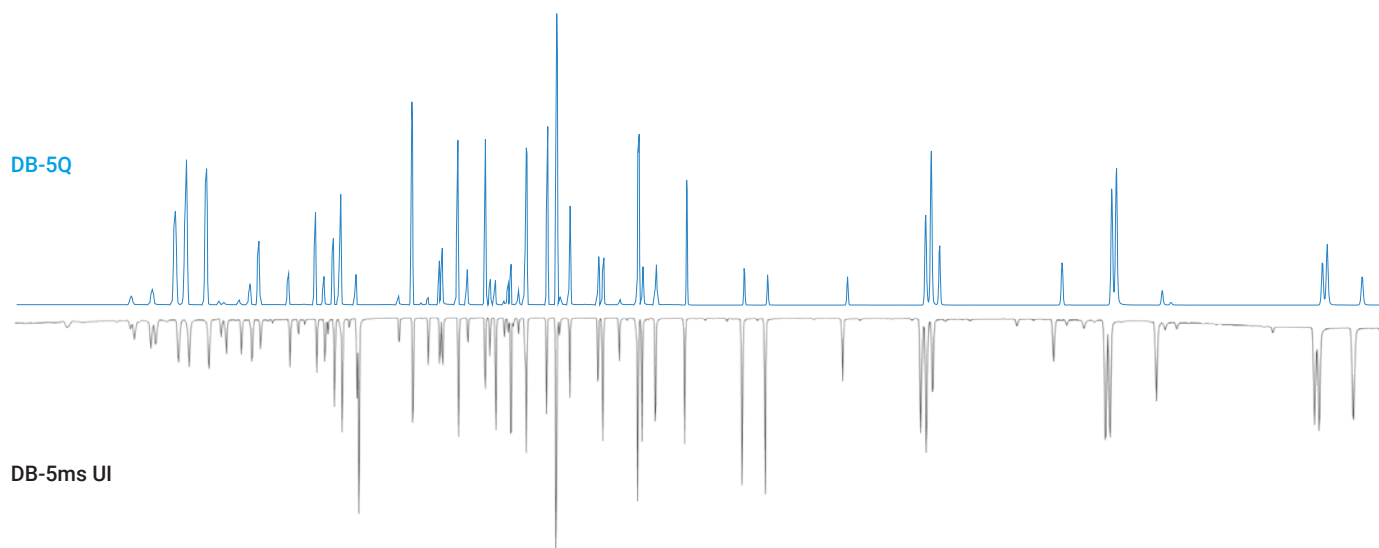


After 150 injections of a pesticide mix extracted from soil matrix, no peak shifting or loss of peak shape was observed on the DB-5Q column.

## 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.

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



GC/MS semivolatiles 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.



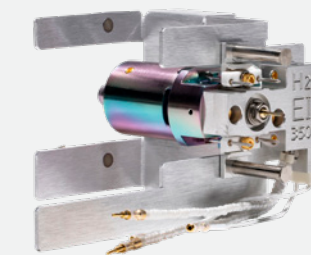
Smaller 5-inch columns are designed for the Agilent 8850 GC.



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
<a href="#">121-5512Q</a>	DB-5Q 10 m x 0.18 mm x 0.18 µm, 7 inch	Perfect for mid-column backflushing
<a href="#">121-5512Q-KEY</a>	DB-5Q 10 m x 0.18 mm x 0.18 µm, w/smart key for 8890 GC	
<a href="#">19091S-571Q</a>	HP-5Q 10 m x 0.18 mm x 0.18 µm, 7 inch	
<a href="#">19091S-571Q-KEY</a>	HP-5Q 10 m x 0.18 mm x 0.18 µm, w/smart key for 8890 GC	
<a href="#">121-5522Q</a>	DB-5Q 20 m x 0.18 mm x 0.18 µm, 7 inch	Ideal for fast, high-throughput, and hydrogen carrier
<a href="#">121-5522Q-INT</a>	DB-5Q 20 m x 0.18 mm x 0.18 µm, Intuvo	
<a href="#">19091S-577Q</a>	HP-5Q 20 m x 0.18 mm x 0.18 µm, 7 inch	
<a href="#">19091S-577Q-INT</a>	HP-5Q 20 m x 0.18 mm x 0.18 µm, Intuvo	
<a href="#">121-5523Q</a>	DB-5Q 20 m x 0.18 mm x 0.36 µm, 7 inch	
<a href="#">121-5523Q-INT</a>	DB-5Q 20 m x 0.18 mm x 0.36 µm, Intuvo	For converting 30 m x 0.25 mm x 0.25 µm to hydrogen carrier
<a href="#">121-5542Q</a>	DB-5Q 40 m x 0.18 mm x 0.18 µm, 7 inch	
<a href="#">19091S-574Q</a>	HP-5Q 40 m x 0.18 mm x 0.18 µm, 7 inch	
<a href="#">122-5542Q</a>	DB-5Q 40 m x 0.25 mm x 0.25 µm, 7 inch	For high-capacity hydrogen carrier methods
<a href="#">19091S-434Q</a>	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, 5 m, 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 60m, 0.25mm, 0.25µm, 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 15m 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 0.25mm 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	HP-5Q 30 m x 0.25 mm x 0.50 µm, Intuvo
19091S-413Q	HP-5Q 30 m x 0.32 mm x 0.25 µm, 7 inch
19091S-113Q	HP-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](http://www.agilent.com/gcms/5q-columns)

Find a local Agilent customer center in your country:

[www.agilent.com/chem/contactus](http://www.agilent.com/chem/contactus)

U.S. and Canada:

**1-800-227-9770**

[agilent\\_inquiries@agilent.com](mailto:agilent_inquiries@agilent.com)

Europe:

[info\\_agilent@agilent.com](mailto:info_agilent@agilent.com)

Asia Pacific:

[inquiry\\_lsca@agilent.com](mailto:inquiry_lsca@agilent.com)

DE42425218

This information is subject to change without notice.

© Agilent Technologies, Inc. 2024  
Published in the USA, August 28, 2024  
5994-7596EN

