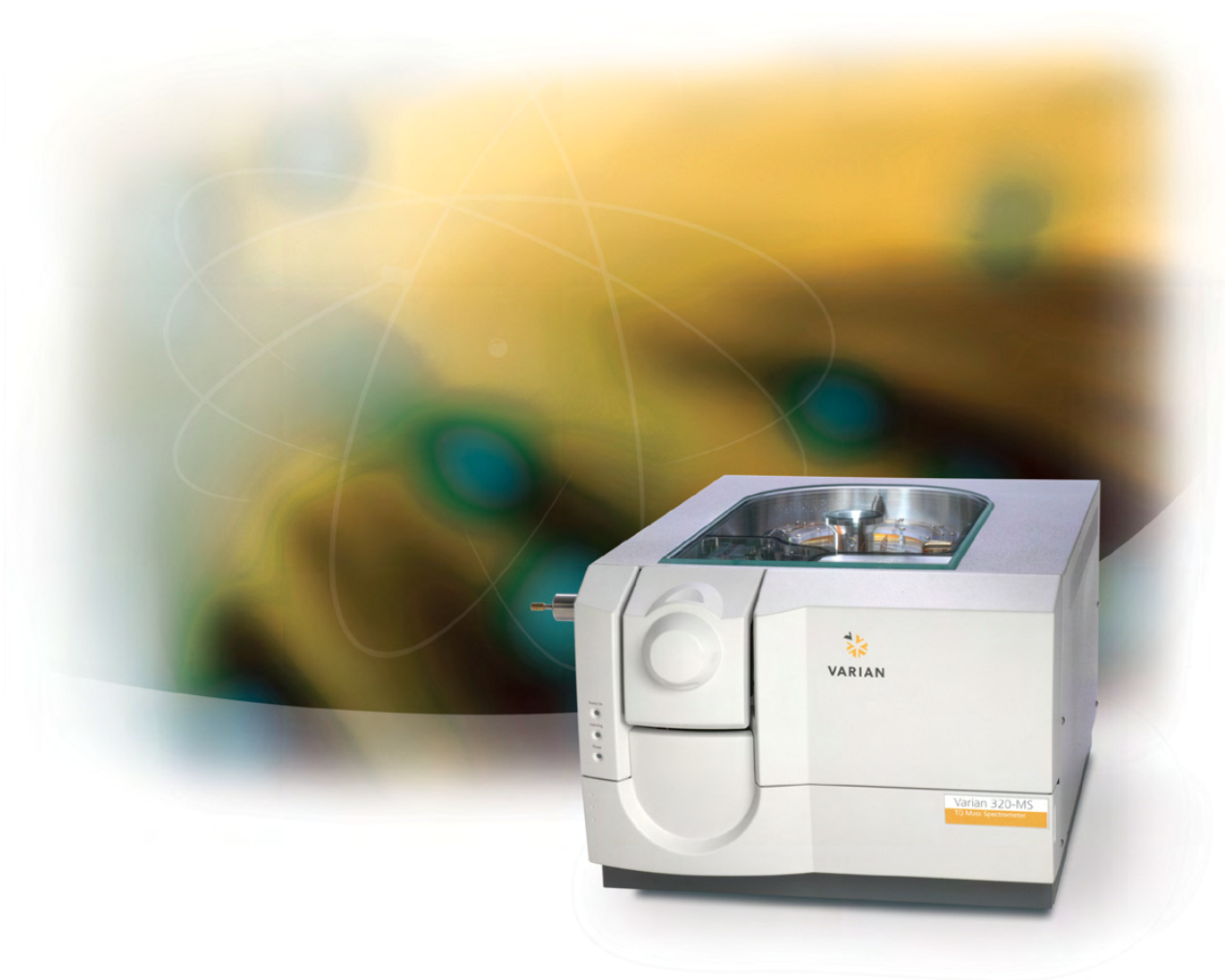


GC/MS/MS

VARIAN, INC.

# 320-MS

TRIPLE QUADRUPOLE MASS SPECTROMETER



**VARIAN**

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## Unsurpassed commitment to innovation

Varian, Inc. is an innovator and leader in mass spectrometry and vacuum technology, committed to providing Information Rich Detection (IRD) solutions.

Varian continues its commitment to develop and manufacture high performance, reliable, IRD solutions by strengthening our complete line of quadrupole and ion trap GC/MS and LC/MS systems.

The Varian 320-MS is the next generation of Varian's triple quadrupole product line, with all the ease of use features you rely on. The option to quickly switch between GC and LC or to easily change from EI to CI offers a flexible and robust quadrupole MS system that can deliver precisely the information you need.

## High sensitivity with unmatched flexibility

The Varian 320-MS provides femtogram sensitivity, a 2000 m/z mass range and a choice of chromatographic and ionization configurations to match your budget and your needs – all in less than 72 cm (28 inches) of linear bench space.

From a leader in GC/MS triple quadrupole technology comes an instrument that delivers superior negative ion sensitivity, faster, more flexible method development, increased robustness and the performance you've come to expect from a Varian quadrupole product.

The 320-MS also delivers unmatched flexibility to select the instrument configuration that works best for you.

Start with the single quadrupole configuration and upgrade to the sensitivity and selectivity of a triple quadrupole whenever the need arises. Add the optional LC interface and switch as your application needs change. Now you can have the power of two separate instruments for the cost and bench space of just one.



The Varian 320-MS GC/MS provides the highest level of flexibility and performance in a compact, easy-to-use instrument.

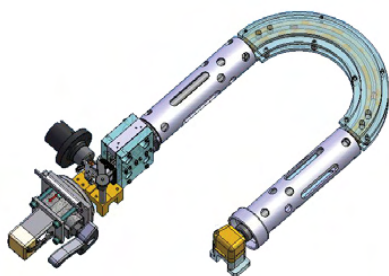
VARIAN, INC.

# 320-MS GC/MS

## Big performance in a small pack

### Lower Detection Limits

Varian's proven state-of-the-art GC/MS interface features interchangeable ion volumes for robust operation with challenging matrices. And the superior design characteristics don't end at the ion source. Varian's patented 180° curved collision cell provides additional noise reduction for complex matrices. You get the benefits of a detector that is off-axis to the source without the use of a conversion dynode. No dynode means better sensitivity, especially for negative ions.



The unique geometry of the 320-MS reduces noise and increases sensitivity.

### Compact, Sensitive, Flexible

The 320-MS has been designed to deliver performance and productivity.

Varian's innovations include:

- **Single dual-stage, turbomolecular pump**  
Split flow, differential pumping for the source and analyzer produces a compact, economical instrument.
- **Ultra-low noise detector**  
Directly aligned with the ion path for better sensitivity, especially in CI.
- **High performance quadrupoles**  
Pre- and post-ion guides improve transmission efficiency. The absence of lenses simplifies tuning and improves signal.
- **Dual Source**  
Switch from EI to CI without breaking vacuum.

### Convenient Switchability

Ideal for laboratories with a wide range of sample types, the 320-MS uniquely allows both GC/MS and, with the optional LC interface, LC/MS on the same instrument. From the switchable interface to multiple ionization modes and more, the 320-MS gives you the most options for configuring the instrument to meet your needs:

- Switch from GC to LC interface and back again
- Change ionization modes between EI and CI
- GC sources include: EI, PCI and NCI
- Single Quad to Triple Quad upgrade

### Our Best Gas Chromatograph

The CP-3800 GC is Varian's top of the line gas chromatograph with a flexible platform for single, dual, or three-channel configuration for maximum productivity. The CP-3800 offers a wide range of inlets and detectors to choose from:

#### Inlets

- CP-1177 Split/Splitless Injector
- 1079 Programmable Temperature Vaporizing Injector
- Chromatoprobe

#### Detectors

- FID (Hydrocarbon)
- ECD (Halogen Specific)
- TCD (Universal)
- TSD (N,P Specific)
- PFPD (S,P Specific)
- PID (Aromatic/Unsaturated Hydrocarbon Specific)

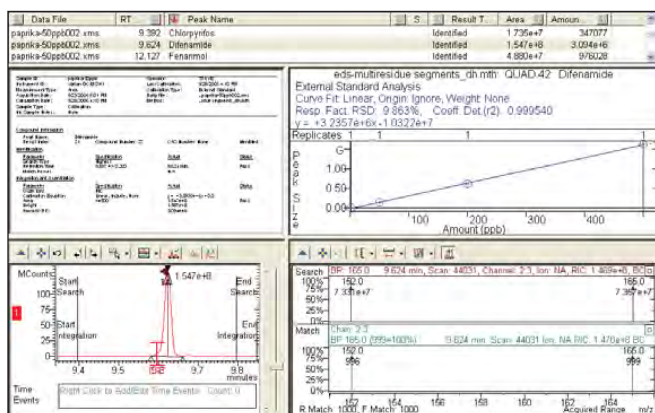


## The complete solution...

More power with Varian MS workstation software

Instrument control and data processing are simple with the Varian MS Workstation software.

- Complete single point control of GC, autosamplers, and other accessories
- Fully automated tuning and calibration
- Superior data transfer rate with dual processors
- Simple navigation for reviewing and processing results
- Full featured network compatibility for file management, printing, and remote access
- Extensive reporting for complete analyses



Varian GC inlets, detectors, autosamplers, and columns can create a complete configuration.

### Inlets

- CP-1177 Split/Splitless Injector employs a dual vent design to provide superior performance in the hot split or splitless modes.
- 1079 Programmable Temperature Vaporizing Injector delivers large volume injections with minimal sample preparation, increased throughput and better sensitivity.
- Chromatoprobe™ allows rapid analysis of solids and liquids without sample preparation.

### Autosamplers

- Combi PAL offers outstanding flexibility and productivity whether in liquid, headspace, and Solid Phase Microextraction (SPME) mode.
- CP-8400 and CP-8410 are precise, versatile autosamplers delivering reliable results, with capacity for 100 samples using liquid, ambient headspace, or optional SPME sampling modes.

### Detectors

- The Pulsed Flame Photometric Detector (PFPD) can detect 28 elements for the analysis of heteroatomic species, 13 with infinite selectivity.

### GC Columns

- FactorFour™ low bleed columns deliver faster separations without sacrificing resolution. You'll enjoy greater accuracy and increased instrument uptime. Some applications include:

**Clinical Research and Toxicological** - FactorFour columns deliver robust and reproducible results at the lowest possible detection limits..

**Chemical Analysis** - For a wide range of compounds from saturated hydrocarbons to multi-functional highly polar compounds, FactorFour is the most efficient, inert column choice.

**Food, Fragrances and Beverages** - FactorFour VF-23ms employs a new generation of stable polar phase that is 100% bonded, yielding shorter run times for FAME applications.

VARIAN, INC.  
**320-MS**

TRIPLE QUADRUPOLE MASS SPECTROMETER

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- Factory-qualified Field Support Representatives and Specialists, specially chosen for each installation.
- Global support teams strategically located around the world.

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