

VARIAN, INC.

# 320-MS

TRIPLE QUADRUPOLE MASS SPECTROMETER





VARIAN, INC.

320-MS

Information Rich Detection  
IRD  
Information Rich Detection

### **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 LC/MS and GC/MS systems.

The Varian 300-MS Series is the next generation of Varian's triple quadrupole product line, with all the ease-of-use features you've come to expect. The option to quickly switch between LC and GC or to change your LC source from ESI to APCI offers a flexible and robust quadrupole MS system that can deliver precisely the information you need.

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# 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 centimeters (28 inches) of linear bench space.

Varian's patent-pending, computer-controlled gas temperature (SelecTemp™) and flow (SelecFlow™) give you the flexibility to develop methods with greater ruggedness and sensitivity. An integrated syringe pump and 6-port valve, with time-programmable software control, accelerate method development.

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 GC 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 LC/MS features a built-in syringe pump and 6-port valve for easy sample introduction and method optimization.

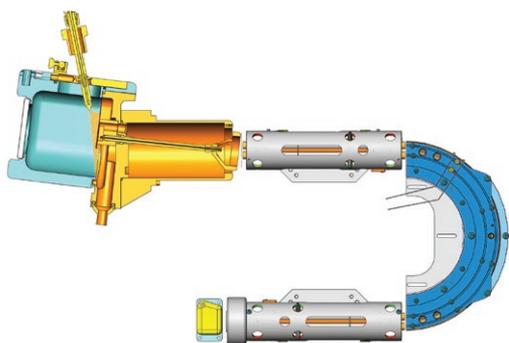
# 320-MS LC/MS

## Big performance in the smallest package

### Lower Detection Limits

The 320-MS delivers high sensitivity with low noise and less maintenance. The patented API interface, with its dual off-axis needle and capillary, provides efficient desolvation with minimum contamination. A high performance skimmer and quadrupole ion guide allow maximum ion transmission for outstanding signal intensity.

The superior design characteristics don't end at the ion source. Varian's patented 180° curved collision cell provides additional noise reduction for difficult matrices. You get the benefits of a detector that is off-axis to the source without the use of a conversion dynode. No dynode ensures better sensitivity, especially for negative ions.



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

### Flexible, Rugged, Sensitive

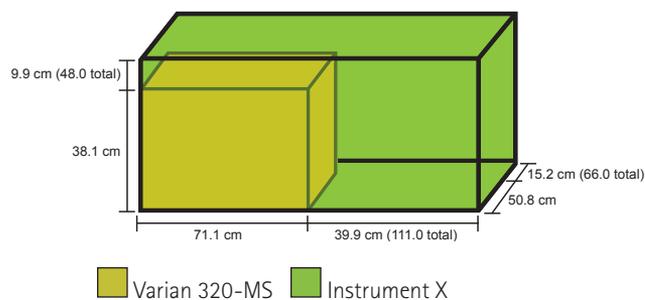
By giving you more options for method development and increased sensitivity, SelecTemp™ and SelecFlow™ reduce sample preparation time. That means increased productivity for your laboratory.

Varian's SelecTemp programmable temperature control delivers optimum drying gas temperatures at every point in a complex analysis. The API interface with SelecTemp allows simplified setup, greater throughput, reduced contamination and improved detection of labile compounds.

SelecFlow, a programmable pressure control system allows accurate control of gas flows by time segment to provide better sensitivity and area reproducibility for specific compounds. Both SelecTemp and SelecFlow parameters can be automatically recorded for GLP purposes.

### Compact Productivity

The linear footprint of the 320-MS system is one of the smallest of any triple quad LC/MS – under 72 centimeters (28 inches). A smaller footprint means more space for a safer, less cluttered working environment or even another instrument to increase your productivity.

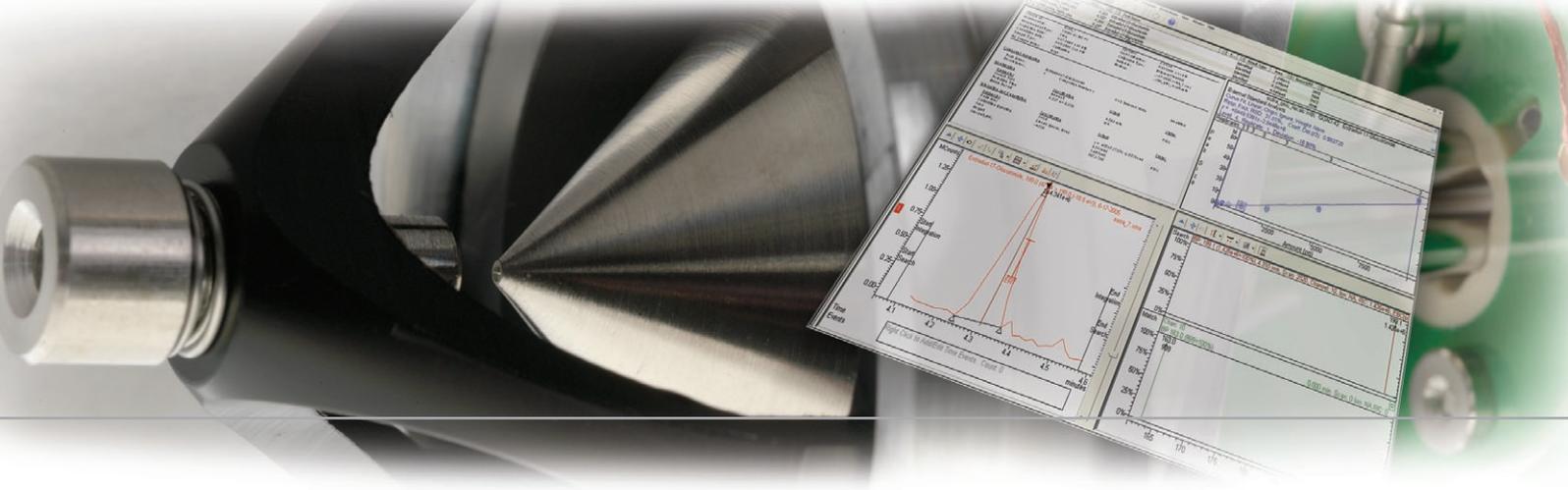


### Convenient Switchability

Ideal for laboratories with a wide range of sample types, the 320-MS uniquely allows both LC/MS and, with the optional GC interface, GC/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 LC to GC interface and back again
- Change ionization modes between ESI and APCI
- GC sources include: EI, PCI and NCI
- Single Quad to Triple Quad upgrade

\*Dimensions accurate as of 01/09/09. Diagram not necessarily to scale.



## 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 pumps, 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

## HPLC Pumps

- **212-LC pumps** deliver pulse free flow at low flow rates, ideal for analyzing limited amounts of sample on a small (2 mm) diameter column. The low flow rates reduce maintenance on the spectrometer and increase the sensitivity for analyses of small samples.

## HPLC Detectors

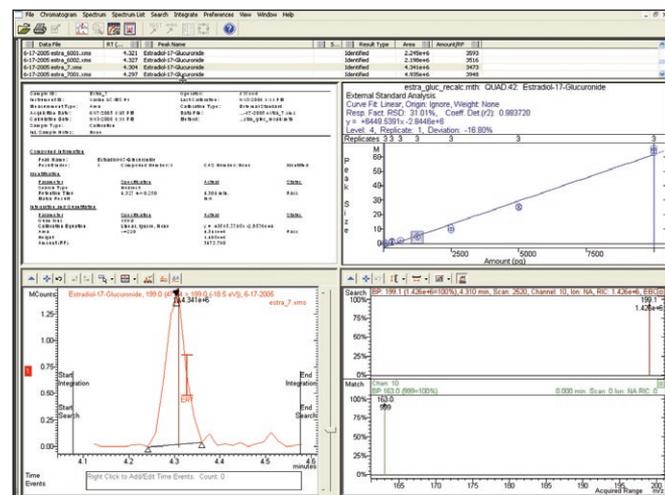
- **300 Series detectors** range from a standard, single-channel UV-Vis detector for basic analysis to multi-wavelength detectors for research applications. For the ultimate in UV-Vis detection, the powerful 335 Diode Array Detector provides full spectral information for every peak in a sample.
- **380-LC Evaporative Light Scattering Detector (ELSD)** is ideal when analyzing non-chromophoric components. This universal detector does not rely on optical properties of the analyte. Signal is proportional to concentration for all semi- and non-volatile compounds.

## Autosamplers

- **HTS PAL** is a low loss, high speed, high capacity, robust autosampler offering outstanding flexibility and productivity.
- **400 Series autosamplers** are precise and versatile, delivering reliable results, particularly when sample volume is limited.

## HPLC Columns

- **Pursuit™ columns** are available in a variety of phases and deliver faster separations without sacrificing resolution. Pursuit Diphenyl offers unique pi-pi selectivity for aromatic and double bond containing analytes and improved LC/MS sensitivity. Pursuit PFP delivers optimal separation of polar analytes under high aqueous conditions.
- **Polaris™ columns** provide unique bonded phases that maximize polar retention and selectivity, while virtually eliminating silanol activity. Polar-modified chemistries of this class are very effective for separations that are difficult on conventional alkyl-bonded phases, and they are stable in all commonly used HPLC and LC/MS eluents from pH 1.5 to 10.0.



Varian HPLC pumps, detectors, autosamplers, and columns can be included to create a complete configuration.

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## TRIPLE QUADRUPOLE MASS SPECTROMETER

Varian offers robust instrumentation, application-based consumables, and customer-focused services, backed by our global team of product and applications experts, ready to help you solve your analytical challenges. Whether you're monitoring impurities in drinking water, designing new therapeutic drugs, or developing cleaner fuels, our solutions deliver the sensitivity, flexibility and productivity your laboratory requires.



### Varian Care Program

Our goal is to help you increase your productivity, maximize your uptime and achieve the highest return possible on your investment. Our experienced and highly-qualified support organization is strategically located throughout the world to ensure rapid response.

Be confident knowing that your instrument will deliver maximum performance, your users are fully trained and expert technicians will respond quickly to your support needs – because Varian cares.

### Shop Online

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