

Gas chromatography

# Everything You Need in a GC Detector

VGA-100 Gas Chromatography Detector  
for TRACE 1600 Series GC



thermo scientific

# Discover unparalleled clarity

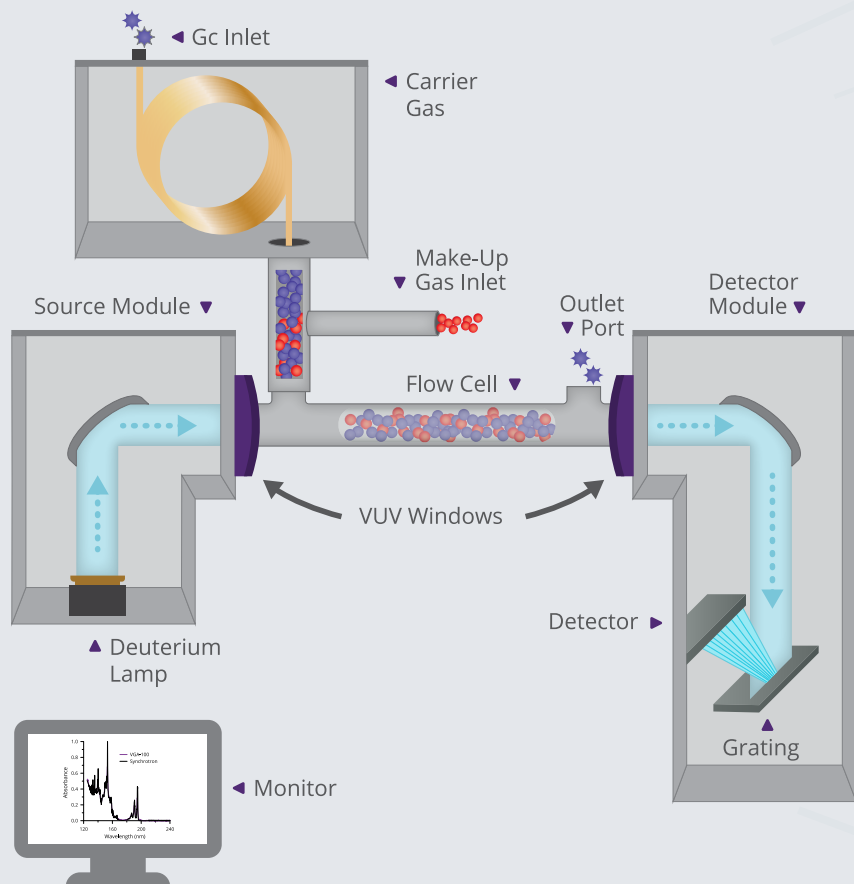
Experience the next generation of GC detection with the VGA-100™ (VUV Analytics, Inc.) gas chromatography detector. With revolutionary vacuum ultraviolet (VUV) absorption technology, the VGA-100 offers unparalleled sensitivity and selectivity, providing both qualitative and quantitative data for gas chromatography analysis with unmatched accuracy.



## **Performance synergy—the VGA-100 detector and the TRACE 1600 Series GC**

VUV absorbance and gas chromatography offer a perfect match, joining insights on light absorption in the VUV range with each compound's unique gas phase absorption features. The innovative VUV absorption technology of the VGA-100, combined with the robust and reliable performance of the Thermo Scientific™ TRACE™ 1600 Series gas chromatograph, offers a powerful analytical solution to support time-critical laboratory demands.

Harnessing breakthrough gas chromatography technology, VGA-100 provides unmatched precision and data quality with faster results and higher sample volume. Experience analytical insights with a system designed for ease of use that delivers accurate, reportable results across a diverse range of industries.



## Transformative analysis capabilities

VGA-100 detector for gas chromatography revolutionizes the analysis of difficult samples by providing exceptional clarity in speciation. Automated spectral deconvolution unravels sample complexity, simplifying peak identification and quantitation while reducing manual analysis time and eliminating interpretation errors for faster, more confident results.

**VUV absorption technology.** All gas phase molecules absorb in the vacuum ultraviolet region, providing excellent sensitivity and compound-specific selectivity.

**Compound-specific absorption spectra.** Compound-specific spectra enable users to deconvolve co-eluting peaks, taking advantage of a unique orthogonal separation approach for unmatched selectivity of compounds, including isomers. VUV spectroscopy complements mass spectrometry with a new dimension of selectivity to streamline complex sample analysis.

**Excellent temporal resolution.** Resolve co-eluting analytes without the need for baseline-resolved chromatography. Advanced specificity enables laboratories to quickly quantify and isolate compounds, reducing time to results and supporting dynamic processes.

**First-principle technique.** VUV spectroscopy provides a calibration-free analysis of the relative quantitative data of each compound in mixtures, significantly reducing calibration issues and simplifying method setup.



# Explore the benefits of VUV technology

The unique capabilities of the VGA-100 detector for the TRACE 1600 Series GC help solve common challenges, such as correct isomer identification, poor selectivity, long method run times, analyte co-elution, burdensome data processing and analysis, and method scalability to production environments.

**Expand detectable compounds.** Access to a wider range of analytes with enhanced sensitivity towards impurities as well as accurate sample profiling, thanks to the combined universal and selective response of the VGA-100 detector.

**Unambiguous identification.** The VGA-100 universal mass-sensitive detector delivers comprehensive data for robust analysis. Data provided in 3D (time, wavelengths, and intensity) supports reliable identification through spectra that can be matched to a dedicated library, including isomers discrimination.

**Ease of use and maintenance.** Robust and easy to set up and operate, the VGA-100 requires minimal maintenance, with no vacuum pumps required. An intuitive design supports high demands for throughput and compliance, supporting the needs of both research and quality control laboratories.

**Faster analysis.** Obtain rapid and accurate results with the advanced capabilities of VUV technology, complemented by the fast and efficient chromatographic separation of the TRACE 1600 Series GC.

## VUV Analyze Software for push-button simplicity

The advanced post-acquisition processing capabilities of VUV Analyze™ Software (VUV Analytics, Inc.) allows laboratories to generate meaningful results with just the push of a button. This cutting-edge software platform swiftly analyzes complex chromatographic and spectral data, delivering method-specific results and reports. By automating the analysis process, VUV Analyze Software significantly streamlines and speeds up each run while minimizing errors, leading to greater confidence in results.



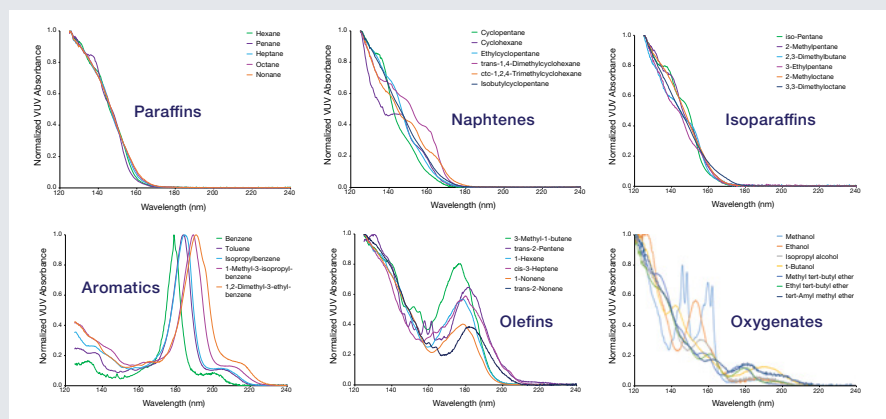
Complex chromatograms are easily and reliably analyzed thanks to the Time Internal Deconvolution™ (TID) capability which automatically deconvolves co-eluting compounds.



Application-specific spectral libraries are available for the specific method being run. Libraries can be expanded and integrated with user-defined spectra.



VUV Analyze Software is scalable and secure. It offers a flexible platform for R&D environments with complete software functions control as well as secured accessibility in a production environment.



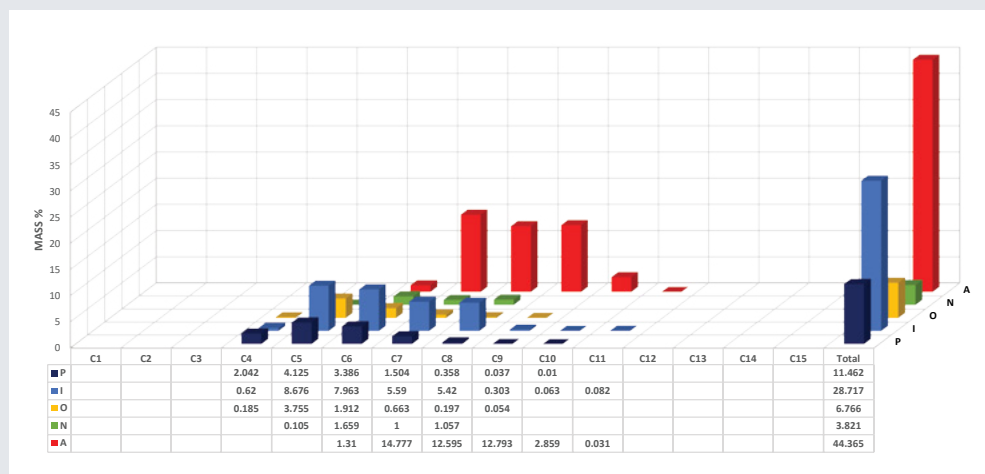
VUV spectra of hydrocarbons exhibit class-based similarities, simplifying complex fuel mixture analysis

## Exceptional analytics for the petrochemical industry

Elevate your gas chromatography detection capabilities with the dedicated VUV Analyzer for Fuels.

Analyzing finished fuels and feed stocks traditionally involves multiple analytical techniques, complicated hardware setup, extensive analysis time, and prior knowledge of the samples being analyzed, leading to wasted time on reanalysis.

**The VUV Analyzer™ for Fuels (VUV Analytics, Inc.) brings the simplicity of the VUV Analyze Software to offer a suite of fuel-specific applications in an easy-to-use solution that automatically analyzes fuels in a fraction of the time.**



Simplified PIONA compound analysis in finished gasoline

**Spectral clarity for fast resolution.** Effortlessly resolve product-related isomers and characterize process impurities with spectral clarity that easily unravel complex hydrocarbon mixtures with peaks identification by compound classes based on their spectral response.

**Efficiency and speed.** The VUV Analyzer for Fuels significantly simplifies PIONA\* compound analysis in finished gasoline with automated spectral deconvolution, reducing analysis time and errors for enhanced productivity and quicker decision support.

**Simplification and automation.** The VUV Analyzer for Fuels simplifies complex fuel analysis processes by integrating GC-VUV spectroscopy with automated, push-button data analysis using VUV Analyze Software.

**Maximized investment.** The VUV Analyzer for Fuels supports multiple methods and applications without changing hardware, making it flexible and cost-effective.

\*PIONA: paraffins, isoparaffines, olefins, naphthenes, and aromatics



# The next generation of QC detection is here

The VGA-100 gas chromatography detector by VUV Analytics, Inc. represents the next generation of GC detection, featuring revolutionary VUV absorption technology. This innovation delivers unmatched sensitivity, selectivity, and precision, enabling both qualitative and quantitative analysis with exceptional accuracy.

Together, the VGA-100 detector and the TRACE 1600 Series GC offer cutting-edge technology to redefine gas chromatography, providing laboratories with a powerful, scalable, and intuitive solution for high-precision analysis.

 Learn more at [thermofisher.com/GC-VUV](https://thermofisher.com/GC-VUV)

**General lab equipment, not for clinical, patient or diagnostic use.** © 2025 Thermo Fisher Scientific Inc. All rights reserved. All other trademarks are the property of Thermo Fisher Scientific unless otherwise specified. This information is presented as an example of the capabilities of Thermo Fisher Scientific products. It is not intended to encourage use of these products in any manners that might infringe the intellectual property rights of others. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representatives for details. Image provided courtesy of VUV analytics, Inc. **BR-003592 0425**