



PEGASUS[®] GC-HRT⁺



LECO's *PEGASUS* GC-HRT⁺

The ultimate analytical instrument for
increased confidence in the
identification of components in your
most complex samples.

For complete patent information, see specification sheet 209-212-001.

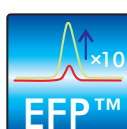
Build Your Confidence Further

Industry Advantages

- Mass Resolution up to 50,000 gives you the capability to distinguish compounds in coeluting peaks
- 1 ppm mass accuracy reduces molecular possibilities by a factor of 3 versus industry standards
- Shorten your identification time with the industry's best deconvolution for both EI and CI data

Driven by Fundamental Technologies

- Folded Flight Path® (FFP®) enables high resolution analysis with selectable 20 or 40 meter long flight paths
- High Resolution Deconvolution® (HRD®) uses a statistical approach to deconvolute analytes to the limits of mathematics
- KADAS®, a novel data acquisition system, is based on ion statistics and ensures a high level of TOF data quality
- New Encoded Frequent Pushing™ (EFP™) allows increased pulser frequency



Leading to Benefits

- Identify compounds via library searches, combined with accurate masses on molecular and fragment ions
- Create and use accurate mass spectral databases to enhance the quality of your hits
- Mass defect plots allow you to quickly focus on compounds of interest
- Monitor, regulate, use, and setup instrument with automated software tools
- Standard Electron Impact (HR-EI) and optional Chemical Ionization (HR-CI) sources are easily exchangeable
- Standard He and H₂ carrier gas support
- Automated tuning and instrument setup
- Unparalleled sensitivity in a high resolution GC-TOFMS system

1 ppm accuracy and 50,000 resolution at 200 spectra/second allows you to **win the fight against coelution** with a high degree of confidence



PEGASUS GC-HRT⁺ Hardware

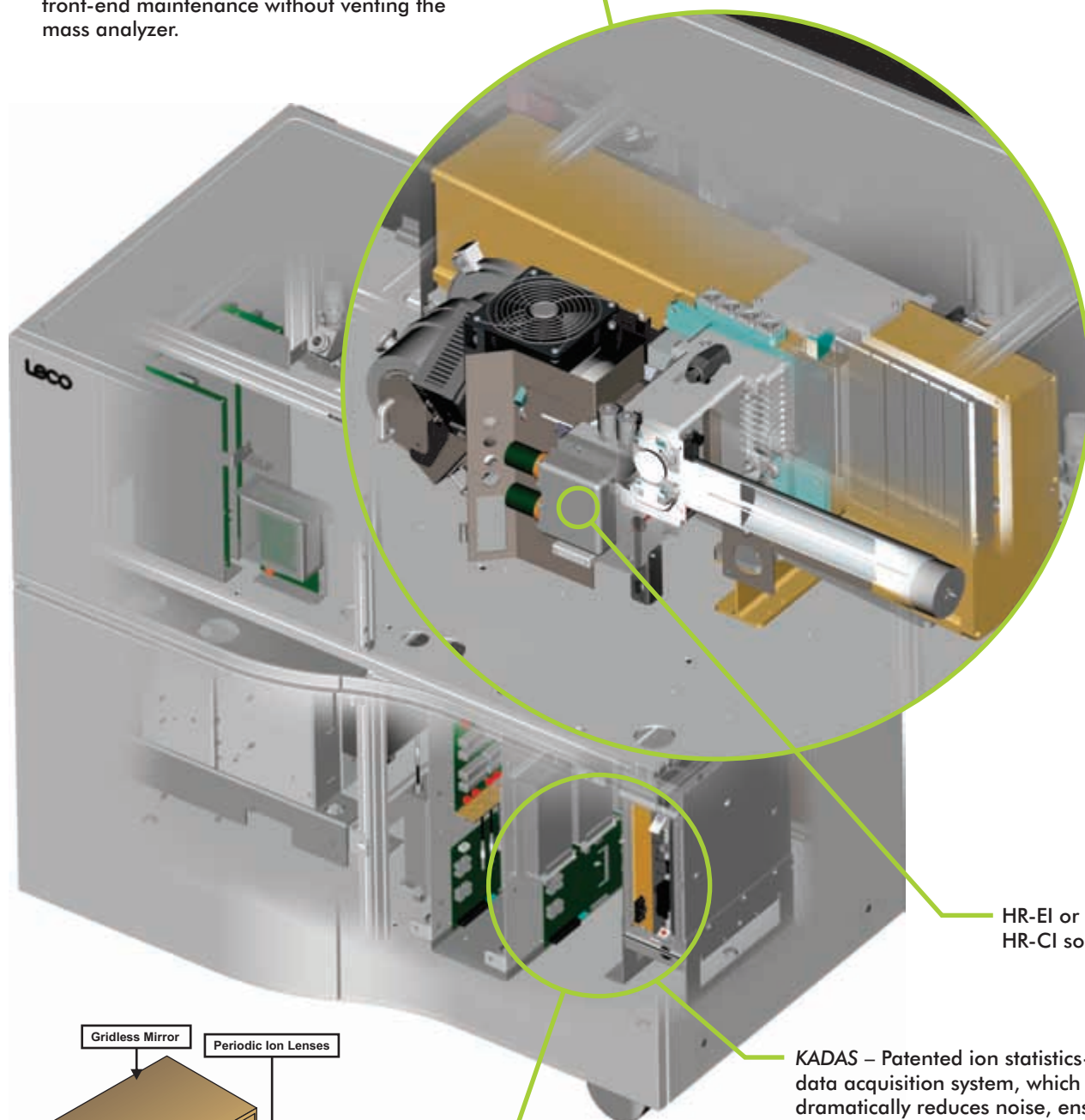
FFP provides high order TOF focusing which delivers high resolution sensitivity and accommodates for typical TOF ion beam dispersion.

Transfer ion optics to maximize transmission into the unique mass analyzer.

Pneumatic gate valve to quickly perform front-end maintenance without venting the mass analyzer.

Novel Gain Optimization algorithm maximizes sensitivity and dynamic range.

Dual Orthogonal Acceleration focuses more ions into the analyzer.

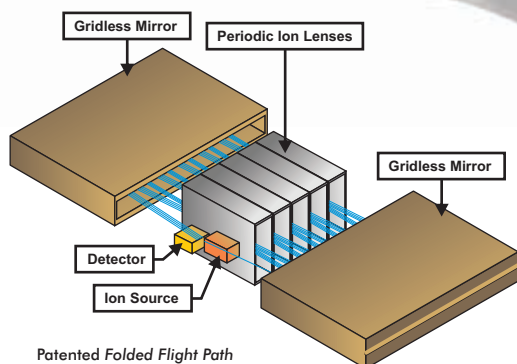


HR-EI or
HR-CI sources

KADAS – Patented ion statistics-based data acquisition system, which dramatically reduces noise, ensures mass accuracy, and reduces file size.

New Encoded Frequent Pushing™ – a patented method of pulsing the Orthogonal Accelerator multiple times to increase duty cycle (x10)

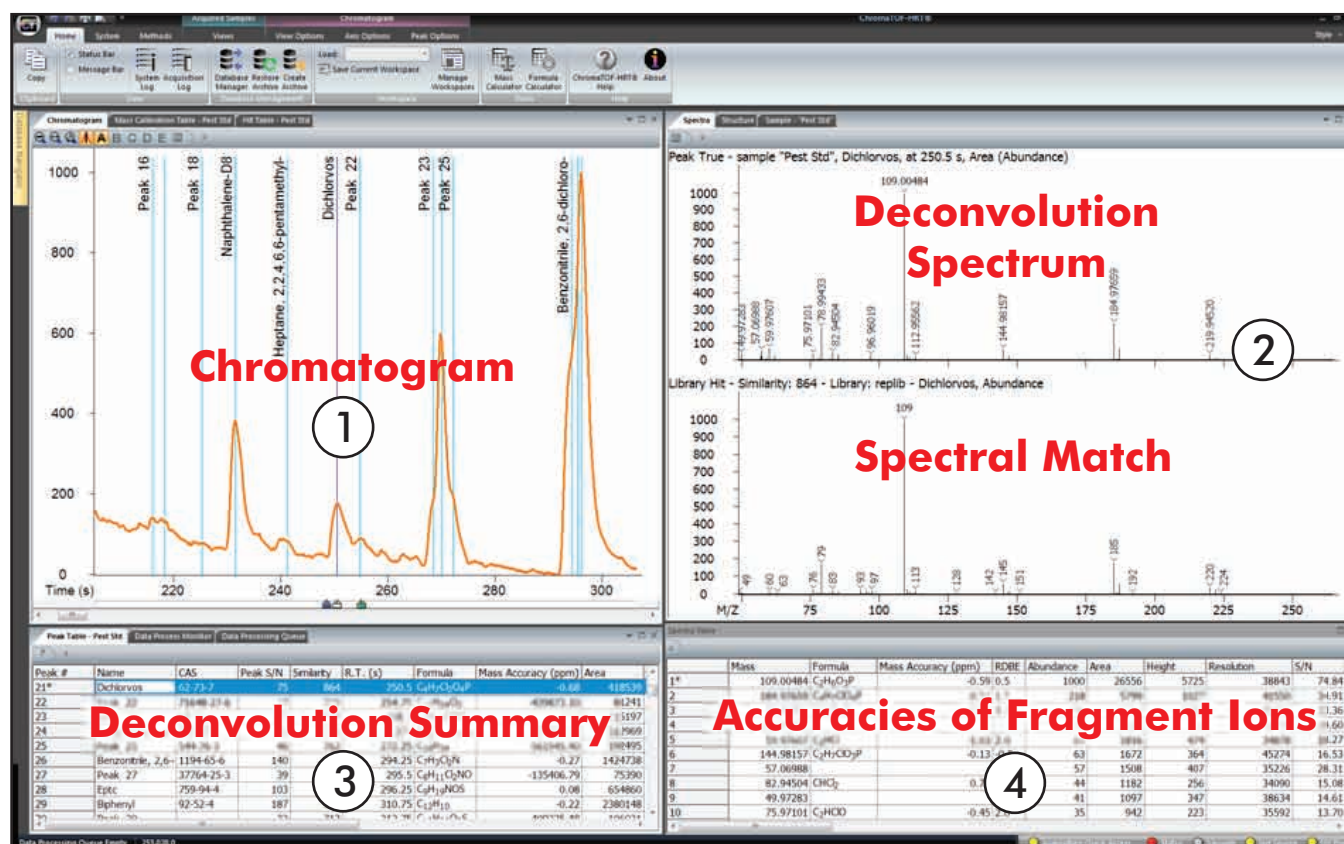
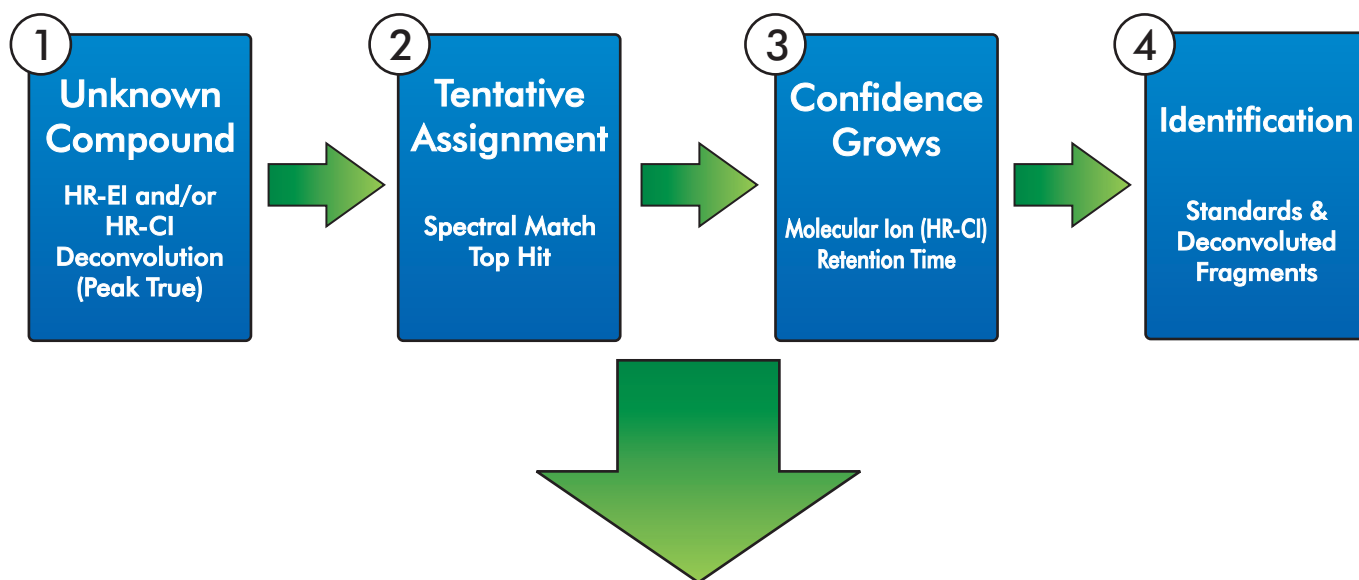
Statistical models are used to characterize the probability of a single ion event and acquire only meaningful analytical data. KADAS is also designed to enhance spectral acquisition rates.



Patented Folded Flight Path

PEGASUS GC-HRT⁺ Software

Increase confidence in your identification challenges with intuitive ChromaTOF® brand software. In addition to standard instrument support, *ChromaTOF's* new and revamped Windows® ribbon-style menu system is designed for superior mass accuracy from high resolution mass spectrometry. Tools and workflows available in our software will increase confidence in your ability to identify components.

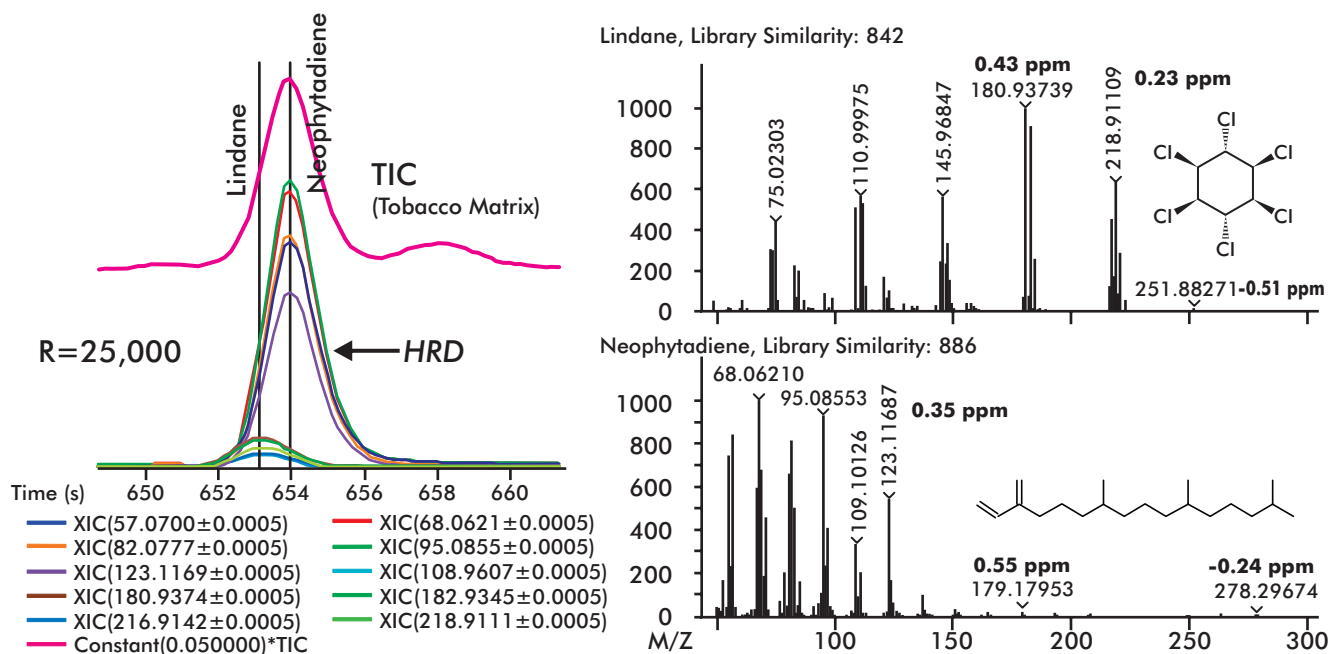


High Resolution Deconvolution (HRD)

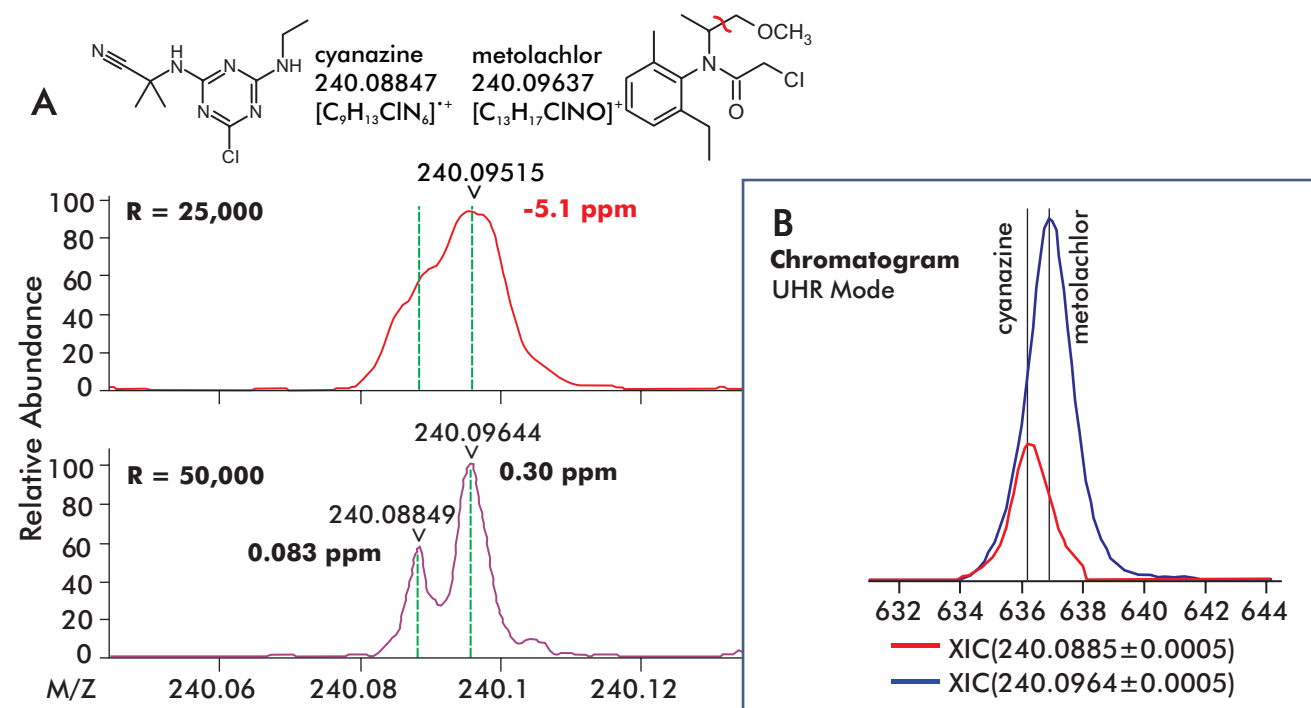


What else is in your sample?

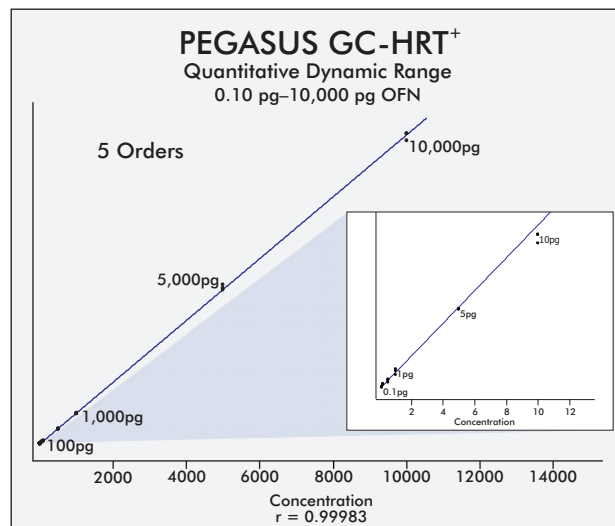
HRD with 25,000 resolution deconvolutes and identifies important analytes in complex matrices.



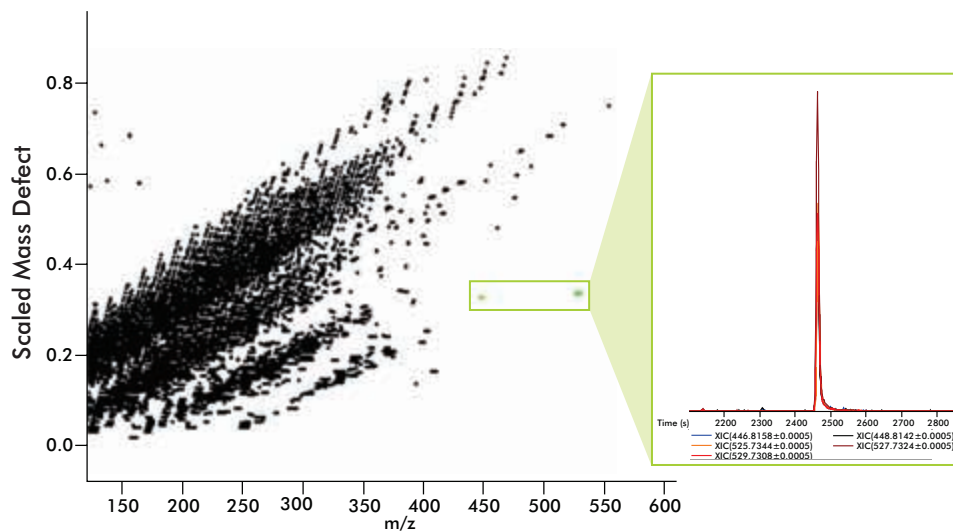
In cases where ambiguity exists, Ultra High Resolution mode and *HRD* will pull apart highly isobaric ions. In the example below, the required mass resolution is greater than 40,000.



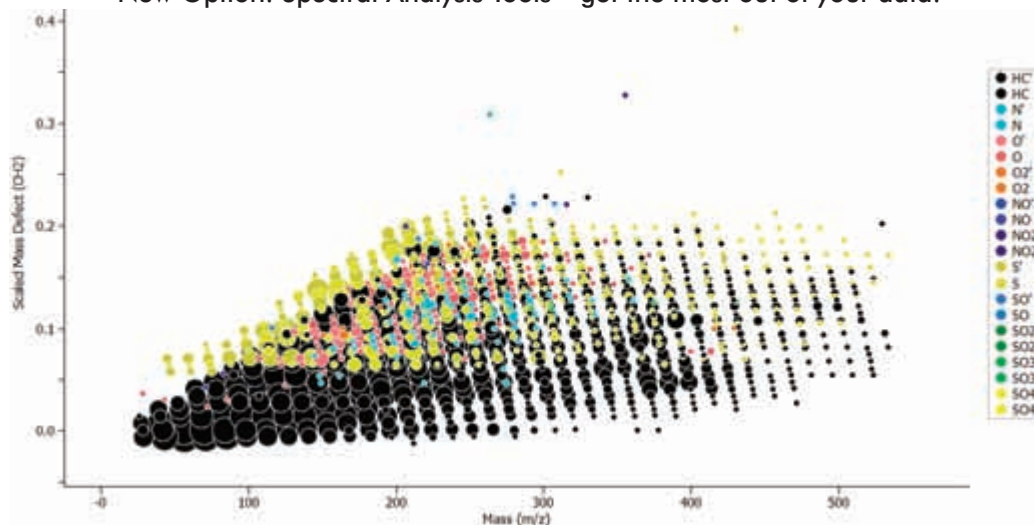
Find and quantify an unlimited number of analytes—in every run, every time. No need for additional targeted analyses.



Easily identify compounds with chemically scaled mass defect plots. From Kendrick to halogen, you can choose your mass defect scale.



New Option! Spectral Analysis Tools – get the most out of your data!



Identify More With Confidence

Unknowns don't stand a chance when you have the leader in GCMS in your corner. LECO products deliver the separation, accuracy, resolving power, deconvolution, and speed to characterize the most complex matrices.

Do you know what is in your sample? With our solutions, you'll have all the advantages you need to see the complete picture

PEGASUS® GC-HRT⁺

Deconvolution | Sensitivity

Productivity | Reproducibility

Accurate Mass | Structural Interpretation

Life Sciences and Chemical Analysis Solutions

Every day around the world, LECO instruments continuously perform analyses for today's most complex applications. Whether you are analyzing samples in the food, flavor/fragrance, petroleum, environmental, forensics, or life science (metabolomics) industries, we have an instrument configuration to meet your needs.



PEGASUS 4D-C GCxGC-TOFMS

- Find more analytes as compared to standard GC-MS analysis
- A maximum acquisition rate of 500 spectra/second offers you the only MS detector optimized for comprehensive two-dimensional GC (GCxGC)
- The highest degree of chromatographic separation power for the most complicated samples
- *ChromaTOF* brand software system integrates data acquisition, processing, and reporting tools into one total solution



PEGASUS BT GCMS

- Full-mass range sensitivity and speed with unparalleled deconvolution capabilities allow you to see more in standard analyses
- Robust, extremely low maintenance ion source
- Powerful Windows-based *ChromaTOF* brand software simplifies component identification—providing a significant increase in efficiency and productivity
- Key features include automated peak finding, chromatogram locking, reverse-library search mode, and data-dependent user-defined QC method development



GCxGC

- Make your GCxGC analysis routine with single channel detectors
- Classification software feature simplifies component identification and results summary
- Supports Flame Ionization Detector
- Compatible with other single channel detectors



Technical Research Center



Global Support Center



Life Science and Chemical Analysis Centre

A Commitment to Quality and Service

LECO instruments are noted for superior precision, speed, and ease-of-use. We are an international company with over 25 subsidiaries worldwide. Our global network of sales/support is dedicated to customer service and satisfaction, and our commitment to quality is further underscored with ISO-9001:2008 certification. We conform to CE quality and safety specifications, fully testing our instruments at our on-site Compliance Testing Center.

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Delivering the Right Results