



Chromatography, Mass Spectrometry and Analytical Software Solutions

# Product Overview

# Chromatography and Mass Spectrometry

Thermo Scientific instruments, software, consumables and services empower scientists to create new possibilities for scientific analysis and to provide solutions to challenging analytical problems in diverse areas.

Our products address a range of needs from sample preparation to separation and detection techniques.

From routine analysis to pioneering discoveries, our innovations help scientists solve complex analytical challenges, empowering them to conduct the work they need to do, the way they want to do it.

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# Sample preparation systems

Sample preparation is a key step in analytical workflow. Our solutions include a multitude of consumables and automated platforms to enable fast, reproducible and easy sample preparation whatever your workflow requirements may be.

Contact us



## Dionex ASE 150 System

## Dionex ASE 350 System

The Thermo Scientific™ Dionex™ ASE™ system is a proprietary technique for the extraction of analytes from solid and semisolid sample matrices using common solvents at elevated temperatures and pressures. Compared to techniques such as Soxhlet and sonication, the Dionex ASE system generates results in a fraction of the time.

- Extractions for sample sizes 1–100g in minutes
- Dramatic reduction in solvent usage
- Corrosion-resistance components
- Approved for use by the U.S. EPA and CLP Program
- Walk away automation for unattended operation

[thermofisher.com/ASE](https://thermofisher.com/ASE)



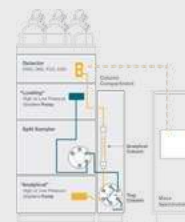
## Dionex AutoTrace 280 SPE Instrument

## Dionex AutoTrace 280 PFAS SPE Instrument

The Thermo Scientific™ Dionex™ AutoTrace™ 280 SPE instrument performs automated solid-phase extractions (SPE) of large-volume liquid samples for organic analysis. Liquid – liquid extractions that normally take hours can be automated using a Dionex AutoTrace 280 SPE instrument.

- Automated extractions for liquid sample sizes of 20ml – 4L
- Dramatic reduction in solvent usage and reduced sample handling
- Approved for use by many government agencies
- Extraction of six channels simultaneously
- Dionex AutoTrace 280 PFAS SPE instrument is specially designed for extraction of PFAS in drinking water samples to meet the requirements of U.S. EPA Method 533 and 537.1

[thermofisher.com/autotrace](https://thermofisher.com/autotrace)



## Automated Online SPE HPLC System

Thermo Scientific™ Vanquish™ Online SPE HPLC and UHPLC Systems automate analyte pre-concentration and sample clean-up using a repeatable workflow. The process removes the sample matrix via a bidirectional trap column before the sample is eluted for separation on the analytical column to save solvent and time compared to offline sample preparation steps.

# Sample preparation systems

From biopharmaceutical and pharmaceuticals, clinical research and toxicology to food and environmental testing, Thermo Scientific sample preparation products deliver the results you need.

Contact us



## Reacti-Therm Heating and Stirring Modules

Perform derivatization and other small-scale reactions reliably and with ease using the Thermo Scientific™ Reacti-Therm™ Heating and Stirring module. This module has dry block heaters that provide uniform, stable heating between 10–200 °C. The Reacti-Therm heater/stirrer is available in four models—single block and triple block sizes with either heat-only or heat-and-stir capability. This versatile system is compatible with a range of interchangeable accessories, for applications on small samples for a range of applications.



## Rocket Synergy 2 Evaporator

Developed as a result of users' demands for an evaporator that could quickly process large-volume samples in parallel without supervision, the Thermo Scientific™ Rocket™ Synergy 2 Evaporator can concentrate or dry 18 ASE vials or up to 6 large-volume 450 mL flasks.

This enables the user to focus on other tasks, confident that the Rocket Synergy 2 Evaporator will achieve reproducible evaporation with excellent recovery rates.

Thermo Scientific™  
Dionex™ OnGuard™ II  
Cartridge



Thermo Scientific™  
Dionex™ InGuard™  
Cartridge



Thermo Scientific™  
Dionex™ SolEx™  
Cartridge



## IC Sample Preparation Solutions

Products include solutions for IC sample preparation with AutoPrep and Reagent-Free Ion Chromatography – Electrolytic Sample Preparation (RFIC-ESP).

**AutoPrep** automatically prepares calibration curves and performs sample analyses. Unique plumbing configurations and automated valve operations simplifies trace level analysis.

**RFIC-ESP** systems enable a range of automated sample preparation techniques using proprietary electrolytic devices to reduce cost and provide higher value analyses.

**RFIC-ESP** devices and techniques can remove cations from an anion sample before analysis or neutralizing a strongly acidic or basic solution.



# LC systems

[thermofisher.com/liquidchromatography](https://thermofisher.com/liquidchromatography)

Our portfolio of innovative and dependable liquid chromatography (LC) instruments includes analytical HPLC and UHPLC systems to handle any separation challenge from simple to complex samples; application-specific HPLC and UHPLC systems for applications such as 2D-LC and dual LC; and nano-, capillary- and micro-flow UHPLC systems for highly sensitive proteomics, metabolomics, and intact protein analysis.

Contact us

New



## Vanquish Core HPLC System

The Thermo Scientific™ Vanquish™ Core HPLC System offers highly dependable HPLC analysis for binary, quaternary and isocratic solvent blending. A new level of user experience, the highest system productive time, and its ease to adopt within any given laboratory infrastructure make it ideal for all traditional HPLC analyses.

[thermofisher.com/vanquishcore](https://thermofisher.com/vanquishcore)



## Vanquish Flex UHPLC System

The Thermo Scientific™ Vanquish™ Flex is an integrated, fully biocompatible system which offers binary and quaternary solvent blending. Binary solvent blending results in low gradient delay volumes that are ideal for routine UHPLC and LC-MS applications. Quaternary solvent blending allows multicomponent gradient formation for flexible UHPLC method development.

[thermofisher.com/vanquishflex](https://thermofisher.com/vanquishflex)



## Vanquish Duo UHPLC System

The Thermo Scientific™ Vanquish™ Duo is an integrated, fully biocompatible system which improves productivity and sample knowledge to deliver a faster return on investment. The Vanquish Duo UHPLC systems expand the benefits of our award-winning Vanquish platform with four workflows (Dual LC, Tandem LC or LC-MS, Vanquish Duo for Dual LC-MS, and Inverse Gradient). Vanquish Duo UHPLC systems use a separate second flow path in one integrated system set up by using Vanquish Flex or Vanquish Horizon modules.

[thermofisher.com/vanquishduo](https://thermofisher.com/vanquishduo)



## Vanquish Horizon UHPLC System

The Thermo Scientific™ Vanquish™ Horizon is an integrated, fully biocompatible state-of-the-art binary UHPLC system with ultra-low gradient delay volume, designed to provide unrivaled performance for high resolution and high-throughput LC and LC-MS applications.

[thermofisher.com/vanquishhorizon](https://thermofisher.com/vanquishhorizon)

# LC systems

[thermofisher.com/liquidchromatography](https://thermofisher.com/liquidchromatography)

Our easy-to-use systems minimize the need for training while providing high-quality, dependable performance to give you confidence in your results. Our LC systems come in a variety of configurations, so there is one to fit your needs.

Contact us

New



## Vanquish Online 2D-LC Systems

Improve the analysis of complex samples or simplify the separation of difficult-to-resolve analytes with Thermo Scientific™ Vanquish™ Online 2D-LC Systems. Select from one of four configurations focused on online SPE or various heart-cutting two-dimensional liquid chromatography (LC-LC) workflows. The modular instrument can use modules from the Vanquish Core HPLC, Vanquish Flex UHPLC or Vanquish Horizon UHPLC systems, retaining the performance, robustness, and ease of use of the Vanquish platform, while offering maximum application flexibility.



## Transcend LX and TLX Systems

Enable fast cleanup of complex matrices for accelerated online sample preparation, lower your laboratory costs, and improve data quality using Scientific™ Transcend™ TLX Systems with TurboFlow technology. These systems use a combination of chromatographic techniques for online sample cleanup to improve LC-MS detection, reduce manual work, and provide higher productivity while the systems' multichannel capabilities improve throughput by up to 400%. Thermo Scientific Aria MX software makes method setup easy and schedules several aspects of the system.



## UltiMate 3000 RSLCnano Systems

The Thermo Scientific™ UltiMate™ 3000 RSLCnano systems optimize low flow separations and facilitate easy coupling to mass spectrometry to provide the best resolution, sensitivity, and selectivity for nano LC and proteomics applications.

- Ideal for analysis with limited sample amounts
- High sensitivity to allow detection of femtomoles or even lower
- Maximum robustness and repeatability for consistent results
- Increased resolution and selectivity for more reliable identification
- Widest nano/cap/micro flow range from 20 nL/min up to 50 µL/min



## EASY-nLC 1200 System

Get simplicity and high-throughput capacity in a nano-flow UHPLC. The new Thermo Scientific™ EASY-nLC™ 1200 system is optimized, fully integrated and designed for users at any level of expertise. A pressure rating of 1200 bar provides reduced cycle times and increased throughput. New maintenance-free ceramic valves, tool-free connections (Thermo Scientific™ nanoViper™ Fingertight Fittings) and new software features gives you intelligent system maintenance, results in less system downtime, lower cost of ownership, reliable and fast connections for a robust, and an easily serviceable system ultimately leading to better MS data.

# LC-MS systems (Nominal mass)

[thermofisher.com/singlequadms](http://thermofisher.com/singlequadms) | [thermofisher.com/IonTraps](http://thermofisher.com/IonTraps)

Our single quadrupole MS systems set new standards for robustness and ease-of-use. Built for everyday, reliable routine operation with seamless integration into your HPLC or UHPLC system. Ion trap MS system is cost-effective and provide automation features which enable all users, despite expertise level, to be more confident in not only their results, but instrument operation skills.

Contact us



## ISQ EC / ISQ EM Single Quadrupole Mass Spectrometer

The Thermo Scientific™ ISQ™ EC Single Quadrupole Mass Spectrometer enables novices and experts alike to run routine MS and improve analytical confidence by detecting small molecules with high sensitivity in both simple and complex matrices.

The easy-to-use Thermo Scientific™ ISQ™ EM Single Quadrupole Mass Spectrometer allows for flexible LC-MS analysis, with an extended mass range to detect small and large molecules, and an optional HESI or dual HESI/APCI ionization probe to target polar and non-polar compounds.

[thermofisher.com/ISQEC](http://thermofisher.com/ISQEC)

[thermofisher.com/ISQEM](http://thermofisher.com/ISQEM)



## LTQ XL Linear Ion Trap Mass Spectrometer

Thermo Scientific™ LTQ XL™ Ion Trap LC-MS Mass Spectrometer delivers high-sensitivity MS<sup>n</sup> performance to generate extensive structural information for routine proteomics and metabolism applications. Its high-capacity 2D linear ion trap configuration with powerful software is a complete solution for structural elucidation questions. The LTQ XL MS offers multiple dissociation techniques, PQD, ETD and CID.

- PQD is a proprietary technique that eliminates the low mass cut-off concern inherent with all ion traps
- Extensive coverage for predicted and unpredicted metabolites

# LC-MS systems (Nominal mass)

[thermofisher.com/ConfidentQuantitation](https://thermofisher.com/ConfidentQuantitation)

From addressing complexities of molecules and matrices, to ensuring ease-of-use while satisfying regulatory requirements—today's challenges in targeted quantitation involve more than just measuring concentrations of target analytes. Achieve ultimate confidence in your data quality with a robust, sensitive, reproducible, and reliable targeted quantitation method using our new liquid chromatography mass spectrometry (LC-MS) workflow solutions.

Contact us



## TSQ Fortis Triple Quadrupole Mass Spectrometer

Increase productivity, with reliability and robustness, for labs focused on performing targeted quantitation with the Thermo Scientific™ TSQ Fortis™ Triple Quadrupole Mass Spectrometer. This system makes it easier to meet today's demands by confidently answering more complex questions per sample, while achieving reproducible results.

The TSQ Fortis MS seamlessly integrates with industry-leading quantitation software, HPLCs and UHPLCs, and sample preparation solutions; it also offers excellent quantitative performance at low dwell times which allows increased analysis of compounds per sample per day.

[thermofisher.com/Fortis](https://thermofisher.com/Fortis)



## TSQ Quantis Triple Quadrupole Mass Spectrometer

Easily answer critical analytical challenges during targeted quantitation workflows in your laboratory. With its segmented quadrupoles, faster rod drivers, and improved electron multipliers, the Thermo Scientific™ TSQ Quantis™ Triple Quadrupole Mass Spectrometer delivers unprecedented robustness with best-in-class sensitivity for everyday use and for every user. The TSQ Quantis MS seamlessly integrates with industry-leading quantitation softwares, HPLCs and UHPLCs, and sample preparation solutions; it also offers enhanced efficiency during targeted quantitation workflow for a wide array of molecular species.

[thermofisher.com/Quantis](https://thermofisher.com/Quantis)



## TSQ Altis Triple Quadrupole Mass Spectrometer

Address the most stringent analytical challenges for targeted quantitation workflows with the Thermo Scientific™ TSQ Altis™ Triple Quadrupole Mass Spectrometer, with its improved Active Ion Management (AIM™) technology, segmented quadrupoles, novel electron multipliers, and enhanced ion transmission tubes, the TSQ Altis MS helps you achieve unprecedented experimental sensitivity for all molecular species in complex matrices without sacrificing robustness.

[thermofisher.com/Altis](https://thermofisher.com/Altis)



# LC-HRMS systems

[thermofisher.com/OrbitrapExploris](http://thermofisher.com/OrbitrapExploris)

Thermo Scientific Orbitrap Exploris Mass Spectrometry is quantitative high-resolution, accurate-mass (HRAM) liquid chromatography mass spectrometry (LC-MS) with record-setting performance for your next-generation laboratory. The power of built-in intelligence, sensitivity and selectivity delivers depth of analysis to the lowest levels with high quantitative accuracy and precision.

Contact us

New

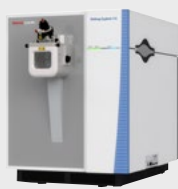


## Orbitrap Exploris 120 Mass Spectrometer

Whether it's method development or everyday testing, accelerate your route to qualitative and quantitative confidence with consistently accurate data delivered by proven Thermo Scientific™ Orbitrap™ technology. Designed for operational simplicity, the Thermo Scientific™ Orbitrap Exploris™ 120 Mass Spectrometer sets the new standard in instrument productivity and ruggedness.

[thermofisher.com/OrbitrapExploris120](http://thermofisher.com/OrbitrapExploris120)

New



## Orbitrap Exploris 240 Mass Spectrometer

The Thermo Scientific™ Orbitrap Exploris™ 240 Mass Spectrometer provides leading performance and application versatility to drive discovery and identification, with the quantitative precision and accuracy to confidently scale up to achieve impact. Operational simplicity, together with intelligent data acquisition, fast tracks you to confident results.

[thermofisher.com/OrbitrapExploris240](http://thermofisher.com/OrbitrapExploris240)

New



## Orbitrap Exploris 480 Mass Spectrometer

Obtaining comprehensive, high-confidence research insights requires new levels of instrument performance, robustness, and ease of use. Welcome to the extraordinary accuracy, certainty, confidence, and simplicity of the Thermo Scientific™ Orbitrap Exploris™ 480 Mass Spectrometer. Become empowered to translate each research step to a new level of insight with a next-generation ownership experience coupled with an intelligence-driven experimental approach. In addition to renowned qualitative performance, you'll obtain market-leading quantitative performance to solve your most complex challenges with ease.

From exploratory to targeted quantitation, find the power and reliability to make large-scale studies possible, while reducing everyday hassles to increase productivity. And achieve it all, remarkably, within a compact footprint.

[thermofisher.com/OrbitrapExploris480](http://thermofisher.com/OrbitrapExploris480)



## Q Exactive UHMR Hybrid Quadrupole-Orbitrap Mass Spectrometer

The Thermo Scientific™ Q Exactive™ UHMR Hybrid Quadrupole-Orbitrap™ Mass Spectrometer is the first to provide the unique combination of unprecedented ultra-high mass range resolution, highest sensitivity, and MS2 and pseudo-MS3 capabilities needed to go beyond what's possible with today's native MS experiments

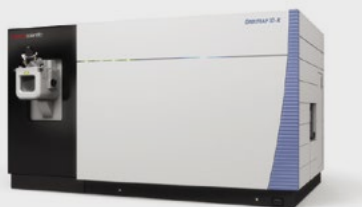
[thermofisher.com/QExactiveUHMR](http://thermofisher.com/QExactiveUHMR)

# LC-HRMS systems

[thermofisher.com/tribrid](http://thermofisher.com/tribrid)

Built on revolutionary Thermo Scientific Tribrid architecture that combines the best of quadrupole, Orbitrap Tribrid mass spectrometers enable high throughput analyses of challenging samples. These include accurate and precise quantitation of low-abundance peptides in complex matrices, characterization of structural isomers, from drug metabolites to intact proteins, resolution of isobaric species, and native protein complexes structure characterization.

Contact us



## Orbitrap ID-X Tribrid Mass Spectrometer

Combining industry-leading mass analyzer technology dedicated for small molecule analysis with the Thermo Scientific™ AcquireX™ intelligent data acquisition strategy, the Thermo Scientific™ Orbitrap ID-X™ Tribrid™ Mass Spectrometer enables you to collect more meaningful data. By capturing more low-abundance analytes and leveraging streamlined data analysis and mass spectral prediction tools, the system's intuitive, automated workflow accelerates results to let you go beyond faster.

[thermofisher.com/orbitrapID-X](http://thermofisher.com/orbitrapID-X)



## Orbitrap Fusion Lumos Tribrid Mass Spectrometer

The Thermo Scientific™ Orbitrap Fusion™ Lumos™ Tribrid™ Mass Spectrometer delivers superior sensitivity, selectivity and versatility to enable life scientists to obtain the highest quality data. It is designed to pursue difficult analyses, including multiplexed quantitation of low-abundance peptides in complex matrices, characterization of positional isoforms of intact proteins, resolution of isobaric metabolites, protein structure characterization using chemical crosslinking and deep mining of challenging post-translational modifications.

[thermofisher.com/lumos](http://thermofisher.com/lumos)

New



## Orbitrap Eclipse Tribrid Mass Spectrometer

Today's cutting-edge research pushes LCMS to its limits. Obtaining high confidence insights to enable accurate resolution of subtle differences and avoid costly deadends is needed faster than ever before. The Thermo Scientific™ Orbitrap Eclipse™ Tribrid™ Mass Spectrometer surpasses these limits with new innovations that deliver the ultimate flexibility to expand experimental scope, and with built-in intelligence to ensure the highest data quality and confidence. One system provides maximum insights, so you productively go beyond today's discovery.

[thermofisher.com/OrbitrapEclipse](http://thermofisher.com/OrbitrapEclipse)

# LC-MS accessories

Thermo Scientific offers a line of specialized ion sources, alternative dissociation techniques, probes that optimize MS workflows and performance to help you obtain the most sensitive data possible.

Contact us



## VeriSpray PaperSpray Ion Source

Improve turnaround time, reduce cost per test and minimize sample preparation with the Thermo Scientific™ VeriSpray™ PaperSpray ion source, a fully automated, high-throughput, direct ionization technique used with our newest Thermo Scientific™ TSQ triple quadrupole mass spectrometers. The VeriSpray system is fully integrated into instrument control software and application-specific software, and it is capable of running proprietary VeriSpray PaperSpray sample plates, for single or high-throughput applications.



## FAIMS Pro Interface

Achieve superior selectivity and enable more proteins to be identified while reducing time-consuming sample preparation steps with the next generation differential ion mobility Thermo Scientific™ FAIMS Pro™ interface.

The FAIMS Pro interface reduces chemical noise and matrix interferences, resulting in improved assay robustness and increased sensitivity. The FAIMS Pro interface offers separation based on a combination of factors, such as charge state, shape, conformation, and size of gas phase ions. It also improves dynamic range and peak capacity, which are particularly beneficial in some proteomics applications.

[thermofisher.com/FAIMSPPro](http://thermofisher.com/FAIMSPPro)



## EASY-Spray Source

Nanoflow HPLC separations and nano-electrospray ionization can maximize LC-MS performance, but they rely on numerous critical and error-prone connections to achieve optimum results. Thermo Scientific™ EASY-Spray™ Source uses integrated, temperature-controlled column-emitter units that require only a single easy connection. The result is state-of-the-art performance — narrow peaks, maximum separation efficiency and outstanding MS sensitivity — for both expert and nonexpert users.



## Nanospray Flex Ion Source

Achieve the sensitivity of nanospray without sacrificing flexibility or simplicity with a Thermo Scientific™ Nanospray Flex™ ion source. The Nanospray Flex source maximizes LC-MS sensitivity for all current Thermo Scientific LC-MS systems. It is simple, easy to use, and robust, yet allows complete flexibility in column and emitter selection. The Nanospray Flex is now available in an NG version for compatibility with the newest next-generation LC-MS systems.

# GC system and autosamplers

thermofisher.com/GC

Thermo Scientific GC systems offer modularity, enabling you to maximize uptime with off-line maintenance, they also optimize your investment by adapting to evolving analytical needs. If you need a simple liquid or headspace GC autosampler, or one that can do it all, our autosamplers are a step ahead of the norm in performing liquid, solid, and gas sample handling and injection into GC and GC-MS with precision and reliability.

Contact us

New

## TRACE 1610 Series GC + AI/AS 1\*10 Series Autosampler

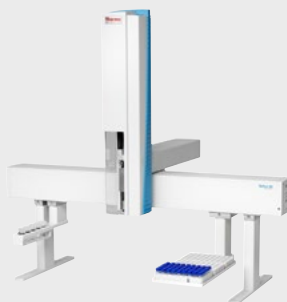


Maximize uptime and profitability with a unique modular design that provides off-line maintenance and rapid troubleshooting capabilities. Enhance efficiency with flexible GC configurations using interchangeable injectors and detectors to address evolving analytical demands. Streamline operations with proprietary, tool-free Thermo Scientific™ iConnect™ Column Lock for quick, safe, and leak-free capillary column installation. Ensure GLP compliance and avoid unplanned downtime through consumable usage.

The new high-capacity TRACE 1610 auxiliary oven has multivalve, multi-column capacity and enables the use of up to four conventional detectors simultaneously.

The AI/AS 1610 Liquid Autosampler offers a fit-for-purpose solution for robust, easy-to-use unattended sample analysis, saving valuable time while improving data quality with high-precision injections. Color-coded status indicator and illuminated syringe compartment provides at-a-glance autosampler status information.

**Choice of Detectors:** Flame Ionization Detector (FID), Thermal Conductivity Detector (TCD), Thermal Conductivity Detector (TCD), Nitrogen Phosphorus Detector (NPD) and Flame Photometric Detector (FPD).



## TriPlus 100 LS Liquid Autosampler

The Thermo Scientific™ TriPlus™ 100 LS Liquid Autosampler is compatible with a variety of vial volumes and well plates, for maximum sample capacity and vial-type flexibility. Based on a renowned XYZ robotic platform, the TriPlus 100 LS Autosampler is designed to increase liquid sample handling automation and throughput in laboratories dedicated to high-volume analytical testing of liquid samples.

New



## TriPlus RSH SMART Autosampler

The Thermo Scientific™ TriPlus™ RSH SMART Autosampler offers the highest level of automation with the largest sample capacity, combined liquid, headspace, solid-phase micro-extraction (SPME) and ITEX-DHS injection capability, and unattended sample preparation workflows. Automation is enhanced by the innovative SMART technology that tracks a consumable's ID and usage parameters through a chip embedded in SMART syringes and SPME/SPME Arrow fibers. Key information is stored in Chromeleon CDS records supporting GLP compliance and is used to trigger consumable health notifications to maintain system uptime and high-quality, reliable data.



## TriPlus 500 GC Headspace Autosampler

For analyses of volatile compounds in non-volatile matrices, the Thermo Scientific™ TriPlus™ 500 Headspace (HS) Autosampler offers reliable and robust unattended operation in 12-, 120-, and 240-vial configurations. Valve-and-loop technology and direct column connection ensure the highest level of performance to facilitate compliance in regulated environments.

It is compatible and can be mounted with the AI/AS 1610 Liquid Autosampler for an all-in-one configuration.

# GC-MS systems (Nominal mass)

[thermofisher.com/GC-MS](http://thermofisher.com/GC-MS)

Our gas chromatography-mass spectrometry (GC-MS) systems offer sensitive and reproducible results for the most challenging applications, enabling you to extract more information from every sample and increase the confidence of your analytical results. Combined with productivity enhancing software, our advanced GC-MS instruments enable you to meet or exceed the most stringent requirements for performance, reliability, and value.

Contact us

New



## ISQ 7610 Single Quadrupole GC-MS System

Maximizing sample throughput is essential to producing results on time. The ISQ 7610 Single Quadrupole GC-MS System incorporates user-centric innovations that extend service intervals, reduce maintenance, and allow method consolidation to boost sample throughput while maintaining certainty in quality of results.

Designed to satisfy routine laboratories evolving analytical needs, the Thermo Scientific ISQ 7610 Single Quadrupole GC-MS system offers extended uptime and robustness to maximize sample throughput, along with routine easy-to-use smart tools to simplify operation and speed up instrument familiarization. Featuring a range of configurations at different level of performances, the ISQ 7610 GC-MS is a flexible fit-for-purpose platform, fully upgradable from base to advanced highly sensitive configuration to boost performance when needed and ready-to-fit with continuous changing in regulations.

[thermofisher.com/ISQ7610](http://thermofisher.com/ISQ7610)

New



## TSQ 9610 Triple Quadrupole GC-MS/MS System

Rapid instrument deployment reduces time to results and revenue generation. That's why the TSQ 9610 Triple Quadrupole GC-MS/MS System includes a comprehensive set of automated tools to provide users with a seamless experience when transitioning from other platforms, developing methods, and analyzing samples.

Satisfy your routine laboratory's current and future analytical needs for truly unstoppable performance with the Thermo Scientific TSQ 9610 triple quadrupole GC-MS/MS system. Deliver high sensitivity for more routine analysis. Minimize maintenance intervals with routine-grade robustness. Operate with technology, flexible method development and powerful reporting tools designed for optimal productivity. Achieve quality results on time, every time with easy-to-use routine workflows. Fully upgrade from base to advanced configurations to boost flexibility and performance when you need it.

Acquire industry leading sensitivity and robustness with the new Advanced EI (AEI) ion source, which features a highly efficient ionization of analytes and a more tightly focused ion beam.

[thermofisher.com/TSQ9610](http://thermofisher.com/TSQ9610)



# GC-HRMS systems

Thermo Scientific high-resolution accurate-mass (HRAM) mass spectrometers exceed the diverse and ever-evolving needs of analytical testing and research laboratories in food safety, environmental, metabolomics, industrial, and pharma. They provide the sensitivity, selectivity, and linear dynamic range to meet the toughest analytical challenges.

Contact us

New



## Orbitrap Exploris GC Mass Spectrometer

Simplify operations and deliver consistently accurate results in analytical testing using the Thermo Scientific™ Orbitrap™ Exploris™ GC Mass Spectrometer. This GC-MS system offers a unique depth of analysis and unparalleled accuracy and precision to improve everyday quantitation, screening and sample profiling. It provides the flexibility to keep pace with ever-changing regulations and explore new analytical opportunities through increased scope and method consolidation. Simple instrument set up and intelligent informatics enable users of all abilities to easily access data-rich information.

[thermofisher.com/OrbitrapExplorisGC](https://thermofisher.com/OrbitrapExplorisGC)

New



## Orbitrap Exploris GC 240 Mass Spectrometer

Simplify the most complex analytical challenges and achieve excellent data quality with the Thermo Scientific™ Orbitrap™ Exploris™ GC 240 mass spectrometer. By delivering uncompromising qualitative and quantitative information, this high-resolution accurate-mass GC-MS system addresses the evolving requirements of research laboratories for compound identification and quantitation. From discovery profiling, metabolomics and applied quantification, scientists gain unparalleled access to information-rich data and results.

[thermofisher.com/OrbitrapExplorisGC240](https://thermofisher.com/OrbitrapExplorisGC240)



## DFS Magnetic Sector GC-HRMS System

Meet your current and future needs for worldwide compliance in Dioxins and POPs analysis with the Thermo Scientific™ DFS Magnetic Sector GC-HRMS, which delivers ultimate confidence and robustness. Software features support fully compliant, routine quantification of POPs, with the automation required to meet your lab needs. Add even more productivity to your lab with the dedicated DualData XL Module, designed for almost double sample throughput.

[thermofisher.com/DFS](https://thermofisher.com/DFS)

# IC systems

thermofisher.com/IC

Thermo Scientific Dionex IC technology has evolved over many product generations, each providing enhanced performance, greater reliability, and easier operation. Reagent-Free IC (RFIC) systems eliminate daily tasks of eluent and regenerant preparation, saving time, preventing errors, and increasing convenience.

Contact us

New



## Dionex Easion IC System

The new Thermo Scientific™ Dionex™ Easion™ Ion Chromatography (IC) system is anything but “routine”. It is a perfect fit for any lab doing everyday water analysis or other typical IC applications. Small in size but big in value, the system’s advanced technology, innovative design and intuitive Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) software make it easy even for new operators to get first-rate results for either anions or cations.

[thermofisher.com/easion](http://thermofisher.com/easion)



## Dionex Aquion IC System / Dionex Aquion RFIC Reagent-Free IC System

The Thermo Scientific™ Dionex™ Aquion™ IC system is a simple, compact platform with straightforward operation for budget limited labs. This basic IC system features dual-piston pumping, electrolytic suppression, high sensitivity and set-and-forget convenience.

Thermo Scientific™ Dionex™ Aquion™ RFIC™ Reagent-Free™ Ion Chromatography system provides a high-performance foundation for ion chromatography (IC) analysis by fully integrating reagent free eluent generation (RFIC-EG) technology. The Dionex Aquion RFIC system uses proven and reliable technologies to deliver results you can count on.

[thermofisher.com/aquion](http://thermofisher.com/aquion)



## Dionex Integrion HPIC System

Meet your routine ion analysis demands using the easy-to-use and reliable Thermo Scientific™ Dionex™ Integrion™ HPIC™ system. This system performs versatile and efficient analyses through comprehensive application solutions and interactive wellness features. The Dionex Integrion system’s flexible detector configurations meet your analysis needs for today and tomorrow. Its high-pressure capabilities enable the use of 4µm particle size IC columns to obtain better resolution and faster results without compromising data quality. Use the system’s automated eluent generation (EG) to eliminate errorprone manual eluent preparation and achieve better method reproducibility.

[thermofisher.com/integrion](http://thermofisher.com/integrion)



## Dionex ICS-4000 Integrated Capillary HPIC System

Perform high-resolution ion chromatography quickly with the Thermo Scientific™ Dionex™ ICS-4000 Capillary HPIC™ System, which delivers both ease-of use and high-end performance with multiple detector choices to support a wide variety of applications. The system’s high-purity, electrolytically generated eluent and Dionex™ IC Capillary Cube™ cartridge consumables ensure exceptional control and reproducibility for both isocratic and gradient separations as well as months of continuous operation with minimal eluent use and waste.

# IC autosamplers and IC-MS systems

thermofisher.com/IC

Staying the leader in IC for over 40 years requires more than having the best instruments. Thermo Scientific Dionex products encompass not only instruments, but also industry-leading automation, software, and chemistries – all of which work together to provide you with comprehensive solutions to your analytical challenges. When you need an analytical solution for inorganic ions, organic acids, amines, sugars, proteins, peptides, or other challenging species, find out what we can do for you.

Contact us



## Dionex ICS-6000 Hybrid HPIC System

Get best-in-class resolution, sensitivity, and throughput for even the most complex ICxIC (2D-IC) methods and trace level analyses. The versatile Thermo Scientific™ Dionex™ ICS-6000 Hybrid HPIC™ Systems provide faster separations without compromising resolution, thanks to its dual high-pressure channels. One channel is optimized for capillary flow rates, while the other is optimized for standard (4mm) or microbore (2mm) mode. You'll save time and improve reproducibility with precise, automatic eluent generation and sample preparation. Choose from a wide variety of chemistries, detectors, and automation options to fit your needs.



## Autosamplers

A selection of Thermo Scientific Dionex IC autosamplers, all with metal-free flow paths, supports diverse application and budgetary requirements.

**Thermo Scientific™ Dionex™ AS-AP Autosampler:** This high-performance autosampler provides increased sample capacity, fast injection times, maximum precision, and broad application flexibility. Inject from vials and/or wellplate positions in any desired order, automate sample preparation, and deliver samples to one or two instruments.

**Thermo Scientific™ Dionex™ AS-DV Autosampler:** This economical autosampler automatically filters samples as it delivers them. It supports 5 mL and/or 0.5 mL vials, and can load sample onto an injection loop or concentrator column.

**Thermo Scientific™ Dionex™ AS-HV Autosampler:** This versatile autosampler supports a wide range of sample containers, and is ideal for applications involving trace-level contaminants in high-purity water requiring large loop injection.



## Ion Chromatography Mass Spectrometry (IC-MS)

Increase the power of IC with MS detection. Utilize mass detection when you need to ensure analytical confidence and dramatically improve the detection capability of your Thermo Scientific™ Dionex™ Integrion™ or ICS-6000 HPIC™ system. Ion chromatography with mass spectrometry (IC-MS) maximizes the ability to detect and quantify unexpected co-elutions of components and to confirm trace components. Coupling MS with your IC can give you more information from every sample:

- Higher sensitivity
- Accurate quantitation
- Peak confirmation and evaluation of chromatographic peak purity
- Increased efficiency

thermofisher.com/ICS6000

# IC consumables

Innovations that meet today's IC challenges with ease.

[thermofisher.com/icconsumables](http://thermofisher.com/icconsumables)

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## Eluent Generator Cartridges (EGC)

The Thermo Scientific™ Dionex™ EGC Eluent Generator Cartridge generates high-purity hydroxide, carbonate, or methanesulfonic acid (MSA) eluents electrolytically. Stop spending time manually preparing eluents. With Dionex EGC cartridges, you just add water.



## Continuously Regenerated Trap Column (CR-TC)

Designed for eluent generators in RFIC systems, the Thermo Scientific™ Dionex™ CR-TC Continuously Regenerated Trap Columns remove all anionic or cationic contaminants in the eluent continuously and provide very low baseline drift during gradient operations.



## DRS 600 Dynamically Regenerated Suppressor

Use the Thermo Scientific™ Dionex™ DRS 600 Dynamically Regenerated Suppressor for electrolytically regenerated suppression in ion chromatography (IC) applications requiring high capacity, low noise, high backpressure resiliency and fast startup. The Dionex DRS 600 Suppressor operates in constant voltage mode as well as the traditional constant current mode. This suppressor is a fundamental component of a reagent-free ion chromatography (RFIC) system.



## Carbonate Removal Device (CRD)

The Thermo Scientific™ Dionex™ CRD Carbonate Removal Device removes carbon dioxide from the suppressed eluent stream by diffusion through the walls of a gas permeable membrane. With carbonate eluent systems, it reduces background signals to nearly the same levels as those of hydroxide eluents.



## Dionex IonPac Columns

At the heart of Dionex ion chromatography is a unique set of column chemistries that provide high selectivities and efficiencies with excellent peak shapes.

The Thermo Scientific™ Dionex™ IonPac™ Columns are designed specifically for compliance in accordance with U.S. EPA Methods (e.g. EPA 300.0 (A) & 300.1), USP monographs and Pharmaceutical applications.

**Hydroxide-Selective Anion-Exchange Columns:** For isocratic and gradient separations with a wide range of capacities and selectivities.

**Carbonate Eluent Anion-Exchange Columns:** Provides well-characterized isocratic separations for regulated drinking water and wastewater methods.

**Cation-Exchange Columns:** Available in a wide range of capacities and hydrophobicities for isocratic and gradient applications.

**Ion-Exclusion Columns:** Allows separation of weakly ionized acid anions with strong acid anions eluting in the void.

# Discrete analyzers

[thermofisher.com/discreteanalysis](http://thermofisher.com/discreteanalysis)

Thermo Scientific Gallery series analyzers are easy-to-use automated photometric systems that allow laboratories to simplify their testing and to increase efficiency. The discrete cell technology offers faster, reproducible results with less sample and reagent waste, providing a quick, economical solution. With the technology, low detection levels can be achieved. This self-contained system has been successfully adapted to more than 50 food and beverage and environmental applications and can simultaneously measure multiple analytes.

Contact us



## Gallery / Gallery Plus Discrete Analyzer

The Thermo Scientific™ Gallery™ Discrete Analyzer provides excellence and efficiency in a bench top system. Discrete analyzers use colorimetric, enzymatic and electrochemical measurements specifically designed for food, beverage and environmental quality control and testing. Several tests can be run simultaneously offering reproducible results of up to 200 tests per hour.

The Thermo Scientific™ Gallery™ Plus Discrete Analyzer can accommodate up to 108 samples and 42 reagents in its separated sample and reagent carousels and has the capability to run up to 350 tests per hour. First results are typically ready in as little as ten minutes. There is no reagent priming required, no risk of carry over, nor a need for an external water source.



## Gallery Plus Beermaster Discrete Analyzer

The Thermo Scientific™ Gallery™ Plus Beermaster Discrete Analyzer is specifically designed to improve productivity in a beer production facility and is dedicated to beer, wort, and malt analysis and quality control. Labor intensive bitterness testing has been automated saving time spent in sample pretreatment and analysis. Other analytes, such as beta-glucan, pH, and sulfur dioxide can be simultaneously measured from the same sample.



## Gallery System Reagents

Thermo Scientific™ Gallery™ System Reagents provide a complete solution. They are ready to use, optimized kits that save hands-on time, reduce errors, and minimize reagent waste. Bar-coded reagent bottles include volume, lot, and expiration dates providing real-time reagent monitoring. A wide range of calibration standards are available with full traceability. Standard solutions are certified and lot controlled.



# Trace elemental analysis systems

[thermofisher.com/TEA](https://thermofisher.com/TEA)

Award-winning instrumentation for fast, simple and accurate trace element identification. Across the lab we offer the broadest portfolio of instrumentation to identify inorganic elements at ppm to sub-ppt levels. These breakthrough technologies enable scientists in environmental, industrial and health markets to work faster, with confidence and the flexibility to adapt to changing demands.

Contact us



## iCE 3000 Series AAS

The Thermo Scientific™ iCE™ 3000 Series AAS enables simple measurement of elements in a wide range of samples. The flame atomizer is ideal for the measurement of high concentration samples, whilst the furnace atomizer achieves sub ppb detection. The dual atomizer system with Stockdale optics incorporates advanced background correction with a unique quadline deuterium source and optional Zeeman correction to ensure accurate analysis.

- Easy-access lamp carousel (with quick-fit lamps) speeds up everyday tasks
- Automated optimization wizards enable experienced and novice users to achieve optimal performance
- Robust burner offers extended analysis when analyzing challenging samples

[thermofisher.com/AAS](https://thermofisher.com/AAS)

New



## iCAP PRO Series ICP-OES

The Thermo Scientific™ iCAP™ PRO Series ICP-OES combines powerful cost-effective multi-element capability with flexibility so your lab is ready for any challenge. Analyze high-matrix trace elemental samples with sensitive multi-element detection to meet your data requirements with the optimal performance. The high light throughput optics combined with the charge injection device detector—the Thermo Scientific™ CID821—ensure the shortest possible analysis times.

- Analyze even the most challenging sample matrices
- Produce consistent, reliable data quickly and easily
- Experience enhanced sample throughput, matrix tolerance and flexibility to produce results you can trust

[thermofisher.com/ICP-OES](https://thermofisher.com/ICP-OES)



## iCAP RQ ICP-MS

Thermo Scientific iCAP RQ ICP-MS has the reliability, analytical performance and ease of use needed to meet the demands of the highest throughput labs. Choose the Thermo Scientific™ iCAP™ RQ ICP-MS for a complete multi-element analysis solution for your high-throughput routine lab. With comprehensive interference removal for assured data accuracy and intuitive workflows to boost productivity, this single quadrupole (SQ) ICP-MS will expand your analytical capabilities. With its logical, problem-solving hardware design that meets real laboratory needs through minimized maintenance and maximized up-time, the iCAP RQ ICP-MS is a powerful, reliable work-horse analyzer.

- Run samples 24/7 with complete confidence
- Advanced heat management for long-term mass stability
- Reliable, robust plasma operation, even for volatile organic solvents such as 100% acetonitrile

[thermofisher.com/SQ-ICP-MS](https://thermofisher.com/SQ-ICP-MS)



## iCAP TQ ICP-MS

The Thermo Scientific™ iCAP™ TQ Series ICP-MS provide solution to future-proofing your laboratory: explore developing markets, push the boundaries of your research and meet the requirements of evolving legislation. Harness the power of Triple Quadrupole (TQ) ICP-MS for uncomplicated analysis with incredible accuracy. Expand your applications and enhance your laboratory efficiency with this breakthrough technology, which is so easy to use that it can be operated by any analyst.

- ‘Right first time’ analysis with powerful interference removal, even in the toughest matrices
- Reduced re-runs in the daily workload with assured accuracy and repeatability.
- Highly effective interference removal for accurate and reliable results

[thermofisher.com/TQ-ICP-MS](https://thermofisher.com/TQ-ICP-MS)

# Trace elemental analysis systems

thermofisher.com/TEA

If a powerful separation technique such as ion chromatography (IC) is hyphenated to ICP-MS, it is possible to separate and detect individual species independent from each other; the result is more specific information regarding the content of a sample. Simple, intuitive software solutions for AAS, ICP-OES, ICP-MS and speciation by hyphenated techniques make analysis easier and faster.

Contact us

## IC-ICP-MS Speciation Analyzer

Speciation analysis is straightforward using the Thermo Scientific™ iCAP™ RQ ICP-MS or iCAP™ TQ ICP-MS systems and a Thermo Scientific™ Dionex™ Aquion™, Integrion™ or ICS-6000 HPIC™ systems. Configure the system based on for your budget, throughput, performance and detection requirements for your application. The speciation analyzer includes a metal-free IC system with high resolution ion exchange columns and simple online connectivity, together with high sensitivity ICP-MS and integrated Qtegra ISDS software.



- Get both IC and ICP-MS systems full installation and lab support all from a single vendor
- Metal-free systems significantly reduce contamination from the hardware and allow consistent and outstanding detection limits
- Advanced column chemistries and a wide variety of columns make it easy to tackle any challenges
- Outstanding IC performance provides narrow peak width and high signal to noise, in turn lowest detection limits



## Qtegra Intelligent Scientific Data Solution Software

The Thermo Scientific™ Qtegra™ Intelligent Scientific Data Solution™ (ISDS) delivers quality and drives productivity. As the common ICP software platform, Qtegra ISDS Software reduces training requirements, makes adoption of new instrumentation faster and easier, and allows for increased flexibility for modern multi-technique laboratories. Qtegra ISDS Software has a logical, streamlined interface that intuitively provides the analyst with the appropriate tools at each point in the analytical workflow. Recent upgrades include the optional Thermo Scientific™ ChromControl and npQuant plug-ins to make applications for speciation and nanoparticles even easier.

- Achieve precise results first time, every time with the innovative Get Ready feature- automated technology that sets up the instrument for you and checks performance
- Manage instrument processes using a logical dashboard interface: Easy to follow method set up, data acquisition, export and reporting
- Provides a powerful, robust framework for operation in 21 CFR Part 11 environment

[thermofisher.com/Qtegra-ISDS](https://thermofisher.com/Qtegra-ISDS)



## iCE SOLAAR software

The SOLAAR software package for the Thermo Scientific iCE 3000 Series AA provides an excellent range of functionality and a full compliment of step-by-step Wizards. This makes running our AA instruments extremely easy -no matter what your level of experience. SOLAAR Security Software allows for full traceability of the results, with features to support compliance of CFR 21 Part 11 such as electronic signature and audit trail.

- Trouble-free Burner and Nebulizer Optimization
- Dedicated validation and qualification packages ensure fast installation and qualification of the instrument in your laboratory
- Clearer, More Flexible Viewing of Results

# Trace elemental analysis systems

[thermofisher.com/HR-ICP-MS](https://thermofisher.com/HR-ICP-MS) | [thermofisher.com/GD-MS](https://thermofisher.com/GD-MS)

HR ICP-MS systems cover the mg/L to sub pg/L concentration range — suitable for semiconductor, geological and material science laboratories. Glow Discharge MS is ideal tool for the direct analysis of high purity conductive and semi-conductive materials, routinely quantify almost all elements present in a solid sample at or below the ppb range.

Contact us



## Element 2 / Element XR High Resolution ICP-MS

Gold standard in ICP-MS performance, for superior data confidence. The Thermo Scientific™ Element 2™ and Element XR™ High Resolution (magnetic sector) ICP-MS systems cover the sub-ppq to ppm concentration range. They provide class-leading elimination of interferences for accurate and reliable quantitative multi-element analyses at trace levels, even without sample preparation. This makes them especially suitable for the metrology and analytical standards industry as well as semiconductor, geological, and material science laboratories. The Jet Interface for the Element 2™ and Element XR™ HR-ICP-MS sets a new standard in sensitivity for ultratrace elemental analysis.



## Element GD High Resolution GD-MS

Defining quality standards for the analysis of solid samples. The Thermo Scientific™ Element™ GD PLUS Glow Discharge Mass Spectrometer (GD-MS) redefines the analysis of advanced high-purity materials directly from the solid. Extra-low detection limits are provided with minimum calibration and sample preparation effort, making bulk metal analysis and depth profiling applications the domain for GD-MS. Ceramics and other non-conductive powders are analyzed by using a pulsed source approach, providing the same level of sensitivity and data quality. This makes GD-MS the reliable standard method for metal analysis.

# Organic elemental analyzer and isotope ratio MS

[thermofisher.com/OEA](https://thermofisher.com/OEA) | [thermofisher.com/IRMS](https://thermofisher.com/IRMS)

Automate wide range of CHNS/O applications without compromising precision and accuracy. Achieve unique information, such as origin, history and age with the unsurpassed precision and sensitivity in isotope ratio measurements with Thermo Scientific Isotope Ratio MS.

Contact us



## FlashSmart Elemental Analyzer

Solve more laboratory challenges, improve workflow, and minimize downtime when performing carbon, hydrogen, nitrogen, sulfur and oxygen (CHNS/O) analyses with the Thermo Scientific™ FlashSmart™ Elemental Analyzers. Based on the modified Dumas Method, the FlashSmart Elemental Analyzer is highly flexible, offering modularity that enables over 20 configurations in one instrument. Besides expanding your analytical capabilities, this analyzer features powerful software that supports automation and precise reports, making the system easier to use from start to finish.

New



## DELTA Q Isotope Ratio MS

Measures isotopic signatures with extreme precision and sensitivity to provide the unique insight into the history and origin of compounds with Thermo Scientific Isotope Ratio Mass Spectrometry.

- Combines outstanding sensitivity with excellent linearity and stability to tackle applications as diverse as  $\delta^{13}\text{C}$  analysis of PAHs in soil,  $^{15}\text{N}/^{14}\text{N}$  monitoring of chlorophyll derivatives, and detection of honey adulterants.
- The Thermo Scientific™ DELTA Q™ Isotope Ratio Mass Spectrometer can be equipped with a wide range of sample preparation devices and inlets, including pre-concentrators, elemental analyzers, GC interfaces, LC interfaces, and continuous flow inlets
- Up to 10 collectors in a wide range of configurations, supporting all isotope ratio MS applications in the mass range up to  $m/z$  96.



## 253 Plus 10 kV Isotope Ratio MS

The new gold standard in IRMS - Thermo Scientific™ 253 Plus™ redefines high performance for isotope ratio mass spectrometry. It builds on the robustness, linearity, and sensitivity only available in the Thermo Scientific 10 kV IRMS technology. Such innovations improve sample utilization, stability, background and signal-to-noise resulting in ultimate precision on smallest sample sizes.

- “Extra bright” 10 kV EI ion source enables highest sensitivity and linearity in IRMS
- All-metal sealed ion source and analyzer with gold gaskets
- The only IRMS with variable conductance (VISC)
- Analytical dynamic range greater than 107

# Multicollector MS and noble gas MS

Building on the strength of our multicollector technology, the latest MC-ICP-MS system blends the cutting-edge and field-proven technologies found in Thermo Scientific High Resolution Isotope Ratio Mass Spectrometers and iCAP Qnova ICP-MS systems. Taking earth science, cosmogenic and nuclear research to the next level with Thermo Scientific Noble Gas MS.

Contact us

New



## Neoma Multicollector ICP-MS

Perform routine isotope analysis or explore novel isotopes in unknown materials using the Thermo Scientific™ Neoma™ Multicollector ICP-MS (MC-ICP-MS). Being builds to deliver all the advantages of high-precision isotope ratio analysis, with none of the limitations. Includes state-of-the art software and hardware, features flexible and sensitive detector technology, a sensitive ion source and excellent mass resolving power, enabling challenging isotope analyses

- Delivers on performance with market-leading sensitivity, isotope ratio precision and accuracy
- Blends the cutting-edge and field-proven technologies found in Thermo Scientific high resolution isotope ratio mass spectrometers and iCAP Qnova ICP-MS systems
- Offers operator-focused software, with integrated first- and third- party peripheral control to streamline workflows and enhance productivity



## Triton Series Thermal Ionization MS

Get high-precision isotope ratio measurements of your precious samples with the Thermo Scientific™ Triton Plus™ multicollector thermal ionization mass spectrometer (TIMS). With a proven thermal ionization source and a unique variable multicollector system that can be configured to suit the application, the Triton Plus TIMS system is ideal for dating of geological samples and control of isotopic compositions of nuclear materials. It has outstanding sensitivity, dynamic range, linearity, and stability.



## Noble Gas MS

Take the next step in noble gas mass spectrometry. The new series of Thermo Scientific™ noble gas mass spectrometers gives you unsurpassed precision, sensitivity, dynamic range, linearity, and stability.

- Improve age precision in Ar-Ar dating by an order of magnitude. Get all five argon isotopes simultaneously with the Thermo Scientific™ Argus VI™ static vacuum noble gas mass spectrometer.
- Redetermine the isotope ratios of neon, argon, krypton, and xenon by unsurpassed high resolution and precision of the Thermo Scientific™ Helix MC Plus™ multicollector noble gas mass spectrometer.
- Enter new fields of research with unique subpermil precision by using the new Thermo Scientific™ Helix SFT™ split flight tube noble gas mass spectrometer.



# GC, HPLC and SPE columns and consumables

[thermofisher.com/chromatographyconsumables](https://thermofisher.com/chromatographyconsumables)

Discover the most comprehensive array of chromatography solutions available, from sample preparation to sample handling to GC and LC columns. Our innovative products help deliver workflow efficiencies, improved sample security, and innovative column chemistry solutions that meet the world's changing requirements.

Contact us



## Thermo Scientific Sample Preparation Solutions

A range of products using innovative technologies for your analytical needs.

### Thermo Scientific™ SOLA™ SPE Plates:

Offering cleaner, highly reproducible, and robust sample extraction at very low sample volumes.

### Thermo Scientific™ SOLA™ SPE

**Cartridges and Plates:** Maximizing reproducibility while delivering clean and consistent extractions.

**QuEChERS-Dispersive SPE:** Efficient pesticide sample preparation from food matrices.



## Thermo Scientific Sample Handling Solutions

Ensure sample integrity with a comprehensive range of solutions to meet all application demands.

- Thermo Scientific™ SureStop™ Vials and Advanced Vial Closure System (AVCS)
- Certified Vial Kits
- Micro Sampling Options
- Headspace Vials
- High Recovery Vials
- Tools and Accessories



## Thermo Scientific BioLC Columns

**Nano Columns:** A wide range of dedicated Acclaim™ Thermo Scientific™ PepMap™ nano columns with zero-dead-volume connections and EASY-Spray™ integrated column emitter devices.

**Rapid Separation LC Columns:** Acclaim RSLC columns for ultimate speed and resolution in UHPLC.

**Mixed-Mode Columns:** Includes unique chemistries with tunable selectivities for charged and non-charged analytes.

**Bio Columns:** A wide range of polymeric chemistries and a unique monolith technology for the separation of biomolecules.



## Thermo Scientific SMART Digest Kits

Biomarker and biotherapeutic characterization and quantitation just got a lot easier. Use the Thermo Scientific™ SMART Digest™ and SMART Digest Immunoaffinity (IA) kits for protein sample preparation that is fast, simple, highly reproducible, and sensitive.

A significant advance in sample preparation for biopharmaceutical protein research, the kits provide fast and simple protein digestion with high reproducibility, high sensitivity, and high levels of data quality in a format that's compatible with automation. The SMART Digest Kits are a significant improvement over current in-solution protein digestion technologies, which are not reproducible, have poor sensitivity, and employ protracted methodologies not amenable to automation.

# GC, HPLC and SPE columns and consumables

[thermofisher.com/chromatographyconsumables](http://thermofisher.com/chromatographyconsumables)

Our innovations in chromatography consumables help you meet today's ever increasing demands for analytical performance, productivity, and ease of use.

Contact us



## Thermo Scientific GC Columns and Accessories

Redefine your expectations for GC with our line of GC Columns

**Thermo Scientific™ TraceGOLD™** GC Columns provide a leap forward in column performance by delivering low bleed and superior inertness.

**Thermo Scientific™ TracePLOT™** GC Columns offer the latest innovation in PLOT column technology, providing reproducible analyses of permanent gases, hydrocarbons and solvents.

A range of proven consumables for optimum system performance. Including septa, liners, ferrules and syringes.



## Thermo Scientific GC Derivatization Reagents and Standards

Derivatization reagents for mass spectrometry, high-pressure liquid chromatography, and gas chromatography.

Reagents designed to provide selectivity and improve sensitivity.

- Derivatization and Visualization Reagents for HPLC
- GC Derivatization Reagents
- HPLC and Spectrophotometric Grade Solvents
- HPLC Ion Pair Reagents
- Other HPLC Reagents
- Siliconizing Fluids



## Thermo Scientific EASY-Spray LC Columns

Ensure robust nano and capillary flow LC-MS with Thermo Scientific™ EASY-Spray™ LC Columns.

The integrated column/emitter design eliminates dead volume and is temperature-controlled for maximum reliability and performance. Rigorously tested to ensure maximum quality, these columns are designed for simplicity and ease-of-use.

[thermofisher.com/EasySpray](http://thermofisher.com/EasySpray)



## Thermo Scientific LC Columns and Accessories

### Thermo Scientific™ Accucore™ LC Column:

- Ultra performance
- 1.5, 2.6 and 4µm solid core silica
- Reinforced nuclear technology

### Thermo Scientific™ Hypersil GOLD™ LC Column:

- Enhanced selectivity
- 1.9, 3, 5, and 12µm ultra pure silica
- Multiple bonding phases

### Thermo Scientific™ Acclaim™ LC Column:

- Traditional, dedicated column & LC column with special application
- 2.2, 3 and 5µm ultra pure silica
- Innovative, unique bonding phase

### Thermo Scientific™ Syncronis™ LC Column:

- High reliability & reproducibility
- 1.7, 3 and 5µm high surface area silica
- High carbon load, double end-capped and rigorously tested

### Thermo Scientific™ Viper™ Fitting System:

- The Viper and nanoViper fitting systems eliminate problems experienced with conventional fitting systems
- Zero-dead-volume UHPLC fingertight fittings for nano/cap, micro, and analytical LC
- Compatible with virtually every type of valve and column hardware
- Flexible stainless steel or fused silica capillaries

# Chromatography data system

[thermofisher.com/chromeleon](https://thermofisher.com/chromeleon)

One CDS to do it all. From workstation to global deployment, Thermo Scientific Chromeleon CDS scales to any business – from research through development to QC – delivering proven productivity gains and easy tracking and defense of your data. One cloud-ready CDS that does it all – all backed by a product team dedicated to keeping you one step ahead of the next regulatory or market change.

Contact us



## Chromeleon Chromatography Data System

Streamline your laboratory workflow with the Thermo Scientific™ Chromeleon™ 7.3 Chromatography Data System (CDS). This software delivers superior compliance tools, networking capabilities, instrument control, automation, data processing, and more. The first CDS to unify workflows for chromatography and routine quantitative mass spectrometry (MS) analysis, Chromeleon software provides full integration of Thermo Scientific gas chromatography (GC-MS/MS), liquid chromatography (LC-MS/MS) and ion chromatography (IC-MS) instruments. Run your analyses compliantly in an enterprise environment – from method creation to final reporting.

### Enhance Your Workflow Using the Innovative Capabilities of Chromeleon 7.3 CDS software:

- Secure, administrator-controlled user access and permissions to ensure data integrity and enable compliance with GxP and 21 CFR Part 11
- Robust enterprise (client/server) environment with relational database file storage (SQL Server Express, SQL Server, or Oracle)
- Industry-leading multi-vendor control—supports over 450 different instrument modules from 20 manufacturers
- Full control for all Thermo Scientific chromatography and many Thermo Scientific MS instruments
- Simplified run creation, including sequence, methods and reports, with one-click eWorkflows™
- Automated pass/fail decisions during runs with Intelligent Run Control to get the analysis right the first time
- Quick, accurate peak integration with the Cobra™ Peak Detection and handling of unresolved peaks with SmartPeaks™ Integration Assistant
- Streamlined MS quantitation, data processing, and NIST spectral library screening
- Simplified backup, searching, and trending of chromatography and mass spectrometry data
- Integral Report Designer with customizable, spreadsheet-based report templates with advanced calculations and charting
- Enhanced integration to Thermo Fisher™ SampleManager LIMS™, SDMS and LES to manage the complete laboratory workflow



# Chromatography and mass spectrometry software

Our enabling software solutions include enterprise-level offerings for global deployment, as well as software designed to maximize the functionality and efficiencies of our world-class scientific instruments. Accelerate the acquisition of high-quality mass spectral data with intuitive, application-specific Thermo Scientific™ MS software, which helps turn that data into answers to the most challenging scientific questions.

Contact us

## Thermo Scientific Application-Specific Software

### Proteomics



**Thermo Scientific™ Proteome Discoverer™ software:** For comprehensive data analysis for qualitative and quantitative proteomics research.



**Thermo Scientific™ ProSight PC™ software:** For top-down MS/MS protein identification and automated PTM annotation.

## Thermo Scientific Application-Specific Software

### Small Molecules



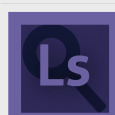
**Thermo Scientific™ Compound Discoverer™:** For small molecule identification with customizable node-based workflows, integrated compound identification capabilities, and statistical analysis.



**Thermo Scientific™ mzCloud™ Advanced Mass Spectral Database:** Thermo Fisher Scientific is proud to contribute to a cloud-based HRAM fragmentation library.

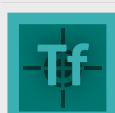
## Thermo Scientific Application-Specific Software

### Lipidomics



**Thermo Scientific™ LipidSearch™:** Processes LC-MS data, including the high-resolution accurate-mass data generated by Thermo Scientific™ Orbitrap™-based mass spectrometers, to make provide accurate lipid identification. It automatically integrates complex data into reports and dramatically reduces data analysis time.

## General Screening Applications



**Thermo Scientific™ Tracefinder™:** For all GC/MS and LC/MS quantitation and screening needs, with complete configurability for your application and experience level.



**Thermo Scientific™ Mass Frontier™:** Transform mass spectral data into compound structures, enabled by high-quality, curated experimental spectral and fragmentation libraries.

## Biopharmaceutical Characterization



**Thermo Scientific™ BioPharma Finder™:** Screen, identify and characterize intact proteins with higher productivity and confidence using Intact Protein workflow. Confirm amino acid sequence, identify site and type of known/unknown PTMs while providing relative amounts using Peptide Mapping workflow. Support oligonucleotide workflow with customized building blocks.



**Thermo Scientific™ SimGlycan™:** In combination with multistage fragmentation (MSn) this software provides the most in depth characterization of glycan structures available.

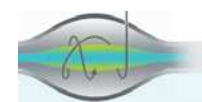


### AppsLab Library

Thermo Scientific™ AppsLab Library of Analytical Applications is a chromatographer's web-portal to our comprehensive application expertise. This open, free-of-charge repository with over 1,000 methods available today is being constantly updated with new applications.

[thermofisher.com/AppsLab](http://thermofisher.com/AppsLab)

## Application Support Resources



### Planet Orbitrap

Science-based website focusing on Orbitrap mass spectrometers with workflows for proteomics, metabolomics, lipidomics, pharmaceuticals, biopharmaceuticals, clinical, drugs of abuse, sports doping, environmental, and food safety for life science and analytical researchers.

[www.PlanetOrbitrap.com](http://www.PlanetOrbitrap.com)

### Planet Isotopes

Contains a comprehensive library of publications and application reports, as well as background information on our products and their technologies. Visit the Planet Isotopes Knowledge Base and access peer-reviewed scientific papers, posters, brochures, application notes, webinar, videos, and many more.

[www.PlanetIsotopes.com](http://www.PlanetIsotopes.com)

We enable our customers to make the world  
**healthier, cleaner and safer**

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