



**Thermo Scientific Exactive Plus**  
Orbitrap LC-MS System



# Powerful screening and quantitation

Food Safety • Environmental • Clinical Research •  
Forensic Toxicology • Drug Discovery • BioPharma

# Fast and broad screening for confident compo

The new Thermo Scientific Exactive Plus benchtop Orbitrap LC-MS delivers exceptional speed and extraordinary data quality for increased confidence in your analytical results.

High resolution, accurate mass (HR/AM) mass spectrometry is a powerful new approach to high throughput screening and quantitation in complex sample matrices. The Exactive™ Plus mass spectrometer will increase confidence in your analytical results. Powered by Orbitrap™ technology, this new system delivers extraordinary data quality to reduce false positives and improve quantitation of trace level analytes in complex samples, saving time and money. The Exactive Plus LC-MS produces fast, reproducible results – without compromise.

With up to 12 high-resolution, accurate-mass spectra per second, the Exactive Plus LC-MS can easily quantify narrow UHPLC peaks. Ultrahigh resolution eliminates isobaric interferences and increases mass accuracy so you can be more confident in your analyses. Advanced data processing technology and increased mass range enable the system to analyze anything from small molecule pesticides or drug compounds to intact protein assemblies and non-denatured antibodies.

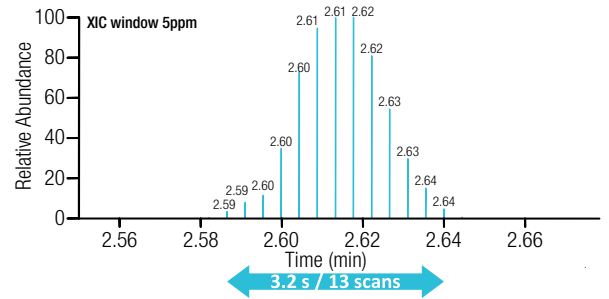
Future-proof your investment with the Exactive Plus LC-MS. The system can be upgraded as your application needs evolve. For increased confidence, add an optional higher-energy collisional dissociation (HCD) cell for all ions fragmentation. For ever highest performance, the Exactive Plus LC-MS is fully upgradable to Q Exactive for precise MS/MS.



# und ID

## High quality UHPLC+ compatible data

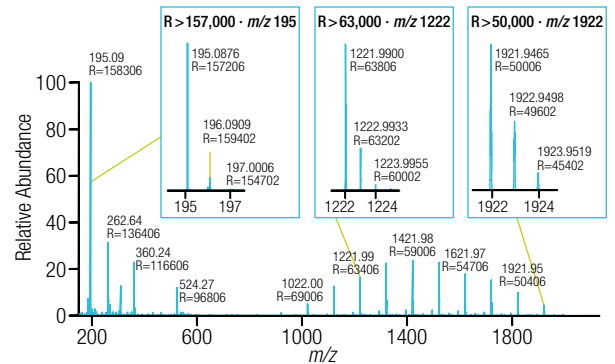
- Exactive Plus benchtop LC-MS has the highest effective scan rate of any high resolution, accurate mass screening instrument. Scan speed up to 12 scan per second is UHPLC compatible for screening and quantitative analyses. All scans are of excellent quality – there is no need for spectral summing and averaging as is commonly done with time-of-flight technology.
- There is no loss in sensitivity with scan rate or resolution setting.
- Enhanced automatic gain control (AGC) with a C-Trap charge detector (CTCD) ensures optimal ion detection and reproducibility.



UHPLC peak of clofentzine acquired at 70k resolution with 13 scans, for screening and quantitation applications

## See things more clearly

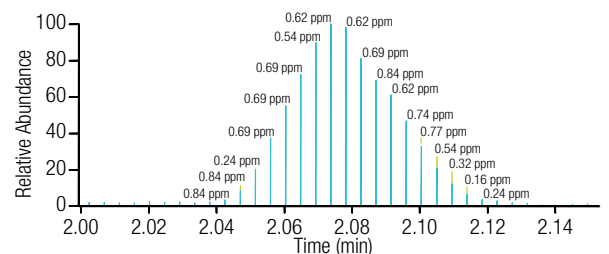
- With resolution of up to 140,000 (FWHM) at  $m/z$  200, the Exactive Plus benchtop LC-MS can easily separate compounds of nearly identical mass to remove interferences and reduce false positive results.
- Orbitrap technology makes use of image current detection and therefore requires no maintenance of the analyzer over the lifetime of the instrument.
- Fast polarity switching within 250 msec, allows for one positive and one negative scan each at a resolution of 35,000 in less than one second.



Ultra High Resolving Power along the mass range for maximum performance

## Discover a new world of accuracy

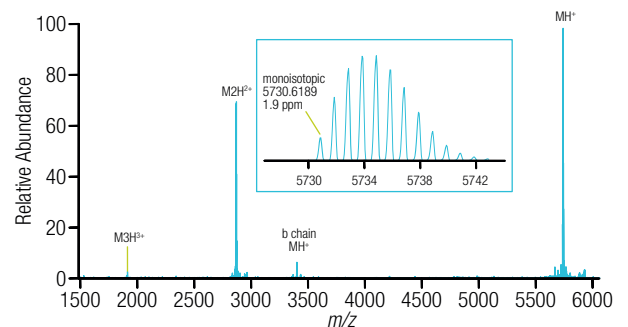
- Every Orbitrap scan provides stable mass accuracy across an entire chromatographic peak.
- Achieve mass accuracies of  $<1$  ppm internal and  $<3$  ppm external – under specified conditions.
- With stable mass accuracy there is no need to use lock masses or worry about signal suppression, unlike commonly experienced on time-of-flight mass spectrometers.



Scan-to-scan mass accuracy of 0.62 ppm (RMS) of carbaryl ( $C_{12}H_{11}NO_2$ ) across a 5 sec base peak with 18 scans acquired at 70,000 resolution

## Fast screening of large molecules

- Mass range up to  $m/z$  6,000 for improved analysis for singly charged ions and biopharmaceutical samples.

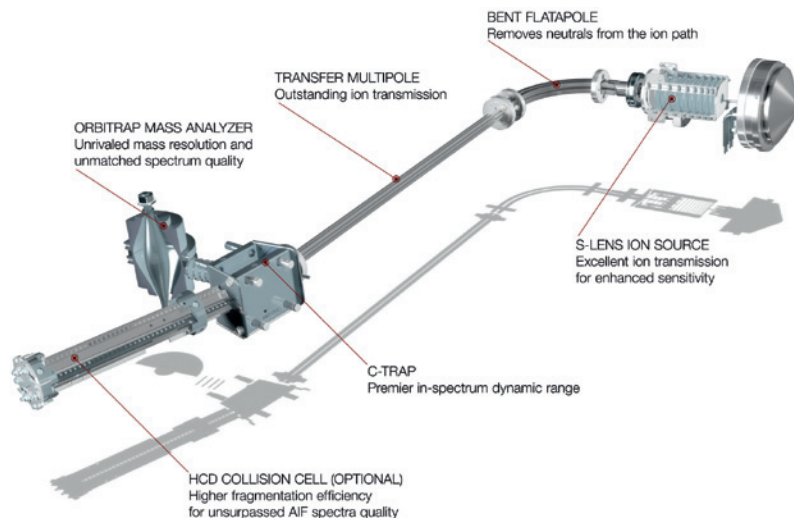


Isotopic resolution of a singly charged mass spectrum of bovine insulin at 5730 Da acquired with an atmospheric pressure MALDI ion source

# Bring out the best in performance

The new Exactive Plus  
LC-MS system offers

- Fast data acquisition for UHPLC methods
- Ultrahigh resolution of up to 140,000 (FWHM) for complex sample analysis
- With S-Lens, a femtogram-level sensitivity reveals compounds at extremely low concentrations
- Increased speed of positive / negative switching increases productivity and eliminates extra runs
- Full high-resolution, accurate-mass MS scans allows for retrospective data analysis
- Extended mass range to  $m/z$  6,000 for improved detection of singly charged ions and biomolecules.
- More than four orders of magnitude intra-scan dynamic range allows detecting trace-level and highly abundant compounds in the same scan
- “All Ion Fragmentation” (AIF) for compound confirmation or identification with an optional higher-energy collisional dissociation (HCD) cell



## Easy upgrade to Q Exactive experience quantification

The Exactive Plus mass spectrometer can be upgraded on-site to a Thermo Scientific Q Exactive system with the addition of a high-performance quadrupole. This benchtop Orbitrap system combines precursor ion selection with high-resolution, accurate-mass (HR/AM) Orbitrap detection to identify, quantify and confirm in a single analysis. The superior quality of Q Exactive MS/MS data provides ultimate confidence for a wide range of both quantitative and qualitative (Quan/Qual) applications.

**For Research Use Only.**

**Not for use in diagnostic procedures.**

[www.thermoscientific.com/ExactivePlus](http://www.thermoscientific.com/ExactivePlus)

©2012 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.

Africa-Other +27 1 70 1840  
Australia +61 3 9757 4300  
Austria +43 1 333 50 34 0  
Belgium +32 53 73 42 41  
Canada +1 800 530 8447  
China +86 10 8419 3588  
Denmark +45 70 23 62 60

Europe-Other +43 1 333 50 34 0  
Finland/Norway/Sweden  
+46 8 556 468 00  
France +33 1 60 92 48 00  
Germany +49 6103 408 1014  
India +91 22 6742 9434  
Italy +39 02 950 591

Japan +81 45 453 9100  
Latin America +1 561 688 8700  
Middle East +43 1 333 50 34 0  
Netherlands +31 76 579 55 55  
New Zealand +64 9 980 6700  
Russia/CIS +43 1 333 50 34 0  
South Africa +27 11 570 1840

Spain +34 914 845 965  
Switzerland +41 61 716 77 00  
UK +44 1442 233555  
USA +1 800 532 4752



## Easy and fast data

Processing software for the Exactive Plus instrument for targeted and general unknown screening and quantification include Thermo Scientific ExactFinder 2.0, SIEVE 2.0, Thermo Scientific MetQuest 1.2 and Thermo Scientific TraceFinder 2.1 software packages.



Thermo Fisher Scientific (Bremen) GmbH  
Management System Registered to ISO 9001:2008

# Thermo SCIENTIFIC

Part of Thermo Fisher Scientific