

# New High Resolution Accurate Mass LC-MS System Can Scan 50 Percent Faster Than Predecessor

**Release Date:**

Monday, June 16, 2014 8:00 am EDT

**Terms:**

[Thermo Scientific](#)

**Dateline City:**

BALTIMORE

## *Thermo Scientific Q Exactive HF system scans up to 18 hertz*

BALTIMORE--(BUSINESS WIRE)--When it comes to pursuing breakthroughs in proteomics research, there's no such thing as too much scanning speed, as long as data quality remains high. The latest addition to the industry-leading Q Exactive family of Thermo Scientific liquid chromatography-mass spectrometry (LC-MS) systems addresses this demand.

The Thermo Scientific Q Exactive HF system is making its debut at the [62<sup>nd</sup> ASMS Conference](#) on Mass Spectrometry and Allied Topics, booth 127, and at the Holiday suite in the Hilt on Baltimore Hotel.

To create the new Q Exactive HF system, Thermo Fisher Scientific added an ultra-high-field Orbitrap mass analyzer to the proven Q Exactive Plus LC-MS platform. Designed for faster identification, characterization, quantification, and confirmation in a single, high-confidence analysis; maximum scanning rates increase from 12 Hz to 18 Hz to significantly improve productivity. Internal research indicates that the Q Exactive HF can provide complete MS/MS identification for 18 scans in one second, compared to half that number using the previous Q Exactive systems for the same duration gradient, without compromising data quality. Maximum resolution is 240,000 at  $m/z$  200.

"The peptide sequencing speed of the new Q Exactive HF system is amazing," said Professor Jesper V. Olsen of the Novo Nordisk Foundation Center for Protein Research, an early-access user. "For shotgun analysis of human proteomes, we now can obtain the same data in half the time. We can therefore analyze many more cell conditions than before."

Advanced Quadrupole Technology optimizes precursor selection and transmission for excellent detection of low-abundance ions in very complex matrices. Advanced active ion beam guide design enhances sensitivity and robustness. Quantitation capabilities include: selected ion monitoring, parallel reaction monitoring and data-independent acquisition. An optional intact protein mode enhances analysis of intact proteins.

"For data-independent acquisition, we need to balance precursor selectivity, duty cycle, and the target mass range of interest," said Professor Michael MacCoss of the University of Washington School of Medicine, another early access user. "The Q Exactive HF instrument enables us to substantially improve the precursor selectivity without affecting the other parameters of the experiment. Ultimately, this improves the sensitivity and quantitative dynamic range in a complex mixture."

"Orbitrap technology is evolving to become faster, better performing and more accessible," said Iain Mylchreest, vice president, research and development, chromatography and mass spectrometry, Thermo Fisher Scientific. "We're pleased to make the performance of the newest Orbitrap analyzer available to Q Exactive HF customers."

For more information, please visit [www.thermoscientific.com/qehf](http://www.thermoscientific.com/qehf).

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**Language:**

English

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