

# Agilent 6230 Accurate-Mass TOF LC/MS

Exceptional MS performance without compromises

Product Note



The Agilent 6230 Accurate-Mass Time-of-Flight (TOF) LC/MS system features Agilent Jet Stream Thermal Focusing technology for significantly improved sensitivity, as well as enhanced MassHunter Workstation software for superior data mining and analysis capabilities. These new features, coupled with Agilent's True High-Definition TOF (True Hi-Def TOF) technology, enable the 6230 Accurate-Mass TOF to deliver exceptional sensitivity, excellent mass accuracy, fast data acquisition, and streamlined qualitative and quantitative analyses to meet your most challenging research needs.

Agilent 6230 Accurate-Mass TOF LC/MS integrates Agilent True Hi-Def TOF technology, Agilent Jet Stream Thermal Focusing technology, and MassHunter Workstation software for sensitive, accurate-mass MS analyses.



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### Sensitive, Accurate-Mass MS Analyses

The Agilent 6230 Accurate-Mass TOF LC/MS system is designed to provide superior data quality and advanced analytical capabilities for profiling, identifying, characterizing, and quantifying low molecular-weight compounds and biomolecules with confidence. Integrating three core Agilent technical innovations—True Hi-Def TOF technology, Agilent Jet Stream Thermal Focusing technology and MassHunter Workstation software—the 6230 TOF platform is ideally suited for accurate-mass analyses of the complex samples encountered in today's most demanding applications.

### True Hi-Def TOF Technology for Exceptional Mass Accuracy, Sensitivity and Speed

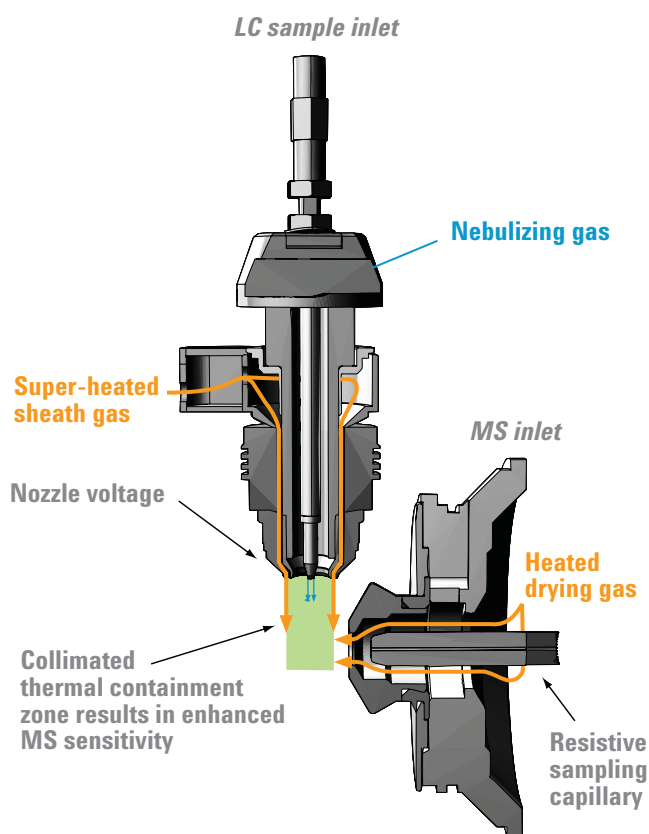
Agilent True Hi-Def TOF technology, a key feature of Agilent's 6200 Series TOF LC/MS instruments, delivers outstanding TOF performance characteristics without any performance compromises.

- Sub 1-ppm mass accuracy improves confidence and reduces false positives
- > 20,000 mass resolution distinguishes target analytes from interferences
- Up to 5 orders of in-spectrum dynamic range improves detection of trace-level targets in the presence of high abundant compounds

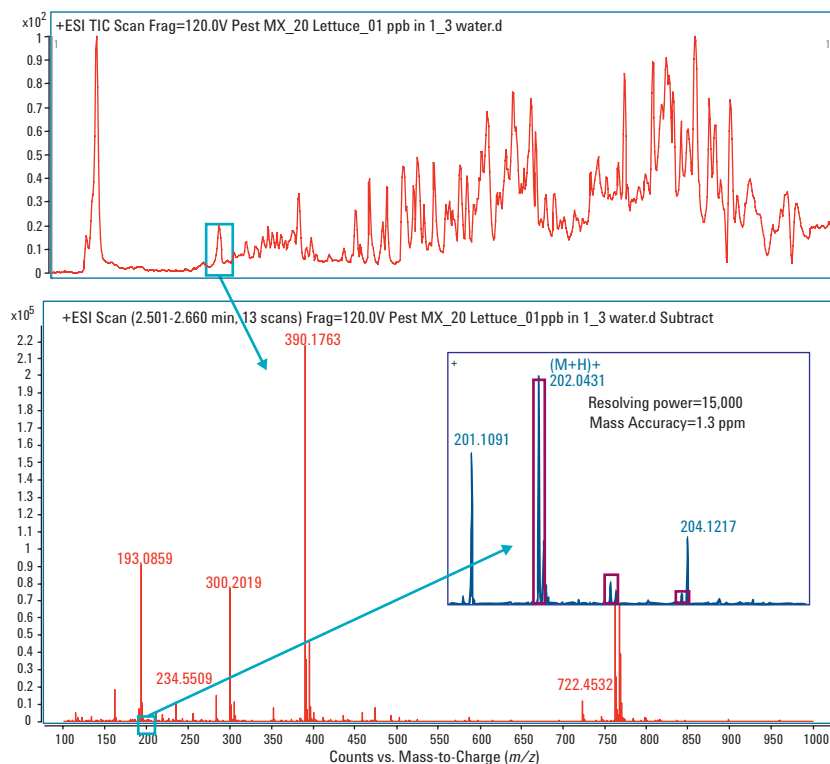
- Low picogram sensitivity enables identification of very low-abundance compounds
- Fast data acquisition rates of up to 40 spectra/second ensure maximum compatibility with fast LC and high-throughput methods
- Wide mass range to 20,000  $m/z$

### Agilent Jet Stream Technology Enhances LC/MS Sensitivity 5-fold

Agilent Jet Stream Thermal Focusing technology significantly increases LC/MS sensitivity by improving the spatial focusing of electrospray droplets. The subsequent enhancements in ion density and desolvation result in higher MS signal intensities and improved signal-to-noise ratios. On average, a 5-fold improvement in MS sensitivity is realized by using Agilent Jet Stream technology at optimal LC flow rates. Easy to use and tune, Agilent Jet Stream technology is available on the 6230 Accurate-Mass TOF LC/MS to provide maximum sensitivity for multiple applications, including the analysis of drug candidates and trace levels of food contaminants, metabolites or biomarkers.



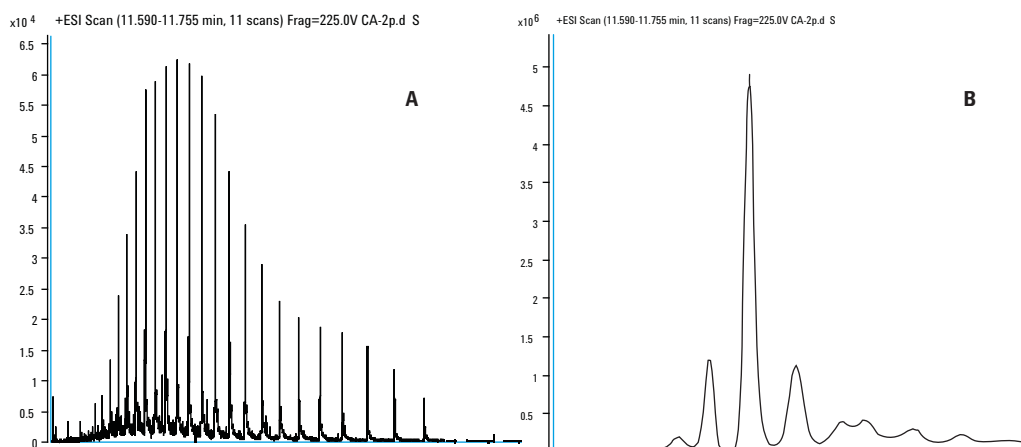
Agilent Jet Stream Thermal Focusing technology utilizes super-heated nitrogen sheath gas to confine the electrospray. Ion density and desolvation are improved, resulting in higher MS signal intensities and reduced noise.



High sensitivity screening (< 1 ppb) of pesticides in lettuce. Thiabendazole and its isotopes are detected at a 0.1 ppb concentration level in the above chromatogram and extracted mass spectrum.

## MassHunter Workstation Software for Powerful Data Mining and Analysis Capabilities

Agilent's MassHunter Workstation Software facilitates faster and easier processing of information-rich data generated by the 6230 Accurate-Mass TOF LC/MS. Compound-centric data mining and navigation capabilities enable efficient analyses of complex MS data. A sophisticated molecular feature extraction algorithm automatically retrieves all spectral and chromatographic information for each component in a sample mixture, including those in overlapping and co-eluting peaks, thereby saving hours of analysis time. MassHunter's integrated mass profiling tools streamline differential and statistical analyses between sample sets. The software can be used to perform additional processing steps such as molecular formula generation, database or library search, deconvolution, isotope pattern matching or charge-state determination for confident compound identification.



High performance mass accuracy for bovine carbonic anhydrase confirms protein molecular weight and high resolution (data collected in 4 GHz mode) detects protein modifications. Mass spectrum (A) and the maximum entropy deconvolution (B) of bovine carbonic anhydrase. The calculated average mass of carbonic anhydrase is 29024.85 Da; the mass error is 9 ppm.

## Designed for the Most Demanding Applications

The Agilent 6230 Accurate-Mass TOF LC/MS system delivers exceptional MS analyses for applications that demand the highest accurate-mass measurements, without compromising sensitivity and speed. Integration of Agilent Jet Stream Thermal Focusing technology ensures the highest level of sensitivity for your most challenging samples. Powerful new data mining tools in MassHunter Workstation software facilitate profiling, characterization, identification and quantification of compounds in complex mixtures. These performance characteristics enable the 6230 TOF system to support demanding applications such as proteomics, metabolomics, impurity testing, product degradation studies, forensics, food safety, and environmental analyses.

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