

Single Quadrupole Mass Spectrometer

**LCMS-2050**

# **UFMS**

***ULTRA FAST MASS SPECTROMETRY***

Shimadzu's proprietary Ultra-Fast Mass Spectrometry (UFMS) technology provides high-sensitivity performance and greater excellence in data quality, enabling dramatic improvements in laboratory throughput for an ever-widening range of analytical applications.

*The Ultra Fast Mass Spectrometer logo is a trademark of Shimadzu Corporation.*



## Compact MS With Countless Benefits

- Superior Performance
- Seamless Integration
- Streamlined Operation

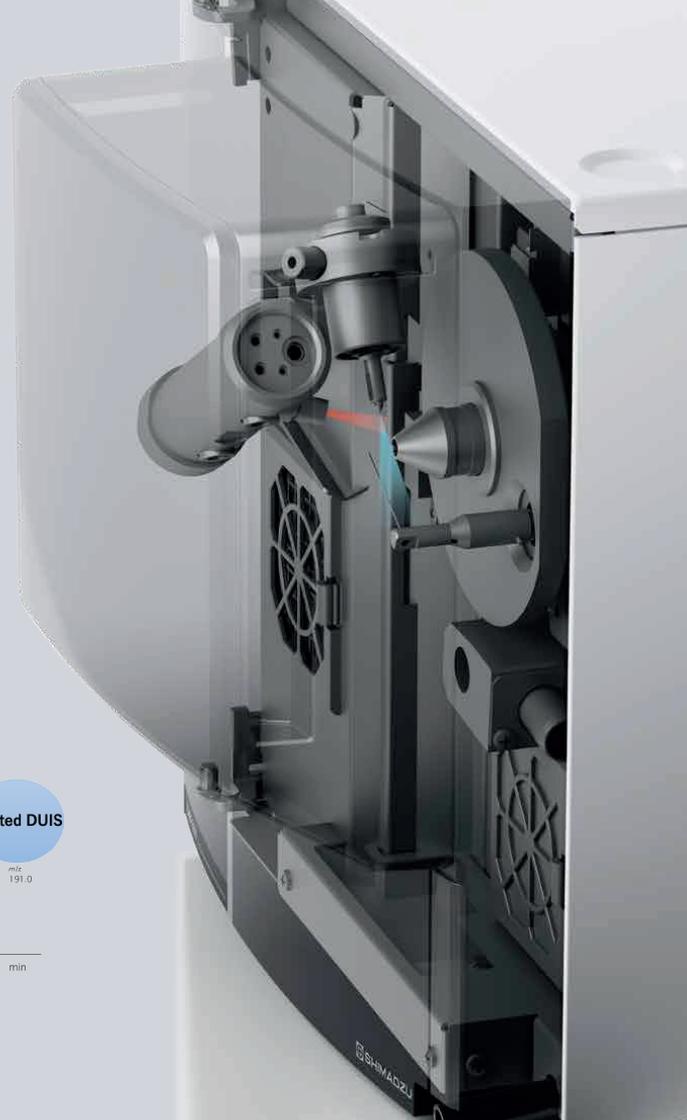
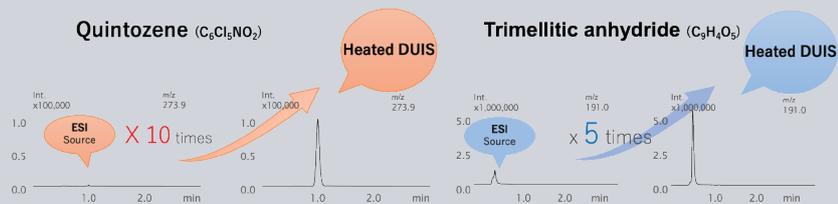
Superior Performance

# Heated DUIS For Wide Analyte Range Analysis

The LCMS-2050 is equipped with the newly developed Heated Dual Ion Source (Heated DUIS™) that combines the benefits of electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI).

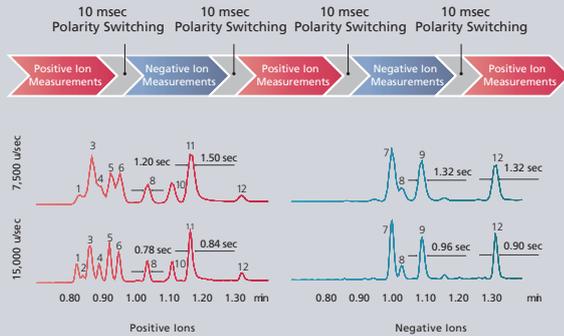
Even for low polarity compounds, excellent sensitivity is achieved, thus maximizing LCMS-2050 performance across a wide compound range.

5 – 10 times Higher Sensitivity For Low-Polarity Compounds

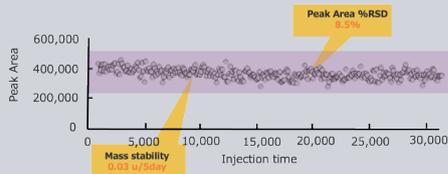


Superior Performance

# When Ultra High-Speed Meets Ultra High-Sensitivity



Peaks are reliably captured even if they are overshadowed (Peak 2) or insufficiently separated (Peaks 3, 4) at lower scan speeds.



Continuous analysis of high concentrations of pharmaceuticals (1,000µg/mL propranolol)

With UFMS technology, the LCMS-2050 possesses industry-leading scan speeds and polarity switching time that enables ultra-fast analysis without compromising performance.

In fact, it delivers ultra high-sensitivity without missing any data points in UHPLC analysis.

It also offers unsurpassed reliability and robustness by having strong stability against contamination equivalent to 15 months.

Now, you can analyze more compounds than ever before in a single analysis.

Streamlined Operation

# Powerful Insight, Intuitive Analysis: Mass-it™

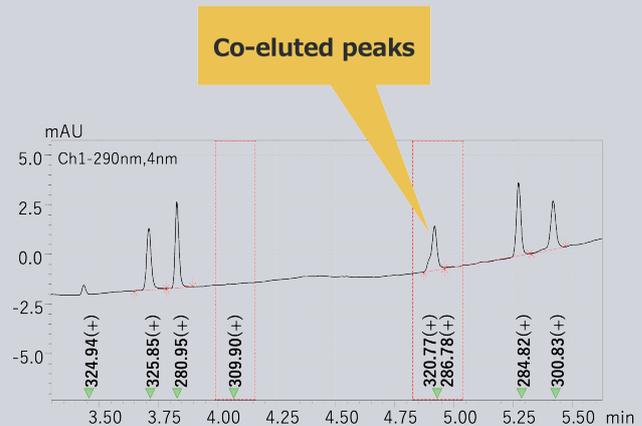


Herein, Shimadzu introduces the latest Analytical Intelligence innovation – Mass Signature Impartment Technology (Mass-it™).

The Mass-it™ detects and overlays signature mass information onto the LC-UV or the LC-PDA chromatogram. The mass information is automatically labelled, even for:

- Co-eluting peaks
- Peaks close to the noise level

All these are done in a single click, at a single glance, enabling anyone to handle complex data easily.



Continuous analysis of high concentrations of pharmaceuticals (1,000µg/mL propranolol)



Analysis can begin under the best conditions even outside of analysis working hours.

Streamlined Operation

# Performance Concierge At Your Service



The LCMS-2050 is designed for simplified operation and easy accessibility to all user levels. It offers automatic functions that give you peace of mind during analysis:

## **Automatic System Function Check**

The system check function introduces a standard sample automatically and checks the mass accuracy, resolution, spectral intensity, and monitors the instrument status.

## **Automatic Calibration**

Calibration can be performed according to the configured pass/fail criteria. These functions can run at a user-defined date and time, enabling 24/7 productivity while you are away from the laboratory.

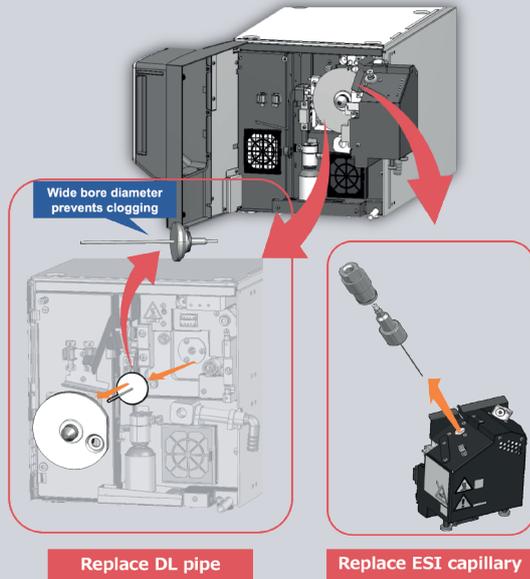
## Streamlined Operation

# Easy Maintenance To Maximize Uptime

The ionization interface of the LCMS-2050 has a simple, user-friendly design that minimizes the effort needed to maintain the instrument.

The desolvation line (DL) that transfers the sample into the vacuum chamber can be replaced smoothly without requiring any tools and without breaking the vacuum. The same goes for the ESI capillary replacement.

This minimizes the efforts required to maintain LCMS-2050 in optimum conditions, thus making it easy to manage with less downtime.



Removal and installation can be performed without tools and without breaking the vacuum.

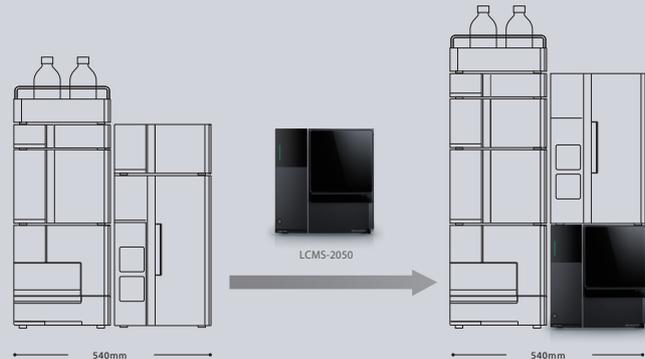
Seamless Integration

# Compact And Stackable MS For Easy Fitting

The LCMS-2050 is a tabletop MS stackable with LC units so that it can be added seamlessly to the laboratory without requiring extra space.

In addition, the compact size of LCMS-2050 also contributes to significant energy savings and higher operational efficiency, making it an easy addition to upgrade the laboratory.

Now, you can save space, energy, and costs to deliver maximum results with minimum effort, thus bringing productivity to the next level.



Compact LCMS-2050 that is stackable with LC units

## Seamless Integration

# One Instrument, Endless Possibilities

The small footprint of the LCMS-2050 creates the flexibility to adapt to different needs.

Whether you are working with the Nexera Series, the Nexera Prep, the Advanced i-Series, or the legacy models, LCMS-2050 can seamlessly integrate so that you can stay ahead in science.

The vacuum system can also be ready in as little as 6 minutes, which is 3 times faster than other conventional single quadrupole MS.

This is one instrument with endless possibilities, elevating your existing workflows to meet future needs.



Nexera™ Series



i-Series



Nexera™ Prep

LCMS-2050 can be integrated into  
any Shimadzu LC architecture

## Seamless Integration

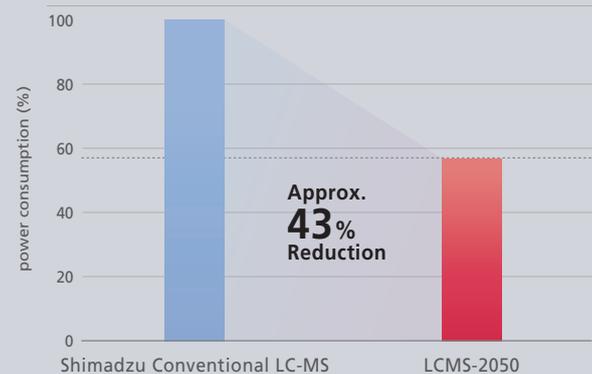
# A Green MS For A Carbon-Free Society

LCMS-2050 is a green MS with the lowest energy consumption, enabling 43% energy savings compared to a regular size LCMS.

It also has an Ecology Mode Function that allows 26% savings in power consumption with the following options:

- Complete shutdown of LC and MS (with vacuum pump OFF)
- Shutdown of LC and MS (vacuum pump ON)
- Shutdown of LC

This can enable significant cost savings while contributing towards a carbon-free society. It's time to stay future-proof with LCMS-2050 and stay prepared in this decade – the decade of transition and transformation.



Comparison of Power Consumption



Shimadzu recognizes this as an Eco Product Plus. This means that power consumption is reduced 43% in comparison to the previous Shimadzu model.

Assumptions: the ecology mode detects idle times and automatically shuts down the system (vacuum not stopped) for 8 h/day on average, including 2 h/day during working hours; for 2 days/week, the instrument is fully shut down including the vacuum.

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