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Press Release

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The *Nexera* MP UHPLC Front End System for LC/MS
Perfect for LC/MS analysis in drug detection processes

**European premiere at HPLC show in Budapest /
World's fastest sample injection, absolute lowest carry-over /
Quick analysis of multiple samples with high accuracy**

Shimadzu, one of the worldwide leading manufacturers in analytical instrumentation, has introduced the *Nexera* MP UHPLC as a Front End system for LC/MS. The system premiered in Europe at the HPLC 2011 show in Budapest, Hungary, from June 19 to 23. The *Nexera* MP is perfect for LC/MS analysis conducted in pharmacokinetics and synthesis stages in drug detection processes.

The new SIL-30ACMP Multiplate Autosampler used in the *Nexera* MP is best suited for LC/MS analysis and has the industry-best micro-volume injection repeatability, the world's highest injection speed and the lowest carryover. Combining the *Nexera* MP with Shimadzu's LCMS-8030 Triple Quadrupole Mass Spectrometer or the LCMS-2020 Single Quadrupole Mass Spectrometer creates a system for quick analysis of multiple samples with high accuracy.

Development Background

Pharmacokinetics and candidate compound synthesis stages in drug discovery processes need fast analysis of multiple samples using an LC/MS system with high throughput. Minimization of carryover in

samples is also important for enhancement of LC/MS analysis reliability, since mass spectrometers are becoming more and more sensitive.

The synthesis stage demands a system where two or more users can share an instrument and measure samples without delay, so that candidate compounds can be checked and identified quickly for more efficient analysis. This setup also reduces power consumption, thereby lessening the burden on the environment.

Outstanding features

Combined with high-performance accessories, the *Nexera* MP UHPLC Front End system achieves outstanding features:

- **Efficient sample preparation**

  The SIL-30ACMP Multiplate Autosampler provides excellent injection repeatability with micro volume injections (e.g. 1% max. in 0.5 μL injections). The influence of sample solvents, which causes problems in analysis of deproteinized or synthetic samples, is minimized by reducing the injection volume. Samples can therefore be injected directly without dilution, streamlining the preparation process.

- **Multi-sample processing with the world's fastest injection**

  In addition to fast separation of components, the *Nexera* MP uses the SIL-30ACMP Multiplate Autosampler featuring the world’s fastest injection at just 7 seconds which enables ultra-high-speed analysis cycles. In addition, up to 2304 samples can be set. Ultra-high-speed multi-sample processing is enabled, necessary in pharmacokinetics and synthesis confirmation processes. Ultra-high-speed analysis reduces consumption of both power and organic solvents used for analysis, reducing in turn the environmental burden.

- **Industry-lowest level carryover**

  The *Nexera* MP provides ultra-low carryover, essential for

LC/MS analysis. By incorporating the exceptional technology used in the Shimadzu *prominence* / *Nexera* Series autosamplers to effectively prohibit adsorption in the sample line, the SIL-30ACMP achieves an industry-lowest level carryover of 0.0015 % max. (no rinse). A multi-rinse function allows selection of the optimum rinse method depending on the sample. These functions ensure reliable analysis even when a high-sensitivity mass spectrometer is used.

- **Two or more analyzers share one system**
  Two or more experimenters often share one system in the compound confirmation process. Using the *Nexera* MP, each can set a sample plate without delay, even during analysis. Analyses previously run in multiple systems can therefore be run on one system, saving energy and operation costs.
- **Column oven setting to the MS position**
  To achieve ultra-high-speed analysis using LC/MS, the length of the piping connecting the HPLC and mass spectrometer needs to be minimized in order to fully exploit the separation performance. When mounting the optional CTO-30AS Column Oven to the autosampler, mounting height can be adjusted in three steps and the angle can be adjusted flexibly. As a result, the column exit can be positioned according to the height of the LC/MS interface, helping to realize ultra-high-speed, high-separation LC/MS analysis while maximizing the system's separation performance.

The *Nexera* MP is controlled by Shimadzu's LabSolutions software and major LC/MS workstations available from other companies.

Image 1: SIL-30ACMP Multiplate Autosampler with optional CTO-30AS Column Oven

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