

Press release

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LC-30A *Nexera*

New UHPLC unsurpassed in high-speed and high-resolution analysis and productivity

**The cleanest and fastest system ever to date /
Versatile tool for a multitude of different applications /
New components, best materials and technologies**

Shimadzu, one of the worldwide leading manufacturers in analytical instrumentation, introduces the *Nexera* ultra high-performance liquid chromatography (UHPLC) system. The European premiere will take place during Analytica show in Munich between March 23 and 26, 2010. The LC-30A *Nexera* delivers high-speed and high-resolution analysis without sacrificing basic performance parameters such as excellent precision, near-zero carryover, good linearity, stability and ruggedness. Offering these attributes enables *Nexera* to provide superior performance in various fields, covering high-resolution and high-speed separation, as well as high-sensitivity detection.

Shimadzu's *Nexera* is optimized to enable analysis at pressures up to 130 MPa at 3mL/min. This allows for *Fast Chromatography* as well as highest resolution using long columns with small particles.

Without compromising performance and data quality, the maximized pressure over a wide flow range enables various types of analyses, including micro LC to conventional LC, regular pressure LC to ultra high-pressure LC, and isocratic LC to multi-dimensional LC. The system is also suitable for MS applications.

New components, best materials and technologies

The CBM-20A control unit contains a modified software in order to control the new modules and functionalities, e.g. the autosampler. A new micro-reactor based mixer, fully developed components, best materials and technologies and new columns are important from the hardware side driving the performance. The users profit from the productivity and efficiency.

High throughput and minimum carryover

Nexera's fast injection — just 10 seconds — enables fast chromatography to shorten cycle time and result in true high throughput with 4,600+ sample capacity. The newly designed injection port and fine-tipped needle, along with additional features such as three-rinse solvent selection and injection port and internal needle rinse, reduce carryover to an absolute minimum.

New autosampler

Regarding carryover and reproducibility, the autosampler SIL-30AC exceeds the performance of the previous product and strengthens its outstanding position in the market. In addition to the well-established and precise DIIMS technique (Direct Injection with Isolated Metering System), the autosampler also offers fixed-loop injection for ultra-fast separation with minimized peak width and gradient delay. An overlapping injection function is standard with *Nexera* to allow for a maximum reduction in cycle time.

Column oven for high-temperature analysis

For high-temperature LC analysis up to 150 °C, *Nexera* offers efficient pre-heating for solvents to enable stable and reliable conditions. The advanced Intelligent Heat Balancer (IHB) minimizes band broadening during high-temperature analysis through the use of independently controlled heat zones within the column compartment,

ensuring accurate column temperature regardless of flow rate. The post-column cooler can reduce detector noise when equipped for high-temperature analysis.

Most sensitive detection

Additionally to the UV and PDA detectors, the brand-new and worldwide most sensitive and fastest RF-20A/20AXS fluorescence detectors can be applied for *Nexera*. Furthermore, MS respectively MS/MS detectors are preferred options which combine an increased separation capacity with adequate sensitivity.

“For LC-30A *Nexera*, Shimadzu’s comprehensive experience in HPLC has been strengthened and extended through inspirations and technologies from other product segments,” said Dr. Björn-Thoralf Erxleben, Product Manager Shimadzu Europe. “The LC-30A *Nexera* meets the needs of the most demanding markets such as pharmaceutical and the food industry: Both require the highest data quality since their products concern the human body. The LC-30A *Nexera* is a versatile tool for a multitude of different applications.”

For more information about *Nexera* UHPLC, visit www.shimadzu.eu/nexera and/or our new exhibition booth on analytica. Hall A1, booth 401/502.



Figure 1: Shimadzu’s new UHPLC: LC-30A *Nexera*

For further editorial questions, please contact: Uta Steeger
Shimadzu Europa GmbH, Albert-Hahn-Str. 6-10, 47269 Duisburg, Germany
Tel.: +49 (0) 203-7687410, E-mail: us@shimadzu.de

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