

Ultra-High Speed LCMS System for Multiplex Analysis

Nexera MX



Innovation in Multiplex Analysis

Higher throughput is of the utmost importance to laboratory efficiency and profitability. Nexera MX processes twice the number of samples as conventional LCMS systems in the same amount of time.

Double sample throughput with the same method

The Nexera MX Dual Stream Technology (MXDST) uses the existing method as is and enables processing twice the number of samples in the same time it takes for conventional systems.

More efficient, error-free analysis preparation

In continuous analysis of multi samples, a high emphasis is placed on reducing human errors and simplifying analysis preparation. To address this, MS Solution software has been designed to enable continuous analysis in a shorter time without requiring any complicated settings.

Quick and efficient data processing using LabSolutions Insight

LabSolutions Insight provides an excellent judgment function that enables effective screening of a large number of analytical results obtained from continuous multiplex analysis.

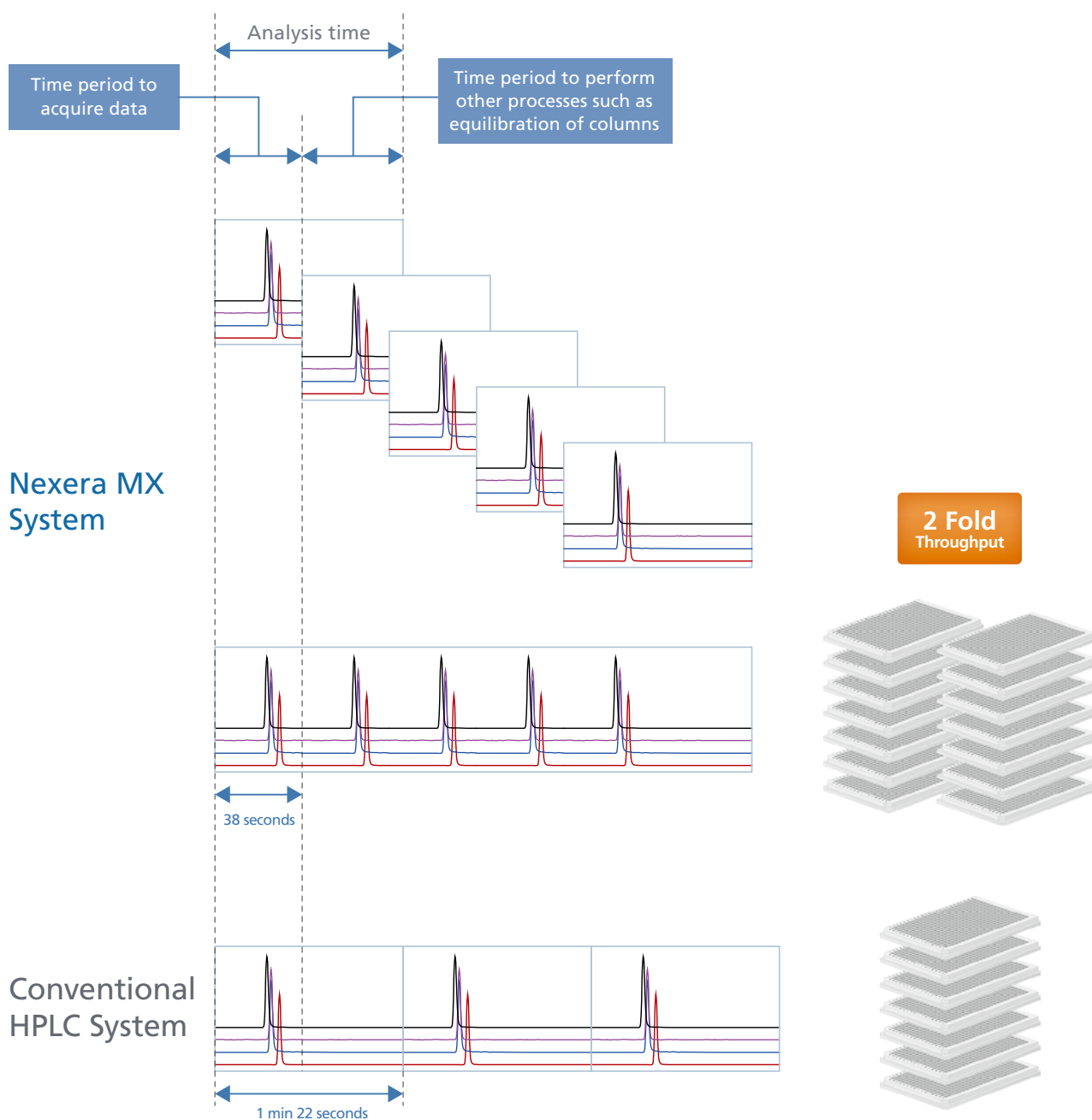




Original hardware control technology cuts analysis time in half!

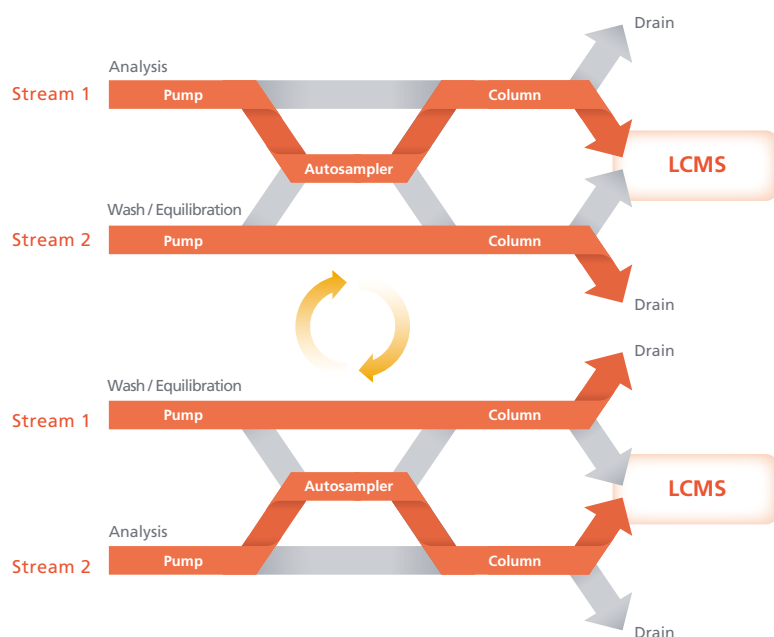
Conventional analysis requires performing various processes such as column washing, equilibration at initial mobile phase concentrations, and the next sample injection by the autosampler during the analysis.

Therefore, demands have increased for LCMS systems that shorten the time described above spent for processes other than data acquisition in order to improve analytical throughput.



In an analysis of four biomarker compounds for the four major molecular species in the Cytochrome P450 family, the Nexera MX completed the analysis in only 38 seconds whereas conventional HPLC required one minute, 22 seconds.

▸ Nexera MX Dual Stream Technology (MX-DST)



The MX-DST incorporates a special flow line structure and instrument control system, and performs overlap control of sample injection by using two analysis systems (streams) alternately. By doing this, after one system completes data acquisition, the other system starts data acquisition immediately without interruption, making it possible to use nearly the whole time of LCMS operation for data acquisition.

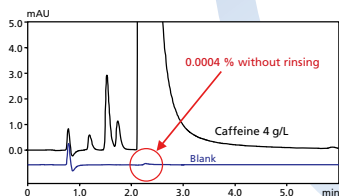
▸ Ultra-fast Autosampler SIL-30AC_{MP}

High-speed injections

The injection, a bottleneck in multiple specimen processing, is complete in as little as seven seconds. This enables a 20-second analysis cycle.



Ultralow carryover



World's lowest carryover is achieved. Analysis without rinsing can be performed.

High-speed SIL-30AC_{MP} easily supports the high throughput of Nexera MX.

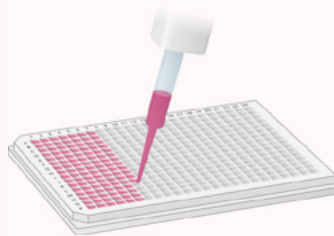
Process a large number of samples



Six microtiter plates (up to 2304 samples) can be stored in the internal rack. Plates can be removed and placed at any time, so the number of samples is unlimited.

Simple workflow enables high throughput

Preparation



Sample preparation

Creation of methods and batches

Creation methods

Create methods using special GUI of LabSolutions

Creation batches



LIMS



Import of LIMS schedules



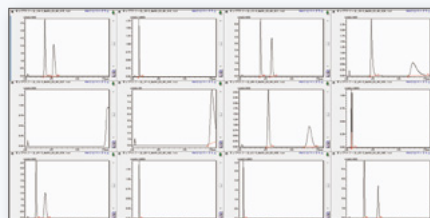
or create batches using LabSolutions

Run / Manage Analysis



Set samples

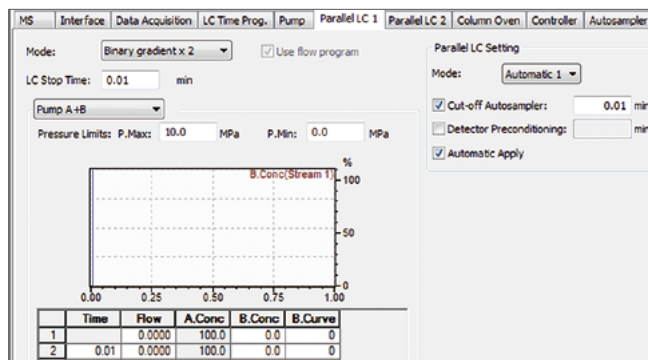
Review acquired data



In addition to high-throughput data acquisition, Nexera MX supports various processes from batch setting to data analysis with sophisticated software, improving the efficiency of overall operations.

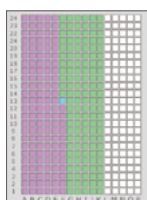
► Method creation using the special GUI of LabSolutions

Create analysis methods easily using the special GUI of LabSolutions. Complex settings such as switching valves are unnecessary.

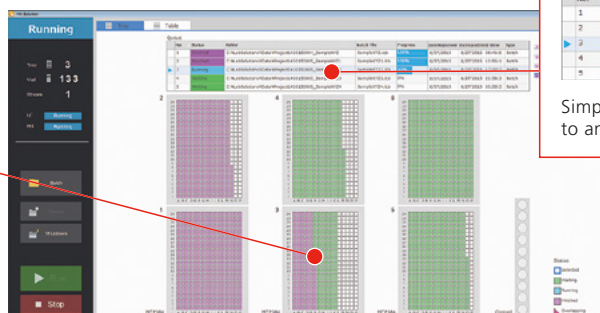


► Software dedicated to analysis execution and batch queue management

The MX Solution software was designed exclusively for Nexera MX. It realizes simple operability with the minimum status displays and reduced click operations. Analysis starts by simply clicking three buttons. The rack plate usage status and analysis progress are graphically displayed during analysis, allowing for easy checking at a glance.



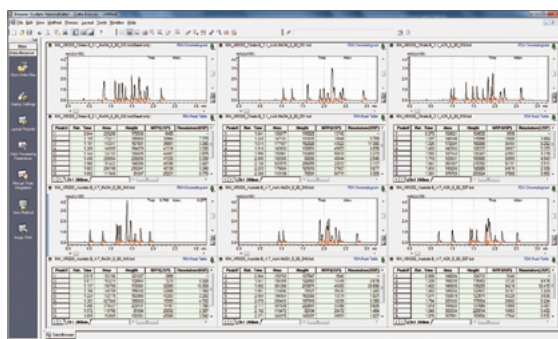
The plate usage status is displayed clearly and mistakes when exchanging plates are suppressed.



Simple analysis progress that is color-coded according to analysis status.

► Processing of a large volume of data using LabSolutions / LabSolutions Insight

A large volume of data can be analyzed using LabSolutions Insight and LabSolutions. The flagging function of LabSolutions Insight quickly finds data deviated from the standard values from among a large volume of data, dramatically reducing the number of data sets that need to be checked and facilitating quantitative process effectively.

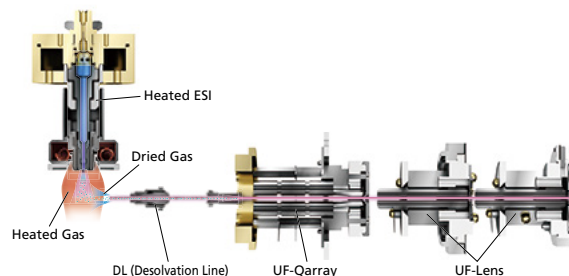


LabSolutions



LabSolutions Insight

► High-sensitivity, high-speed LCMS-8060 best matches Nexera MX



► Quadrupole rods

The high ion transmission and sensitivity are maintained even during high-speed scanning at 30,000 u/sec.

► Detectors

With an ultra-high speed high-voltage supply, the detector's voltage can be switched between the positive and negative ion mode in as little as 5 msec.

► New ion generator and new UF-Qarray

Incorporating an optimized ion generator and new UF-Qarray technology, the LCMS-8060 features dramatically improved ion sampling efficiency and ion focusing capability to achieve the world's highest levels of sensitivity. In addition, the enhanced vacuum exhaust system reduces noise while simultaneously increasing ion production. Consequently, the reliability and accuracy of data dramatically increase even at extremely low concentrations.

► UF-Lens

The ion optical system integrates two multi-pole RF ion guides to achieve higher sensitivity.



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