SHIMADZU
Excellence in Science

SEG-A-122

ANALYTICAL
INTELLIGENCE

Nexera Series

Experience New Benchmarks

Experience New Benchmarks

- A new benchmark of intelligence
- A new benchmark of efficiency
- A new benchmark of design

Shimadzu has long been advancing the analytical performance of HPLC systems. However, we recognize that overall efficiency depends not only on the performance of one instrument, but on the management of all devices within a lab.

Building upon 40 years of experience in LC technology, new AI (Artificial Intelligence) capabilities have been incorporated to allow devices to detect and resolve issues automatically. Lab management has been integrated using the Internet of Things (IoT) and device networking, making it simple for you to review the status of your instruments and optimize resource allocation. The Nexera series is a family of HPLC systems that merges these AI and IoT enhancements to set new industry standards in terms of intelligence, efficiency, and design.

Ease-of-use meets peace-of-mind

Due to the combination of IoT and AI, the Nexera Series foresees errors and helps to avoid common mistakes in order to guarantee the best possible outcome and efficiency. Smart software features allow close monitoring of instrument use while setting informed maintenance intervals. Users benefit from minimized downtime and maximized time-saving.

A new benchmark of intelligence

maximizing reliability and uptime

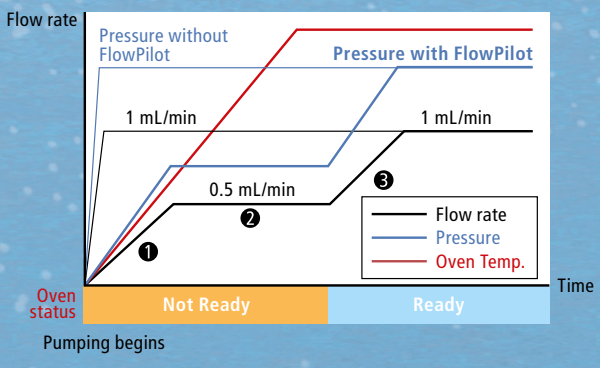
ANALYTICAL INTELLIGENCE

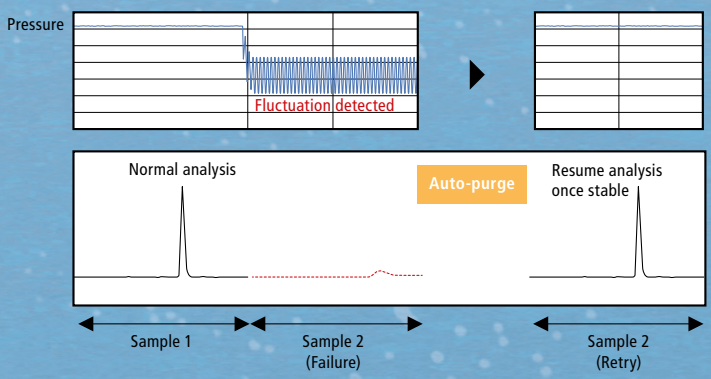
- Automated support functions utilizing digital technology, such as M2M, IoT, and Artificial Intelligence (AI), that enable higher productivity and maximum reliability.
- Allows a system to monitor and diagnose itself, handle any issues during data acquisition without user input, and automatically behave as if it were operated by an expert.
- Supports the acquisition of high quality, reproducible data regardless of an operator's skill level for both routine and demanding applications.

The Nexera series provide extensive auto-diagnostics functions as well as auto-recovery features supporting users in their day-to-day workflow.

Smart startup protects columns
In order to prevent HPLC columns from being damaged by sudden pump starts and stops or extreme gradient changes, the Nexera series automatically applies the Smart Flow Pilot function, which increases the flowrate gradually up to the set point. There is no need to create startup protocols for each analysis.

Mobile Phase levels measured in real-time
Reservoir tray weight sensors can be used to monitor the volume of mobile phase or autosampler rinse solution in up to twelve containers, and they can also be checked remotely from a smart device. No need to worry about running out of mobile phase mid-analysis, as the system ensures beforehand that the volume will be sufficient for the entire run-time, otherwise giving a notification.





1. Gradually increasing the flow rate up to half of the set value.
2. Keeping the flow rate constant until the oven is ready.
3. Gradually increasing the flow rate up to the set value.

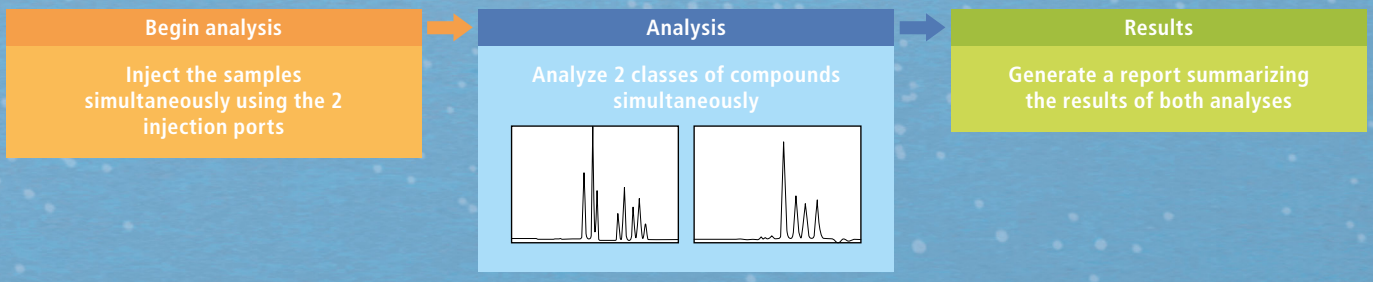
Auto-recovery from air bubbles
If drawn into the pump, air bubbles formed in the mobile phase can cause problems. The Nexera UHPLC is able to monitor baseline changes and pressure fluctuations to check for abnormalities. When the system detects an unusual fluctuation, it can automatically purge the flow path, re-injecting the sample to continue analysis once it has confirmed recovery to normal pressure.

A new benchmark of efficiency

automating workflow, maximizing throughput

Automated processes and fast, robust performance are key to an efficiently working laboratory environment. They speed up the overall workflow and provide results even more accurate and reliable than before.

Automated analysis of thousands of samples
The Nexera series provides non-stop temperature-controlled analysis of thousands of samples with the new optional plate-changers. Samples can be set in advance in up to 14 MTPs or vial racks in each plate changer. Even during analysis, the insertion of additional vials and MTPs is possible due to the autosampler's excellent temperature control.



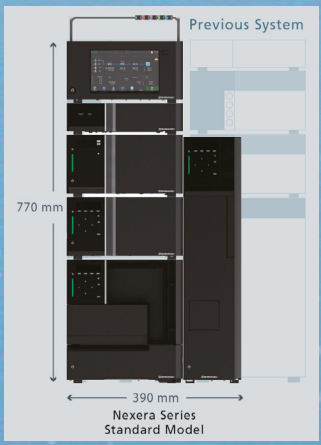
Dual injection enables simultaneous analysis
Injection ports for two separate flow paths can be installed, allowing two different types of analysis to be performed on one system.

Allocate resources efficiently
The LabTotal Smart Service Net is perfect for monitoring overall lab operation. It reviews and compares the usage of the instruments to maximize available analysis time and manage shared consumables through a common system.

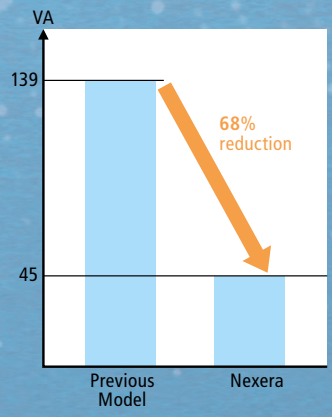
A new benchmark of design

compact and inventive

The set-up of the Nexera series merges user-friendly functions with operational efficiency while space and cost-saving aspects provide a sustainable profitable solution for next generation lab challenges.

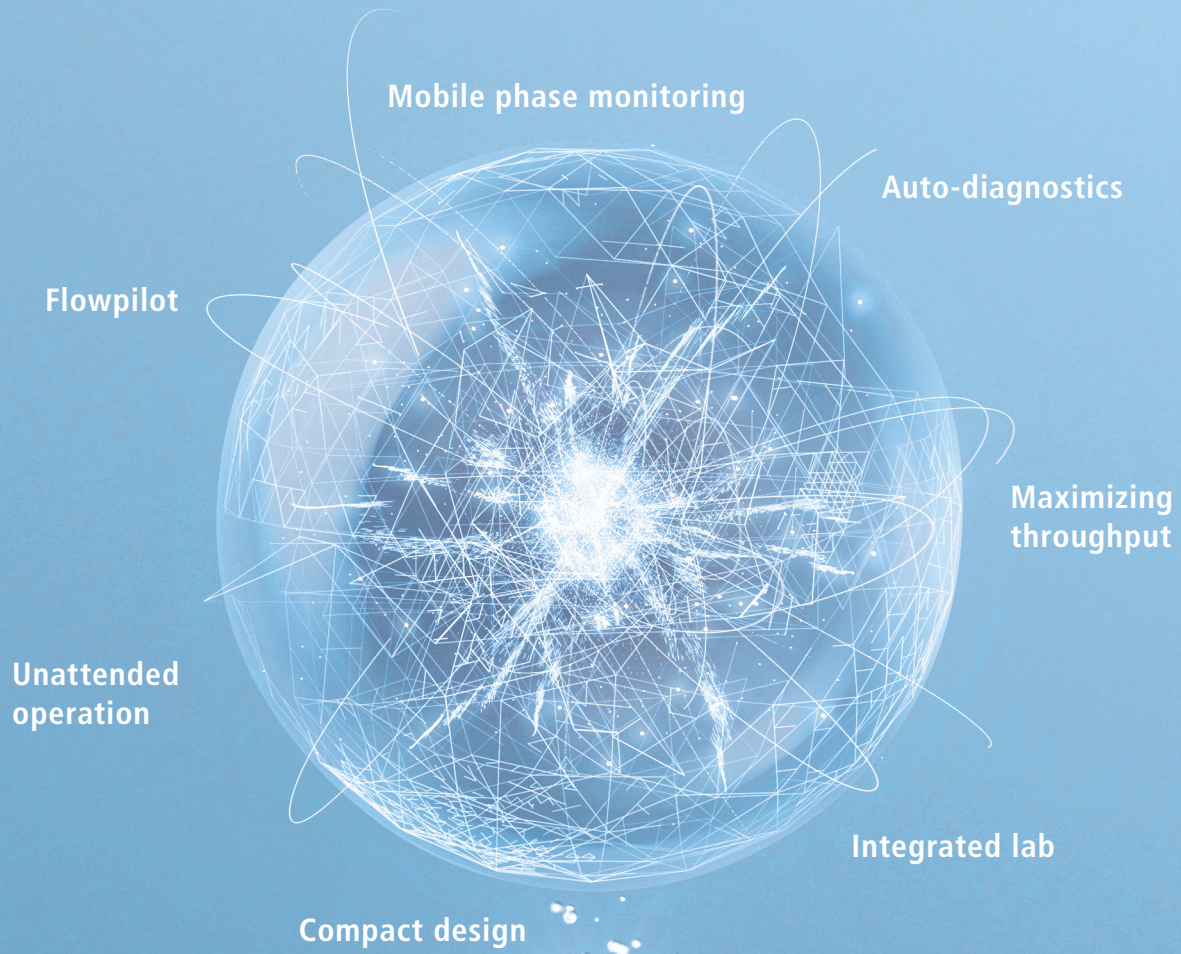


Space-saving design
Just one third the size of Shimadzu's previous model: The new Nexera LC frees up bench space with a compact design offering ease-of-operation on a reduced footprint.



Power consumption on standby

Energy-saving standby mode
The Nexera LC reduces energy consumption by over 80 % when on standby, significantly minimizing running costs and supporting an environmental-friendly lab.



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