SHIMADZU
Excellence in Science

ANALYTICAL
INTELLIGENCE

Advanced i-Series – Integrated HPLC System

i make the difference

Innovative, intelligent, intuitive

i make the difference

The Advanced i-Series integrated HPLC system makes the difference by providing improved work efficiency with a more flexible working style. Prominence-i HPLC and Nexera-i UHPLC models combine superior functions, high-speed analysis and excellent usability with the flexibility of working remotely.

The Advanced i-Series meets the demands of an increasingly varied range of users, locations and approaches to analysis while always delivering highly reliable analytical results based on standard operations for analysis and data evaluation.

Innovative, intelligent, intuitive system design with added Analytical Intelligence functions simplifies lab management and enables higher productivity with maximum reliability and better connectivity.

The Advanced i-Series models provide pressures of 50 MPa or 70 MPa and are available with UV and PDA detectors. A dual-channel method transfer system completes the portfolio. The instruments serve the needs of quality control labs as well as R&D purposes, e.g. in food and environmental science, chemistry and particularly in the pharmaceutical industry.

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.

- **Innovative**
  Remote instrument operation and monitoring allow the analyst to telecommute by reducing the time required to work in the laboratory.

- **Intelligent**
 Software integration ensures both data reliability and improved work efficiency.

- **Intuitive**
  Intuitive operation and maintenance facilitate excellent instrument performance and ensure consistently reliable results.

Innovative

Automation and remote control support a more flexible work environment

FlowPilot, mobile phase monitoring and other Analytical Intelligence features in combination with LabSolutions™ Direct software can provide an automated workflow, as well as remote operation and monitoring from instrument startup to shutdown. Automated workflows mimic the operational expertise of experienced analysts, in order to produce reliable data, reduce activities that require presence in the lab, and improve work efficiency.
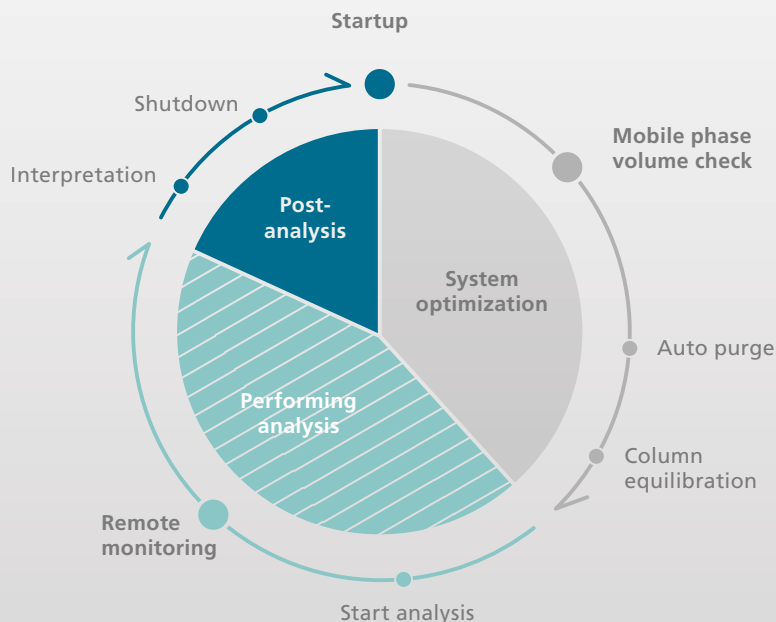
Networks to improve lab efficiency

The LabSolutions Client Server (CS) software allows remote operation and monitoring of all instruments in the analytical network from any location, including from home. Analytical data and reports are managed in a centralized database where administrative authorization allows managers to assign appropriate user authorization, according to expertise and responsibility.

LabSolutions Direct   **Web monitoring**

Intelligent

**Analytical Intelligence to ensure data reliability**

Applications for Analytical Intelligence are not limited to automation of the analytical workflow or remote operations. By collecting and automating the knowledge and skills of experienced analysts, Analytical Intelligence enables anyone to obtain reliable data, consistently. Analytical Intelligence is also designed for high levels of compatibility with other instruments and comes with a method migration function, thereby creating a work environment where anyone is equally capable of obtaining accurate results without the need for complex procedures to ensure method compatibility between different systems.

**Mobile Phase Monitoring to prevent mobile phase depletion**

The mobile phase monitoring function (MPM) enables real-time monitoring of mobile phase levels to ensure maximum system uptime. The instrument measures solvent volume gravimetrically and notifies lab personnel when there isn't enough mobile phase to complete the batch run. This minimizes the risk of instrument downtime and wasted samples.
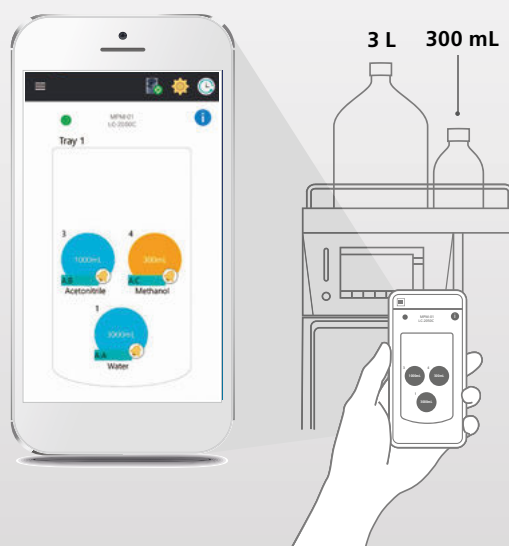
ACTO method migration support function

Migrating a test method from one instrument to another can be a challenging process. The i-Series is designed with the same internal system volume as comparable competitor instruments to ensure data reproducibility. The Analytical Condition Transfer and Optimization (ACTO) feature allows automatic adjusting of gradient start time, to mimic perfectly gradient separations with varying system volume.
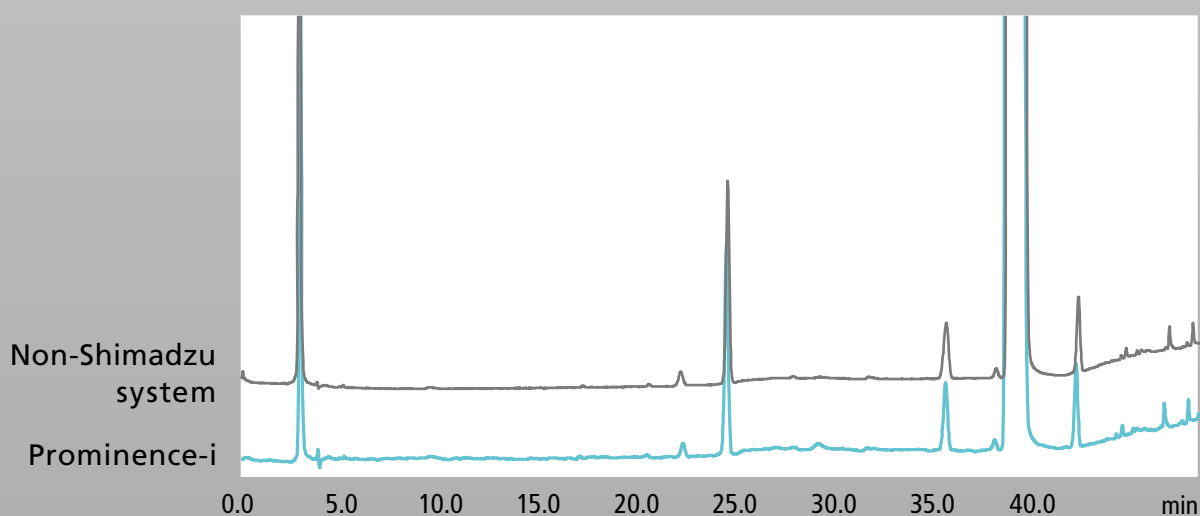

Migrating an analytical method from a non-Shimadzu system to the Prominence-i

Intuitive

Graphic user interface for simplified i-series operation

The user interface displays the flow diagram for visualization of the system's operating status. Method editing can also be performed easily using the color touch panel. With its intuitive design, even inexperienced analysts new to liquid chromatography can navigate the user interface with minimal training.

Instructional maintenance videos
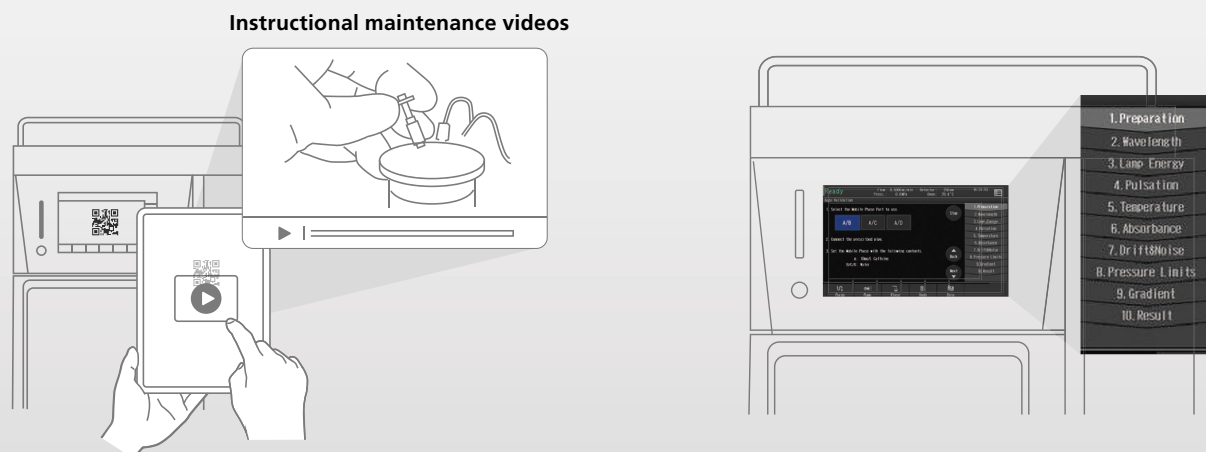
Maintenance support included

Scanning a QR Code® shown on the touch panel directs the user to a website with related maintenance videos. These brief instructions offer quick support for consumable replacement to ensure continuous system availability and increased efficiency.

Auto-validation function ensures stable operation

The auto-validation function allows anyone to follow a set procedure and easily verify the instrument condition. It includes an examination of the stability of solvent delivery, wavelength, absorbance and gradient accuracy and the presence of any drift/noise as well as other parameters. An additional instrument check before analysis automatically performs a routine inspection and creates a report on the system's self-diagnostic results along with a record of consumables usage. The system check function also manages auto-validation results, making it easy to accurately determine the operating status of the instrument.

Starting auto-validation
Procedures, mobile phases and other information necessary for validation are displayed on the screen, enabling inspections simply by following the instructions.

Creating a system check report
Validation results can be viewed from the i-Series main unit and can also be sent to a report format from a workstation.

Shimadzu LC column line-up

Maximize LC separation performance with core shell technology

Designed to maximize performance of LC systems, Shimadzu's Shim-pack Velox columns with core shell technology enable achieving of increased separations and faster analysis times on any LC platform. Whether developing a high efficiency LC separation method, transferring an existing method for increased throughput while maintaining resolution or trying to improve the resolution of a complex separation, Shim-pack Velox columns will satisfy the user's needs. Column ruggedness is critical to any LC analysis and Shim-pack Velox core-shell columns deliver excellent column lifetime, even for the most challenging sample matrices.

Get more information: **www.shimadzu.eu/hplc-columns**

Data management

Compliant with ER/ES guidelines and data integrity

A secure and future-oriented software solution is necessary to fulfill current requirements in terms of technical records, electronic signatures and data management. With LabSolutions software, Shimadzu offers a comprehensive solution – not only for chromatography systems, but also for spectrophotometers and other laboratory instruments. Users can securely integrate many systems under uniform user administration to ensure FDA 21 CFR Part 11 compliance.

Get more information: **www.shimadzu.eu/data-management-software**