

Nexera XS inert

THE TRULY BIOINERT UHPLC



ANALYTICAL INTELLIGENCE

- Automated support functions utilizing digital technologies, 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.



Eliminate Adsorption & Corrosion In Analysis

The wetted surface of the Nexera XS inert system is completely metal-free and engineered with the highest quality of titanium-nickel alloy, thus eliminating the risk of sample adsorption or surface corrosion during the analysis.

Even under harsh conditions, with extreme pH values and corrosive mobile phases, e.g., HFIP and DIPEA, the Nexera XS inert system guarantees a stable liquid feed to generate consistent quality data.

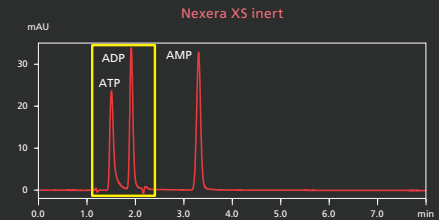
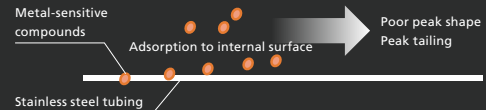
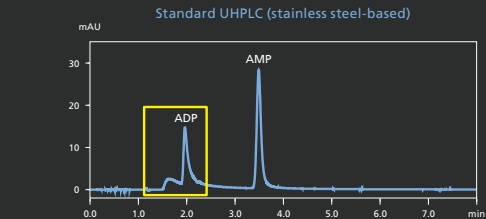
It can also withstand pressure resistance up to 105 MPa and pH 1 to 14, making it a powerful system for performing complex UHPLC bioseparation.

Discover Newfound Clarity Even For Challenging Compounds

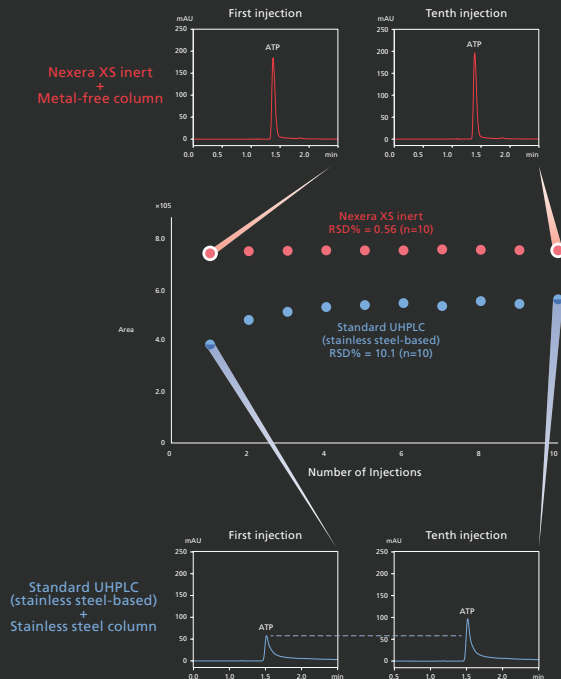
Equipped with unique technology that ensures 100% inertness of the sample path, the Nexera XS inert system effectively inhibits the adsorption of target compounds to the internal surface.

This enables unsurpassed chromatographic separation and excellent peak shape of the eluted compounds, providing newfound clarity even for compounds that were previously not visible.

Whether the analysis is on oligonucleotides, glycans, peptides, nucleic acids, or other potential metal-adsorbing compounds, the Nexera XS inert system generates top-quality data without compromising efficiency.



Making Quality Results An Expectation, Not a Requirement



With state-of-the-art technologies engineered into the system, the need for system and column passivation before the analysis is eliminated to increase the overall efficiency in your laboratory.

This gives the Nexera XS inert system unprecedented reliability in generating consistent data right from the first injection and throughout the analytical session.

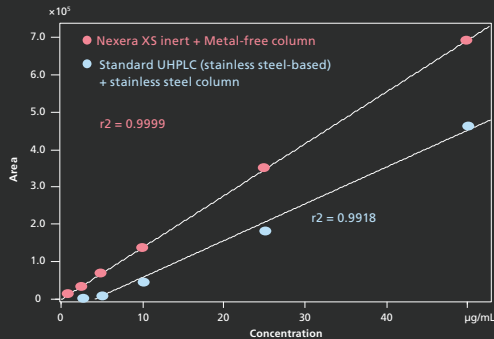
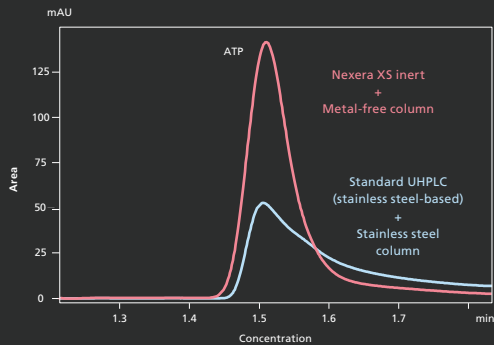
With such capability, lab personnel can expect reliable and reproducible data of the highest quality without asking.

Get Actionable Insights From Results You Can Trust

The adsorption of target compounds can compromise the data quality, especially in the low-concentration region, and thus can worsen calibration curve linearity.

With the truly bioinert UHPLC, Nexera XS inert, higher quantitative accuracy and detection of low-concentration samples with greater sensitivity are achieved, thus generating a wider dynamic range for better quantitation and recovery.

Deeper actionable insights can now be gathered from the data, enabling lab personnel to channel more time into advancing science and discovering breakthroughs.



Assured Analysis With Real-Time Monitoring Of Mobile Phase pH

In the analysis of proteins or biomolecules, the pH of the mobile phase is critical to achieve high resolution chromatographic separation.

The mobile phase pH monitor (pHM-40) within Nexera XS inert system enables assured analysis by offering real-time monitoring, recording of the mobile phase pH, and display in LabSolutions.

In case of any abnormal pH detected, the analysis is automatically stopped, and measurement data can be viewed on LabSolutions for further investigation.



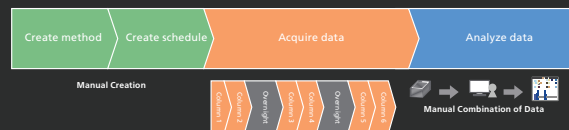
Get Ever-Faster With Accelerated Method Development

The strategic combination of Nexera Method Scouting System and LabSolutions MD has led to the creation of the World's First Accelerated Method Development (AMD).

The Nexera Method Scouting System enables automatic method exploration involving up to 192 combinations of columns and mobile phases.

Combined with LabSolutions MD, the method development is automatically optimized and validated as per the latest ICH Analytical Quality by Design (AQbD) guidelines.

Previous Method



Method Scouting System + LabSolutions MD

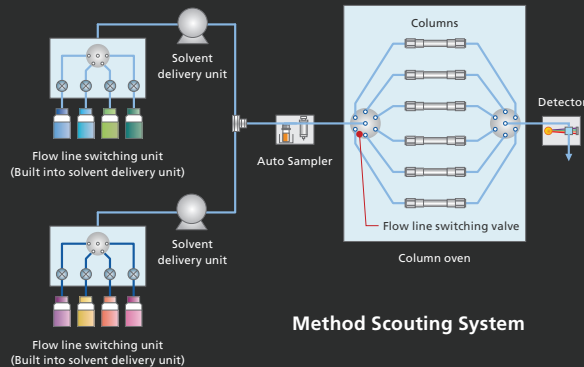


Enabling Method Creation To Be Automatic & Worry Free

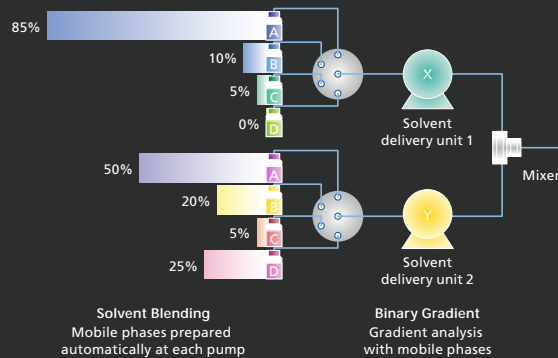
The special design of all the switching valves used in Nexera XS inert system allows metal adsorption and sample loss to be effectively prevented.

This enables smooth switching between multiple columns for method development or even for trap-and-elute analyses without concern about adsorption.

In addition, the solvent blending function reduces labor by automating mobile phase preparation. Now, not only that the accelerated method development is done automatically, but the optimized method is also proven to be robust and worry-free.



Method Scouting System



Live Updates Of Solvent Levels Anytime, Anywhere

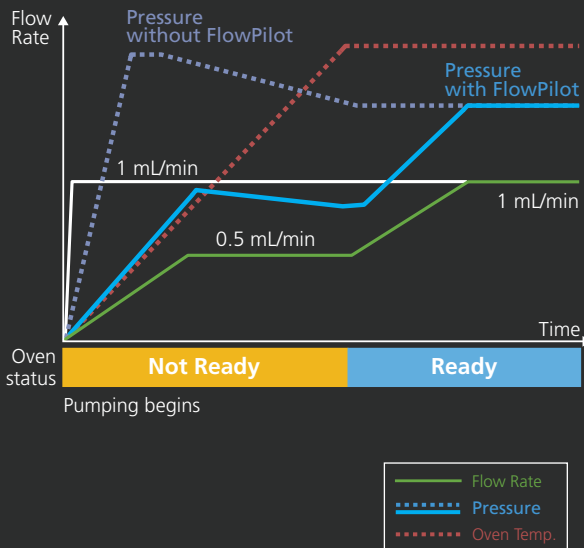
The Nexera XS inert system also inherits the key features of Analytical Intelligence to enable continuous monitoring of the mobile phase levels for uninterrupted analysis.

The system monitors the solvents gravimetrically and notifies lab personnel if the volume of the mobile phase is insufficient to complete the batch run. Mobile phase or autosampler rinse solution levels may be monitored in up to twelve containers.

The live status update can also be checked remotely anytime, anywhere from a smart device (PC/iOS/Android). Lab personnel can expect a quicker response time to solve any potential problems the moment they arise.



Extend Column Lifetime For Undisrupted Analysis

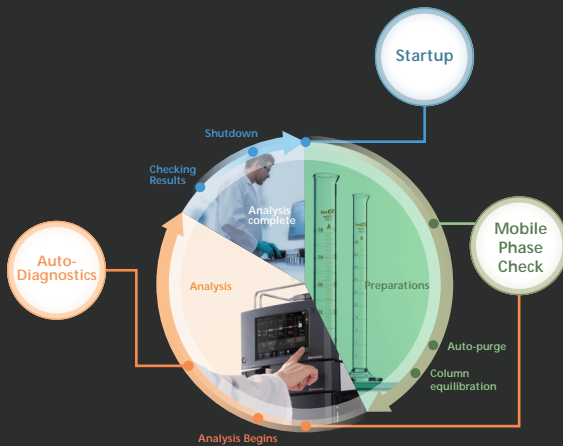


The Nexera XS inert system extends the lifetime of UHPLC columns by providing a new level of flow control to prevent damage caused by sudden pump starts and extreme gradient changes.

Using the Smart Control Flow, the flow rate is increased gradually and maintained at half the method flow rate until the system stabilizes. Once the oven temperature reaches the pre-configured level, the flow rate is further increased gradually until the set point is reached.

This unique and automatic feature keeps the system running efficiently, thereby ensuring undisrupted analysis while extending the column lifetime.

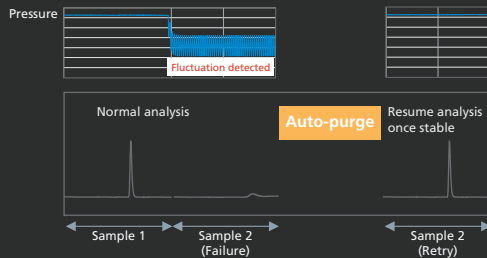
Maximize Uptime With Auto-Diagnostic And Recovery



When the Analytical Intelligence within the Nexera XS inert system detects an unusual fluctuation, it pauses the batch, applies a corrective purge, and restarts the run — without any human intervention.

It can thus become an analyst of its own, detecting any flow anomalies and applying self-correction automatically to restore optimal conditions independently.

Through this feature, valuable time and resources are saved without the need to troubleshoot, purge, and reprime the system manually.



Expand Capabilities With Shim-pack Bio Columns

The adsorption of biomolecules can occur not only within the instruments but also in LC columns. In particular, the analysis of proteins, nucleic acids, or samples sensitive to metal ions requires specialized columns depending on the separation modes.

Shimadzu offers robust LC columns optimized with unique technologies to inhibit adsorption for greater clarity in analysis.

These LC columns can also be intuitively connected to the Nexera XS inert system via the unique finger-tightened fittings in the tube connections with zero dead volume.

Nucleic Acids Oligonucleotides



Reversed phase	Shim-pack Scepter
Ion exchange	Shim-pack Bio IEX
Size exclusion	Shim-pack Bio Diol

Antibodies, Antibody Drug Conjugates



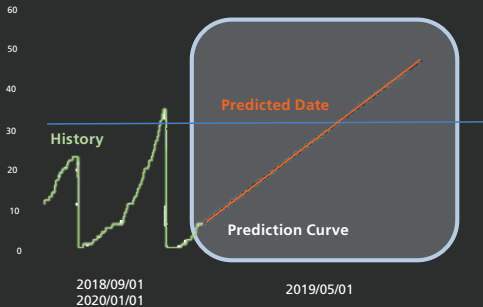
Peptide digests	Shim-pack Arata Shim-pack Velox
Aggregates and Fragments	Shim-pack Bio Diol
Charge variants	Shim-pack Bio IEX
Conjugates	Shim-pack Bio HIC

Intelligent Monitoring Of Consumables Usage

The Nexera XS inert system automatically monitors the consumables usage across multiple instruments, using a single intuitive system, by keeping track of the consumables' part number.

E-mail notifications are sent one month before the replacement date and when the recommended usage frequency is exceeded. With the early warnings of part replacements, Nexera XS inert system enables laboratory personnel to stay ahead against the biggest threats to instrument downtime.

Live updates about the operating status, error messages, and information about consumables are also readily available — whenever and wherever you are.



Immediate ROI With Analytical Intelligence

The Nexera XS inert system offers the highest throughput and maximized efficiency, thus realizing immediate ROI to laboratories.

AI Autosamplers

The autosampler's AI capabilities enable ultra-fast and ultra-low carryover, making the analytical workflow more efficient. It is also easy to expand the system with a plate changer to accommodate high sample volumes. The efficiency can even be multiplied via automated sample preparation and dual injection mode.

AI Detectors

Advanced TC-Optics ensures excellent temperature control of the PDA Detector, therefore minimizing baseline drift. Inert-type cells for biomolecules analysis eliminate the risk of adsorption on the detector. Low-diffusion cell, 5 mm of optical path length, ensures sharp and improved peak shape.





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