



Liquid Chromatograph LC-40 Nexera with artificial intelligence (IA)

The distinctive feature of the LC-40 Nexera Series liquid chromatograph is the Artificial Intelligence (IA) system, which provides instrument status monitoring, advanced diagnostic capabilities, automatic recovery functions, setting up maintenance intervals and helps to avoid the most common errors when working with HPLC.

Intelligent software features and remote access capabilities make the LC-40 Nexera HPLC system an Internet of Things (IoT) device, facilitating data collection, expanding automation and analysis capabilities, simplifying chromatograph status monitoring, optimizing laboratory resource allocation, ensuring minimal system downtime and maximum time savings.

Depending on the configuration, the LC-40 Nexera can operate in normal (44 MPa), fast (70 MPa and 105 MPa) or ultrafast chromatography (130 MPa) mode.

The amount of mobile phase is controlled in real time

The solvent tray holds up to 12 reservoirs and is equipped with weight sensors that are used to control the amount of mobile phase and solutions for rinsing the autosampler. Now there is no need to calculate in advance whether there is enough mobile phase to perform the analysis. The system guarantees that the amount of mobile phase will be sufficient to complete the analysis, otherwise the user will receive a warning.



Smart start function protects speakers

The Smart Flow Pilot function gradually increases the mobile phase flow to a set value. This prevents damage to HPLC columns due to pump starts and stops or extreme gradient changes. There is no need to create run protocols for each analysis.

The dual input system allows for simultaneous analysis of two samples

It is possible to configure two independent analytical lines with the ability to simultaneously analyze two different samples.

Automatic recovery when air bubbles enter the mobile phase feed line

When unusual mobile phase pressure fluctuations and baseline changes are detected, the LC-40 Nexera can automatically purge the mobile phase lines and re-introduce the sample immediately after normal mobile phase flow and pressure values are restored.

Effective resource management

The Lab Total Smart Service Net feature allows you to analyze and compare the performance of analytical instruments in your laboratory to ensure maximum efficiency and centralized management of consumables and spare parts.

Technical specifications

Model name	Nexera Lite	Nexera XR		Nexera XS	Nexera X3	
Pump	LC-40D	LC-40B XR	LC-40D XR	LC-40D XS	LC-40B X3	LC-40D X3
Pump type	Parallel double plunger	Binary	Parallel Double		Binary	Parallel double plunger
Gradient type	High/low pressure	High pressure	High/low pressure		High pressure	High/low pressure
Mobile phase flow rate range	0.0001–10.0000 ml/min					
Maximum pressure	44 MPa	70 MPa		105 MPa	130 MPa	
Number of solvents mixed	2 or 3					
Degasser	DGU-403/DGU-405					
Number of degassing lines	3 and 5					
Autodispenser	SIL-40 / SIL-40C	SIL-40 XR / SIL-40C XR		SIL-40C XS	SIL-40C X3	
Sample volume	0.1–100 µl	0.1–50 µl (optional 1–2000 µl)				
Sample preparation	Dilution, mixing, addition of reagents, co-injection					
Number of samples loaded	252 vials of 1.0 mL; 162 vials of 1.5 mL; 84 vials of 4 mL; or three 288- or 1152-well plates					
Cross contamination	≤ 0.0025%	≤ 0.0015% (total injection volume, under selected conditions)				
Column thermostat	CTO-40S / CTO-40S					
Temperature control range:	CTO-40C: from "room temperature -10 °C" to 100 °C			CTO-40S: from "room temperature -10 °C" to 85 °C		
Capacity	Up to 6 columns 250 mm or 3 columns from 250 to 300 mm			Up to 6 columns 100 mm or 3 columns from 100 to 300 mm		
* Detectors	SPD-40 / SPD-40V / SPD-M40					
Detector type	SPD-40 / SPD-40V: spectrophotometric			SPD-M40: diode matrix		
Wavelength range	SPD-40: 190–700 nm		SPD-40V: 190–1000 nm		190–800 nm	
Slit width	8 nm			1.2nm and 8nm, gap switching possible		
Cell	Path length: 10 mm; Volume: 12 µl; Pressure: 12 MPa					

* The LC-40 Nexera series chromatographs can also be equipped with the following detectors:

- fluorimetric RF-20A / RF-20Axs;
- refractometric RID-20A;
- ELSD-LTII light scattering detector
- conductometric CDD-10A;
- diode matrix SPD-M30A;
- mass spectrometric detectors LCMS-2020/8040/8045/8050/8060



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