Diode Array Detector L-7455

The Diode Array Detector with extreme Resolution in the UV

The new LaChrom L-7455 Diode Array Detector for HPLC analysis is a further development of the proven L-7450A module. The new and improved detector has clear advantages over current competitive instruments with its extreme resolution in the UV, its variable slit widths, improved absorption range, automatic wavelength calibration, expanded GLP functions and exceptional sensitivity compared with conventional UV detectors.

Exceptional Sensitivity and Resolution

The optics of the instrument have been substantially improved. Baseline noise and drift have been reduced still further. At a slit width of 8 nm, the L-7455 has better sensitivity than e.g. the high-performance L-7400 UV Detector.

Approximately 80% of all users use the diode array detector in lower UV range. The spectral resolution of the new DAD, particularly in the lower UV, is exemplary, primarily due to the optimised prism technology incorporated. These excellent properties make the new DAD L-7455 one of the most sensitive and best instruments currently available world-wide.

Variable Slit Widths

The new DAD has variable slit widths, settable via the software. The L-7455 is thus even more flexible for both research and routine applications when sensitivity and resolution are required.

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Automatic Wavelength Calibration

A novel calibration technology using a built-in mercury emission lamp enables the wavelength to be calibrated highly accurately over the entire wavelength range. Calibration is carried out automatically by the software.

GLP Functions

Additional instrument functions inform the user e.g. of the switch-on time of the lamp, available lamp energy and the wavelength accuracy of the DAD. These parameters are stored in the module.

The Sophisticated D-7000 HSM Software

The new HPLC System Manager version 3.1 offers you outstanding features for control of a LaChrom DAD L-7455 system:

- Recording of 3-D chromatograms and flexible 3-D presentations,
- Comparison of spectra and chromatograms via the contour map as overlay illustrations,
- Automatic extraction of chromatograms from the 3-D data,
- Peak identification on the basis of spectra and retention times,
- Subtraction of 3-D background chromatograms and subsequent processing of the results,
- Multi-point calibration with linear, quadratic and cubic curve adaptation,
- Quantification on the basis of internal, external and added standard,
- QM and GLP-conform documentation of peak diagnosis and statistics,
- Peak purity control via contour map even during analysis,
- Print-out of peak purity coefficients,
- Automatic system suitability test including report,
- Export of data in ASCII-, AIA- and EXCEL spread-sheet format,
- DDE interfaces for data transfer to LIMS systems,
- Recording of chromatograms with a second detector and comparison on-screen,
- Subtraction of spectral background,
- Storing of spectra in a spectral database,
- Automatic search in spectral library based on key words,
- Access rights for HSM: various users of the system for documentation of data,
- Search for data based on application names,
- Peak deconvolution possible for asymmetrical peaks.

Technical Data

Wavelength range	190 - 800 nm
Dispersions system	Quartz prism
Light source	Deuterium lamp
Wavelength accuracy	± 1 nm at 254 nm
Slit widths (settable with software)	1, 2, 4, 8, 16 nm
Diode array	512 diodes
Absorption range	-0.2 - 2 AU
Noise	< 1.5×10^{-5} AU
Drift	< 1×10^{-3} AU/h
GLP functions	Lamp switch-on period, lamp energy, wavelength accuracy

Ordering Information

Cat. No.	Designation
1.71750.0001	Diode Array Detector L-7455
1.71751.0001	Analogue Signal Output Unit
1.71752.0001	Semi Micro Flow Cell
1.71753.0001	High Pressure Flow Cell
1.71754.0001	Preparative Flow Cell

Technical data may be altered at any time without prior notice.
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LaChrom 2000: A development of Merck KGaA and Hitachi

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