

Multi Angle Light Scattering Photometer SLD7000

for static batch and on-line Light Scattering Polymer Analysis



The Instrument

Characterizing dilute macromolecular solutions using static light scattering (SLS) has never been easier, more accurate, or a better value. The SLD7000 Multi-angle Light Scattering Photometer uses latest technological achievements in optics and electronics to ensure easy and reliable operation in all laboratories. The SLD7000 can be used stand-alone or as a LC detector. Instrument setup and operation is extremely easy using the plug&play USB hardware and software. The small footprint design requires minimal bench top space. The SLD7000 is compatible with any existing instrumentation.

The Application

The SLD7000 is ideal for studying synthetic, natural and bio polymers in solution, including proteins and polysaccharides. Molar mass, molar mass distribution, radius of gyration, branching, degradation, aggregation, complex formation, nano structures, stability or conformation can be determined without any assumptions.

Some important application fields are:

- Polymer Research: plastics, rubbers, resins, latex particles.
- Biotechnology / Pharma: biopolymers, proteins, antibodies, micelles, virus.
- Environmental Research: organic and inorganic particles, humic colloids.

The Measuring Principle

Static laser light scattering (SLS) is an absolute method for molar mass determination and facilitates the direct determination of the characteristic properties of the macromolecular species without previous calibration or any other type of comparison. The SLD7000 represents the latest development in light scattering.

Due to its new cell design which allows direct detection of scattered light in the cell (just one transition phase) there is no need to correct the scattering angle, even when changing solvent. The positioning of this cell leads to an optimized solvent flow which reduces air bubbles significantly. This in combination with a very small scattering volume of the cell and the optimized fiber optics with ultra-sensitive CCD delivers highest accuracy and sensitivity for any kind of polymer analysis.



Measuring cell with fibre optics

The Unique Advantages

- **absolute method**: determination of mol masses, radii of gyration and structures without assumption or calibration.
- **only 1 phase transition of the scattered light**: no angle correction needed, even when solvent has been changed.
- **fiber-optical system**: high sensitivity, low noise and minimized stray light
- **ultra-sensitive CCD**: highest sensitivity
- **extremely low scattering volume**: highest selectivity
- designed for **online** (chromatography) or **stand-alone** use
- **small cell volume (100µl)**: minimize band broadening and artifacts
- **latest technology**: active laser temperature stabilization
- **small footprint design**: requires minimal bench top space
- **seamless**: WinGPC integration

Specifications

Cell type	cylindrical geometry, index matched
Static scattering volume	0,02 µl
Scattering angles	35, 50, 75, 90, 105, 130, 145 degree
Typical mol mass range	> 1000 to 100.000.000 g/mol
Relative mol mass precision	1%
Typical radius of gyration (Rg) range	10 to 150 nm
Laser specification	35 mW, 635 nm, vertically polarized, temperature stabilized
Data communication	USB, plug & play
Analog inputs	4 to 16 V, 24 bit resolution
Manufacturer	Brookhaven Instruments Corporation

Order information

403-0001	MALLS Photometer Detector
403-0002	MALLS Bundle with Photometer Detector, WinGPC, and MALLS Software
403-0004	Temperature controlled cell, up to 80°C
403-0005	Software for static Light Scattering application

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