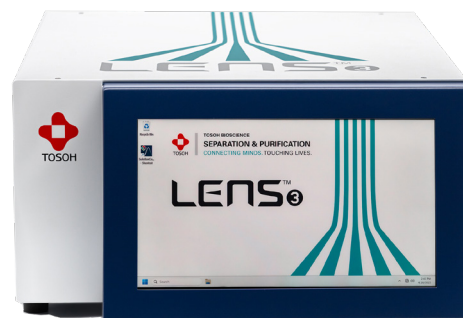




ADVANCED MACROMOLECULAR CHARACTERIZATION MADE EASY



Highlights

Unique patent-pending flow cell and optics design

- Extended MW and Rg measurement range
- High sensitivity for low-scattering samples (low MW, low concentration, low dn/dc)

Adjustable laser power

- Allows measurement of high-scattering samples (high concentration or MW)

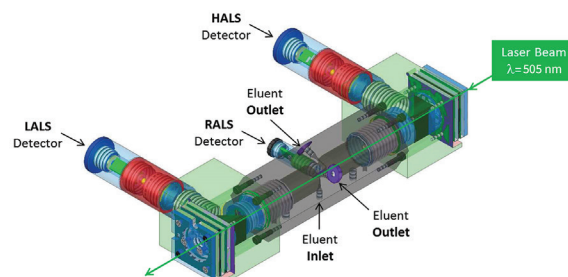
Low volume inert flow cell

- Use with any organic or aqueous mobile phase
- Compatibility with HPLC/UHPLC systems and columns
- No loss of chromatographic resolution

Intuitive software and workflow with powerful data processing

- Easy to learn, use and teach
- All results in a few clicks with no model assumption
- High productivity

LenS3 MALS DETECTOR DESIGN



Getting the most out of SEC-MALS Analysis

MW and Rg determination options

Molecular Weight

Direct measurement using LALS (10°) – Optimal and accurate for any applications across the most common MW range of polymers

Direct measurement using RALS (90°) – Perfect for most biomolecules and small polymers, for which S/N ratio matters even more

Combined Conformation Model** – Recommended for ultra-high MW large polymers and biomolecules (Rg > 50 nm), regardless of their structure and conformation

Historical multi-angle measurements and extrapolations (Zimm, Debye, Berry, Guinier) – For comparison with legacy methods

Radius of gyration

Angular Dissymmetry Plot* – Optimal and accurate for Rg up to 50 nm

Specifications

Light Scattering			
Number of measurement angles	3		
Position of the measurement angles	LALS (10°)	RALS (90°)	HALS (170°)
Cell geometry	Patented dual conical flow path (single inlet, dual outlets)		
Total cell volume	43 µL		
Laser source type	Diode		
Laser power	1 – 50mW (User adjustable)		
Laser wavelength	505 nm		
Laser temperature control	Peltier		
Wetted material	PTFE, PEEK, glass		
Maximum flow rate	5 mL/min		
Inlet position	Side port (left)		
Baseline noise (RMS without despiking) on RALS (90°) in THF @ 1 mL/min	< 1 mV		
Typical signal-to-noise ratio on RALS for 50µg of PS 100KDa*	2000:1		
MW range	< 200 to 10^8 Da**		
R _g range	< 5 to > 250 nm**		
Despiking level	User selectable (None, low, mid, high)		
General			
Acquisition rate	10 Hz		
A/D board channels / resolution	8 channels / 24 bit		
Dynamic range	+/- 10 V		
External analog inputs	2 auxiliary channels		
Trigger input	<= 12 V DC requiring dry contact closure		
Trigger output	Dry contact closure		
Alert trigger output	Dry contact closure		
External USB hardware	2 USB A, 1 USB C (powered)		
Onboard PC OS	Windows 11 PRO		
Onboard RAM / Storage	16 GB / 1 TB		
Onboard processing	SECview software		
PC Connection	Ethernet cat 5		
Touch screen	13.3 in		
Dimensions	46.0 (W) x 25.1 (H) x 58.5 (D) cm = 18.1” x 9.9” x 23”		
Weight	19 kg / 42 lbs		
Shipping weight	23 kg / 51 lbs		
Operating environment	5 – 35 Celsius @ 10 to 80% relative humidity (no condensation)		
Instrument voltage	100 – 240 V AC @ 50 / 60 Hz		
Power requirements	Typical 110 W, maximum 700 W		
Intellectual property	PCT/US19/12090: Light Scattering Detectors and Sample Cells for the Same PCT/US19/12095: Light Scattering Detectors and Methods for the Same WO 2023/038621 A1: Light Scattering Detectors and Methods for the Same		

*: Narrow distribution, using 1x 7.8 mm ID x 30 cm TSKgel GMHHR-M column

** : Depends on chromatographic separation and sample injected mass, conformation and refractive index increment (dn/dc)

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