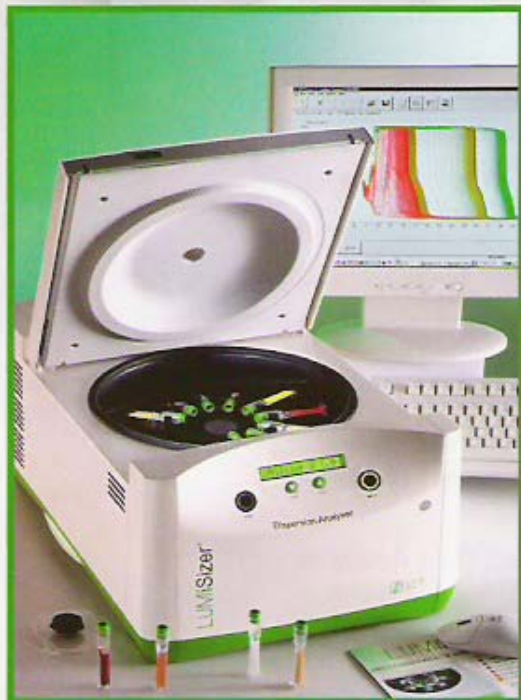


Explore the Difference in Professional Analysis

# Multi - Channel DISPERSION ANALYSER



## Product Features:

The LUMiSizer® uses the principle of Centrifugal Separation Analysis to measure particle size, demixing and consolidation in one instrument. The "complete dispersion laboratory" analyses up to 12 samples at once. It combines a high end, PC-controlled centrifuge with a patented unique optics system (NIR-light source and a linear high resolution detector) to monitor the concentration profile over the entire length of a sample while its being subjected to centrifugal forces. The Software is based on a comprehensive database solution.

The analyser accelerates at variable speeds the demixing, allowing rapid stability testing and consolidation studies in highly concentrated dispersions in minutes and hours instead of days or weeks. It can make high-resolution particle size analysis.

The Dispersion Analyser combines for the first time three important measurements into one instrument offering efficient and time saving comprehensive characterisation for a wide variety of dispersions.

## Applications in Research, Development & Quality Control:

- Rapid Shelf Life Assessment
- Formulation of complex Suspensions and Emulsions
- Coalescence and Flocculation
- Selection of Emulsifiers, Demulsifiers and Flocculants
- Optimization of Separation Processes
- Consolidation, Packing Density, De-waterability
- Control of Particle Size and PSD

## Dilute or Concentrated Samples of:

- Food, Beverages
- Cosmetics, Pharmaceuticals
- Inks, Paints, Dyes, Pigments
- Fine Chemicals
- Polymers, Latex, Adhesives, Gels
- Liposomes, Cells, Bio-Colloids
- Lubricants, Crude Oil, Bitumen
- Pulp and Paper
- Waste Water, Sludges, Sediments
- Polishing Slurries, Abrasives
- Ceramics, Cements
- Agro-Chemicals
- Soft- and Core Shell Nanoparticles

## Sample Properties:

- Concentration: 0.1 Vol% - 90 Vol%
- Viscosity Range: 0.8 mPas - 10<sup>8</sup> mPas
- Particle Size: 0.05 µm - 1000 µm
- Particle Density: 0.01 g cm<sup>-3</sup> - 5 g cm<sup>-3</sup>
- Sample Volume: 0.1 ml - 2.0 ml
- pH, Conductivity: arbitrary

Demixing

Stability

Consolidation

Particle Size

panta rhei - everything flows

LUMiSizer

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# LUMISIZER

**Optical System:**

Measuring Principle:	Photometric
Light Source:	pulsed NIR-LED
Light Intensity Range:	20
Detector:	CCD-Line, 2048 Elements
Detector Resolution:	14 $\mu\text{m}$
Detection Length:	25 mm
Extinction Range:	0.1 - 4.0

**Technical Characteristics:**

RCF:	5 xg - 2300 xg
RCF Tolerance:	2 %
Acceleration Time:	< 25 s
Measurement Time:	8 min - 42 h*
Sampling Rate:	10 s - 600 s
Low-Noise Operation:	< 60 dB(A)

(\*) depending on measurement target

**Temperature Control:**

Temperature Setting:	15 °C - 45 °C
Precision:	< 1 °C
Heating:	active electric heater
Cooling:	active re Fridgeration system
Stand-by Heating / Cooling Function	

**Operation Environment:**

Ambient Temperature:	10 °C - 40 °C
Relative Humidity:	< 75 %

**Physical Specification:**

Dimensions (WxDxH in cm):	38x58x26
Weight:	38 kg
Max. Power Requirement:	380 W
Power Supply:	100 - 230 V / 50 - 60 Hz

**Samples:**

Channels:	12
Sample Density:	0.5 g cm <sup>-3</sup> - 4 g cm <sup>-3</sup>
Measurement Cell:	4 types
Cell Shape:	rectangular, circular
Cell Material:	glass, polycarbonate
Optical Path:	1, 2, 5 or 10 mm

**SEPView LS 5.0 - Software:****Data Handling:**

- Comprehensive Database Solution

**Manages:**

- Device Operation and Data Analysis
- Comparison of arbitrary Samples
- Result Visualization/Documentation
- Data Exchange DB-DB, Excel, ASCII

**Analysis Modes:**

- Clarification Velocity: 10<sup>-6</sup> - 10 % s<sup>-1</sup>
- Demixing Velocity: 0.001 - 750  $\mu\text{m s}^{-1}$
- Sediment Height: 0.2 - 25 mm
- Particle Size / PSD: 100 nm - 300  $\mu\text{m}$

**Features:**

- Intuitive Graphical User Interface
- Build-In and Add On Customizing
- Complies with CFR 21 Part 11

**System Requirements:**

PC Pentium (compatible):	1 GHz
Memory:	256 MB
Free Disk Space:	5 GB
Interface:	1x COM-Port (RS232)
Graphics:	17" Monitor
Resolution:	1024 x 768 @ True Colour
Operating System:	NT4 / Win2000 / XP

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**Demixing****Stability****Consolidation****Particle Size**

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