Laser Particle Size Analyzer - Wet & Dry Dispersion PSD Analyzer - 0.01-3500 µm - ISO 13320

Model **MSPSA-2L2309ASWISS** | Brand **Master Science**









The Master Science Laser Particle Size Analyzer measures particle size distribution by laser diffraction, using Mie scattering and Fraunhofer theory to cover powders, slurries and emulsions from 0.01 to 3500 µm. Separate wet and dry dispersion modules can be connected as needed, so one optical bench serves both suspensions and free-flowing powders.

KEY HIGHLIGHTS

- Two dispersion methods, one bench
- Fine resolution below 2 µm
- Always aligned
- Clean, short circulation
- True distribution shape

AT A GLANCE

Wet 0.01 to 3500 µm; dry 0.1 to 3000 µm
MEASURING RANGE

≤ 0.5 % wet, ≤ 1 % dry (CRM D50)
ACCURACY

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
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Overview

A folded inverse-Fourier optical path collects scattered light from 0.015° to 145°, and automatic optical alignment keeps the system in its best condition without manual adjustment.

How the Master Science Laser Particle Size Analyzer addresses typical particle sizing issues:

Overview

- Wet module with ultrasonic, stirrer and circulation pump
- Dry module with turbulent shear dispersion
- Automatic sample feeding with SOPs

Key Benefits

Two dispersion methods, one bench
swap between wet and dry modules to suit each material.

Fine resolution below 2 µm
the Master Science Laser Particle Size Analyzer resolves 12 size classes in the sub-2 µm range.

Always aligned
micro-stepping motors keep the optical path optimised automatically.

Clean, short circulation
compact wet loop prevents settling of coarse particles and is easy to clean.

True distribution shape
free-fitting software analyses multimodal samples without forcing a model.

For nanoparticles and zeta potential, see the Master Science laboratory instrument range.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSPSA-2L2309ASWISS
SKU	MSPSA-2L2309ASWISS
Configuration	Wet and dry dispersion modules
Measuring Range	**Wet 0.01 to 3500 µm; dry 0.1 to 3000 µm**
Accuracy	**≤ 0.5 % wet, ≤ 1 % dry (CRM D50)**
Repeatability	≤ 0.5 % wet, ≤ 1 % dry (CRM D50)
Principle	Laser diffraction; Mie and Fraunhofer analysis
Standard	ISO 13320
Laser	Fibre laser, 639 nm, max. 4 mW, Class 1
Detection Angle	0.015° to 145°, log-spaced array
Alignment	Fully automatic
Operation	Fully automatic or manual
Test Time	Wet ≤ 2 min; dry ≤ 1 min; typical ≤ 10 s; 500 ms between results
Wet Ultrasonic	40 kHz, 60 W, adjustable time
Wet Stirrer	0 to 3000 rpm
Wet Circulation	1 to 8 L/min, 120 W
Wet Sample Tank	600 mL (micro cuvette optional)
Dry Dispersion	Turbulent dispersion with shock-wave shear; compressed air
Dry Feeding	Automatic sampler with SOP settings
Audit Trail	Optional 21 CFR Part 11 software
Reports	Word, Excel, image, text; PC and LIMS connection
Environment	5 to 35 °C, humidity < 85 %
Power Supply	220 V, 50/60 Hz
Regulatory data requirements	optional audit trail supports 21 CFR Part 11.

OPTICAL PERFORMANCE	
Photodetectors	116 channels (wet and dry)
Manual optical alignment	automatic alignment removes operator effect.

DIMENSIONS & WEIGHT	
Dimensions	870 × 370 × 330 mm (main); 420 × 350 × 380 mm; 260 × 290 × 140 mm
Net Weight	32 kg, 15 kg, 7 kg

COMMON LABORATORY PROBLEMS AND HOW THIS ANALYZER HELPS	
Sieving is slow and coarse	laser diffraction delivers full distributions in seconds.
Coarse particles settle in the loop	the short circulation path keeps samples suspended.
Agglomerated powders	ultrasonic and shear dispersion break up clusters.

Applications

The Master Science Laser Particle Size Analyzer is used for
Cement, ceramics and mineral powders Pharmaceutical APIs and excipients Battery materials and metal powders Pigments, coatings and inks Food powders, emulsions and research materials

Optics

- Inverse Fourier folded optical path
- 0.015° to 145° angular coverage
- Sealed, dust-resistant optical bench
- Automatic optical alignment

Software

- Free, R-R, log-normal and sieve-class analyses
- Volume and number distributions
- Batch comparison and user-defined calculations

Optional Accessories

- Micro-sample cuvette
- Audit trail software