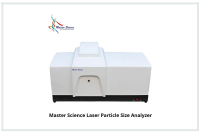
Laser Particle Size Analyzer - Wet and Dry Laser Diffraction System - 0.01-1000 µm, ≤0.5% Accuracy

Model **MSPSA-LA2600ASWISS, MSPSA-LA2600BSWISS, MSPSA-LA2018SWISS, MSPSA-LD3003ASWISS** | Brand **Master Science**









The Master Science Laser Particle Size Analyzer measures particle size distribution by laser diffraction, using a highly sensitive annular photoelectric detector to raise test precision. Its unconstrained free-fitting calculation reports the distribution as it really is, which makes the instrument especially suitable for materials with a narrow size distribution.

KEY HIGHLIGHTS

- Wet or dry, one family
- Quick turnaround
- No manual optics tuning
- True distribution shape
- Representative sampling

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

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www.themsci.com

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Overview

The range has three wet-dispersion versions and one dry-dispersion version, covering from 0.01 µm up to 1000 µm depending on model. Every Master Science Laser Particle Size Analyzer offers both manual and fully automatic operation, plus motorised alignment of the optical path.

Specifications for the four versions of the Master Science Laser Particle Size Analyzer are given below.

For nanoparticle sizing below the diffraction range, see the Master Science zeta potential and nanoparticle size analyzer.

The Master Science Laser Particle Size Analyzer is used for particle size testing and quality control of materials such as:

Key Benefits

Wet or dry, one family
: the Master Science Laser Particle Size Analyzer range covers both dispersion methods.

Quick turnaround
: a full automatic wet cycle takes less than 2 minutes.

No manual optics tuning
: four stepping motors align the light path.

True distribution shape
: free-fitting analysis is not tied to a fixed model.

Representative sampling
: built-in stirring, ultrasonic and circulation.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSPSA-LA2600ASWISS, MSPSA-LA2600BSWISS, MSPSA-LA2018SWISS, MSPSA-LD3003ASWISS
SKU	MSPSA-LA2600ASWISS, MSPSA-LA2600BSWISS, MSPSA-LA2018SWISS, MSPSA-LD3003ASWISS
Instrument Type	Wet (MSPSA-LA2600ASWISS, MSPSA-LA2600BSWISS, MSPSA-LA2018SWISS); Dry (MSPSA-LD3003ASWISS)
Measuring Range	**0.01 to 1000 µm (MSPSA-LA2600ASWISS); 0.1 to 1000 µm (MSPSA-LA2600BSWISS); 0.1 to 450 µm (MSPSA-LA2018SWISS); 0.1 to 300 µm (MSPSA-LD3003ASWISS)**
Accuracy (CRM D50)	**≤0.5% (MSPSA-LA2600ASWISS); ≤1% (MSPSA-LA2600BSWISS); ≤1% (MSPSA-LA2018SWISS); ≤0.5% (MSPSA-LD3003ASWISS)**
Repeatability (CRM D50)	≤0.5% (MSPSA-LA2600ASWISS); ≤1% (MSPSA-LA2600BSWISS); ≤1% (MSPSA-LA2018SWISS); ≤0.5% (MSPSA-LD3003ASWISS)
Design Principle	Laser diffraction
Analysis Principle	Mie scattering, Fraunhofer diffraction
Laser	Main fibre laser 639 nm, P>2 mW, with auxiliary laser 405 nm, P>2 mW (MSPSA-LA2600ASWISS); Fibre laser 639 nm, P>2 mW (MSPSA-LA2600BSWISS); Semiconductor laser 635 nm, P>2 mW (MSPSA-LA2018SWISS); Laser 632.8 nm, P>2 mW (MSPSA-LD3003ASWISS)
Laser Safety	Class 1
Operation Mode	Full automatic, manual control
Test Speed	≤2 min, typical testing time ≤10 s (MSPSA-LA2600ASWISS); ≤2 min, typical testing time ≤10 s (MSPSA-LA2600BSWISS); ≤2 min, typical testing time ≤15 s (MSPSA-LA2018SWISS); ≤1 min (MSPSA-LD3003ASWISS)
Ultrasonic (wet versions)	Frequency 40 kHz, power 60 W, time ≥1 s
Stirrer (wet versions)	0 to 3000 rpm, adjustable
Circulation (wet versions)	Rated flow 3-8 L/min, rated power 15 W (MSPSA-LA2600ASWISS); rated flow 8 L/min, rated power 10 W (MSPSA-LA2600BSWISS, MSPSA-LA2018SWISS)
Sample Tank (wet versions)	450 mL (MSPSA-LA2600ASWISS, MSPSA-LA2600BSWISS); 350 mL (MSPSA-LA2018SWISS)
Dry Dispersion (MSPSA-LD3003ASWISS)	Dry-turbulence dispersion mode, normal shock wave shear technique
Sample Feeding (MSPSA-LD3003ASWISS)	Automatic sampler (SOP setting)
Dispersion Medium (MSPSA-LD3003ASWISS)	Compressed air
Connect to PC, LIMS	Yes

GENERAL

Test Report	Word, Excel, image, text and other formats
Working Environment	5 to 35°C, humidity <85%
Storage Environment	-20 to 50°C
Power Supply	220 V, 50/60 Hz

OPTICAL PERFORMANCE

Photodetector Elements	87 (MSPSA-LA2600ASWISS); 87 (MSPSA-LA2600BSWISS); 40 (MSPSA-LA2018SWISS); 40 (MSPSA-LD3003ASWISS)
Optical Alignment	Full automatic
Optical path drifts out of alignment	: motorised automatic alignment keeps it at its best.

DIMENSIONS & WEIGHT

Product Dimensions (L x W x H)	850 x 390 x 450 mm (MSPSA-LA2600ASWISS); 850 x 390 x 450 mm (MSPSA-LA2600BSWISS); 780 x 365 x 495 mm (MSPSA-LA2018SWISS); 765 x 450 x 325 mm and 260 x 285 x 135 mm (MSPSA-LD3003ASWISS)
Net Weight	40 kg (MSPSA-LA2600ASWISS); 40 kg (MSPSA-LA2600BSWISS); 40 kg (MSPSA-LA2018SWISS); 26 kg and 7 kg (MSPSA-LD3003ASWISS)

SOFTWARE

Analysis modes	free distribution, R-R distribution, log-normal distribution, mesh size classification and more
Statistical methods	volume distribution and quantity distribution
Software	Statistical comparison of multiple results, such as different batches or before and after processing
User-defined analysis	percentage from particle size, particle size from percentage, percentage within a size range

COMMON PROBLEMS THIS ANALYZER SOLVES

Common Problems This Analyzer Solves	Particle sizing often suffers from the same handful of difficulties.
Large particles settle before they are measured	: the built-in dispersion loop keeps the path short.
Operator-to-operator differences	: automatic mode runs every step the same way each time.
Fixed distribution models distort results	: free-fitting analysis follows the measured data.

Applications

- **Industrial raw material powders**
- **Samples before and after milling or processing**
- **Batch-to-batch comparison in production**
- **Materials with a narrow particle size distribution**

Operation and Speed

- Manual and automatic modes: run a preliminary test manually, then switch to automatic for routine work
- Wet dispersion in automatic mode handles water supply, ultrasonic dispersion, stirring, circulation, background calibration, testing, data analysis, drainage and cleaning
- Dry dispersion supports one-key testing with automatic dust collection, air supply and feeding

Optics

- Converging-light Fourier transform optical path frees large-angle scattered light from the limits of the lens aperture
- Annular multi-element silicon photodiode collects the particle light signals for higher resolution
- Automatic alignment with four hybrid stepping motors and 0.1 µm micro-precision

Sample Dispersion

- Fully built-in wet system combining mechanical stirring, ultrasonic dispersion and circulation
- Avoids uneven distribution and settling of large particles caused by long external pipelines
- Dry system uses turbulent dispersion and normal shock shearing for thorough dispersion

Optional Accessories

- Micro-sample cuvette (wet versions)
- Audit trail software