# Zeta Potential Analyzer - Nanoparticle Size Analyzer - 0.3-10000 nm - ±500 mV

Model **MSPSA-LS901SWISS** | Brand **Master Science**





The Master Science Zeta Potential Analyzer combines dynamic light scattering particle sizing and electrophoretic zeta potential measurement in a single compact instrument. It sizes nanoemulsions, colloids and suspensions from 0.3 nm to 10 µm and reports surface charge from -500 to +500 mV.

KEY HIGHLIGHTS

- Size and charge in one bench
- Clean photon signal
- Temperature-stable data
- Robust optics
- Fast answers

AT A GLANCE

| | |
|---|---|
| **-500 to +500 mV** ZETA POTENTIAL RANGE | **0.3 to 10,000 nm (sample dependent)** SIZE RANGE |
| **0.1 to 100 mg/mL (sample dependent)** CONCENTRATION RANGE | **< 15 % (standard sample)** ZETA ACCURACY / REPEATABILITY |

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

support@themsci.com
www.themsci.com

Scan to view online

## Overview

A high-speed digital correlator, sensitive photomultiplier detection and Peltier temperature control to ±0.1 °C give stable, repeatable data for formulation development and production QC.

## Key Benefits

**Size and charge in one bench**
the Master Science Zeta Potential Analyzer measures both stability indicators without moving the sample to another instrument.

**Clean photon signal**
photomultiplier tubes give high sensitivity and signal-to-noise for weak scatterers.

**Temperature-stable data**
±0.1 °C control prevents viscosity and Brownian motion errors.

**Robust optics**
fibre coupling and optical frequency shifting resist interference.

**Fast answers**
results are ready in under five minutes.

For larger particles up to 3500 µm, see the Master Science laser particle size analyzer.

## Technical Specifications

### GENERAL

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|---|---|
| Brand | Master Science |
| Model Number | MSPSA-LS901SWISS |
| SKU | MSPSA-LS901SWISS |
| Zeta Potential Range | **-500 to +500 mV** |
| Concentration Range | **0.1 to 100 mg/mL (sample dependent)** |
| Electrophoretic Mobility | > ±20 µm·cm/(V·s) |
| Maximum Conductivity | 200 mS/cm (sample dependent) |
| Zeta Accuracy / Repeatability | **< 15 % (standard sample)** |
| Laser | Semiconductor, 635 nm, 1 to 40 mW adjustable |
| Scattering Angles | 90° (size); 18° (zeta) |
| Sample Cells | 10 × 10 × 40 mm, 1 to 4 mL (size); 10 × 10 × 60 mm, 1 mL (zeta) |
| Temperature Range | **5 to 90 °C** |
| Temperature Accuracy | **±0.1 °C** |
| Test Time | < 5 min |
| Correlator | 892 autocorrelation channels; 1 µs to 10 ms delay |
| Detector | Photomultiplier tube |
| Formulations separating on storage | zeta potential predicts dispersion stability early. |

### DIMENSIONS & WEIGHT

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|---|---|
| Size Range | **0.3 to 10,000 nm (sample dependent)** |
| Size Accuracy / Repeatability | **< 1 % (standard sample D50)** |
| Dimensions | 600 × 420 × 210 mm |
| Net Weight | 28 kg |
| Temperature-driven size errors | precise Peltier control keeps conditions constant. |
| Two instruments for size and charge | one unit measures both. |

### COMMON LABORATORY PROBLEMS AND HOW THIS ANALYZER HELPS

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|---|---|
| Common Laboratory Problems and How This Analyzer Helps | How the Master Science Zeta Potential Analyzer helps with nanoparticle characterisation: |
| Weak signals from small particles | PMT detection improves sensitivity. |
| Long test times | results are available within minutes. |

## Applications

**The Master Science Zeta Potential Analyzer is used for**
Nanomaterial research and fine chemicals Emulsions and pharmaceutical formulations Surfactants, polymers and oligomers Inks, pigments and coatings Colloid stability studies in universities

## Measurement

- Dynamic light scattering particle sizing
- Electrophoretic light scattering for zeta potential
- High-speed digital correlator

## Detection and Optics

- Photomultiplier detection
- Fibre-coupled optical path
- Optical frequency shifting

## Sample Handling

- Peltier temperature control 5 to 90 °C
- Separate cells for size and zeta
- Small sample volumes from 1 mL