

# Malvern Zetasizer Nano ZS



**Manufacturer:** Malvern Instruments GmbH

**Name:** Zetasizer Nano ZS

**Seriennummer:** MAL 1052612

**Inventarnummer:**

**Baujahr:**

**Gerätetyp:** Particle analytics

## Specifications

Dimensions D × W × H	60 x 32 x 26 cm <sup>3</sup>
Weight	19 kg
Temperature control range	0°C – 90°C ± 0.1°C**
Condensation control	Purge using dry air
Laser	4 mW, 633 nm
Correlator	25 ns – 8000 s, max 4000 channels
Parameter measured	Particle size, zeta potential, molecular weight
<b>PARTICLE SIZE MEASUREMENTS</b>	
Absolute sensitivity (Toluene kcps)	150
Range	0.3 nm – 10 µm*
Min. sample volume	12 µL
Min. concentration, protein	0.1 mg/mL, 15 kDa protein
Min. concentration, forward angle	10 mg/mL, 66 kDa protein
Max concentration	40% w/v*
Measurement angles	13° + 173°
Analysis algorithms***	General purpose NNLS, multiple narrow modes, protein

ZETA POTENTIAL MEASUREMENTS	
Sensitivity	10 mg/mL, 66 kDa protein
Zeta potential range	> ± 500 mV
Mobility range	> ± 20 μ.cm/V.s
Max. sample concentration	40% w/v*
Min. sample volume (using diffusion barrier)	20 μL
Max. sample conductivity	200 mS/cm
Signal processing	M3-PALS
MOLECULAR WEIGHT MEASUREMENT	
Range as estimated from DLS	<1000 Da – 2×10 <sup>7</sup> Da*
Range as estimated by Debye plot	<1000 Da – 2×10 <sup>7</sup> Da*

\*Sample dependent \*\*0.1° at 25°C, 0.2° at 2°C, 0.5° at 90°C \*\*\*Contin algorithm in research software option

## Description

- A three-in-one device that measures not only particle size, but also particle charge (zeta potential) and molecular weight in solution.
- Technologies incorporated:
  1. Dual angle Dynamic Light Scattering (DLS, for measuring particle size)
  2. Non-Invasive Back-Scatter (NIBS, for measuring particle size)
  3. Static Light Scattering (SLS, for measuring molecular weight)
  4. Electrophoretic Light Scattering (ELS)
  5. Mixed mode measurement, phase analysis light scattering (M3-PALS, for measuring zeta potential)
- The NIBS optics and M3-PALS technology ensure a wide size and concentration range, which reduces time and effort for sample preparation.
- The NIBS technology illuminates a larger number of particles and uses efficient fiber detection, giving 100 times the sensitivity of conventional optics. Measuring a larger number of particles eliminates number fluctuations, giving a more stable signal and significantly increasing the largest particle size that can be measured.
- The diffusion barrier technique improves the stability of the charge measurement of proteins, and dramatically reduces the volume of sample required.
- Forward scattering angle for the enhanced detection of aggregates.
- Measurement in high salt and non-aqueous media.
- For further information, please visit:  
[https://www.malvernpanalytical.com/en/assets/MRK1839\\_tcm50-17228.pdf](https://www.malvernpanalytical.com/en/assets/MRK1839_tcm50-17228.pdf)