New Nanoparticle Analyzer
nanoPartica SZ-100V2

Unravel the nano-universe with HORIBA’s highest level of nanoparticle analysis*
This new model from nanoPartica series with even high sensitivity consolidates measurement of three major elements that characterize nanoparticles into a single unit: particle size, zeta potential and molecular weight!

High-power Laser Lineup (100mW)

- Measurement of Dilute Samples
  A new high-power laser in addition to dual optics improved the measurement sensitivity to low-concentration samples, which is about 15 times more powerful than the previous model (SZ-100).
  This enables highly accurate and reproducible measurement, even for dilute samples or samples with weak scattered light intensity.

- Measurement of single nanoparticles
  Equipped with HORIBA’s unique high-precision and high-speed correlator and low stray-light 90° optics to enable highly accurate measurement of single nanoparticles.

Wide Range of Applications

- NIST SRM 1980 α-FeO O H Zeta Potential Measurement Results
  The SZ-100 measures zeta potential of particles using the iontophoresis laser doppler method so that both average value and the zeta potential distribution can be obtained.
  Additionally, using the pH controller enables easy detection of the isoelectric point.

- Measurement of Antibody Pharmaceutical Temperature Control
  Chronologically measured the rate of oligomerization (aggregation) in immunoglobulins G (IgG) at 60°C.

*Compared to conventional HORIBA products
## Expanding Application in a Wide Range of Fields

**NanoPartica SZ-100V2 series: lineup and main specifications**

<table>
<thead>
<tr>
<th>Type</th>
<th>Particle size</th>
<th>Zeta potential</th>
<th>Molecular weight</th>
<th>High-power laser</th>
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</thead>
<tbody>
<tr>
<td>S2</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Z2</td>
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<tr>
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<tr>
<td>HZ2</td>
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</table>

### Measurement principle
- Particle size: Photon correlation
- Zeta potential: Laser doppler electrophoresis
- Molecular weight: Static light scattering Debye plotting

### Measurement range
- Particle size: 0.3 nm – 10 μm (diameter)
- Zeta potential: -500 mV - +500 mV (Particle : 2.0 nm - 100 μm1)
- Molecular weight: 1000 - 2 x 107 (Debye plotting), 540 - 2 x 107 (MHS *2)

### Particle size measurement angle
- 90° and 173° (depending on sample concentration)

### Sample cells
- Cuvette cells (particle size, molecular weight), cells with electrodes (zeta potential)

### Measurement optics
- Light source: 532 nm 10 mW or 100 mW semiconductor excitation solid-state laser
- Detector: Photomultiplier tube (PMT)

### Set/adjustable holder temperature
- 0 - 90°C (up to 70°C for plastic cells and cells with electrodes)

### Laser class
- 1

*1: Depends on sample
*2: Calculated with the Mark-Howink-Sakurada equation (depends on sample)

### Options and Accessories
- pH Controller
- Various cells
- 21CFR part11 software
- IQ/OQ/PQ compatibility

### Customized Accessories
- Flat surface zeta-potential measurement cells
- Fluorescence Filter

(It is necessary to confirm the specification to HORIBA group)

### Various sample cells

* labinfo@horiba.com
* www.horiba.com/particle

<table>
<thead>
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<th>Region</th>
<th>Phone Number</th>
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</thead>
<tbody>
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<tr>
<td>China</td>
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