

LASER LIGHT SCATTERING  
DYNAMIC LIGHT SCATTERING  
IMAGE ANALYSIS  
NANOPARTICLE TRACKING



Your  
Partner  
in Science

	LA-960	LA-350	SZ-100	PSA300
<b>Technology</b>	Laser Diffraction	Laser Diffraction	Dynamic Light Scattering, Electrophoretic Light Scattering, Debye Plot Method	Static Image Analysis
<b>Measurement Output</b>	Particle Size	Particle Size	Particle Size, Zeta Potential, Molecular Weight	Particle Size and Shape
<b>Measurement Range</b>	0.01 $\mu\text{m}$ to 5000 $\mu\text{m}$	0.1 $\mu\text{m}$ to 1000 $\mu\text{m}$	0.3 nm to 8 $\mu\text{m}$	0.5 $\mu\text{m}$ to 1000 $\mu\text{m}$
<b>Typical Sample Amount*</b>	10 mg to 5 g	10 mg to 5 g	12 $\mu\text{L}$ to 3 mL	1 mg to 10 mg
<b>External Dimensions</b>	705 x 565 x 500 mm	297 x 429 x 376 mm	385 x 528 x 273 mm	686 x 508 x 305 mm
<b>Light Source/Resolution</b>	605 nm Laser Diode 405 nm LED	605 nm Laser Diode	532 nm Laser Diode 90°, 173° detectors	2.1 MP mono camera

\* Amount is sample dependent



The Partica LA-960 is a laser diffraction particle size distribution analyzer that is known for its wide dynamic range, speed, excellent performance assurance, and outstanding quality. Its method expert software makes it easy to create a robust, powerful method for research and development purposes as well as quality control. The flexible sample handling, robust platform, and wide size range ensure the LA-960 will handle the most extreme demands.



The compact Partica LA-350 laser diffraction analyzer is your routine analysis tool. It can achieve high performance with easy operation and maintenance, excelling at applications as diverse as slurries, minerals, and paper chemistry. It is the ideal combination of performance, price, and packaging to streamline particle size analysis.



The SZ-100 Nanoparticle Analyzer is the industry's widest range and highest precision measurement instrument for nanoparticle characterization. It determines three parameters that characterize nanoparticles: particle size, zeta potential, and molecular weight. Dynamic light scattering is used for particle size determination. The uniquely designed cells for zeta potential can measure samples with volumes as low as 12  $\mu\text{L}$ . Enjoy intuitive software as you make dynamic light scattering (DLS) and related measurements.



The PSA300 is a turn-key, static image analysis solution. Seamless integration of powerful particle characterization software and an automated microscope with a high resolution camera creates an intuitive, easy-to-use imaging workstation. It features a dry dispenser for proper particle dispersion and a four position autosampler. Minimum intervention by the operator still yields maximum detail in the results.

	ViewSizer® 3000	CAMSIZER P4	CAMSIZER X2	SA-9600 Series
<b>Technology</b>	Nanoparticle Tracking Analysis**	Dynamic Image Analysis	Dynamic Image Analysis	BET Flowing Gas Adsorption
<b>Measurement Output</b>	Particle Size	Particle Size and Shape	Particle Size and Shape	Surface Area
<b>Measurement Range</b>	10 nm to 15 µm	20 µm to 30 mm	0.8 µm to 8 mm	0.1 m <sup>2</sup> to 50 m <sup>2</sup>
<b>Typical Sample Amount*</b>	350 µL to 1 mL	25g to 2.5 kg	< 20 mg to 100 g	< 1 g
<b>External Dimensions</b>	550 x 660 x 350 mm	650 x 850 x 350 mm	850 x 580 x 570 mm	508 x 356 x 356 mm
<b>Light Source/ Resolution</b>	445 nm blue laser, 520 nm green laser, 635 nm red laser with variable power output	60 images per second 1.3 MP Dual Cameras	>300 images per second 4.2 MP Dual Cameras	NA

\* Amount is sample dependent \*\* Fluorescence nanoparticle tracking also available

The ViewSizer® 3000 implements breakthrough improvements to particle tracking technology that include proprietary illumination and detection methods allowing cutting-edge visualization, measurement and number concentration of nanoparticles over a wide range of sizes. The system has unmatched capabilities for characterizing polydisperse assemblages of particles in liquids and can easily resolve separate size modes in complex samples.



The CAMSIZER P4 is based on proven, patented dual-camera technology. The optics and sample feed system of the CAMSIZER P4 are optimized for the detection of relatively large, free flowing particles (20 µm to 30 mm). The CAMSIZER P4 is the ideal tool to match sieve data and obtain higher resolution, faster throughput, and shape information.

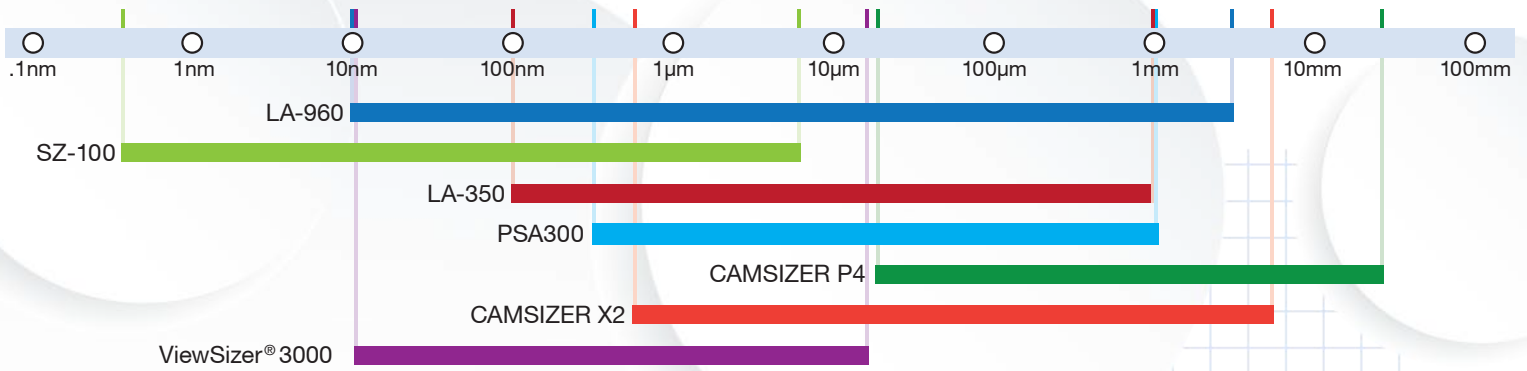


The CAMSIZER X2 has been developed to exploit dual camera technology for the measurement of fine, agglomerating powders (0.8 µm to 8 mm). To achieve accurate results for different materials, the CAMSIZER X2 offers three particle dispersion options: X-Fall for free fall dispersion (similar to the CAMSIZER P4), X-Jet for air pressure dispersion, and X-Flow for liquid dispersion.



The SA-9600 Series brings exceptional speed and convenience to BET surface area analysis. Measurements are based on flowing gas BET, which monitors nitrogen adsorption to determine surface area. Flowing gas BET is a fast and reliable method for surface area analysis. The SA-9600 allows the user to rapidly determine surface area with push button ease.





## HORIBA Particle Size Analysis Guidebook

HORIBA offers instruments for particle size, particle shape, zeta potential, molecular weight, and surface area analysis. A range of analytical techniques are employed including laser diffraction (Mie Theory), dynamic light scattering, nanoparticle tracking analysis (NTA) and dynamic and static image analysis (for determining both particle size and shape information).

These instruments can incorporate small volume pumping systems for precious materials, high throughput automation, dry powder dispersers, and temperature controlled flow systems in order to provide the user with the best possible solution with none of the trade-offs that might otherwise be necessary.

For more information on particle size theory and measuring techniques, visit: [www.horiba.com/particle](http://www.horiba.com/particle) and download the Particle Size Analysis Guidebook



HORIBA's experienced staff of technical and applications specialists are in 54 offices across 45 countries. We are committed to the satisfaction of our users and to the education of the greater industry and provide many channels of support including:

- Sample analysis via the many Applications Labs around the world
- Free webinars, technical notes, and much more in the Download Center
- Instant support via phone, e-mail, and online meeting
- On-site and in-house user training courses
- Service contracts, verifications, and validations to fit every requirement
- Advanced software tools to correlate data from other particle size analyzers to maintain historic specifications



Please read the operation manual before using any of these products to ensure safe and proper operation.

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