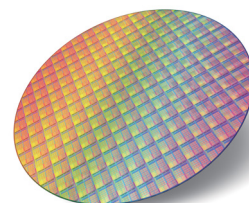
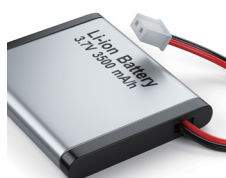


partica

Laser Scattering Particle Size Distribution Analyzer LA-960V2 Series



*See the True Characterization
of Your Particles.*



Proven high accuracy and resolution for many applications

CMP slurry
Catalysts
Ink / Pigments
Plastics
Minerals
Metal powder
Emulsion

- Ceria
- Silica
- Alumina

Battery
Capacitor
3D printing
Paper Coating
Pharmaceutical
Cosmetics
Food / Drink
Building materials

- Positive electrode
- Negative electrode
- Electrolyte

The newest breakthrough in particle size technology.

This latest evolution in the LA series advances scientific knowledge for tomorrow's world through intuitive software, unique accessories, and high performance. The Partica LA-960V2 continues HORIBA's long standing tradition of leading the industry with innovative design in both the hardware and the software. The new optical design allows the user to visualize the particle dispersion in real time.



Advanced Detector Design

The number of detectors, angular range, and layout contribute to overall system performance. The Partica LA-960V2 uses 87 logarithmically spaced silicon photodiodes that detect a range of 0.006 - 165.7 degrees allowing the measurement of complete particle size distributions.

Guaranteed Accuracy

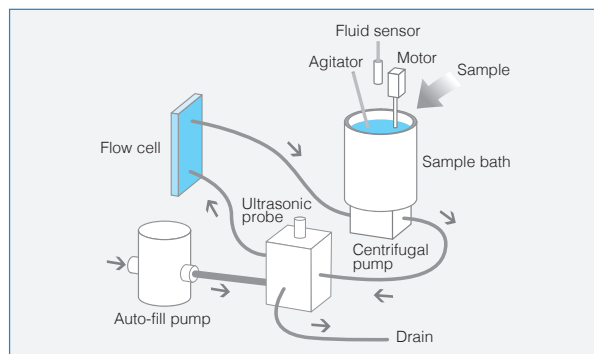
Make perfect measurements with computer-controlled laser alignment. Unmatched instrument agreement without the need for additional correlation procedures. Accurately measure NIST-traceable size standards within 0.6% of specification. Fully compliant with ISO 13320 recommendations.

Innovations in hardware and software

Wet Measurement

Sample-to-sample analysis in less than 60 sec

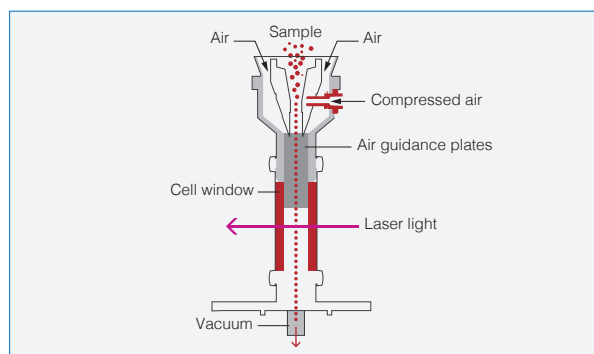
The standard wet system offers a full package which includes dispersant fill pump, liquid level sensor, circulation pump, 30 W in-line ultrasonic probe, and drain valve. It is all software-controlled for true one-button operation.



Dry Measurement

Automated, powerful dry powder dispersion

Use the Dry Auto Measurement function to control vacuum, air pressure, powder flow, start/stop conditions, and measurement duration. The Powderjet has a self-adjusting feedback loop to maintain a constant laser transmittance during measurement.



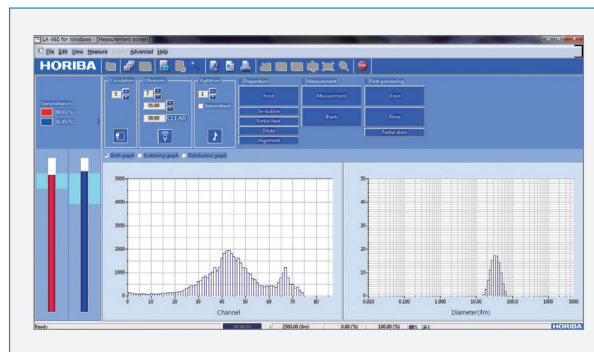
Software

Method Expert

The Method Expert software is a series of guided, automated tests with advice to help the user choose values for refractive index, concentration, ultrasonic dispersion, pump speed and measurement duration. Without any training, users can generate effective data in a short time.

Data Support

- ✓ Traceability certification
- ✓ Data correlation support with old models
- ✓ 21 CFR Part 11 compliant software
- ✓ IQ/OQ/PQ documents support



Accessories

Flow Cell



Feature

The Flow Cell provides an easy, fast, and very powerful dispersion system. This advanced design provides highly reproducible particle size results.

Typical Applications

Measure a variety of solid and liquid phase samples such as emulsions, vaccines, pigments, active ingredients, with the simple and fully automated circulation, sonication & drain operations.

Dry Cell



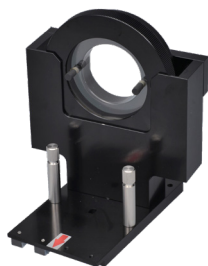
Feature

The Dry Cell allows measurements in powder state without liquid dispersants. Flexible dispersion conditions with forced dispersion or non-dispersion measurement options.

Typical Applications

Controlled air pressure dispersion of dry samples such as flour, soils, excipients, and metal powders. It is also possible to measure fragile samples by turning off the pressure.

High Concentration Cell



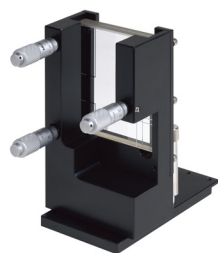
Feature

The HL Cell unit allows for measurement of high concentration, low and high viscosity samples, and dispersant mediums. Permits measurements with none or very low dilution rates enabling an analysis closer to the original concentration.

Typical Applications

Understand the particle dispersion state of high concentration slurry, such as electrode materials of secondary batteries, inks, paints, pigments, emulsions, etc.

Paste Cell



Feature

The Paste Cell is used to run samples that require dispersion in high-viscosity mediums, such as glycerin, ethylene glycol, silicone or vegetable oils.

Typical Applications

Measurement with the Paste Cell is especially effective when measuring samples that tend to aggregate (ex. magnetic powder samples), because the high viscosity dispersant prevents the particles from moving.

Imaging Analysis Unit (built-in option)



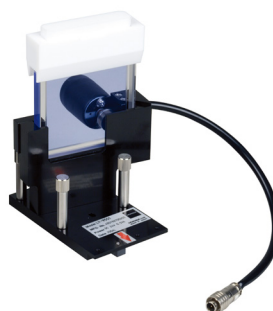
Feature

The Imaging Unit visualizes the particles in the wet circulation system. Better understand dispersions and extract image based shape and size information to complement laser diffraction results. Measurement range: 9 μm -1000 μm

Typical Applications

Detect and count even with trace amounts of unusual particles (Contaminants, large particles and aggregated particles).

Fraction Cell



Feature

The Fraction Cell makes measurements with only a few milligrams of sample. This unique accessory is available in 5, 10, and 15 mL volumes and fully solvent resistant.

Typical Applications

Applications with limited sample amount or for precious samples in hazardous dispersions mediums, such as toluene, minimizing exposure and cost.

MiniFlow (Circulation system)



Feature

The MiniFlow minimizes sample and dispersant amounts. This miniaturized circulation system features fill and circulation pumps, an ultrasonic probe, and drain valve for fully automated operation. Measurement range: 0.01 μm – 1000 μm

Typical Applications

Valuable samples requiring powerful dispersion and materials requiring hazardous dispersants such as organic solvent and low-viscosity oils.

Slurry AutoSampler



Feature

The Slurry AutoSampler allows for fully automated measurement of up to 30 samples at a time. Mix samples using the built-in agitator and prevent cross-contamination with the integrated wash station.

Typical Applications

Measure water-based slurry dispersions and emulsion samples during non-peak hours to increase system availability and productivity.

Partica LA-960V2 Series

Measurement Principle	Mie scattering and Fraunhofer diffraction
Measurement Range	10 nm - 5000 µm
Measurement Time	Typical measurement takes 60 seconds from liquid filling, sampling and measurement to rinsing
Measurement Method	Circulation measurement or fraction cell measurement (Fraction cell is optional)
Sample Quantity	Approximately 10 mg - 5 g (Depending on the particle size, distribution and density)
Dispersing Volume	Approximately 180 mL for standard pumping system 5/10/15 mL for Fraction Cell accessory Minimum volume 35 mL for Mini Flow accessory Approximately 1 L of LiterFlow option
Available Carrier Fluid	Aqua* (A type), Organic solvent (S type) (*Small volume ethanol can be used as a dispersing additive)
Communication	USB 2.0
Light Sources	Red solid state 5 mW laser diode (650 nm), Blue solid state 3 mW LED (405 nm)
Dispersion System	In-line ultrasonic probe: 30 W, 20 kHz, adjustable levels Circulation pump: Fully automated fill and circulation pumps, 4 selectable fill levels, 15 selectable circulation speeds (max: 10 L/min)
Operating Conditions	15-35°C (59 to 95°F), relative humidity 85% or less (no condensation)
Power	AC 100-240 V 50/60 Hz, 300 VA
Dimensions	705 (W) x 565 (D) x 500 (H) mm
Mass	54 kg
Computer Requirements	PC operation, Software compatible with Windows® 10 or higher, *contact HORIBA for additional operating system compatibilities

* Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Powderjet Dry Feeder Accessory

Dispersion Method	Compressed air dispersion using Venturi nozzle
Sample Delivery	Vibrating feeder
Sample Disposal	Vacuum-driven evacuation
Measurement Range	100 nm - 5000 µm
Controls	Communication: Serial cable to LA-960V2 main unit Measurement: Vibrating feeder controlled automatically via feedback or manually by user, Vacuum AUTO/OFF, Compressed Air AUTO/OFF, Air pressure adjustable from 0 - 0.4 MPa in 40 steps
Measurement Time	Typical measurement takes 2 seconds or longer
Operating Conditions for PowderJet	15-35°C (59 to 95°F), relative humidity 85% or less (no condensation)
Dimensions	332 (W) x 321 (D) x 244 (H) mm (Not including dimensions of projections and LA-960V2 measurement unit)
Power for PowderJet Operation	AC100 V, 120 V, 230 V, 50 or 60 Hz, 1500 VA (Including vacuum but not including LA-960V2 measurement unit)
Compressed Air Supply Pressure	Compressed air supply origin pressure: 0.4 - 0.8 MPa Compressed air controlling range: 0.01 - 0.4 MPa
Compressed Air Connection	Quick connector for resin tube with 6 mm outer diameter (Compressed air supply equipment must be provided separately)
Remarks	Vacuum is equipped as standard

* When ordering the PowderJet, please specify the power requirements for the final destination.

* Above specifications and functionality are valid only when PowderJet is installed on the Partica LA-960V2 main unit and controlled using the Partica LA-960V2 software.

* Manufacturers and models indicated for vacuum, air compressor, computer, monitor and/or printer are subject to change.

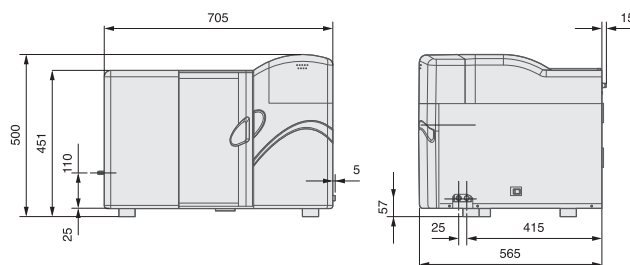
Air Compressor

Inlet pressure within 0.5 - 0.8 MPa, Tank capacity 26 L or larger, Flow rate 45 L/min or faster

Dimensions (mm)

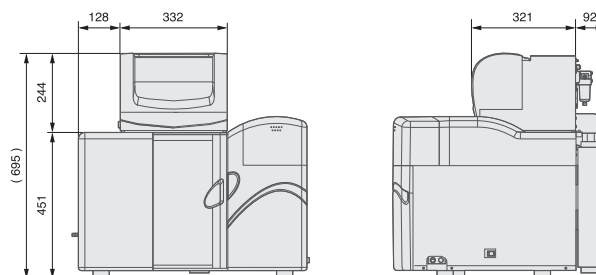
Partica LA-960V2 Standard Model

(Class 1 Laser Product)



Partica LA-960V2 with Dry Unit Accessory

(Class 1 Laser Product)



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001.
We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



Please read the operation manual before using this product to assure safe and proper handling of the product.

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