

Infitek

LASER PARTICLE SIZE ANALYZER



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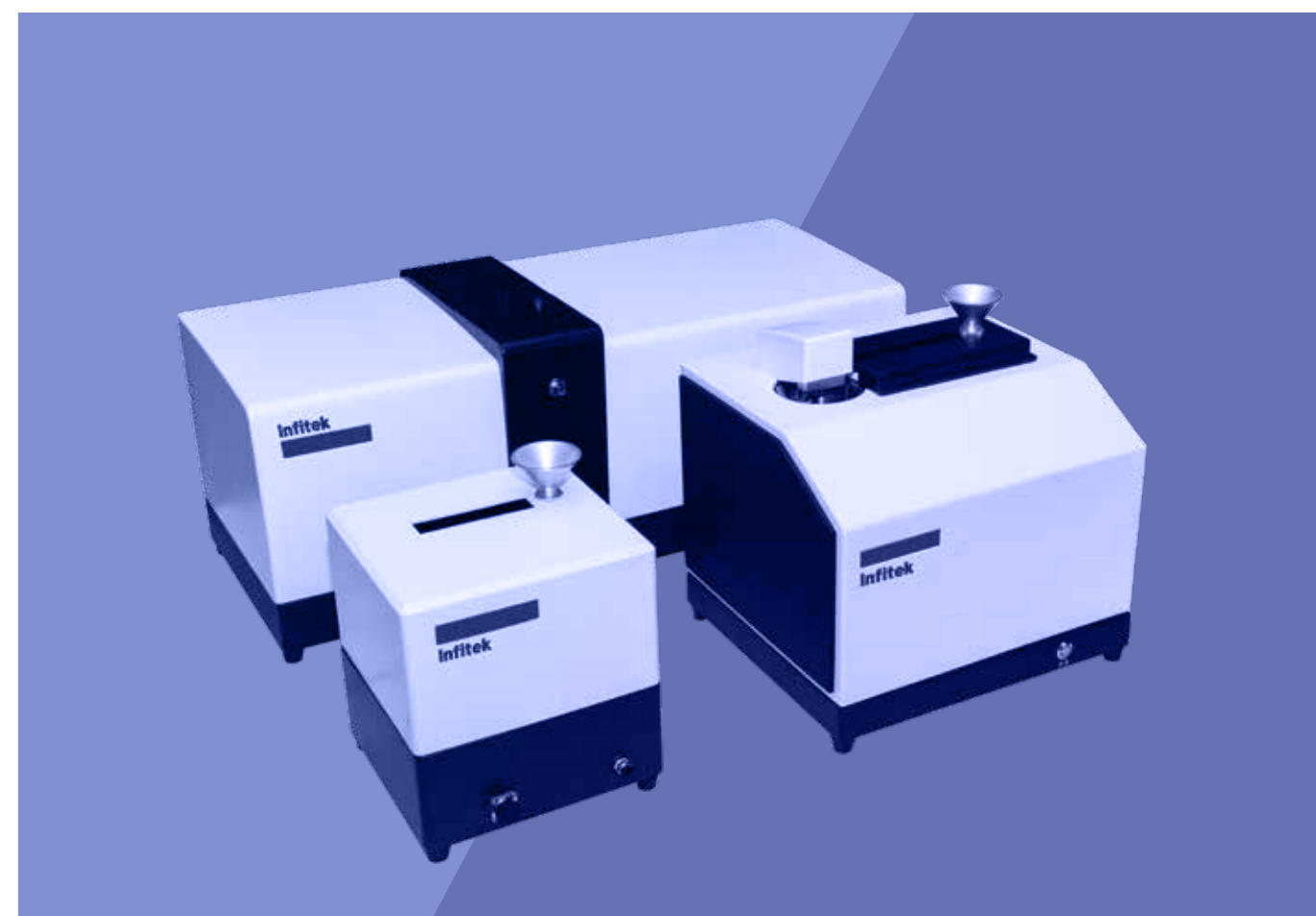
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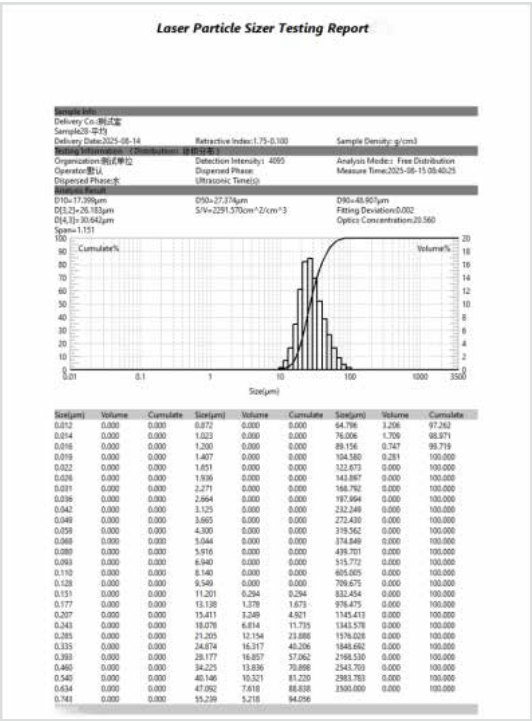
Laser Particle Size Analyzer, Professional PSA-2L2309A

PSA-2L2309A



- Unique Separated Modules for Wet and Dry Dispersion
- Convergent-light Fourier transform optical path technology
- Automatic Optical Path Alignment System
- Automatic Sample Dispersion System
- Audit trail is optional to comply with 21 CFR Part 11

Test Report



Description

- PSA-2L2309A is an intelligent fully automatic laser particle size analyzer that adopts the internationally advanced Mie Scattering and Fraunhofer Diffraction principle. As an integrated model with wet and dry dispersion systems, it features a high-sensitivity and high-resolution photoelectric probe system paired with an imported Canon lens optical path—these components ensure excellent accuracy and repeatability in particle size distribution measurements. The analyzer is widely used in quality control departments of industrial production and research institutions.

Features

Unique Separated Modules for Wet and Dry Dispersion

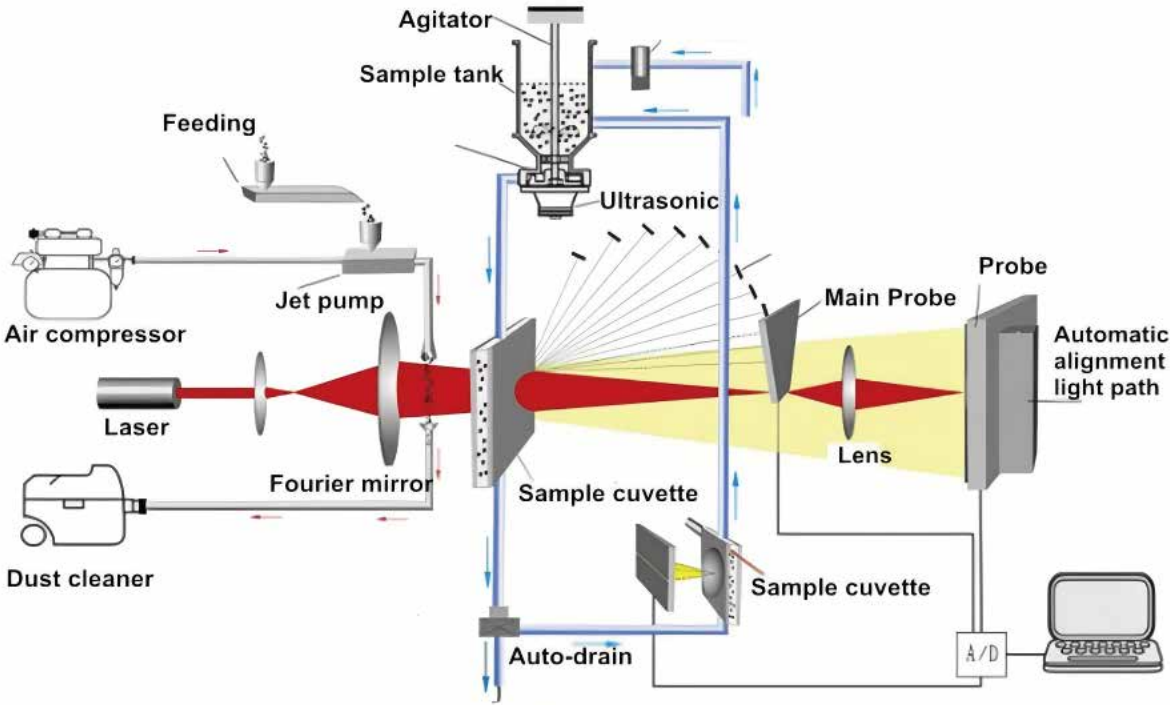
The instrument employs a modular design for automatic dry and wet dispersion. Users can freely assemble the modules according to the testing requirements of sample characteristics, making the operation simple, convenient, and efficient.

Flexible Operation Modes

Both an intelligent fully automatic operation system and a manual operation mode are available for free selection. The automatic mode is extremely easy to learn and supports SOP operation, streamlining the testing workflow.

Advanced Optical Path Design

Adopting inverse Fourier (folded optical path) technology, the reception of scattered light from sample particles is not limited by the focal length of the optical path. The test angle range spans 0.015° to 145°, effectively expanding the measurement range and improving the instrument's resolution. The sealed optical path also delivers excellent dustproof performance.



Features

Automatic Optical Path Alignment System

Composed of precision four-phase hybrid stepper motors with a micro-stepping precision of micron level, this system maintains the optical path in an optimal state at all times, ensuring accurate and stable test results. It eliminates the need for manual optical path adjustment, reducing human intervention errors.

Automatic Sample Dispersion System

The modular design of the wet and dry dispersion systems shortens the circulation pipeline, preventing the sedimentation of large particles. This design not only facilitates uniform sample dispersion but also lowers maintenance costs and simplifies equipment cleaning and upkeep.

High-Performance Instrument Software

The proprietary unconstrained free fitting technology collects scattering data in real time during the measurement process and can automatically analyze multi-modal particle groups without being restricted by fixed functional models. Analysis results depend entirely on the distribution of the scattering spectrum, maximizing fitting accuracy and truly reflecting the particle size distribution of samples. For particles below 2 μm, the analyzer performs testing across 12 particle size grades with ultra-high physical resolution.

Software

The original unconstrained free-fitting technology collects scattering data during the measurement process. It frees particle analysis from the constraints of fixed functional models, truly reflecting the particle size distribution.

Item	Function
Analysis Modes	Free Distribution, R-R Distribution, Log-Normal Distribution, Mesh Size Classification, etc., meet the diverse particle size statistical requirements of different industries.
Statistical Methods	Volume Distribution, Quantity Distribution
Statistical Comparison	It can conduct comparative analysis on multiple test results. By comparing test results of different batches of samples, samples before and after processing, and samples tested at different times, differences can be identified. This is of great practical significance for quality control of industrial raw materials.
User-defined Analysiss	Calculate the percentage based on particle size. Calculate the particle size based on the percentage. Calculate the percentage based on the particle size range. These functions meet the representativeness requirements of particle testing across various industries.



Specification

Model	PSA-2L2309A
Instrument type	Wet and Dry
Specification	
Measuring range	Wet: 0.01μm to 3500μm Dry: 0.1μm to 3000μm
Photodetector	Wet: 116 Dry: 116
Accuracy	Wet: ≤0.5% (CRM D50) Dry: ≤1% (CRM D50)
Repeatability	Wet: ≤0.5% (CRM D50) Dry: ≤1% (CRM D50)
Design principle	Laser Diffraction
Analysis principle	Mie Scattering Fraunhofer Diffraction
Standard	ISO 13320
Audit trail	Optional FDA software
Engineering	
Laser	Fiber Laser, 639nm, Max. 4mW
Laser safety	Class 1
Detector	Log-spaced array, 0.015° to 145°
Operation mode	Full Automatic Manual Control
Optical alignment	Full Automatic
Test speed	Wet: ≤2min Dry: ≤1min Typical testing time: ≤10s Interval time per test result: 500ms
Wet dispersion	
Ultrasonic	Frequency: 40kHz Power: 60W Time: adjustable
Stirrer	Speed: 0rpm to 3000rpm adjustable
Circulate	Rated Flow: 1-8L/min Rated Power: 120W
Sample tank	Volume: 600mL
Micro-sample cuvette	Optional
Dry dispersion	
Dry dispersion	Dry-turbulence dispersion mode, normal shock wave shear technique
Sample feeding	Automatic Sampler (SOP setting)
Dispersion medium	Compressed Air
Technical data	
Connect PC, LIMS	Yes
Test Report	Word, Excel, Image, Text, etc.
Working environment	Temperature: 5℃ to 35℃ Humidity: < 85%
Storage environment	Temperature: -20℃ to 50℃
Power supply	220V, 50/60Hz
Product dimensions (L×W×H)	870mm×370mm×330mm 420mm×350mm×380mm 260mm×290mm×140mm
Net weight	32kg 15kg 7kg

Laser Particle Size Analyzer, Classic Series

PSA-2L2308A PSA-LA2800A PSA-LA2800B PSA-LD3008A PSA-LD3008B

- Intelligent Fully Automatic Operation and Manual Operation Modes
- Convergent-light Fourier transform optical path technology
- Automatic Optical Path Alignment System
- Fully Built-in Sample Dispersion System
- Audit trail is optional to comply with 21 CFR Part 11



Description

The classic series laser particle size analyzer adopts the laser diffraction theory (Mie Scattering and Fraunhofer Diffraction), delivering reliable and repeatable particle size analysis for a diverse range of applications. It employs a dual-beam and multi-spectral detection system along with side-light scattering testing technology, which significantly enhances the testing precision and performance. It is the preferred choice for quality control departments in industrial production and research institutions.

Features

Integrated Wet and Dry Sample Dispersion System

PSA-2L2308A integrates wet and dry dispersion testing into a single unit. It successfully addresses the challenge of integrating wet and dry testing technologies, enabling one-key switching.

Intelligent Fully Automatic Operation and Manual Operation Modes

Equipped with an intelligent automatic operation mode, it realizes one-key testing. Simply add samples as prompted and click the "Test", the entire testing process will be completed automatically. This not only reduces the testing workload but also eliminates interference from human factors, further improving the accuracy and authenticity of test results.

Wet dispersion: One-key fulfills the entire process, including water supply, ultrasonic dispersion, circulation, testing, cleaning, data recording, data analysis, saving and printing. All these steps are completed automatically within just 2 minutes.

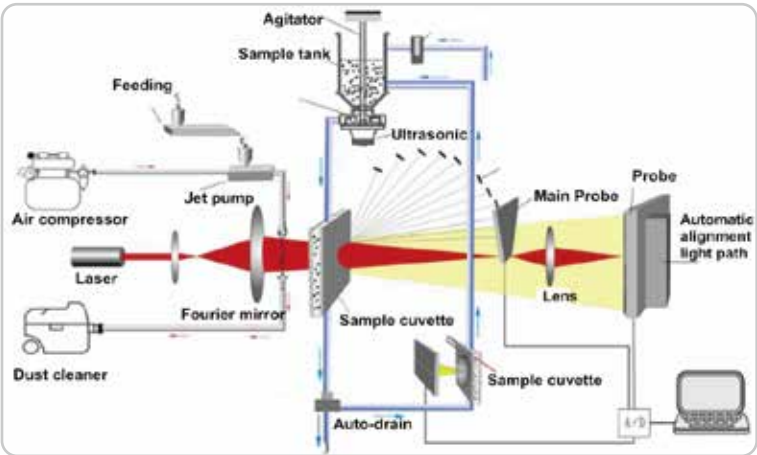
Dry dispersion: One-key fulfills the entire process, including dust collection, compressed air supply, feeding, testing, data processing, etc. All these steps are completed automatically within just 1 minutes.

Stable and Unique Optical Path System

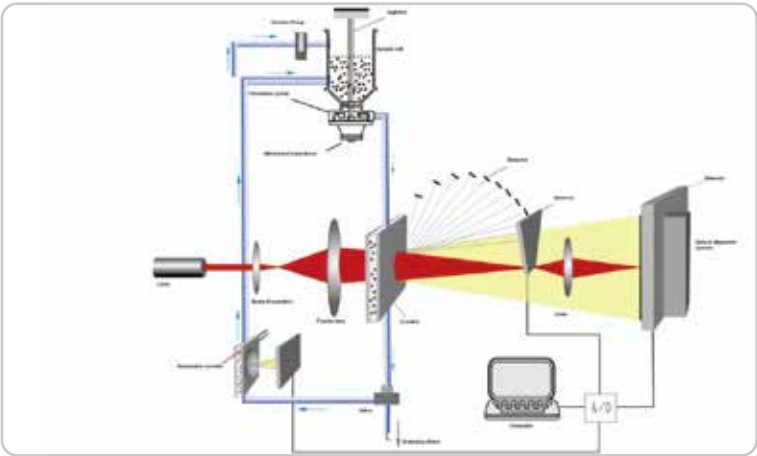
Adopting convergent-light Fourier transform optical path technology, the scattered light is no longer restricted by the lens aperture limit. With the dual-laser orthogonal light technology, the measurement range is effectively extended. An Canon Fourier lens is adopted to ensure the stability and accuracy of particle measurement.



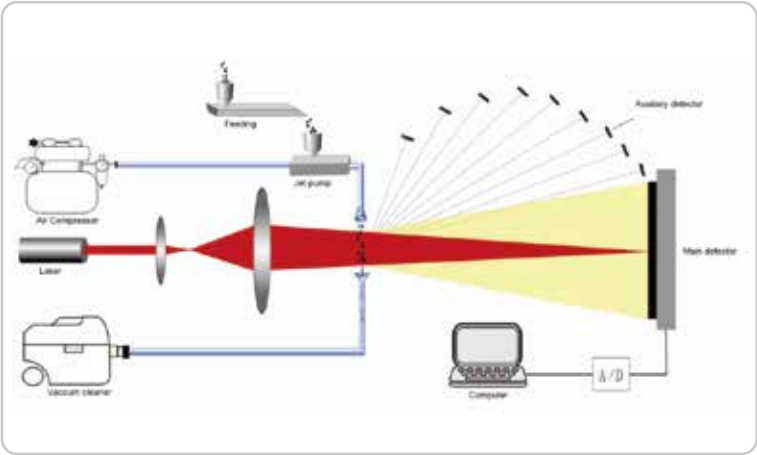
Features



PSA-2L2308A



PSA-LA2800A/B



PSA-LD3008A/B

Features

Automatic Optical Path Alignment System

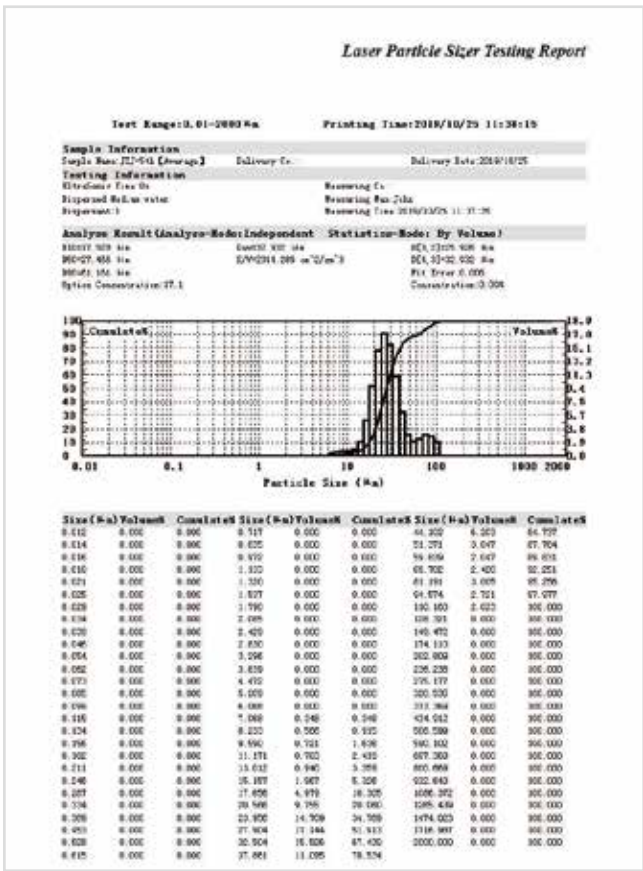
The automatic alignment system for optical components is equipped with four hybrid stepping motors, with a micro-precision of 0.1μm. This ensures the instrument's optical path always maintains optimal performance, eliminating the troubles and difficulties of manual optical path adjustment and further enhancing the accuracy and stability of test results.

Fully Built-in Sample Dispersion System

Wet dispersion system: It supports one-key operation as SOP, integrating mechanical stirring, ultrasonic dispersion and circulation. This guarantees the uniform dispersion and distribution of particles, avoiding issues like uneven particle distribution and sedimentation of large particles caused by long pipelines in external dispersion systems, thus ensuring the representativeness of test results.

Dry dispersion system: The turbulent dispersion technology and normal shock shearing effect achieve thorough particle dispersion, ensuring reliable test performance.

Test Report



Specification

Model	PSA-2L2308A	PSA-LA2800A	PSA-LA2800B	PSA-LD3008A	PSA-LD3008B
Instrument type	Wet and Dry	Wet	Wet	Dry	Dry
Specification					
Measuring range	Wet: 0.01μm to 2000μm Dry: 0.1μm to 2000μm	0.01μm to 2000μm	0.01μm to 1500μm	0.1μm to 2000μm	0.1μm to 1200μm
Photodetector	Wet: 127 Dry: 100	106	88	100	100
Accuracy	Wet:≤1%(CRM D50) Dry:≤1%(CRM D50)	≤0.5% (CRM D50)	≤0.5% (CRM D50)	≤1% (CRM D50)	≤1% (CRM D50)
Repeatability	Wet:≤1%(CRM D50) Dry:≤1%(CRM D50)	≤0.5% (CRM D50)	≤0.5% (CRM D50)	≤1% (CRM D50)	≤1% (CRM D50)
Design principle	Laser Diffraction	Laser Diffraction	Laser Diffraction	Laser Diffraction	Laser Diffraction
Analysis principle	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction
Standard	ISO 13320	ISO 13320	ISO 13320	ISO 13320	ISO 13320
Audit trail	Optional FDA software	Optional FDA software	Optional FDA software	Optional FDA software	Optional FDA software
Engineering					
Laser	Main Laser: Semiconductor Laser, 639nm, P>3mW Auxiliary Laser: 405nm, P>2mW	Main Laser: Fiber Laser, 632.8nm, P>4mW Auxiliary Laser: 650nm, P>10mW	Main Laser: Fiber Laser, 639nm, P>2mW Auxiliary Laser: 405nm, P>2mW	Semiconductor Laser, 632.8nm, P>2mW	Semiconductor Laser, 632.8nm, P>2mW
Laser safety	Class 1	Class 1	Class 1	Class 1	Class 1
Detector	Log-spaced array 0.015° to 145°	Log-spaced array 0.015° to 145°	/	Log-spaced array 0.015° to 145°	/
Operation mode	Full Automatic Manual Control	Full Automatic Manual Control	Full Automatic Manual Control	Full Automatic Manual Control	Full Automatic Manual Control
Optical alignment	Full Automatic	Full Automatic	Full Automatic	Full Automatic	Full Automatic
Test speed	Wet: ≤2min Dry: ≤1min Typical testing time: ≤10s Interval time per test result: 500ms	≤2min Typical testing time: ≤10s	≤2min Typical testing time: ≤10s	≤1min	≤1min
Wet dispersion					
Ultrasonic	Frequency: 40kHz Power: 60W Time: ≥1s	Frequency: 40kHz Power: 50W Time: adjustable	Frequency: 40kHz Power: 60W Time: adjustable	/	/
Stirrer	Speed: 0rpm to 3000rpm adjustable	Speed: 0rpm to 3000rpm adjustable	Speed: 0rpm to 3000rpm adjustable	/	/
Circulate	Rated Flow: 30L/min Rated Power: 70W	Rated Flow: 30L/min Rated Power: 70W	Rated Flow: 3.6L/min Rated Power: 29W	/	/
Sample tank	Volume: 1000mL	Volume: 1000mL	Volume: 550mL	/	/
Micro-sample cuvette	Optional	Optional	Optional	/	/
Dry dispersion					
Dry dispersion	Dry-turbulence dispersion mode, normal shock wave shear technique	/	/	Dry-turbulence dispersion mode, normal shock wave shear technique	Dry-turbulence dispersion mode, normal shock wave shear technique
Sample feeding	Automatic Sampler (knob setting)	/	/	Automatic Sampler (knob setting)	Automatic Sampler (knob setting)
Dispersion medium	Compressed Air	/	/	Compressed Air	Compressed Air
Technical data					
Connect PC, LIMS	Yes	Yes	Yes	Yes	Yes
Test Report	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.
Working environment	Temperature: 5℃ to 35℃ Humidity: <85%	Temperature: 5℃ to 35℃ Humidity: <85%	Temperature: 5℃ to 35℃ Humidity: <85%	Temperature: 5℃ to 35℃ Humidity: <85%	Temperature: 5℃ to 35℃ Humidity: <85%
Storage environment	Temperature: -20℃ to 50℃	Temperature: -20℃ to 50℃	Temperature: -20℃ to 50℃	Temperature: -20℃ to 50℃	Temperature: -20℃ to 50℃
Power supply	220V, 50/60Hz	220V, 50/60Hz	220V, 50/60Hz	220V, 50/60Hz	220V, 50/60Hz
Product dimensions (L×W×H)	1040mm×440mm×540mm	1040mm×440mm×540mm	1040mm×440mm×540mm	1040mm×440mm×540mm	1040mm×440mm×540mm
Net weight	70kg	58kg	58kg	58kg	58kg

Laser Particle Size Analyzer, Practical Series

PSA-LA2600A PSA-LA2600B PSA-LA2018 PSA-LD3003A

- User-Friendly Operation, Manual and Automatic Modes
- Convergent-light Fourier transform optical path technology
- Automatic Optical Path Alignment System
- Practical Sample Dispersion System
- Audit trail is optional to comply with 21 CFR Part 11



PSA-LA2600A PSA-LA2600B

Description

The practical series laser particle size analyzer adopts the laser diffraction particle size measurement principle, combined with a highly sensitive annular photoelectric detector, significantly improving test precision. Its unconstrained free fitting technology truly reflects the particle size distribution, guaranteeing the authenticity and accuracy of test results. It is particularly suitable for testing materials with a narrow particle size distribution.

Features

User-Friendly Operation

Both manual and automatic modes are available for flexible selection based on sample characteristics. In specific scenarios (e.g., samples with unknown properties or tests requiring special parameters), users can first conduct a preliminary test in manual mode. After clarifying the sample features and optimal test conditions, formal testing can be performed in automatic mode for efficiency.

Rapid Measurement

Wet dispersion: When set to automatic mode, all operational procedures are executed automatically, including automatic water supply, ultrasonic sample dispersion, stirring, circulation, background calibration, sample testing, data analysis, drainage and cleaning. This dramatically shortens the measurement cycle, with the entire process taking less than 2 minutes.

Dry dispersion: The intelligent operation system supports one-key testing: simply place the sample into the instrument, and all subsequent processes—including dust collection, air supply, and feeding—are executed automatically. This not only reduces the testing workload but also eliminates errors caused by human factors, further enhancing the accuracy and authenticity of test results.

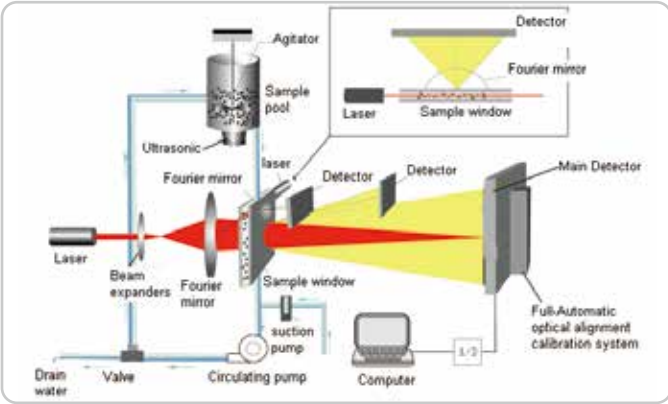
Advanced Optical Path Design

The converging light Fourier transform technology frees scattered light at large scattering angles from the constraints of the Fourier lens aperture. The reduced focal length enhances the instrument's resolution, while the annular multi-element silicon photodiode ensures the collection of all particle light signals, greatly improving measurement resolution.

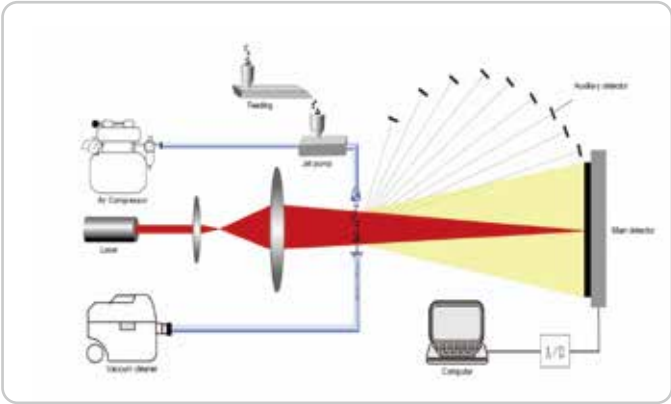


PSA-LD3003A

Features



PSA-LA2600A/B



PSA-LD3003A

Automatic Optical Path Alignment System

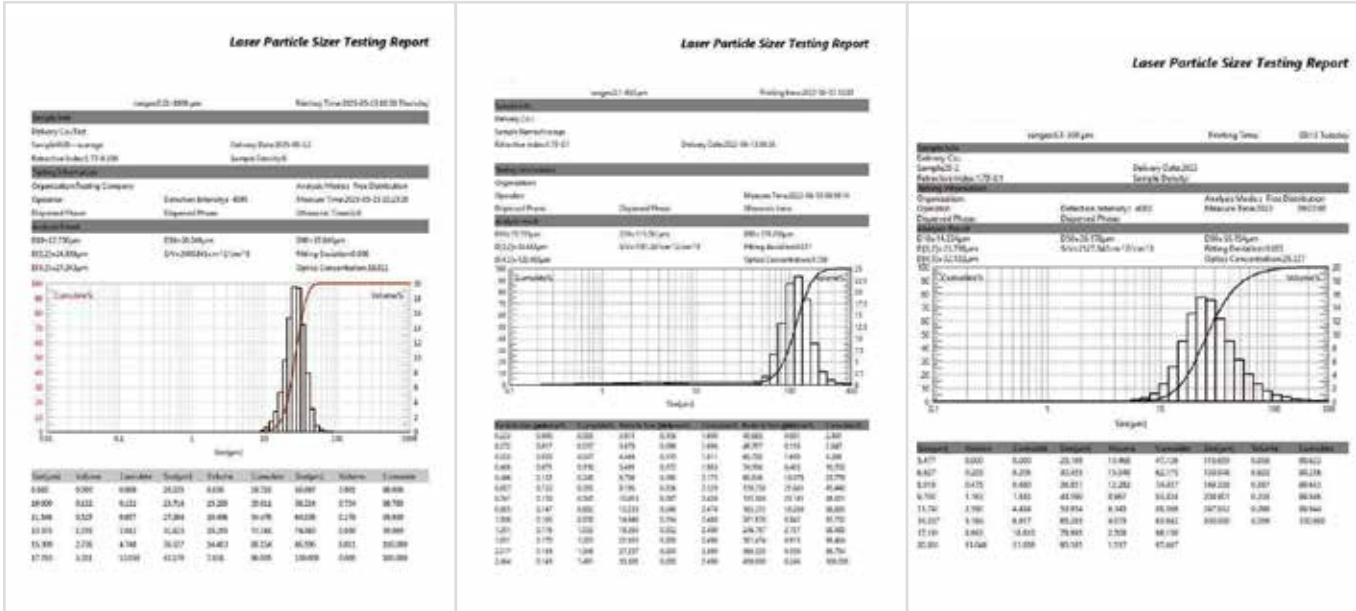
The automatic alignment system for optical components is equipped with four hybrid stepping motors, with a micro-precision of 0.1μm. This ensures the instrument's optical path always maintains optimal performance, eliminating the troubles and difficulties of manual optical path adjustment and further enhancing the accuracy and stability of test results.

Practical Sample Dispersion System

Wet dispersion system: The fully built-in wet sample dispersion system integrates mechanical stirring, ultrasonic dispersion and circulation. This guarantees the uniform dispersion and distribution of particles, avoiding issues like uneven particle distribution and sedimentation of large particles caused by long pipelines in external dispersion systems, thus ensuring the representativeness of test results.

Dry dispersion system: The turbulent dispersion technology and normal shock shearing effect achieve thorough particle dispersion, ensuring reliable test performance.

Test Report



Software

The original unconstrained free-fitting technology collects scattering data during the measurement process. It frees particle analysis from the constraints of fixed functional models, truly reflecting the particle size distribution.

Item	Function
Analysis Modes	Free Distribution, R-R Distribution, Log-Normal Distribution, Mesh Size Classification, etc., meet the diverse particle size statistical requirements of different industries.
Statistical Methods	Volume Distribution, Quantity Distribution
Statistical Comparison	It can conduct comparative analysis on multiple test results. By comparing test results of different batches of samples, samples before and after processing, and samples tested at different times, differences can be identified. This is of great practical significance for quality control of industrial raw materials.
User-defined Analysis	Calculate the percentage based on particle size. Calculate the particle size based on the percentage. Calculate the percentage based on the particle size range. These functions meet the representativeness requirements of particle testing across various industries.

Specification



Model	PSA-LA2600A	PSA-LA2600B	PSA-LA2018	PSA-LD3003A
Instrument type	Wet	Wet	Wet	Dry
Specification				
Measuring range	0.01μm to 1000μm	0.1μm to 1000μm	0.1μm to 450μm	0.1μm to 300μm
Photodetector	87	87	40	40
Accuracy	≤0.5% (CRM D50)	≤1% (CRM D50)	≤1% (CRM D50)	≤0.5% (CRM D50)
Repeatability	≤0.5% (CRM D50)	≤1% (CRM D50)	≤1% (CRM D50)	≤0.5% (CRM D50)
Design principle	Laser Diffraction	Laser Diffraction	Laser Diffraction	Laser Diffraction
Analysis principle	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction	Mie Scattering Fraunhofer Diffraction
Standard	ISO 13320	ISO 13320	ISO 13320	ISO 13320
Audit trail	Optional FDA software	Optional FDA software	Optional FDA software	Optional FDA software
Engineering				
Laser	Main Laser: Fiber Laser, 639nm, P>2mW Auxiliary Laser: 405nm, P>2mW	Fiber Laser, 639nm, P>2mW	Semiconductor Laser, 635nm, P>2mW	High-performance Laser, 632.8nm, P>2mW
Laser safety	Class 1	Class 1	Class 1	Class 1
Operation mode	Full Automatic Manual Control	Full Automatic Manual Control	Full Automatic Manual Control	Full Automatic Manual Control
Optical alignment	Full Automatic	Full Automatic	Full Automatic	Full Automatic
Test speed	≤2min Typical testing time: ≤10s	≤2min Typical testing time: ≤10s	≤2min Typical testing time: ≤15s	≤1min
Wet dispersion				
Ultrasonic	Frequency: 40kHz Power: 60W Time: ≥1s	Frequency: 40kHz Power: 60W Time: ≥1s	Frequency: 40kHz Power: 60W Time: ≥1s	/
Stirrer	Speed: 0rpm to 3000rpm adjustable	Speed: 0rpm to 3000rpm adjustable	Speed: 0rpm to 3000rpm adjustable	/
Circulate	Rated Flow: 3-8L/min Rated Power: 15W	Rated Flow: 8L/min Rated Power: 10W	Rated Flow: 8L/min Rated Power: 10W	/
Sample tank	Volume: 450mL	Volume: 450mL	Volume: 350mL	/
Micro-sample cuvette	Optional	Optional	Optional	/
Dry dispersion				
Dry dispersion	/	/	/	Dry-turbulence dispersion mode, normal shock wave shear technique
Sample feeding	/	/	/	Automatic Sampler (SOP setting)
Dispersion medium	/	/	/	Compressed Air
Technical data				
Connect PC, LIMS	Yes	Yes	Yes	Yes
Test Report	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.	Word, Excel, Image, Text, etc.
Working environment	Temperature: 5 ℃ to 35 ℃ Humidity: <85%	Temperature: 5 ℃ to 35 ℃ Humidity: <85%	Temperature: 5 ℃ to 35 ℃ Humidity: <85%	Temperature: 5 ℃ to 35 ℃ Humidity: <85%
Storage environment	Temperature: -20 ℃ to 50 ℃	Temperature: -20 ℃ to 50 ℃	Temperature: -20 ℃ to 50 ℃	Temperature: -20 ℃ to 50 ℃
Power supply	220V, 50/60Hz	220V, 50/60Hz	220V, 50/60Hz	220V, 50/60Hz
Product dimensions (L×W×H)	850mm×390mm×450mm	850mm×390mm×450mm	780mm×365mm×495mm	765mm×450mm×325mm 260mm×285mm×135mm
Net weight	40kg	40kg	40kg	26kg 7kg

Nano Laser Particle Size Analyzer, DLS PSA-N802

PSA-N802



- DLS & PCS Technology
- High Sensitivity and SNR, Hamamatsu PMT
- Highly Stable Optical Path System
- High-Precision Constant Temperature Control System
- Audit trail is optional to comply with 21 CFR Part 11

Description

- PSA-N802 is based on the dynamic light scattering (DLS) principle, adopts the high-performance PMT (Hamamatsu) and high-speed digital correlator. It measures the changes in scattered light at a specific angle to obtain the diffusion coefficient, and then calculates the particle diameter and particle size distribution in accordance with the Stokes-Einstein equation. With fast calculation speed, high resolution, excellent accuracy, and good repeatability, this analyzer is widely used in corporate product laboratories, research facilities, and universities.

Features

Advanced Testing Principle

Adopting the dynamic light scattering principle and photon correlation spectroscopy (PCS) technology, it measures particle size based on the Brownian motion speed of particles. Particles of different sizes move at different speeds; when laser light irradiates these particles, the scattered light exhibits fluctuations at corresponding speeds. The photon correlation spectroscopy method analyzes the particle size by detecting the photon fluctuations in a specific direction.

High Resolution

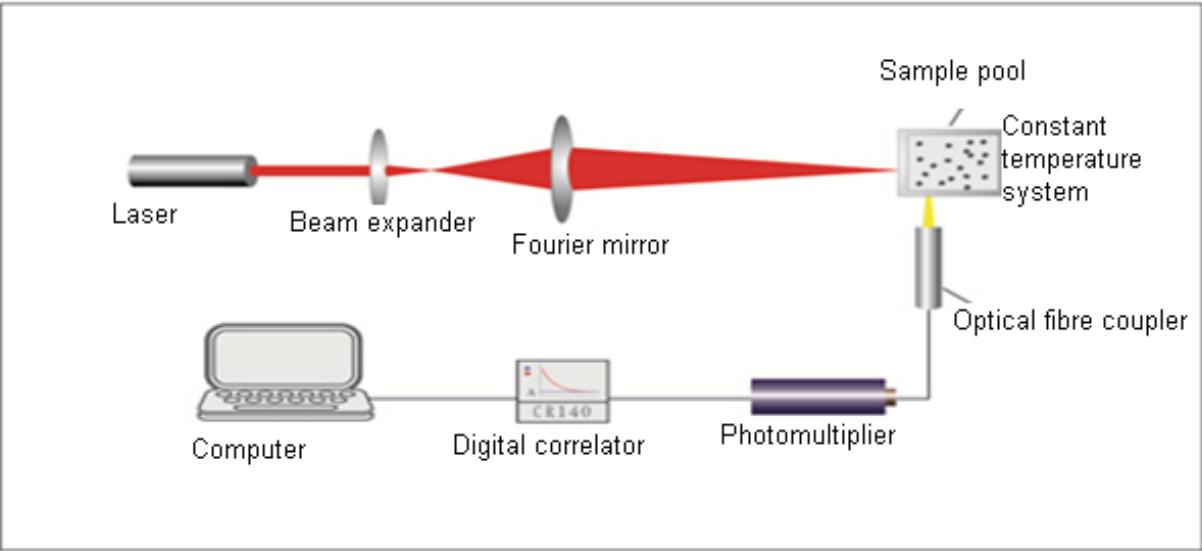
Testing nano particle size via PCS technology requires the ability to distinguish nanosecond-level signal fluctuations. The CR256 digital correlator achieves a high resolution speed of 8ns.

High Sensitivity and SNR

The detector is composed of the Hamamatsu PMT, ensuring exceptional measurement accuracy.

Highly Stable Optical Path System

The PCS detection system adopts optical fiber technology, featuring a compact structure, strong anti-interference capability, and high reliability.



Features

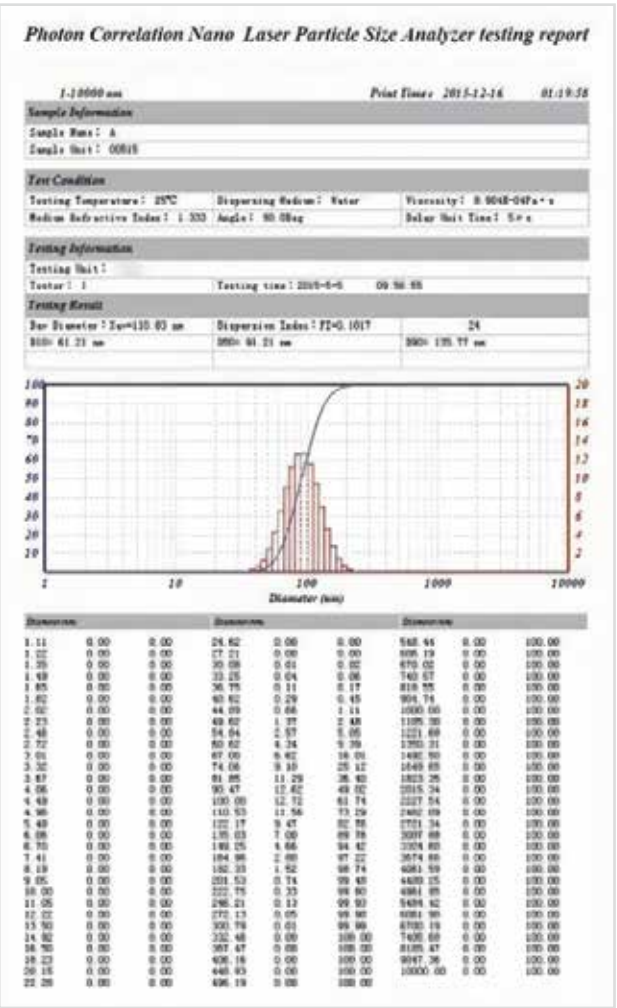
High-Speed Data Collection and Calculation

Equipped with the CR256 digital correlator, the instrument can complete dynamic scattered light intensity collection and real-time calculation of autocorrelation functions. With a data processing speed of up to 162M, it effectively captures dynamic scattered light information from particles of varying sizes.

High-Precision Constant Temperature Control System

Utilizing semiconductor temperature control technology, the system achieves precise temperature regulation within a range of $\pm 0.1^{\circ}\text{C}$. This keeps the sample in a stable constant temperature state throughout the entire testing process, preventing measurement errors caused by changes in liquid viscosity and Brownian motion speed due to temperature fluctuations.

Test Report



Specification

Model	PSA-N802
Instrument type	Nano
Specification	
Measuring range	0.3nm-10000nm
Concentration range	0.1mg/mL to 100mg/mL
Accuracy	≤1% (CRM D50)
Repeatability	≤1% (CRM D50)
Design principle	Dynamic Light Scattering (DLS)
Standard	ISO 13321, ISO 22412
Audit trail	Optional FDA software
Engineering	
Laser	Semiconductor Laser, 532nm, P=30mW
Laser safety	Class 1
Detector	Scattering angle 90°, Hamamatsu PMT (19-90℃)
Sample cuvette	1mL to 4mL (10mm×10mm×40mm)
Temperature control	5℃ to 90℃ (±0.1℃)
Temperature measuring range	5℃ to 40℃
Test speed	≤5min
Digital correlator	
Model	CR256
Auto-correlation channel	256
Baseline channel	4
Physical channel	5000
Unit delay time	100ns to 10ms
Technical data	
Connect PC, LIMS	Yes
Test Report	Word, Excel, Image, etc.
Storage environment	Temperature: 15℃ to 30℃ Humidity: <75%
Power supply	220V, 50/60Hz
Product dimensions (L×W×H)	480mm×270mm×170mm
Net weight	12kg

Software

Item	Function
Analysis	Average Particle Diameter, Particle Distribution, Photon Counting Rate etc.
Analysis mode	NNSL, Multi-peak, CONTIN
Output	It can output the actual particle size distribution. Users can freely set and retrieve percentiles (D10-D100), volume-weighted mean diameter (D[4,3]), surface-weighted mean diameter (D[3,2], D[2,1], D[1,0], and specific surface area.

Laser Particle Size Analyzer, Benchtop PSA-LS311

PSA-LS311



- Unique Optical Path Technology
- Unique Airflow Protection Device
- Spray-Triggered Particle Size Testing for Instant Results
- Highly Targeted Product Testing
- Audit trail is optional to comply with 21 CFR Part 11

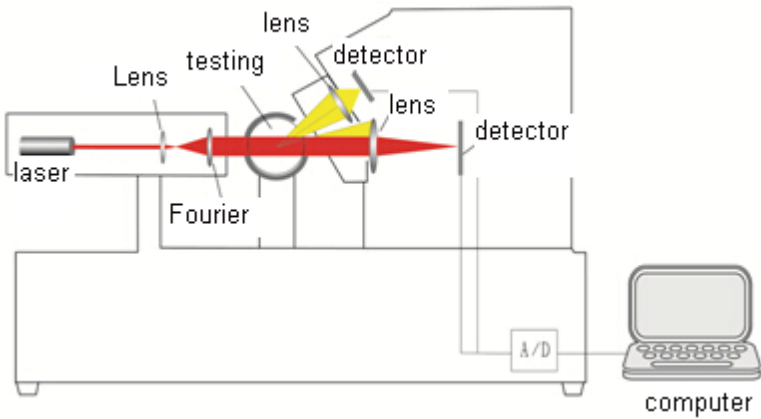
Description

- PSA-LS311 is specially designed and developed for droplet particle size distribution testing of small spray equipment. It integrates a number of technologies, including a lens protection device, and enables non-contact measurement of droplet particles in the air. The analyzer is mainly applied to medical atomizers, atomized medications, various aerosols, sprays, and other small spray equipment. It is particularly suitable for meeting the particle size testing requirements for inhaled aerosols, sprays, and powder mists specified in the pharmacopoeia.

Features

Unique Optical Path Technology

Based on the laser scattering principle, the analyzer adopts a single parallel optical path combined with dual-lens and dual-array detector technology. This design ensures efficient collection of scattered light at different angles, extends the measurement range, and improves the instrument's resolution.



Unique Airflow Protection Device

The airflow protection system effectively safeguards the lens from droplet contamination during testing, extending the instrument's service life.

Spray-Triggered Particle Size Testing for Instant Results

Particle size testing is triggered by spraying, enabling real-time testing and immediate data acquisition.

Highly Targeted Product Testing

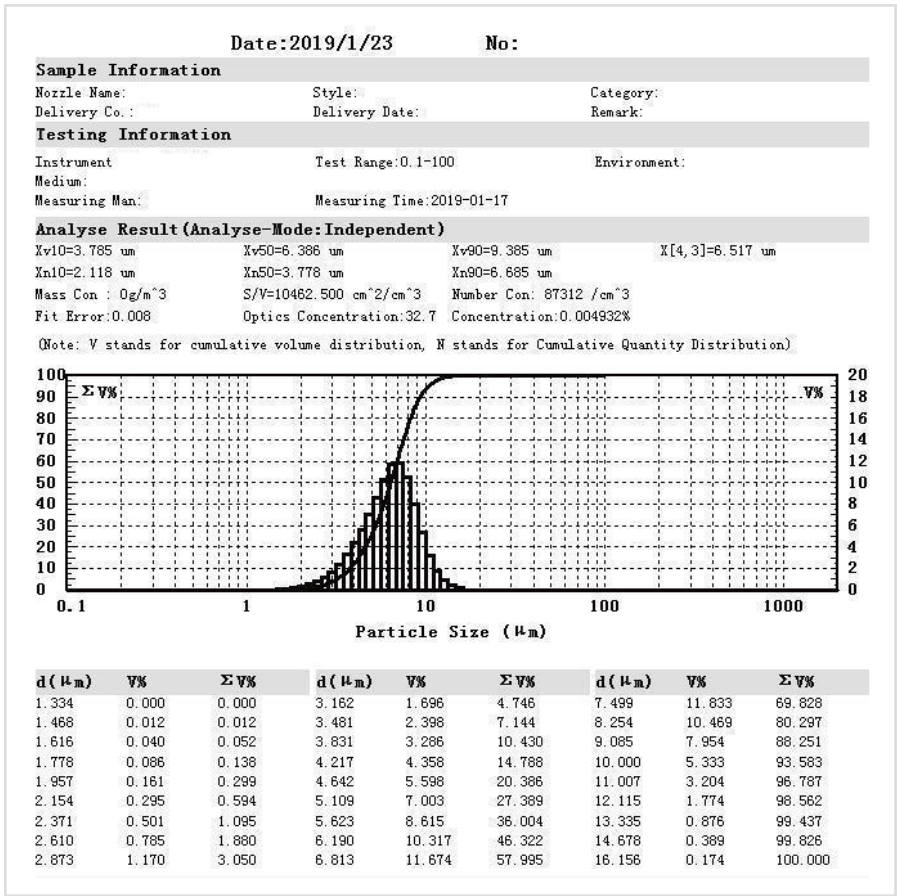
This benchtop spray laser particle size analyzer is specially developed to meet the particle size requirements for inhaled aerosols, sprays, and powder aerosols outlined. It is the optimal choice for particle size testing of small spray systems.

Software

The original unconstrained free-fitting technology collects scattering data during the measurement process. It frees particle analysis from the constraints of fixed functional models, truly reflecting the particle size distribution.

The software offers three distribution modes: Free Distribution, R-R Distribution, and Log-Normal Distribution, which can meet the particle size testing needs of various industries.

Test Report



Specification

Model	PSA-LS311
Instrument Type	Spray
Specification	
Measuring Range	0.1μm to 100μm
Photodetector	80
Accuracy	≤1% (CRM D50)
Repeatability	≤1% (CRM D50)
Design Principle	Laser Diffraction
Analysis Principle	Mie Scattering Fraunhofer Diffraction
Standard	ISO 13320
Audit Trail	Optional FDA software
Engineering	
Laser	Semiconductor Laser, 650nm, P>1mW
Laser Safety	Class 1
Measurement Area Length	60mm
Feeding Mode	Open
Technical Data	
Connect PC, LIMS	Yes
Test Report	Word, Excel, Image, Text, etc.
Working Environment	Temperature: 5℃ to 35℃; Humidity:< 85%
Storage Environment	Temperature: -20℃ to 50℃
Electricity	110/220V, 50/60Hz
External Dimensions (L*W*H)	720mm*620mm*370mm
Net Weight	30kg

Laser Particle Size Analyzer, Industrial-Grade PSA-SI319A

PSA-SI319A



- Exclusive Optical Path Technology
- Unique Airflow Protection Device
- Split-Type Design
- Stable Automatic Optical Path Alignment System
- Audit trail is optional to comply with 21 CFR Part 11



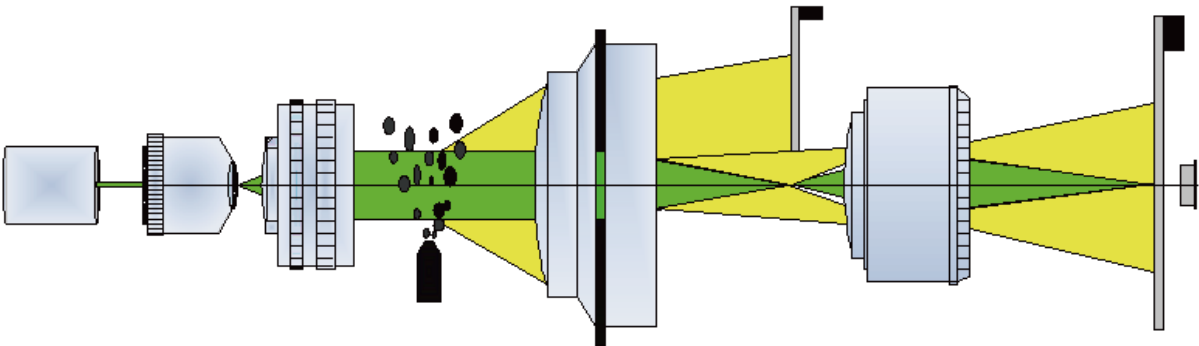
Description

- PSA-SI319A is specially designed and developed for droplet size particle size distribution testing. This instrument adopts the laser diffraction, paired with a parallel optical path design and a high-performance, high-power laser with a service life of over 25,000 hours. Additionally, the test range can be customized according to customers' requirements.

Features

Exclusive Optical Path Technology

It adopts the representative parallel optical testing technology and spectrum amplification technology, achieving wide-range expansion within a limited space. In addition, several auxiliary integrated photoelectric detectors are added, which can effectively collect scattered light from every angles within the testing range, ensuring the accuracy and reliability of testing across the entire range.



Unique Airflow Protection Device

The airflow protection system effectively safeguards the lens from droplet contamination during testing, extending the instrument's service life.

Split-Type Design

The split-type structure and adjustable test area can meet the needs of spray testing under any conditions. It also features non-contact measurement, non-interference, and other outstanding characteristics.

Features

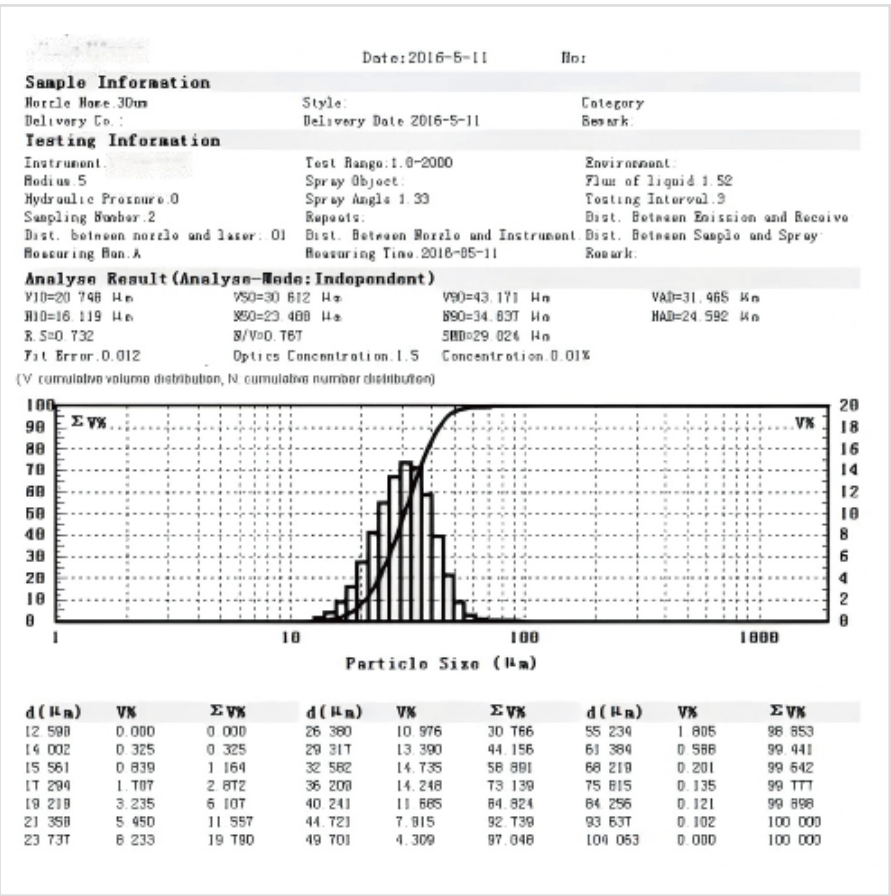
Stable Automatic Optical Path Alignment System

This system eliminates the difficulty of adjustment caused by optical path movement, and optical path alignment can be corrected with the key.

Multiple Particle Size Distribution Models

Users can freely select standard models, R-R Distribution, Log-Normal Distribution. It also supports free conversion between volume distribution and number distribution.

Test Report



Specification

Model	PSA-SI319A
Instrument type	Spray
Specification	
Measuring range	1μm to 500μm
Photodetector	50
Accuracy	≤1% (CRM D50)
Repeatability	≤1% (CRM D50)
Design principle	Laser Diffraction
Analysis principle	Mie Scattering Fraunhofer Diffraction
Standard	ISO 13320
Audit trail	Optional FDA software
Engineering	
Laser	LD Pump Laser, 532nm, P>2mW
Laser safety	Class 1
Measurement area length	0.1m to 10m adjustable
Feeding mode	Open
Technical data	
Connect PC, LIMS	Yes
Test Report	Word, Excel, Image, Text, etc.
Working environment	Temperature: 5℃ to 35℃ Humidity: <85%
Storage environment	Temperature: -20℃ to 50℃
Power supply	110/220V, 50/60Hz
Product dimensions (L×W×H)	369mm×295mm×360mm 858mm×295mm×360mm
Net weight	68kg

Zeta Potential and Nano Particle Size Analyzer

PSA-LS901

- Measurement Range: 0.3-10000 nm; -500mV to +500mV
- Concentration Range: 0.1 mg/mL-100 mg/mL (sample dependent)
- Electrophoretic Mobility Range: > ±20 μm·cm/(V·s)
- High-performance PMTs ensure a high SNR for photon signals



Specification

Model	PSA-LS901		
Measurement Range	0.3-10000nm (sample dependent)		-500mV to +500mV
Concentration Range	0.1 mg/mL-100 mg/mL (sample dependent)		
Electrophoretic Mobility Range	> ±20 μm·cm/(V·s)		
Maximum Conductivity	200 mS/cm (sample dependent)		
Accuracy Error	<1% (National standard sample D50 value)		<15% (Standard sample)
Repeatability Error	<1% (National standard sample D50 value)		<15%(Standard sample)
Laser Source	Semiconductor laser, λ = 635 nm, P = 1- 40 mW (adjustable)		
Detector	Photomultiplier tube		
Scattering Angle	90°		18°
Sample Cell Volume	10 mm*10 mm*40 mm, 1-4mL		10 mm*10 mm*60 mm, 1mL
Temperature Control Range	5-90 °C		
Temperature Control Accuracy	±0.1℃		
Test Speed	<5 min		
Measured Parameters	Nanoparticle size distribution, Zeta potential		
Digital Correlator	Model	HA1024	HA1024
	Auto-correlation Channels	892	892
	Baseline Channels	4	—
	Physical Channels	5000	—
	Unit Delay Time	1μs-10ms (adjustable)	1μs-10ms (adjustable)
External Dimensions	560 mm*450 mm*300 mm		
Net Weight	20kg		

Applications

This product integrates zeta potential analysis and nanoparticle size testing. It is suitable for measuring the particle size and surface potential of various nanoemulsions, suspension colloids and other samples. It can be widely applied to nanomaterials in the fine chemical industry, as well as the R&D and production quality control of surfactants, oligomers and other materials. It also serves as a testing instrument for product development and quality control in industries such as inks and pharmaceutical preparations.

Features

Ultra-high-speed Data Acquisition

The core component of the instrument is the HA1024 digital correlator, which performs real-time acquisition of electrophoretic scattered light intensity and calculates the autocorrelation function; This accurately reflects the electrophoretic velocity of the particles, ensuring highly accurate Zeta potential measurements.

High Sensitivity and High Signal-to-Noise Ratio

Using professional-grade, high-performance photomultiplier tubes, the instrument delivers extremely high sensitivity and signal-to-noise ratio for photon signals.

High-Precision Constant Temperature Control

Using semiconductor temperature control technology, the instrument achieves temperature control accuracy up to 0.1 °C. This ensures that the sample remains at a constant temperature throughout the measurement process, preventing measurement deviations caused by temperature-induced changes in liquid viscosity and Brownian motion, thereby ensuring the accuracy and stability of the test results.

Stable Optical Path System

The optical path system constructed with the optical frequency shifting device and optical fiber coupling technology makes the detection system not only small in size but also strong in anti-interference capability, thus ensuring test stability.