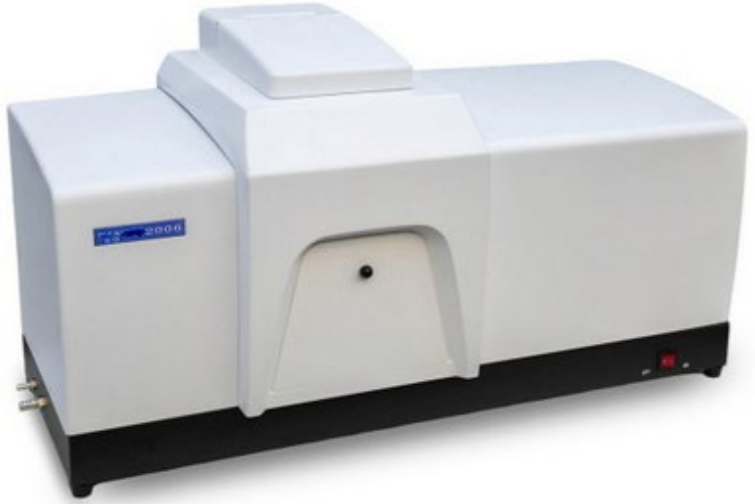
wet laser particle size analyzer with dual-beam technology

This wet laser particle sizer integrates a number of cutting-edge technologies, including Mie scattering theory, free-fitting algorithm, automatic optical calibration and intelligent dispersion system, which realizes accurate measurement of a wide range of powders, suspensions and emulsions.

Wet Laser Particle Sizer



Wet laser particle sizer through a high degree of automation of the function set, the user can easily complete the complex sample testing process, enhance the efficiency of the laboratory and data reliability.

Main Features

1. **Free fitting algorithm:** Based on unconstrained free fitting technology, the particle size analysis process is not restricted by traditional mathematical functions, which can truly restore the diverse distribution patterns of particles and is suitable for particle size determination of complex systems.
2. **Three-dimensional automatic optical path calibration:** The use of high-precision stepper motor-driven three-dimensional alignment system, which can achieve micron-level positioning, to ensure that the optical path is always accurately aligned with the sample cell, thereby improving the stability and repeatability of the test.

3. **Integrated wet dispersion system:** Built-in high-efficiency dispersion module, integrating ultrasonication, stirring, circulation and drainage, which ensures that the samples are fully dispersed and continuously suspended during the testing process, avoiding particle settling and agglomeration, and safeguarding the representativeness of the measurement.
4. **Intelligent automatic operation:** The software interface is friendly and supports one key to start the automatic test process. Users only need to add samples according to the prompts, the remaining steps such as feeding, dispersion, circulation, cleaning and data collection are automatically completed by the system, reducing human intervention and enhancing the convenience of operation.
5. **Dual-beam detection technology:** The use of dual-laser dual-beam structure, effectively eliminating optical interference in the sample cell, while expanding the range of measurement angles, for the precise analysis of wide-distribution particles to provide technical protection.

Working Principle

Wet Laser Particle Sizer is based on Mie scattering theory, and analyzes the distribution of scattered light intensity by laser irradiation of particles suspended in liquid medium. The instrument automatically disperses and circulates the sample so that the particles are always evenly distributed in the measurement area. The dual-beam system collects the scattered signals from multiple angles and outputs high-precision particle size distribution data after processing by a free-fitting algorithm. The whole process relies on precision machinery and intelligent software to realize unattended automatic testing, ensuring the reliability and consistency of each measurement.

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Model	**LP601A**	**LP601B**
Implementation standards	GB/T19077:2016, ISO13320:2020, Q/0100JWN001-2024	
Measurement Range	0.01um to 1000um	0.1um to 1000um
Channel number	80	76
Accuracy error	⩽ 0.5%	
Repeatability error	⩽ 0.5%	
Laser light source	Primary laser source: High-performance laser with a wavelength of 639 nm, output power greater than 2 mW Auxiliary light source (A type only): Blue laser with a wavelength of 405 nm, adjustable output power ranging from 1 to 40 mW	
Optical Path Alignment	fully automatic alignment system	
Operation Mode	software operation or fully automatic mode, switchable	

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Model	**LP601A**	**LP601B**
Measurement speed	less than 10 seconds	
Dimensions	900x400x500mm	
Weight	40kg	
Power Supply	100Vac, 230Vac, 50Hz, 60Hz	
The following are dispersion methods:		
Ultrasonication	Frequency: f = 40 kHz, Ultrasonic power: P = 60 W adjustable duration	
Stirring Speed	0 to 3000 rpm, adjustable	
Circulation	Rated flow rate: 8 L/min, Rated power: P = 10 W	
Sample Cell	450 ml capacity	