



**Winner Particle  
Instrument Stock Co., Ltd**



# WINNER

## **Winner Particle Size Analyzer Since 1985**

### **THE LEADER OF PARTICLE TESTING TECHNOLOGY IN CHINA**

Jinan Winner Particle Instrument Stock Co., Ltd. is a national high-tech enterprise integrating R&D, production and sales of particle testing related instruments and equipment (Securities Name: "Winner Particles", stock code 430410). Leading by technology research and development, Winner has won the National Key New Product Award, the Gold Award of the First China Science and Technology Expo, the Third Prize of Shandong Science and Technology Progress Award, the National High-tech Enterprise and other honorary titles, and has passed CE, SGS, CNAS, ISO9001 international quality system, National Science and Technology SME Innovation Fund Project and other certification acceptance.

The founder of the company, Professor Zhongjing Ren, is a national expert. Since the beginning of the National Seventh Five-Year Science and Technology Project in 1982, Winner invented the 1st particle size analyzer in China, which made up for the lack of domestic particle size analyzers, and developed and produced various particle size analyzers. It has a history of more than 30 years. By now, There are more than 30 national patents, including laser optical path research and development, particle size distribution testing and dispersion invention technology patents, utility model patent technology and self-owned software calculation patent technology, software copyright, etc.

There are more than 10 kinds of products, laser particle size analyzer, nanometer particle size analyzer, spray particle size analyzer, microscopic image particle size analyzer and online particle size analyzer can test the particle size distribution and image morphology of emulsion, suspension, powder, spray of nanometer and micrometer, and are widely used in a variety of product quality control, product research and development of manufacturers in the industry, as well as material research and development applications of the China National Medical Device Inspection Institute and domestic and foreign universities, Its high quality, strong technical support and services to get good feedback from the users, the China Industry's most innovative strength of the enterprise, The honor of China particle testing technology leader, and the top 50 enterprises in Asia etc.

Survive by quality, develop by innovation, adhere to the product concept of excellence and technology-led, Winner strives to provide customers with more accurate, more stable and durable instruments!



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Wechat

# Winner2309B

Intelligent Wet and Dry Laser Particle Size Analyzer

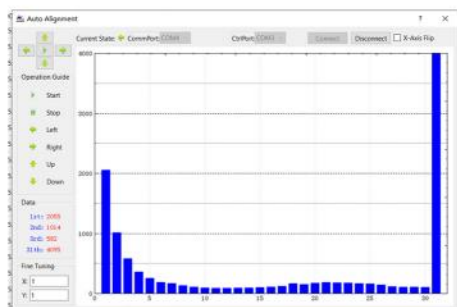


Winner2309B is intelligent full automatic laser particle size analyzer, adopt the most advanced International MIE scattering principle and Fraunhofer diffraction principle, which is integrated model of wet and dry dispersion system, High sensitive and High-resolution photoelectric probe system and imported Canon lens optical path ensure the good accuracy and repeatability of particle size distribution, It's widely used in industrial production quality control departments and research institutions.

## Advantages:

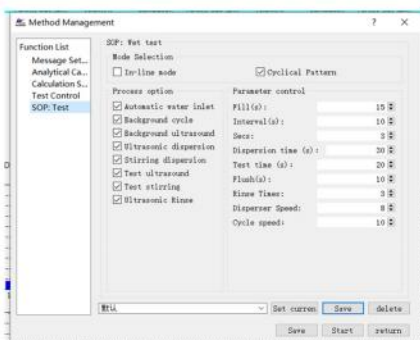
- Automatic Optical path alignment System:**

which is composed of precise four phase hybrid stepper motor, Its inching precision is reach to micron level, make optimum optical paths to ensure accurate and stable test.



- Automatic sample dispersion system**

The modular design of dry and wet dispersion shortens the circulation pipeline and prevents the precipitation of large particles. It is not only conducive to the uniform dispersion of samples, but also reduces maintenance costs and is conducive to the cleaning and maintenance of equipment.



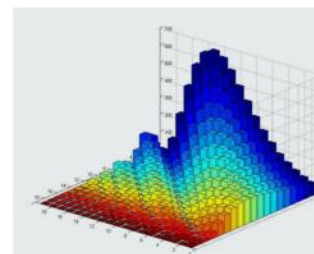
- Wet and dry, unique separated dispersion module**

The instrument adopts a modular design for automatic dry and wet dispersion. Customers can freely assemble it according to the test requirements of sample characteristics. It is simple, convenient and fast.



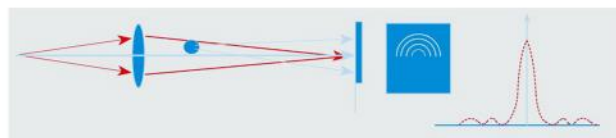
- Instrument Software:**

The unique unconstrained free fitting technology collects scattering data during the measurement process and has the ability to automatically analyze multi-modal particle groups. It is not constrained by any function. Particles below 2µm are tested in 12 particle size grades with extremely high physical resolution.



- Optical path design:**

Adopting the patented 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 is 0.015-145 degrees, which effectively improves the measurement range and the resolution of the instrument. The optical path is sealed and has good dustproof performance.



### Test principle

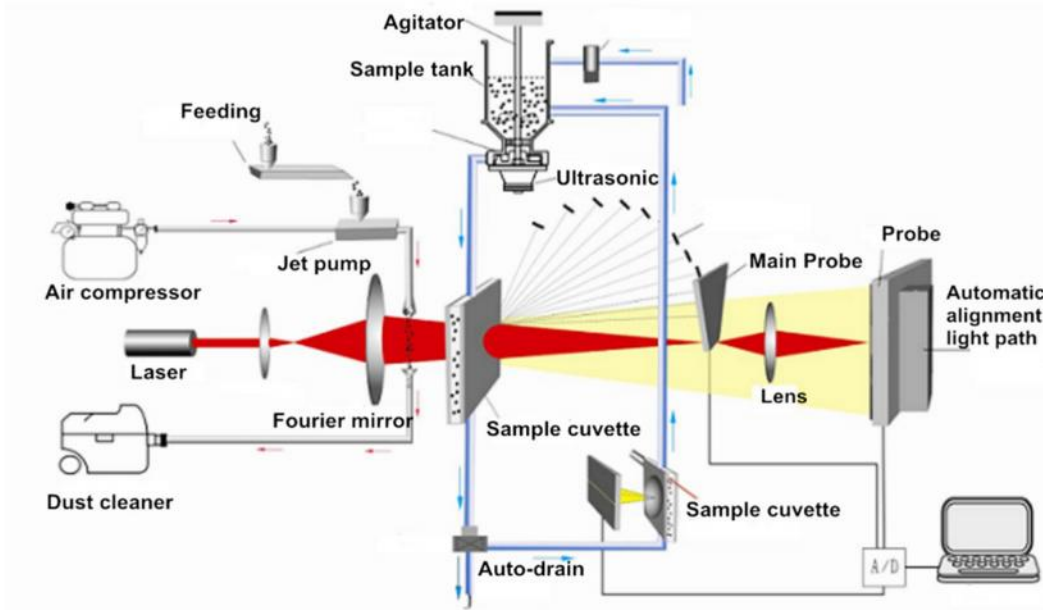


Figure-Winner2309 scheme

### Application

Solid powder, suspension and emulsion. Chemicals, Magnetic Materials, Medicine, Cement, Coatings, Food, Pesticides, Nuclear Industry, Electronics, Battery Materials, Paper, Metallurgy, Ceramics, Building Materials, Cosmetics, Abrasives, Metal and Non-metal Powders, Calcium Carbonate, Talc, Kaolin, Oxidation Particle size testing of powders in their respective industries such as aluminum, rare earth, cemented carbide, catalysts, foaming agents, refractory materials, fillers, graphite, pigments, etc.



**Technical parameter:**

Model Name	Winner2309B	
Measurement Range	Wet: 0.01-2800µm	Dry: 0.1-2800µm
Sample Injector	Wet: Winmodule-201	Dry: Winmodule-301
Number of Channels	108pcs	
Accuracy Error	Wet: <0.5%; Dry: <1.0% (CRM D50)	
Repeatability Error	Wet: <0.5%; Dry: <1.0% (CRM D50)	
Light Source	Main laser: High-performance laser λ=639nm, P>2mW Auxiliary laser: Blue laser λ=405nm, P>2mW Service life: >50000h	
Optical Bench Alignment System	Automatic alignment	
Operation Mode	SOP Fully automated operation mode	
Dispersion	Ultrasonic	Frequency: f=40KHz, Power: p=60W (Time adjustable)
	Stir	Revolutions speed: 0-3000rpm (Adjustable)
	Circulate	Rated flow: 1L-8L/min; Rated power: 120W
	Dry Method	Turbulent dispersion, automatic sample introduction, one-click testing
	Wet Method	Ultrasonic, mechanical stirring, and built-in circulating dispersion
Sample Tank Volume	600ml	
Test Speed	Fastest 10 seconds	
Refractive Index	A wide range of refractive indices are available; any refractive index can be entered.	
Sampling Frequency	Fastest data acquisition rate of 10kHz	
Software Functions	Analysis Pattern	Free distribution, R-R distribution, log-normal distribution, and statistical models by category.
	Statistical Comparison	Statistical comparison of multiple test results. Users can compare and analyze test data from different batches of samples, before and after sample processing, or at different processing times, effectively guiding product quality and cost control.
	Data Processing	The system performs intelligent statistical analysis and processing of test data, and outputs the most representative test results.
	Custom Analysis	The system can customize the output of any characteristic particle size between D1 and D100, the cumulative percentage of particles larger or smaller than a certain particle size, and the cumulative percentage of a certain particle size range, so as to meet the different requirements of different industries for particle size testing and characterization methods.
	Output	Typical particle size values, interval particle size distribution (i.e., differential distribution) data and graphs (histograms or curves), cumulative particle size distribution (i.e., integral distribution) data and curves, etc.
	Test Report	Test reports can be exported in various formats such as Word, Excel, image (.bmp), text (.txt), and PDF, meeting different requirements for viewing test reports, data reprocessing, and article citation in any situation.
	One-click operation	Wet method: Activate the automatic operation mode and complete all operations such as water intake, air bubble removal, dispersion, testing, cleaning, and data processing with a single button. Dry method: Activate the automatic operation mode to complete all operations such as dust collection, air supply, feeding, testing, and data processing with a single click.
	Language	Chinese and English interface. Other language interfaces can be added according to user requirements.
	GMP	GMP (Optional)
Outer Dimension	Main unit: 870mm*340mm*380mm Wet module: 415mm*280mm*335mm Dry module: 260mm*245mm*295mm	
Net weight	Main unit: 32kg; Wet module: 15kg; Dry module: 7kg	

Report interpretation

Header section:

Instrument parameters , sample information

Characteristics of particle size:

The value of particle size characteristics

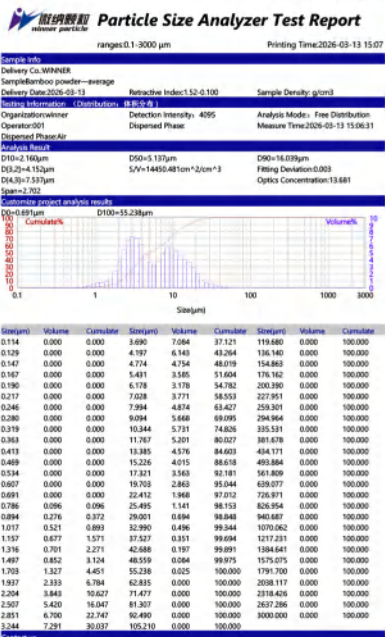
Particle size chart:

Cumulative distribution and frequency distribution of particle size. It's corresponding to data of particle size distribution table

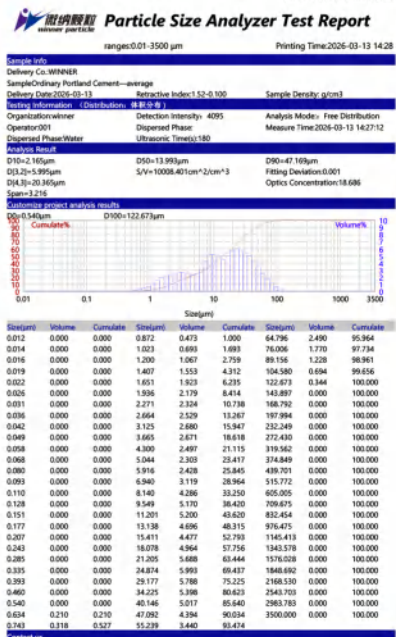
Particle size table;

Cumulative distribution and frequency distribution of particle size

Laser Particle Sizer Testing Report (WinModule-301)  
Device No.: Winner2309A



Laser Particle Sizer Testing Report (WinModule-201)  
Device No.: Winner2309A



Our some customers

1) Institutions of higher learning and research institutes

- Peking University, Tsinghua University, Renmin University of China, Zhejiang University, Shandong University, Jiangsu University,
- Tianjin University, Australian University, Indian Institute of Technology, Mongolia University, Beihang University, Southeast University,
- China Agricultural University, Shanghai Jiaotong University, Xi'an Jiaotong University, Nanjing University,
- The University of Hong Kong, University Of Wollongong, Dalian University of Technology, Ocean University of China,
- PSG College of Technology, Institute of Engineering Physics, Beijing Institute of Technology,
- Shanghai Medical Device Testing Institute, Guangdong Provincial Medical Device Testing Institute, Beijing Medical Device Testing Institute,
- Huazhong University of Science and Technology, University of Science and Technology Beijing,
- Chinese Academy of Sciences, Institute of Metal Research, etc. Nanjing University of Aeronautics and Astronautics,

2) Industrial enterprises

- Shougang Group Co., Ltd., Jiangsu Shagang Group Co., Ltd., Pangang Group Co., Ltd., Shanghai Huayi Polymer Co., Ltd.,
- Jiaozuo Qianye Cement Co., Ltd., Shanshui Cement Group Co., Ltd., China National Petroleum Corporation, Shengli Oilfield,
- China Ping An Coal Group, BYD Co., Ltd., Tianneng Battery Group Co., Ltd., Chaowei Power Supply Co., Ltd.,
- Guangzhou Libai Enterprise Group Co., Ltd., Nippon Paint Co., Ltd., Zhenjiang Titanium Dioxide Co., Ltd.,
- Moze biological Co. Ltd., Korea Conformity Laboratories, PPG Powder Coating Co., Ltd.,
- Otsuka Pharmaceutical, SIM (USA) INTERNATIONAL INC, Mundipharma. India,
- TAIYO INK. Japan, Heraeus. Germany, Osram lighting. Germany,



## Winner Particle Instrument Quality Assurance

Provide customers with the most professional particle testing solutions

### ■ Long service time

Laser particle size analyzer, as an analysis instrument, it doesn't have consumable parts except for the stirring parts, it has no transmission parts and no wearing parts; high performance laser, with a long service time of more than 25000 hours, high sensitive photodetectors is a core part, it will not be easy damaged if operate normally; the photodetector array is a key part, as long as it is used properly, it will not be automatically damaged. Therefore, users do not have to worry about the service time of winner instruments at all. According to the customer feedback from Jinan winner return visit, the instrument with the longest service life of the product is more than 15 years.



### ■ Low failure rate

The after-sales department Jinan Winner has made statistics on the maintenance failures of the sold instruments, and the failure rate of the instruments is within 3%.



### ■ High industry recognition

After 30 years of technical precipitation, Jinan winner has continuously improved its technology in the R&D and production process of instruments according to the characteristics of different industries. With its excellent product quality and high-quality service, it has been highly recognized by practitioners in the powder industry.

