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

Winner803

Photon Correlation DLS Nano particle Size Analyzer

Winner803 dynamic light scattering nanometer particle size analyzer which based on the dynamic light scattering principle, Based on Brownian motion principle, smaller particle, faster speed, bigger particle, more slowly. It adopt great performance of Japan HAMAMATSU photomultiplier and self-developed high speed digital correlator as core parts, Get diffusion coefficient by test scattering light change in some angle, and calculate particle diameter and distribution according to stokes-Einstein equation. the machine is with characters of fast calculation, high resolution ration, good accuracy and repeatability, it's widely used in company product lab research and university use, especially good for testing particle size distribution of coloured particles.

Advantages:

Dual-wavelength laser, automatic switching

Exclusively using dual-wavelength (λ= 450 nm, λ= 532 nm) laser to build the optical system. The correlation spectrum detection system is not only small size, but also has strong anti-interference ability, thus ensuring the stability of the test. For some samples with absorbance properties ,which can not be detected by traditional single-wavelength laser, it can be tested effectively.

Advanced test principle:

Dynamic light scattering principle and photon correlation spectrum technology, according to Brownian motion speed of particle to test particle size, different size of particles have different speed, when laser illuminate these particles, it will make scattering light happen different speed of fluctuations- downs.
Photo correlation spectrum method will analyze these particle size according to Photon fluctuations -downs in particular direction.

High resolution:

Using PCR technology test nanometer-scale particle size, must be able to distinguish nanosecond signal fluctuations. The core components of the instrument is CR256 digital correlator developed by our company, with 8ns high resolution speed.

High sensitivity and Noise-signal ratio

Detector is composed of imported HAMAMATSU photomultiplier, so ensure good accuracy.

High speed data collection and calculation

Self-developed patent product-CR256 digital correlation, It could finish dynamic scattering light intensity collection and autocorrelative function real time calculation, Data processing speed is up to 162M, effectively reflect dynamic scattering light information of different sizes of particles.

High stable optical path system

Photon correlation spectrum detect system adopt optical-fibre technology, smaller size and high anti-interference and reliability.

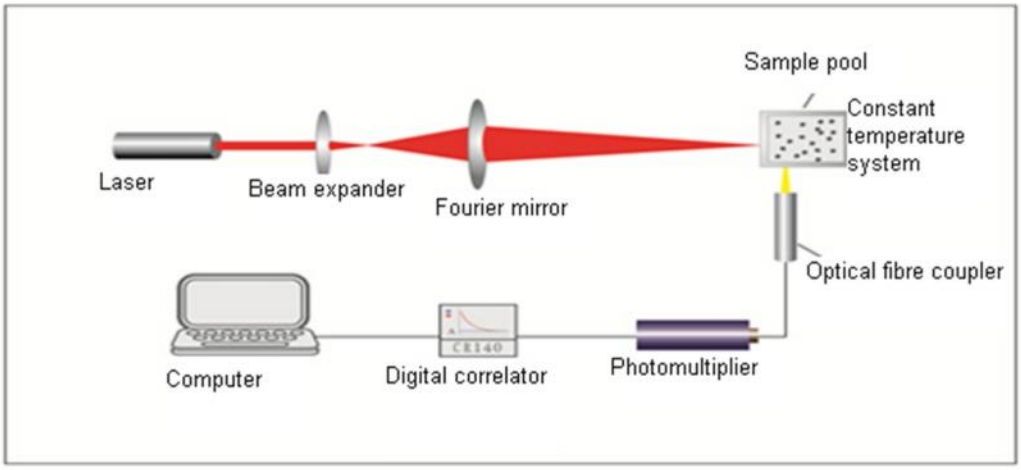
High precision constant temperature control system

Semiconductor temperature control technology, precision control within ±0.1℃, make samples be in a constant state throughout the testing process, prevent testing error because temperature change will change liquid viscosity and Brownian movement speed.

Precision test report

Output parameters: Real particle size distribution, freely set D10-D100, D[4,3],D[3,2], D[2,1],D[1,0] and specific surface area.

Test principle



Application

Nano metallic oxide, Nano metallic powder, Nano ceramic material, protein, polymer latex, preparation of pharmaceutical, water/oil emulsion, paint, coating material, pigment, ink, toner, cosmetics and other fields of research, preparation and application of nano materials.

Technical parameter:

Model Name		Winner803
Measure range		0.3nm-10000nm
Accuracy error		≤1%(CRM D50)
Repeatability error		≤1% (CRM D50)
Concentration range		0.1mg/ml--100mg/ml
Light source		Light source 1: Semiconductor laser: λ=532 or 639nm, power P=1-40mW (adjustable) Light source 2: Blue laser λ=405nm, power P>2mW
Detector		Photo-multiplier
Scattering angle		90°
Sample cuvette		10×10×40nm （1-4mL）
Test temperature		5-90 ℃
Temperature control accuracy		±0.1℃
Test speed		<5 Min
Outer Dimension		L60cm*W38cm*H23cm
G.W.		12Kg
Digital Correlator	Model	CR512
	Auto-correlation channels	512
	Baseline channel	4
	Baseline channel Physical channels	10000
	Unit delay time	100ns-10ms
Software		SOP setting available, one-click automatic testing Switch between Chinese and English with one click

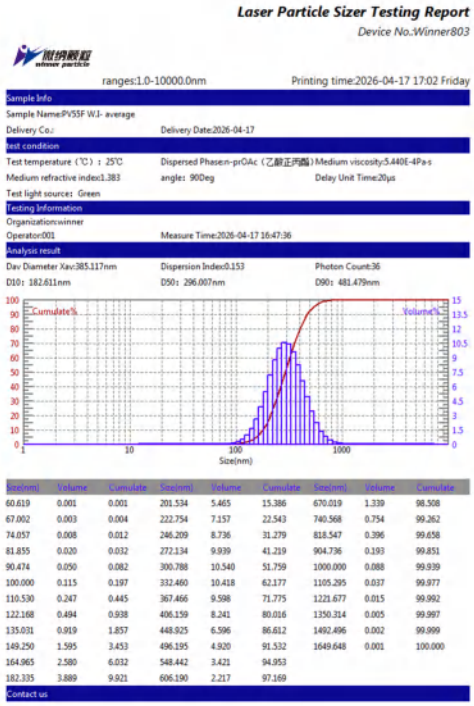
Report interpretation

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

Device No.:Winner803

ranges:1.0-10000.0nm Printing time:2026-04-17 17:02 Friday

Sample Info

Sample Name:PVS5F W.J- average

Delivery Co.: Delivery Date:2026-04-17

Test condition

Test temperature (℃) : 25℃ Dispersed Phase:n-prOAc (乙酸正丙酯) Medium viscosity:5.440E-4Pa·s

Medium refractive index:1.383 angle: 90Deg Delay Unit Time:20μs

Test light source: Green

Testing Information

Organization:winner

Operator:001 Measure Time:2026-04-17 16:47:36

Analysis result

Dav Diameter Xav:385.117nm Dispersion Index:0.153 Photon Count:36

D10: 182.611nm D50: 296.007nm D90: 481.479nm

Cumulate% Volume%

Size(nm)

Size(nm)	Volume	Cumulate	Size(nm)	Volume	Cumulate	Size(nm)	Volume	Cumulate
60.619	0.001	0.001	201.534	5.465	15.386	670.019	1.339	98.508
67.002	0.003	0.004	222.754	7.157	22.543	740.568	0.754	99.262
74.057	0.008	0.012	246.209	8.736	31.279	818.547	0.396	99.658
81.855	0.020	0.032	272.134	9.939	41.219	904.736	0.193	99.851
90.474	0.050	0.082	300.788	10.540	51.759	1000.000	0.088	99.939
100.000	0.115	0.197	332.460	10.418	62.177	1105.295	0.037	99.977
110.530	0.247	0.445	367.466	9.598	71.775	1221.677	0.015	99.992
122.168	0.494	0.938	406.159	8.241	80.016	1350.314	0.005	99.997
135.031	0.919	1.857	448.925	6.596	86.612	1492.496	0.002	99.999
149.250	1.595	3.453	496.195	4.920	91.532	1649.648	0.001	100.000
164.965	2.580	6.032	548.442	3.421	94.953			
182.335	3.889	9.921	606.190	2.217	97.169			

Contact us

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

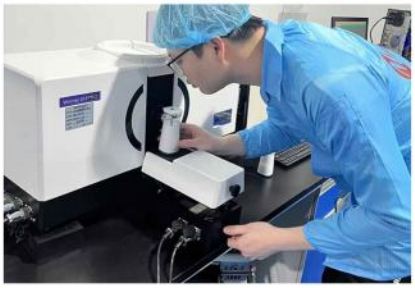
Provide customers with the most professional particle testing solutions

Long service time

Laser particle size analyzer, as an analysis instrument, it doesn't have consumable parts excpe 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.