

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!



TEL:+86-0531-88876213

Website: <https://www.winner-psa.com/>



Wechat

Winner601Z

Zeta Potential Analyzer

Winner601Z is a high-end zeta potential analyzer developed by Jinan Winner Designed for evaluating the stability of nanoparticle systems, it delivers professional surface electrical characterization for material research and quality control.

More than a dedicated potential measuring instrument, Winner601Z serves as an integrated analytical platform for nano-system research. Adopting Electrophoretic Light Scattering (ELS) technology, it accurately measures zeta potential and isoelectric point. By analyzing particle surface charge and interfacial behaviors to clarify stabilization mechanisms of dispersions, it provides critical data support for formula optimization, surface modification and process control.



Advantages:

● Test principle

Using the principle of electrophoretic light scattering and photon correlation spectroscopy, the size of particle Zeta potential was determined according to the electrophoretic movement speed of particles in liquid. The population velocity of the electrophoretic motion of the particles, and the amount of Doppler shift of the scattered light caused by the laser irradiation of these particles, varies. Photon correlation spectroscopy analyzes the size of particle Zeta potential according to the frequency shift.

● Ultra-high-speed data acquisition

The core component of the instrument is through the HA1024 digital correlator, which can complete the collection of electrophoretic scattered light intensity and the calculation of the auto-correlation function in real time, so as to effectively reflect the information of the electrophoretic movement speed of the particles and lay the foundation for the accuracy of the Zeta potential test results.

● High sensitivity signal-to-noise ratio

Using professional-grade high-performance photomultiplier tubes, it has extremely high sensitivity and signal-to-noise ratio to photon signals.

● High speed data collection and calculation

Using semiconductor temperature control technology, the temperature control accuracy is as high as 0.1 °C, so that the sample is always in a constant temperature state during the whole test process, avoiding the test deviation caused by the change of liquid viscosity and Brownian motion caused by temperature changes, and ensuring the accuracy and stability of the test results.

● Stable optical path system

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

Technical parameter:

Model Name		Winner601Z
Measurement Range		-500mV—+500mV
Measurement Concentration		0.1mg/ml--100mg/ml (Reference to sample)
Accuracy Error		≤1% (CRM D50)
Repeatability Error		≤1% (CRM D50)
Electrophoretic Mobility Range		>±20μm.cm/V.s
Highest Conductivity		200mS/cm (Reference to sample)
Laser Source		Semiconductor laserλ=635nm, P=1-40mw (Adjustable)
Detector		Photomultiplier tube (PMT)/High performance (APD)
Scattering Angle		18°
Sample Cell Volume		10*10*60mm, 1ml
Temperature Control Range		5-90℃
Temperature Control Accuracy		±0.1℃
Test Speed		<5min
Digital Correlator		10 [^] 11 dynamic linearity. Maximum 10,000 channels.
Delay Time		100ns-10ms
Operating Mode		SOP settings, fully automated testing, one-click automatic testing, and one-click switching between Chinese and English.
Software Functions	Data Processing	The system performs intelligent statistical analysis and processing of test data, and outputs the most representative test results.
	Output	Zeta potential distribution diagram, instrument test bar chart, etc.
	Test Report	Test reports can be exported in various formats such as PDF, meeting different requirements for viewing test reports, data reprocessing, and article citation in any situation.
	Language	Chinese and English interface. Other language interfaces can be added according to user requirements.
Outer Dimension		600*380*230mm
N.W.		12kg

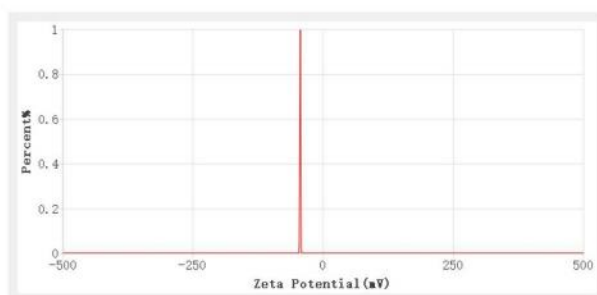
Application

Zeta Potential Analyzer

REPORT

Sample:	Solution:	SOP:	Mode:
yangpin	Water	Standard	Zeta
Account:	RI:	Groups:	Temp Ctrl:
Admin	1.33	1	Off
Date & Time:	Viscosity:	Times:	Temp:
2023-10-17 10:18:57	1	20/20	0°

Results:



Zeta Potential:
-45.16mV

Poly:
0.21

Signature: _____

Data: _____

Report Generation at: 2023/10/17 10:22:16

Report interpretation

Header section:
Instrument parameters , sample information

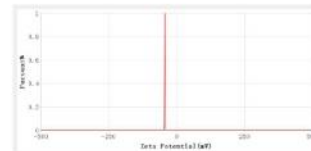
Zeta potential distribution diagram:
The horizontal axis (X) represents the potential value.
The vertical axis (Y) represents the proportion of that potential value in the entire sample.

Instrument test bar chart:
NaN values on the X-axis are generally treated as 0

REPORT

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Admin	1. 33	1	Off
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Results:



Zeta Potential: -45.16mV
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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 easily damaged if operated 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.

