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!

TEL:+86-0531-88876213 Website: https://www.winner-psa.com/

Wechat

Winner Particle Strength Verification

the most professional laser particle size analyzer production base in China

01 Pilot innovation and sustainable development

Since 1982, when it undertook the national "Seventh Five-Year" scientific and technological research project, it has 30 years of research and development history. During this period, Winner undertook the completion of 5 provincial and ministerial scientific and technological research projects; applied for more than 30 patents; published more than 80 professional papers; since the successful development and production of China's first laser particle size analyzer, it has created more than ten firsts in China. Winner Particle continuous innovation in technology leads the development of China's particle testing technology.

02 Excellent team, professional research and development

In terms of product development and technical research, winner has a high-quality R&D team, which is composed of optical experts, product-oriented researchers and software and hardware engineers with rich product development experience. , Electronics, particle size testing, image and other aspects have more in-depth research. The company's chief expert, Professor Ren Zhongjing, is the pioneer of laser particle size analysis technology in my country and enjoys a high reputation in the field of particle testing. With a high-quality R&D team and a high-standard quality management system, Jinan winner ensures the quality and technical content of its products.

03 Honorary qualifications, industry recognition

Winner Particle has successively won the national "high-tech enterprise" and provincial "double soft enterprise", and ISO13320:2020 laser particle size analyzer international standard. It was ranked among the top 50 powder companies in Asia by international authoritative organizations. In 2014, China's powder industry Honors such as Top Ten Brand Enterprises, Special Contribution Award for China' s Particle Testing Industry, etc. In 2014, Winner Particle as the "No1."online laser particle size analyzer" has been successfully applied in the cement industry and has become the crowning touch of the automation of my country's particle preparation process.

04 Unique technology, industry-leading

Through continuous technological breakthroughs and innovations, Winner Particle has created a number of unique technological achievements:

- *Unconstrained Free Fitting Technique*
- *Original wet and dry switching operation mode*
- *Exclusive patented optical path design*
- *Optical path automatic alignment technology*
- *Double beam laser particle size analyzer*
- *Spectrum Amplification Technology*
- *Unique fully built-in dispersion system*
- *Unique binning testing technology*
- *Advanced intelligent operation mode*
- *Diversification of test reports*
- *Various particle size analysis modes*
- *Ultrasonic self-cleaning sample window technology*
- *Automatic analysis algorithm module for proppant roundness and sphericity*
- *Turbulent Dispersion Technology*

Winner3006

Intelligent Dry Laser Particle Size Analyzer

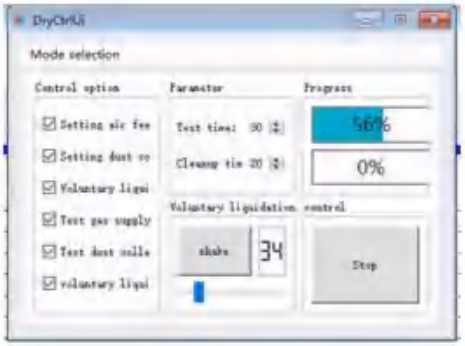
Winner3006 is a universal dry dispersion laser particle size analyzer, using the scientific structure design and a new generation of dispersion device, the dispersion effect is better than similar instruments. Using MIE scattering theory as the theoretical basis, converging Fourier transform optical path, and with high stability and He-Ne laser high-sensitivity photodetectors ring ensures repeatability and accuracy of test results.

This product use air as the dispersing medium, the use of turbulent dispersion principle, with high-precision feeding apparatus and Patent powder injection pumps, No-Oil silent air source, ensure that the sample is thoroughly dispersed. It is applied to any powder material, particularly good for materials occurs chemical reaction in water, or shape change in the liquid. It have same accuracy and repeatability compared with the wet method.

Advantages:

Intelligent Operation System realize one key test:

Just need put in sample, Dust collection, air supply,feeding and others are all automatic. It only only reduces workload, but eliminate errors caused by human factors, further improve testing accuracy and authenticity of the testing results.

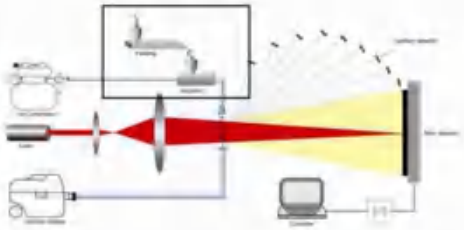


Advanced optical path design:

Converging Fourier transform optical path patent technology overcome lens aperture restriction on the scattering angle, expand testing range in limited space, and add more secondary integrated photodetectors, which can effectively collect scattered light from all angles in the the corresponding test range, make sure the testing accuracy and reliability within the full range.

Scientific and automatic dry dispersing system

Turbulence dispersion patented technology and Normal shock shearing effect make particles sufficient dispersion, dispersion core part using wearable ceramics not only improve dispersion system's working life but ensure more accurate and stable testing result.



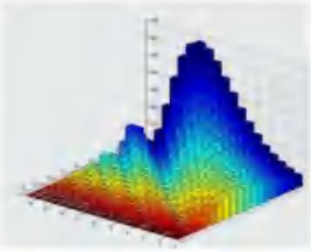
Data Analysis:

① Meet the average, statistics, and comparison of sample test data in different time periods, and obtain the basic parameters of the sample particle size distribution, such as D1-D100, surface area average particle size, volume average particle size, etc.

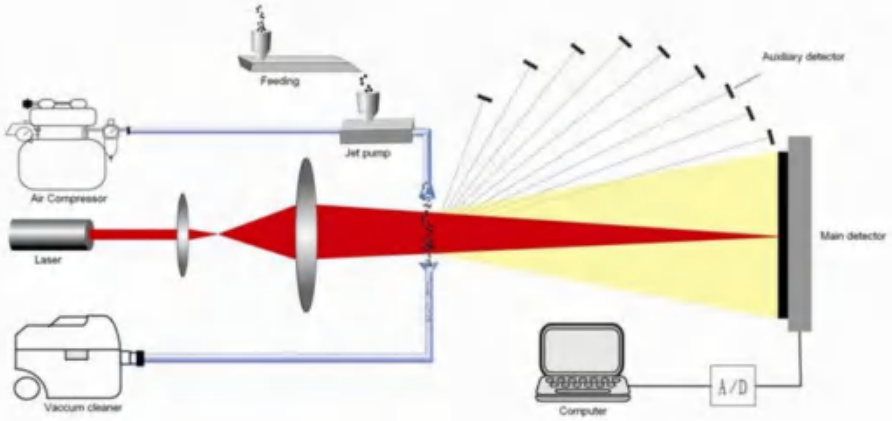
② Create groups for sample testing to facilitate storage and comparison of sample test data.

Unconstrained free fitting technique:

Unique unconstrained free fitting technology make particle analysis not be restricted by any functions, truly reflect particles distribution, ensure accuracy of testing result.



Test principle



Application

Winner3006 Dry laser particle size analyzer used in cement, ceramics, pharmaceuticals, dyes, pigments, fillers, chemical products, catalysts, coal dust, additives, pesticides, explosives, graphite, photographic materials, fuel, metal and non-metal powder, carbonated calcium, kaolin and other powder industry, particularly for materials which occurs chemical reaction, the shape change and the loss in the liquid, such as herbs, magnetic materials and relatively wide distribution and larger particles powders, have more unique applicability and practicality.

Technical parameter:

Model Name	Winner3006
Size Range	0.1-600μm
Channels Number	49
Accuracy error	≤1%(Deviation of D50 on national standard sample)
Repeatability error	≤1%(Deviation of D50 on national standard sample)
Light Source	High performance laser λ=639nm power p>2mW
Dispersion Method	Dry-turbulence dispersion mode
Operating mode	SOP can be set, one-click automatic test, automatic storage, automatic alignment and other functions
Test Speed	＜1min/for each time
GMP	GMP(Optional)
Volume	Host：1030*450*325mm Dispersed modules：260*285*135mm
N.W	33Kg +7Kg

Patents Technology

- Optical bench design is protected by patent No.- ZL 2014 2 0378380.8,
- Three dimensional-optical bench alignment system is protected by patent No.- ZL 2013 2 0835882.4.
- MIE scattering principle application patent No.- ZL 2013 2 0812021.4.
- Dry particle size analyzer full sealed sample cuvette application is protected by patent No.- ZL.2011 2 0267646.8.
- Powder dispersion pump design application is protected by patent No.-ZL 2007 2 0018648.7

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

winner particle

Particle Size Analyzer Test Report

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.

Winner Particle Strength Verification

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Good accuracy

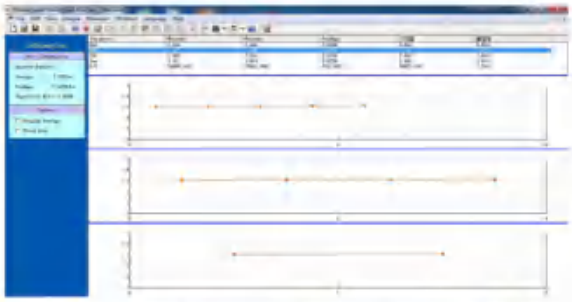
The accuracy is based on the national particle size standard sample GBW(E)120000 series as the standard. According to the practice of analytical instruments: the measured value of the instrument is not more than 3 times the standard deviation of the nominal value of the standard sample, which is qualified. Not only did all the winner instruments meet the standards when they leave the factory, but the accuracy is <3%.

The national standard material D50 value is 25.9 μ m

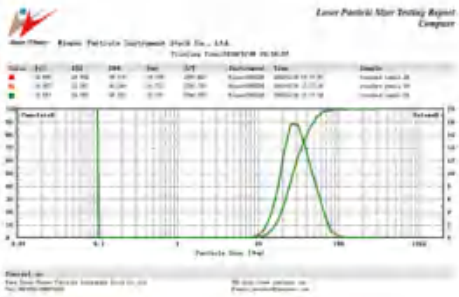
The same national standard substance D50 value was tested at 25.917 μ m

Good repeatability

Winner instruments have good repeatability due to reasonable design, careful manufacturing process, and high-performance component selection. The test method for repeatability is to use the national standard sample for 10 consecutive tests, and the relative value of the statistical standard deviation of the test result (D50) <3% is qualified.



Repeatability when the same sample is tested continuously



Repeatability during multiple sampling test

Good consistency

Compared to the well-known brand of laser particle size analyzer, the consistency of Winner Particle is very good.

Winner Particle Hardware features

the most professional laser particle size analyzer production base in China

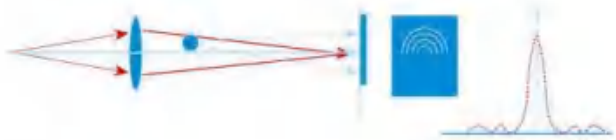
1. Dual laser orthogonal beam patented technology

Application model:
winner2005; winner2008; winner2009;winner2308; winner2309.

3.Omnidirectional Scattered Light Detection Technology

Adding multiple auxiliary integrated photodetectors can effectively collect scattered light at various angles corresponding to the test range, and achieve test accuracy and reliability in the full range.

Application model:
winner2005; winner2008; winner2009;winner2308; winner2309.



2.All built-in dispersion systems

It avoids the problem of test data distortion caused by long optical path, uneven dispersion, and large particles settling in the pipeline caused by the external dispersion system.

Application model:
winner2000; winner2000ZDE; winner2005; winner2008; winner2009; winner2308; winner2309; winner3003;winner3008; winner100.

4.Spectrum Amplification Technology

The sensitivity of the probe to the signal is enhanced, and the test range is greatly improved.

Application model:
winner2008; winner3008; winner2308; winner2009; winner3009; winner2309.

5.Converging light Fourier transform patented technology

The large-angle scattered light is not limited by the aperture of the Fourier lens.The optical path is shortened to the shortest, effectively improving the resolution of the instrument;
The optical path design principle belongs to the international leading technology.

Application model:
winner2000; winner2000ZD; winner2005; winner2008; winner2009; winner3003; winner3008; winner2009

6.MIE scattering theory

The full range adopts the most advanced MIE scattering theory.

Application model:
winner2000; winner2000ZDE; winner2005;winner2008; winner2009; winner3003; winner3008;winner3009

7.Fully automatic alignment system

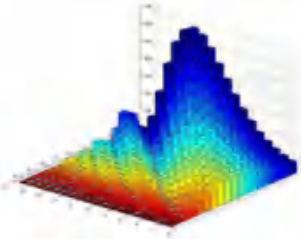
The precision four-phase hybrid stepping motor is used to automatically adjust the optical path and calibrate the optical path at any time, eliminating the deviation caused by manual alignment, and improving the accuracy and stability of the test results from an optical point of view.

Application model:
winner2000ZD; winner2005; winner2008;winner3008; winner2009; winner3009.

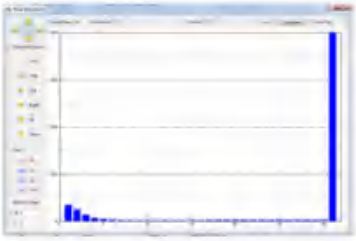
Winner Particle Software Features

Provide customers with the most professional particle testing solutions

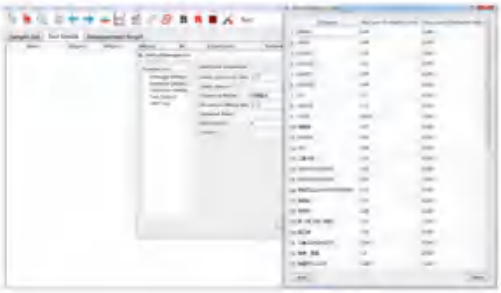
1.Unconstrained free fitting technology can truly reflect the particle distribution.



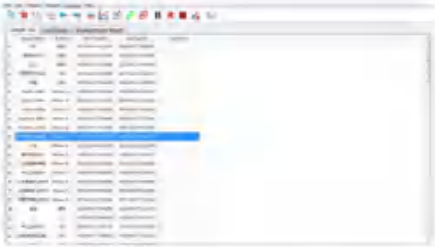
2.Accurate and convenient automatic alignment function.



3.Different refractive index models can be established to make the measurement results more accurate and reliable.

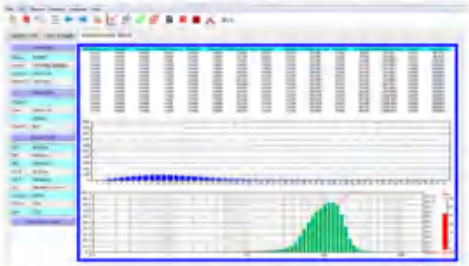


4.Automatically memorize the last sample test information and display the current test process in real time. Freely customize the display mode and switch between energy spectrum and data display.



5.User-defined analysis parameters, calculating the percentage according to the particle size, calculating the particle size according to the percentage, or calculating the percentage according to the particle size range, so as to meet the characterization methods of particle size testing in different industries.

6.Statistical comparative analysis can be carried out for multiple test results, and the difference between different batches of samples, samples before and after processing, and test results at different times can be clearly compared, which has strong practical significance for the quality control of industrial raw materials.



7.Multiple distribution modes: free distribution (closer to the real data of the sample), Rosin-Ramler distribution, logarithmic normal distribution and original data conversion mode (according to the real and accurate measurement of abrasive and flake particles)

8.Chinese and English language interfaces are supported, and other language interfaces can also be embedded according to user requirements. Multiple formats can be set for file printing and exporting, and BMP image files, Txt documents, Word documents, and Excel documents are supported.

Winner Particle After Sale Service For

Provide customers with the most professional particle testing solutions

Service process

After-sale guarantee service:

After the product warranty period, if parts need replacement, only charge cost.

Personnel training service:

Two calibration services are provided free of charge.

Software lifetime free upgrade:

The software of the same model can be upgraded free of charge for life.

Regular follow-up and return visit usage status:

There are special after-sales service specialists who return to visit regularly.

Product customization service:

According to the special requirements of users, we provide product customization services, such as range modification, corrosion-resistant pipeline modification, etc., as well as online solution customization, etc. For details, please call our technical department.