

# 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!



# Winner311PRO

## Spray Particle Size Analyzer

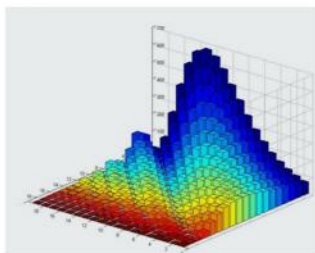


Winner311PRO is a new generation desktop spray particle size analyzer designed and developed mainly for droplet particle size testing of small spray equipment. Based on Winner311XP, it incorporates more unique micro-nano technologies, innovative design of external automatic mobile platform, optical path The design is more optimized, the detection channels are wider distributed, the algorithm is more stable, and the application is more intelligent.

Winner311PRO can perform non-contact particle size measurement of droplets, liquid droplets, smoke, aerosol, powder mist, etc. dispersed in the air, and meets the requirements for particle size testing of inhaled aerosols, sprays, powder mist, etc. specified in the National Pharmacopoeia. , filling the gap of domestic laser particle size analyzer in measuring droplet size of small atomization devices.

### Advantages:

- **Using the patented software analysis technology of unconstrained free fitting, it truly reflects the particle size distribution.**

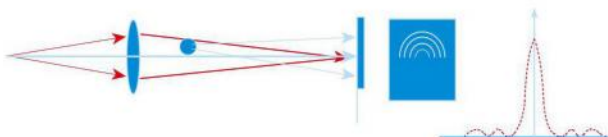


- **Exquisite structural design**

The test area adopts a tubular open structure, which is small in size, flexible in placement, and convenient for testing.

- **New structure, new optical path, higher testing accuracy**

The use of single-beam parallel light path and dual-lens dual-array detector technology increases the number of detectors and makes the optical path layout more reasonable, ensuring high-density collection of scattered light at different angles, extending the lower limit of measurement, improving the resolution of the instrument, and ensuring The droplet size test is accurate within the full range.



- **Unique air flow protection device**

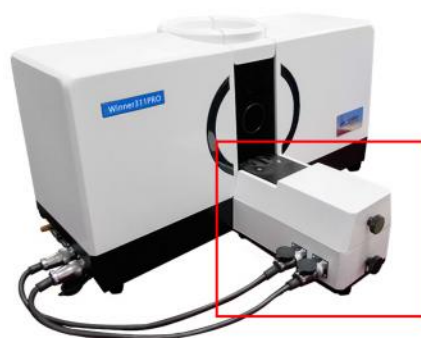
Airflow protection system can effectively protect the lens to avoid droplet pollution of the lens in the testing process, Prolonging the service life of the instrument.

- **Spraying triggers particle size test, instant test, instant data.**

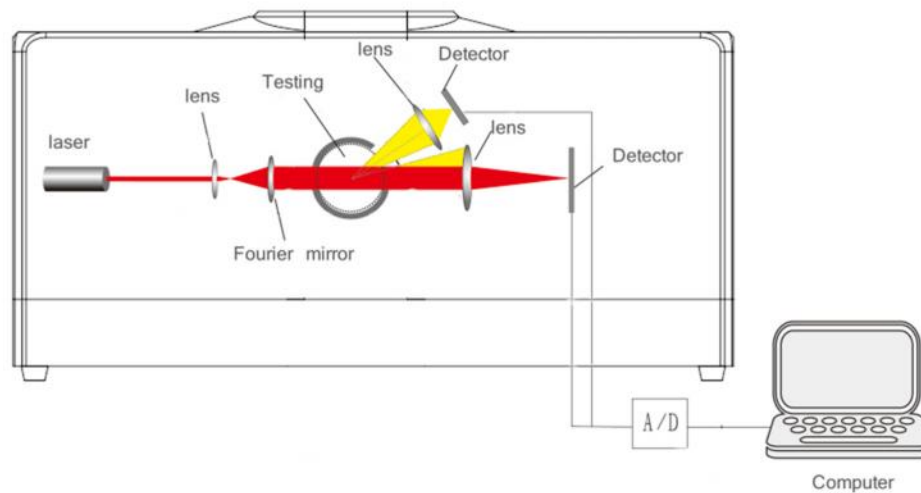
- **There are three software distribution modes, free distribution, R-R distribution, and Log distribution, It can meet the particle size testing of various industries.**

- **External automatic mobile platform**

The test position can be set by SOP, and samples at different distances can be tested respectively. The position and distance of the spray are fixed. One-click arrival and one-click return make the test more intelligent and convenient. It can effectively reduce the error of manual testing and effectively Reduces the error in repeatability of test results.

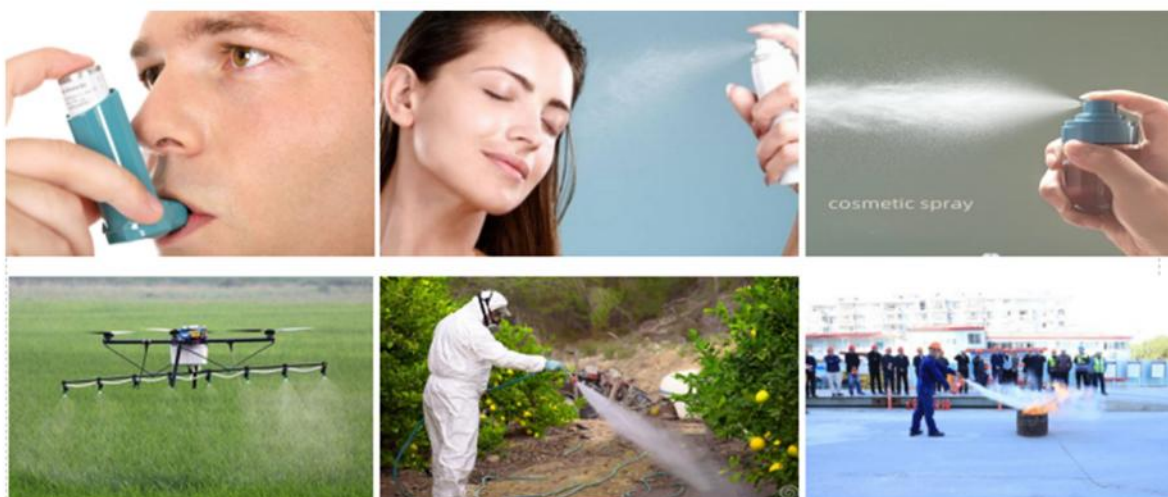


### Test principle



### Application

Medical Nebulizer, Nasal Spray, Respiratory Nebulizer, Ultrasonic Sprayer, Facial Steamer, Aromatherapy, Facial Steamer, Anesthesia Nebulizer, Oxygen Concentrator.



**Technical parameter:**

Model Name	Winner 311PRO
Size Range	0.1-100 $\mu$ m
Detector channels	80 pcs
Accuracy error	$\leq$ 1% (CRM D50)
Repeatability error	$\leq$ 1% (CRM D50)
Light source	Semiconductor red laser $\lambda=650\text{nm}$ $p>1\text{mw}$
Feeding	open
Measurement area length	60mm
Automatic mobile platform	SOP control the spraying point, One-click arrival and one-click return.
GMP	GMP(Optional)
Dimension	L720*W620*H370mm
N.W.	30 KG

**Applied patented technology:**

- Pressurized aerosol protection device for spray particle size analyzer is protected by patent No. ZL 2011 2 0267651.9
- Spray particle size analyzer with auxiliary probe construction is protected by patent No. ZL 2011 2 0267648.7
- Split spray laser particle size analyzer is protected by patent No. ZL 2011 2 0267654.2
- Optical bench design is protected by patent No.– ZL 2014 2 0378380.8,
- MIE scattering principle application patent No.– ZL 2013 2 0812021.4.

**Reference Customer List:**

Beijing Medical Device Inspection Institute, Jiangsu Medical Device Inspection Institute, Guangzhou Medical Device Quality Supervision and Inspection Institute, Yunnan Medical Device Inspection Institute, Sichuan Food and Drug Inspection and Testing Institute, Shandong Medical Device Inspection Institute, Guizhou Medical Device Research Institute, Shaanxi Medical Device Testing Center Food and Drug Administration, Shenzhen Institute of Metrology, Yuyue Medical, Dalian Omron, Yiling Pharmaceutical, Nanjing University etc.

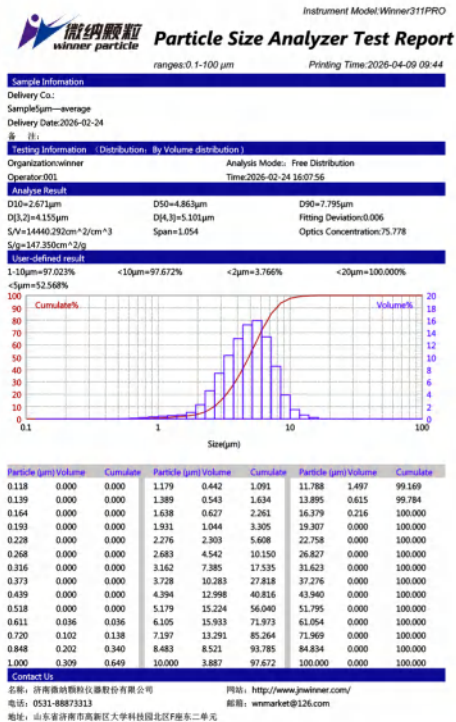
Report interpretation

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



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

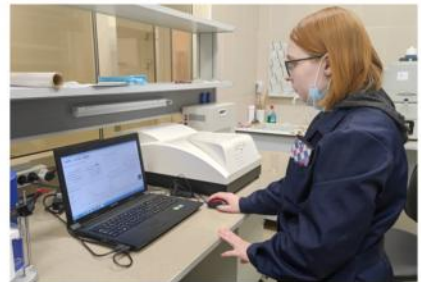
### ■ Long service time

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.

