

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!



Winner100D

Introduction Of Dynamic Wet Particle Image Analyzer



Jinan Winner Particle Instrument Stock Co., Ltd. has launched an exclusive dynamic particle image analyzer — the Winner 100D. It measures particle size distribution and morphology in the range of 5 μm to 3000 μm , in compliance with the international standard ISO/DIS 13322-2. The instrument can capture, store and process real-time images of sample particles. With a larger sampling volume and statistical mode, the analysis results are more representative and reproducible.

Application

Wet dynamic image particle size analyzer is widely used in non-metallic minerals, ceramics, coatings, inks, pigments, fillers, pharmaceuticals, food, lithium battery materials, abrasives, metal powders, cement, chemical powders, water treatment, geological exploration, research institutes and universities and other fields.

It can realize real-time particle size, particle shape, concentration and particle count analysis of particles in suspension, meeting diverse testing demands from routine production quality control to high-end scientific research.



Feature:

- 1) Particle morphology analysis:
Offer Sphericity, circularity, roundness, aspect ratio, sphericity and other particle morphology prepositional parameters, and also add self-developed software for for particle circularity (roundness) computation module. the analysis of the particle circularity in line with US oil and gas standards: API_RP58. And geological plates suitable for this abrasive, oil and gas and other industry standards.
- 2) Compared with the static sample preparation method of the static imager, Winner100D can measure the massive particle data, which is of great significance for the representativeness of the particle data.
- 3) Higher clarity: The combination of wide field, far-reaching central light path and constrained plane sampling window can effectively improve the clarity of particle sample photos

Technical parameter:

Model Name	Winner100D
Measurement Range	5-3000 μ m(Customizable)
Execution standards	ISO/DIS-13322-2
Lens group	HD telecentric lens (specification is optional)
Optical lighting	Highlight parallel light source
Accuracy error	$\leq 1\%$ (Deviation of D50 on national standard sample)
Repeatability error	$\leq 1\%$ (Deviation of D50 on national standard sample)
Number of particles analyzed	> 100000 pcs/min.
High speed imaging module	Maximum frame rate 120 frames/S
Feeding method	Auto wet dispersion system
Dispersion method	The built-in integrated circulation dispersion in the sample tank, combined with ultrasonic dispersion and external ultrasonic dispersion at the sample window, forms a dual ultrasonic synergistic dispersion system, which can significantly improve the dispersion effect.
Output analysis parameter	Particle size: particle size distribution, typical value, maximum particle size, proportion of a specific particle size range, proportion greater than or smaller than a certain particle size. Particle size morphology: aspect ratio and distribution, circularity and distribution, particle image Particle Count: The number of all particles participating in the detection
Other functions	The custom header of the test report displays the logo and tester and other report information, Task management mechanism, etc. Custom display range
Outer dimension	L70*W30*H45cm L41.5*W35*H38 cm
N.W.	15KG+15KG



Analysis Software Function:● **1.Task management mechanism:**

According to the task management, ensure that the data management is in good order.

● **2. Video acquisition:**

Video and pictures are collected at any time to retain the required video data.

● **3.Scale calibration:**

Through scale calibration operation, the actual size can be correlated, so that the actual size value can be obtained directly on the image.

● **4.Picture batch processing mode:**

With this mode, it can process while collecting, without memory limitation, and get more accurate data by processing a large number of pictures.

● **5.Tool Set for Automatic Particle Processing:****12 Automatic Processing Tools:**

Automatic Elimination of Particle Adhesion, Automatic Elimination of Miscellaneous Points, Automatic Elimination of Incomplete Boundary Particles, Automatic Filling of Hollow Areas of Particles, Automatic Smoothing of Particle Edges, etc.

● **6.Software output parameter:**

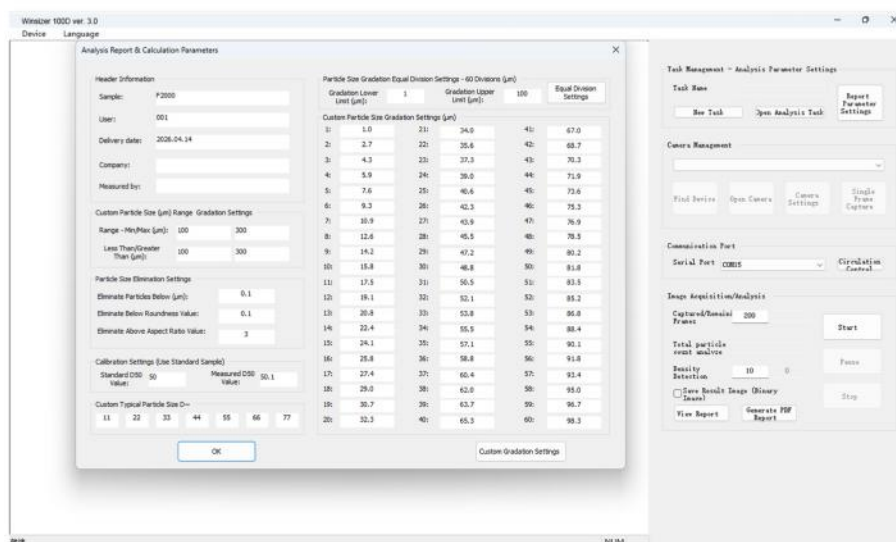
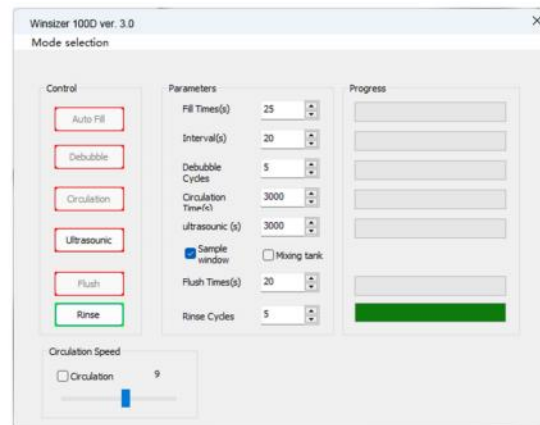
Particle size: particle size distribution, D10, D50, D90, Dmax, typical particle size (customizable);

Customizable: interval content, greater than / less than content, particle gradation;

Particle shape: aspect ratio and distribution, circularity and distribution, particle image, particle count

● **7.Software other functions:**

- Custom header display for Logo and operator information;
- Customizable setting and elimination of particle size, circularity and aspect ratio;
- Interval gradation and custom gradation settings;
- Dual-lens automatic switching, electric focus adjustment;
- Real-time concentration detection and particle count display on test interface;
- Manual / automatic control for circulation module;
- Image saving function, etc.



Report interpretation



WINNER-100D Particle size analysis report

Sample:	0.3mm glass beads	Company:	1
User:	123	Particle No.:	4642
Delivery date:	2025.10.22	Measured by:	WINNER123
Distribution:	Vol	Test Date:	2025/10/27 13:41

Header section:

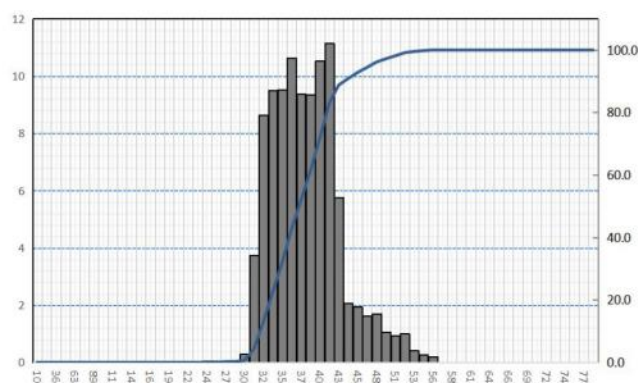
Instrument parameters , sample information

Characteristics of particle size:

The value of particle size characteristics

1. Custom Range Proportion & Distribution Curve of Typical Particle Size (μm)

D10	D25	D32	D50	D75	D90	Dmax
321.74	342.91	352.32	376.16	408.74	439.74	559.52
200—400μm			<200μm		>400μm	
67.73			0.04		32.22	



Particle size chart:

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

2. Custom Typical Particle Size Values (μm)

D11	D22	D33	D44	D55	D66	D77
323.19	338.50	353.60	367.09	383.12	398.29	410.56

3. Particle Size Distribution Data

Diam(μm)	Vol.P (%)	Cumu.P(%)	Diam(μm)	Vol.P (%)	Cumu.P(%)	Diam(μm)	Vol.P (%)	Cumu.P(%)
10.0	0.00	0.00	273.3	0.06	0.23	536.7	0.41	99.54
23.2	0.00	0.00	286.5	0.05	0.27	549.8	0.27	99.80
36.3	0.01	0.01	299.7	0.29	0.56	563.0	0.20	100.00
49.5	0.01	0.02	312.8	3.75	4.31	576.2	0.00	100.00
62.7	0.00	0.02	326.0	8.65	12.96	589.3	0.00	100.00
75.8	0.00	0.02	339.2	9.50	22.46	602.5	0.00	100.00
89.0	0.00	0.03	352.3	9.53	31.99	615.7	0.00	100.00
102.2	0.00	0.03	365.5	10.64	42.63	628.8	0.00	100.00
115.3	0.01	0.04	378.7	9.37	52.00	642.0	0.00	100.00
128.5	0.00	0.04	391.8	9.34	61.34	655.2	0.00	100.00
141.7	0.00	0.04	405.0	10.53	71.87	668.3	0.00	100.00
154.8	0.00	0.04	418.2	11.15	83.01	681.5	0.00	100.00
168.0	0.00	0.04	431.3	5.77	88.79	694.7	0.00	100.00
181.2	0.00	0.04	444.5	2.07	90.85	707.8	0.00	100.00
194.3	0.00	0.04	457.7	1.94	92.79	721.0	0.00	100.00
207.5	0.00	0.04	470.8	1.63	94.42	734.2	0.00	100.00
220.7	0.03	0.07	484.0	1.71	96.13	747.3	0.00	100.00
233.8	0.01	0.08	497.2	1.06	97.19	760.5	0.00	100.00
247.0	0.04	0.12	510.3	0.93	98.12	773.7	0.00	100.00
260.2	0.05	0.16	523.5	1.00	99.13	786.8	0.00	100.00

Particle size table;

Cumulative distribution and frequency distribution of particle size

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WEB: www.jnwinner.com

Sale Tel: 0531-88873313

Adoption Standard: ISO 13322-2:2021 Particle size analysis

Report interpretation

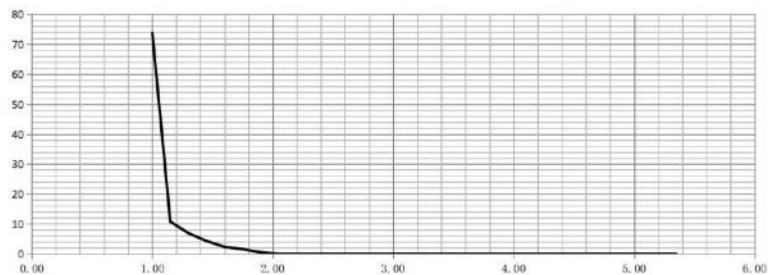


WINNER-100D Aspect Ratio Analysis Report

Sample:	0.3mm glass beads	Company:	1
User:	123	Particle No.:	4642
Delivery date:	2025.10.22	Measured by:	WINNER123
Distribution:	Vol	Test Date:	2025/10/27 13:41

1. Aspect Ratio Parameters

Aspect Ratio 1.112 standard deviation 0.196



2. Aspect Ratio Distribution Table

Aspect Ratio	Frequency	Accumulation	Aspect Ratio	Frequency	Accumulation	Aspect Ratio	Frequency	Accumulation
1.00	73.85	73.85	2.50	0.00	100.00	4.00	0.00	100.00
1.15	10.71	84.55	2.65	0.00	100.00	4.15	0.00	100.00
1.30	6.89	91.45	2.80	0.00	100.00	4.30	0.00	100.00
1.45	4.27	95.71	2.95	0.00	100.00	4.45	0.00	100.00
1.60	2.28	98.00	3.10	0.00	100.00	4.60	0.00	100.00
1.75	1.53	99.53	3.25	0.00	100.00	4.75	0.00	100.00
1.90	0.47	100.00	3.40	0.00	100.00	4.90	0.00	100.00
2.05	0.00	100.00	3.55	0.00	100.00	5.05	0.00	100.00
2.20	0.00	100.00	3.70	0.00	100.00	5.20	0.00	100.00
2.35	0.00	100.00	3.85	0.00	100.00	5.35	0.00	100.00

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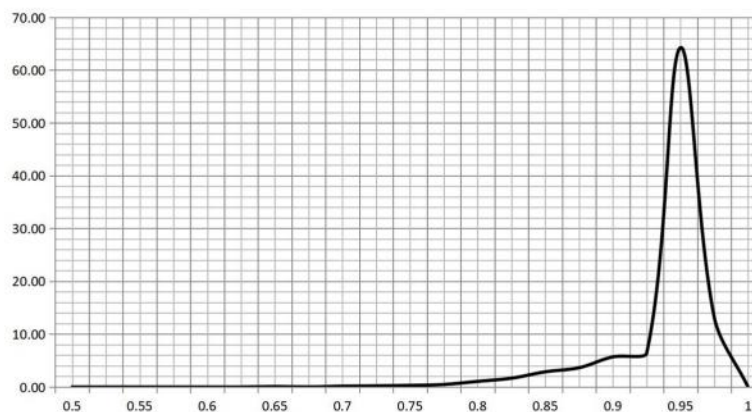


WINNER-100D Roundness Analysis Report

Sample:	0.3mm glass beads	Company:	1
User:	123	Particle No.:	4642
Delivery date:	2025.10.22	Measured by:	WINNER123
Distribution:	Vol	Test Date:	2025/10/27 13:41

1. Roundness Statistics & Standard Deviation

Roundness (Statistical Value) 0.928 standard deviation (SD) 0.0420



2. Roundness Distribution Table

Roundness	Number	Frequency	Roundness	Number	Frequency	Roundness	Number	Frequency
0.5	0	0.00	0.675	1	0.02	0.85	133	2.87
0.525	0	0.00	0.7	7	0.15	0.875	169	3.64
0.55	0	0.00	0.725	10	0.22	0.9	264	5.69
0.575	0	0.00	0.75	14	0.30	0.925	296	6.38
0.6	0	0.00	0.775	22	0.47	0.95	2983	64.26
0.625	0	0.00	0.8	49	1.06	0.975	613	13.21
0.65	4	0.09	0.825	77	1.66	1	0	0.00

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WEB: www.jnwinner.com
Adoption Standard: ISO 13322-2:2021 Particle size analysis

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.

