Winner-2308A/B Intelligent Wet and Dry Laser Particle Size Analyzer

1. Brief introduction:

Winner2308A intelligent full automatic wet&dry laser particle size analyzer adopt full MIE scattering principle, measure size is from 0.01um to 2000um(dry 0.1um-2000um), Which offer reliable and repeatable particle size analysis for a diverse range of applications.It use dual-beam& multiple spectral detection systems and side light scatter test technology to significantly improve precision and performance of test, It's the prior choice for industrial production quality control departments and research institutions.

2. Main Specifications:

Model Name	Winner2308A	Winner2308B
Standard	ISO13320-1:1999 GB/T19077.1-2308 Q/0100JWN001-2013	
Principle	Laser scattering principle	
Measuring Range	Dry:0.1-2000 micron Wet:0.01-2000 micron	Dry: 0.1-1200 micron Wet:0.01-1200 micron
Channels Number	Dry:100 pcs Wet:127 pcs	Dry:97pcs Wet:120 pcs
Accuracy error	<1% (Deviation of D50 on national standard sample)	
Repeatability error	<1% (Deviation of D50 on national standard sample)	
Light source	Dual lens, He-Ne laser P>3.0 MW (λ= 632.8nm) Auxiliary semiconductor laser (λ= 532 nm) P＞2.0MW	
Operation Mode	Intelligent	
Optical alignment	Automatic	
Data acquisition rate	2KHZ	
Test Speed per time	Wet: ＜2 Min Dry : <1min	
Outer dimension	L92cm×W44cm×H50cm	
Net Weight	70Kg	

3. Main Features:

1)Wet and dry sample dispersion system Integrated Design
Winner2308 intelligent laser particle size analyzer which is 1st set laser particle size analyzer integrated wet and dry dispersion test in one in China, it successfully resolved the problem of dry and wet technology integration, realize one key to switch, apply to test all the particle size distribution from 0.01-2000um particles.

2) Intelligent full automatic operation system and manual operation mode, freely choose.
With intelligent automatic mode of operation, to achieve a key test, as long as according to the prompt addition of sample, click the "test", all process will be complete automatically, not only reduce the testing workload, but also eliminate the interference of human factors, to further improve the accuracy and authenticity of testing results.
Wet method: A key to complete water-supply, dispersion, circulation, testing, cleaning, data record, data analysis, save and print are automatically completed, only take 2 mins.
Dry method: A key to complete the dust collecting, air supply, feeding, testing, data processing and other operation, take 1 min.

3) Stable and unique optical path system patented technology
Converging light Fourier transform path system, enables scattering light be not restricted to the lens aperture limit, and Dual-laser orthogonal light technology make use of the semiconductor auxiliary laser extend the test angle from 45 degree to 135 degree, ensure receive all the angles of signals.

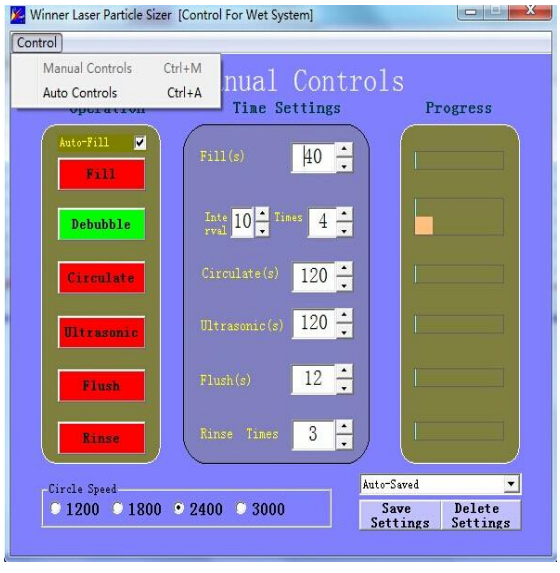
4) Automatic Optical path alignment System,
The precision of four hybrid stepping motor in the automatic system of optical components, micro precision of 0.1um, the instrument of light path is always at its best to eliminate manually on the light path and the troubles and difficulties but also enhance the accuracy and stability of test results.

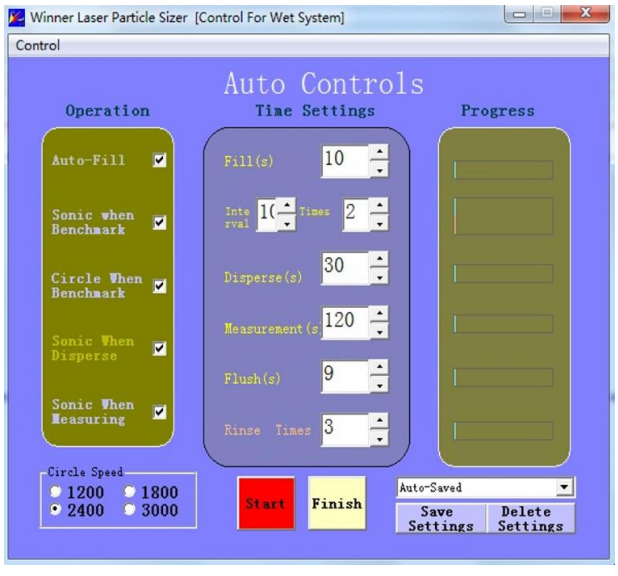
5) Full built-in Sample dispersion system.
Auto wet dispersion system,SOP realize one key operation.
set mechanical stirring, ultrasonic dispersion, and circulation path in one,It ensures particles uniform dispersion and distribution,avoids many bad phenomenon,such as uneven distribution of particles, large particles deposit because of the long outer dispersing system tube, And it guarantees the representativeness of test result.
For dry dispersion system, Turbulence dispersion patented technology and Normal shock shearing effect, make particles sufficient dispersion,ensure good test.

6)Instrument Software
Original Unconstrained free fitting patent technology collect scattering data during themeasurement process, make particle analysis not be restricted by any functions,
truly reflect particles size distribution, The instrument provide high precision data with 10Khz data acquisition time.
Adoptunconstrained free fitting patenttechnology collect scattering data during the measur ement process, make particle analysis not be restricted by any functions, truly reflect partic les distribution.

4. Software Function:

1.Control Interface



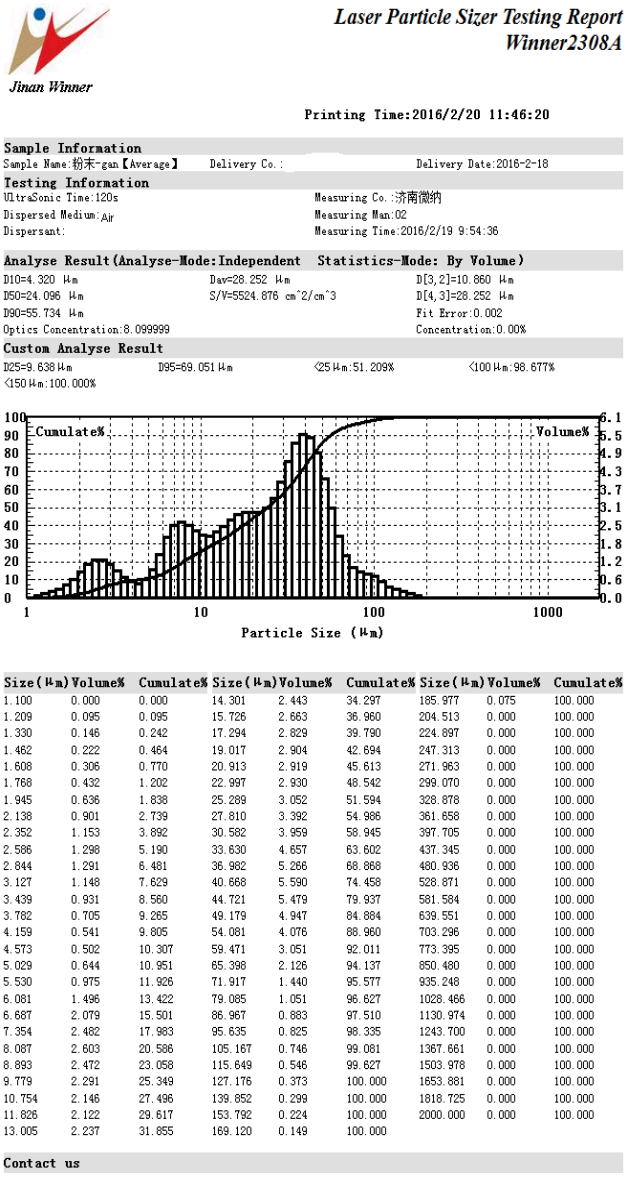


2. Analysis Mode
Free Distribution, R-R Distribution, Logarithm Normal Distribution, Mesh number classification etc. meet different demands of particle size statistic in different industries.

3. Statistic Method
Volume Distribution, Quantity Distribution

4. Statistic Comparison
Statistic Several Testing Results to compare and analyze
Get difference by compare test result of different batches of samples, samples before and after processing, and different time.
Have great practical significance to industrial raw materials quality control

5. User-defined Analysis
Figure out percentage according to the particle size
Figure out particle size according to the percentage
Figure out percentage according to the particle size range
Meet demands of representation of particle test in different industries.



Laser Particle Sizer Testing Report
Winner2308A

Jinan Winner

Printing Time:2016/2/20 11:46:20

Sample Information

Sample Name:粉末-gan【Average】 Delivery Co.: Delivery Date:2016-2-18

Testing Information

UltraSonic Time:120s Measuring Co.:济南微纳
Dispersed Medium:Air Measuring Man:02
Dispersant: Measuring Time:2016/2/19 9:54:36

Analyse Result(Analyse-Mode:Independent Statistics-Mode: By Volume)

D10=4.320 μm Dav=28.252 μm D[3,2]=10.860 μm
D50=24.096 μm S/V=5524.876 cm^2/cm^3 D[4,3]=28.252 μm
D90=55.734 μm Fit Error:0.002
Optics Concentration:8.099999 Concentration:0.00%

Custom Analyse Result

D25=9.638 μm D95=69.051 μm <25 μm:51.209% <100 μm:98.677%
<150 μm:100.000%

Size(μm)	Volume%	Cumulate%	Size(μm)	Volume%	Cumulate%	Size(μm)	Volume%	Cumulate%
1.100	0.000	0.000	14.301	2.443	34.297	185.977	0.075	100.000
1.209	0.095	0.095	15.726	2.663	36.960	204.513	0.000	100.000
1.330	0.146	0.242	17.294	2.829	39.790	224.897	0.000	100.000
1.462	0.222	0.464	19.017	2.904	42.694	247.313	0.000	100.000
1.608	0.306	0.770	20.913	2.919	45.613	271.963	0.000	100.000
1.768	0.432	1.202	22.997	2.930	48.542	299.070	0.000	100.000
1.945	0.636	1.838	25.289	3.052	51.594	328.878	0.000	100.000
2.138	0.901	2.739	27.810	3.392	54.986	361.658	0.000	100.000
2.352	1.153	3.892	30.582	3.959	58.945	397.705	0.000	100.000
2.586	1.298	5.190	33.630	4.657	63.602	437.345	0.000	100.000
2.844	1.291	6.481	36.982	5.266	68.868	480.936	0.000	100.000
3.127	1.148	7.629	40.668	5.590	74.458	528.871	0.000	100.000
3.439	0.931	8.560	44.721	5.479	79.937	581.584	0.000	100.000
3.782	0.705	9.265	49.179	4.947	84.884	639.551	0.000	100.000
4.159	0.541	9.805	54.081	4.076	88.960	703.296	0.000	100.000
4.573	0.502	10.307	59.471	3.051	92.011	773.395	0.000	100.000
5.029	0.644	10.951	65.398	2.126	94.137	850.480	0.000	100.000
5.530	0.975	11.926	71.917	1.440	95.577	935.248	0.000	100.000
6.081	1.496	13.422	79.085	1.051	96.627	1028.466	0.000	100.000
6.687	2.079	15.501	86.967	0.883	97.510	1130.974	0.000	100.000
7.354	2.482	17.983	95.635	0.825	98.335	1243.700	0.000	100.000
8.087	2.603	20.586	105.167	0.746	99.081	1367.661	0.000	100.000
8.893	2.472	23.058	115.649	0.546	99.627	1503.978	0.000	100.000
9.779	2.291	25.349	127.176	0.373	100.000	1653.881	0.000	100.000
10.754	2.146	27.496	139.852	0.299	100.000	1818.725	0.000	100.000
11.826	2.122	29.617	153.792	0.224	100.000	2000.000	0.000	100.000
13.005	2.237	31.855	169.120	0.149	100.000			

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Test report interpretation:

D10=X, means≤X particle size's particle volume content occupy 10% of all the particles.
D50=Y, means ≤Y particle size's particle volume content occupy 50% of all the particles.
D90=Z, means ≤Z particle size's particle volume content occupy 90% of all the particles.
DAV: Average particle size of particles group
S/V: Specific surface area, surface to volume ratio/ Surface area per unit volume
D[3,2] Weighted average surface area
D[4,3] Volume weighted average
Particle Size Analysis Chart illustration:
The transverse is the particle size value, and the value is logarithmic distribution.
The left column is the volume of the cumulative percentage, the corresponding curve is upward trend.
The right column is the percentage of the volume of a certain interval, corresponding to the histogram or undulating curve.
The data list is corresponding to the test result of analysis chart.

6. Test Report
Word, Excel,Photo(Bmp), Text etc.

7. Multiple language Support
Chinese&English (Others are available)

8. Intelligent Operation Mode
Automatically control water inflow, dispersion,test and analysis.
Better Repeatability after remove human-factor

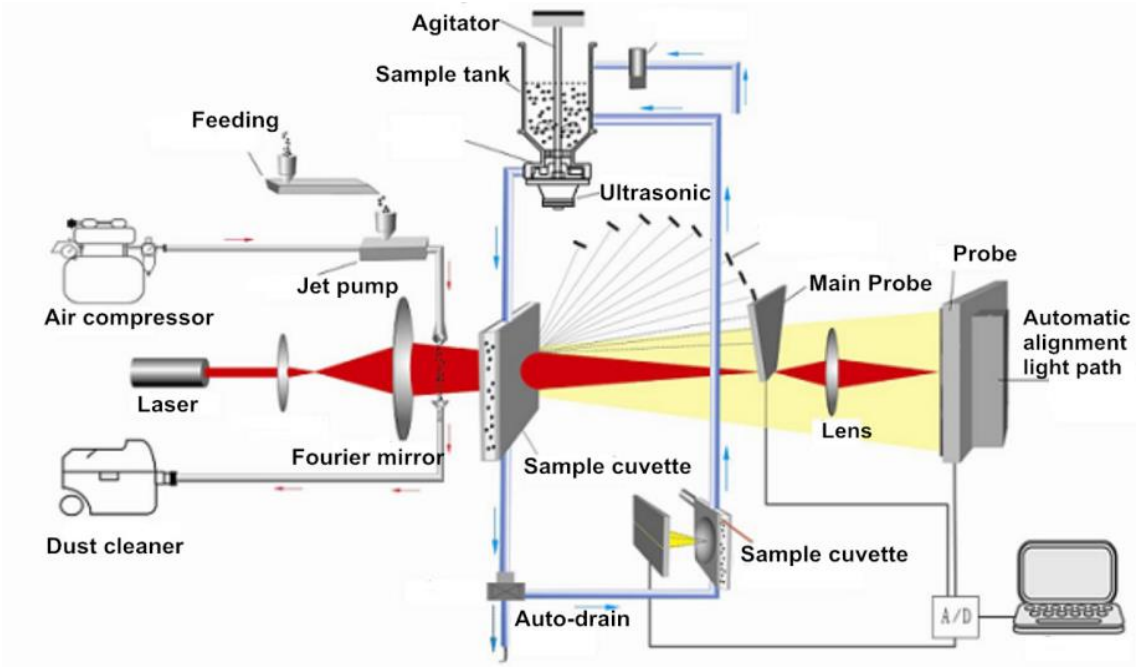

Figure-Winner2308 Internal Structure

5.Application:
Winner2308 widely used in cement, ceramics, medicines, lotions, paints, dyes, pigments, fillers, chemicals, catalysts, drilling mud, abrasives, lubricants, coal, sediment, dust, cells, bacteria, food additives, pesticides, explosives, graphite, photographic materials, fuel, ink, metal and non-metal powder, calcium carbonate, kaolin, coal slurry and other powdered materials.

6.Adopt 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.
- Dual laser beam orthogonal application is protected by patent No.-ZL 2007 2 0025702.0
- Powder dispersion pump design application is protected by patent No.-ZL 2007 2 0018648.7
- Wet circulation installation is protected by patent No.-ZL2010 2 0593526.2