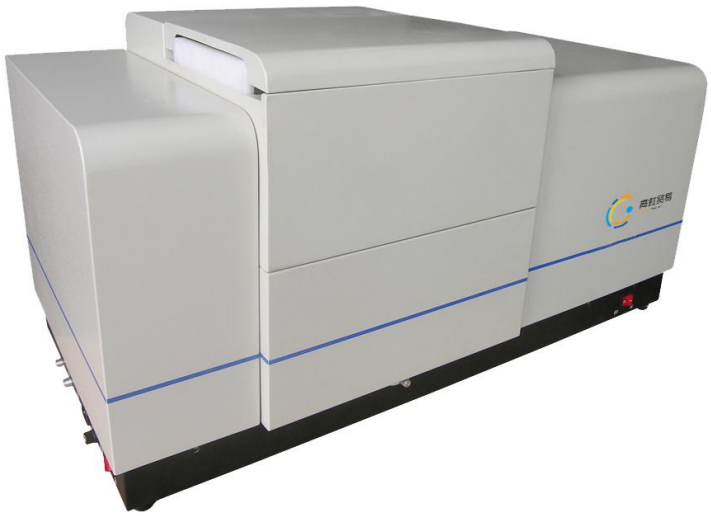
GaoHong-2008A Intelligent Laser Particle Size Analyzer



Brief introduction:

GaoHong2008A full automatic wet laser particle size analyzer adopt MIE scattering principle, measure size is from 0.01μm to 2000μm, Which offer reliable and repeatable particle size analysis for a diverse range of applications. It uses dual-beam& multiple spectral detection systems and side light scatter test technology to significantly improve precision and performance of test, on behalf of the domestic advanced level in the field.

Main Specifications:

Model Name		**GaoHong2008A**	**GaoHong2008B**
Standard		ISO13320-1:1999, GB/T19077.1-2008, Q/JWN001-2009	
Principle		MIE scattering principle	
Measuring Range		0.01μm-2000μm	0.01μm-1200μm
Channels Number		127	127 (different photo detectors & optical light path)
Accuracy error		<1% (Deviation of D50 on national standard sample)	
Repeatability error		<1% (Deviation of D50 on national standard sample)	
Light source		High performance semiconductor laser (λ= 632.8nm, P>2MW) Lifetime>25000hours	
Dispersion Method	Ultrasonic	Frequency:40KHz Power:35W, Time: ≥1S ,Anti-dry function	
	Stir	Revolutions Speed: 0-3000RPM (Adjustable)	
	Circulate	Rated Flow:8L/min Rated Power:10W	
	Sample Pool	Volume:350mL	
	Micro-Sample Pool	Volume: 10mL (Available)	
Operation Mode		Full automatic/ manual control, freely choose	
Resolution		Free distribution truly reflect particle size distribution	
Optical bench alignment system		Japan Canon lens, Full automatic,precision is up to 0.1um	
Software function	Analysis mode	Free Distribution, R-R Distribution, Logarithm Normal Distribution, Mesh number classification etc.	
	Statistic Method	Volume Distribution, Quantity Distribution	
	Statistic Comparison	Several Testing Results of samples Different batches of samples testing result, Samples before and after processing, Test result of samples in different time.	
	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	
	Test Report	Word, Excel,Photo(Bmp), Text etc	
	Multiple-language Support	Multiple language Support	
	Intelligent operation	Automatically control water inflow, dispersion,test and analysis.Better Repeatability after remove human-factor	
Testing speed		<2min/time	
Outer dimension		L25.98" * W12.6" * H15.75"	
Net weight		65Kg/143.3pound	

Main Features:

1) GaoHong Patent -Optical path design

Converging light Fourier transform light patented technology, make scattering light not be restricted to lens aperture. Double spectrum design make its precision achieves from 0.01μm to 2000μm, and Dual-laser orthogonal light make use of the semiconductor auxiliary laser extend the test angle from 45 degree to 135 degree, ensure receive all the angles of signals.

2) Expand Size Range

GaoHong2008A measurement range significantly expanded to 0.01um, particularly suitable for small samples of the user, the sub micron particle test results reached the international level.

3) Full automatic built-in wet dispersion system

The ultrasonic dispersion, mechanical stirring and circulation channel reasonable integrated in the interior of the instruments, ensure the uniform dispersion and distribution of particles in the testing process, effectively avoid uneven distribution, large particle deposition phenomenon caused by long pipe line of outside dispersion system , to ensure the accuracy of the test results.

4) Intelligent Operation mode

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 processes including water-supply, dispersion, circulation, testing, cleaning, data record, data analysis, save and print are automatically completed, not only reduce the testing workload, but also eliminate the interference of human factors, to further improve the accuracy and authenticity of testing results.

5) 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.

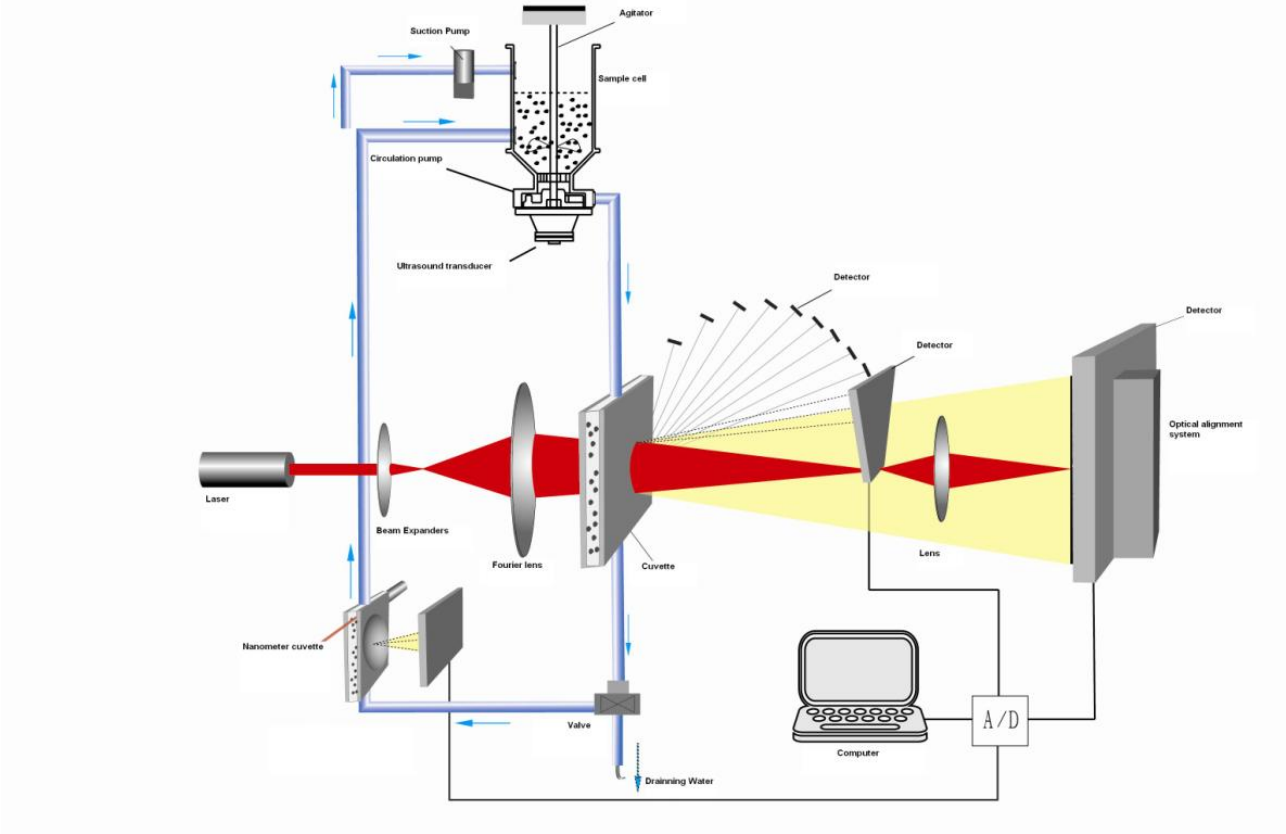
6) Authoritative calibration method

In the entire test range using the national standard materials for calibration, only a year calibration once the instrument can. Calibration method is simple and quick.

7) Unconstrained free fitting patent technique

GaoHong original unconstrained free fitting patent technology, particle size analysis is not affected by any functional constraints, truly reflect particle size distribution.

Instrument principle diagram

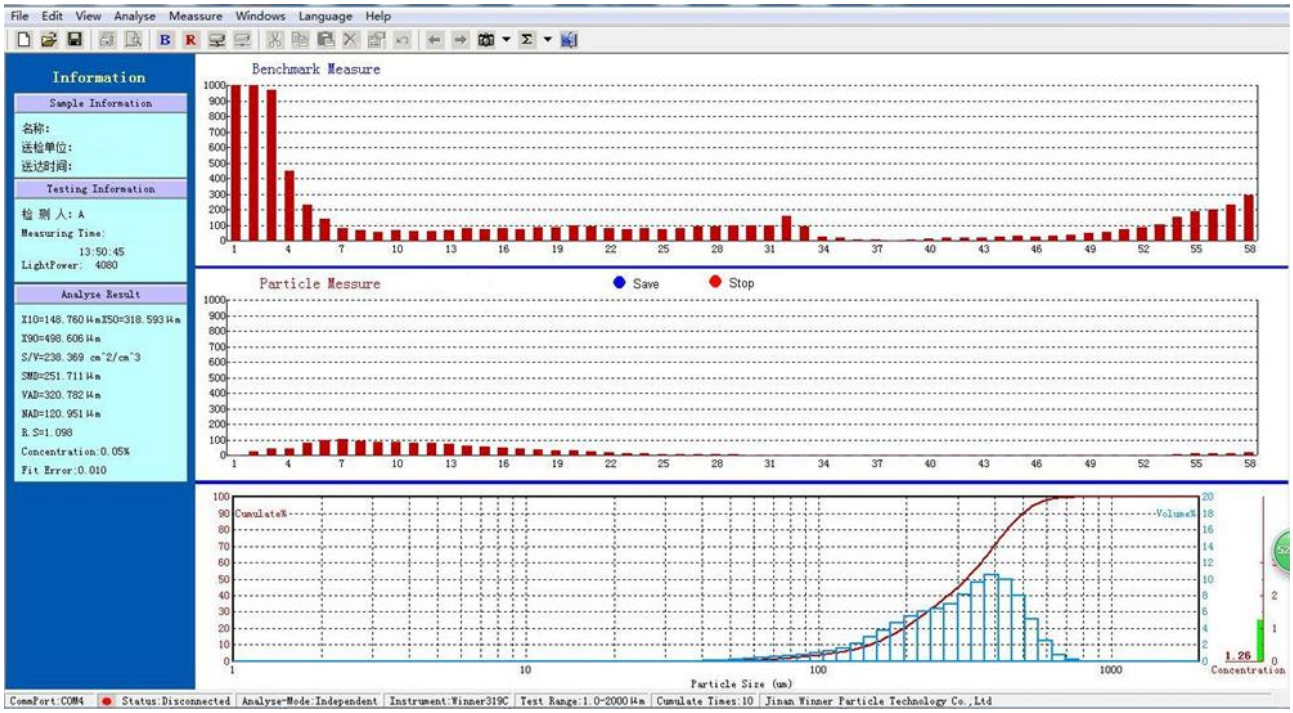


Adopt Patents Technology:

1. Optical bench design is protected by patent No.- ZL 2014 2 0378380.8.
2. Optical bench alignment system is protected by patent No.- ZL 2013 2 0835882.4.
3. Mie scattering principle application patent No.- ZL 2013 2 0812021.4.
4. Dual laser beam orthogonal application is protected by patent No.-ZL 2007 2 0025702.0.

Instrument Test operation interface:

After the background test, click on Energy spectrum test" in "test view". And the system will display "test view". Observe the Spectral curve and concentration, After the test result becomes stable, click the "save the results". The System will automatically save the test result at the preset time intervals.



Energy Spectrum Test View

Test Report and Its Description:

Sample Information

Nozzle Name:30um	Style:	Category:
Delivery Co.:	Delivery Date:2016-5-11	Remark:

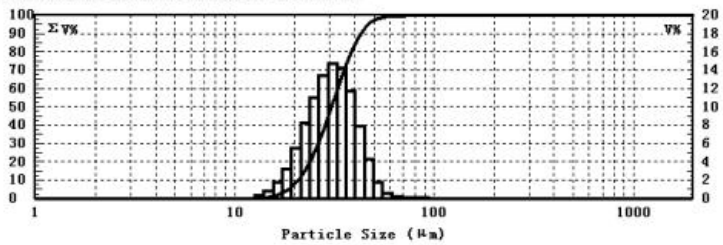
Testing Information

Instrument:Winner319C	Test Range:1.0-2000	Environment:
Medium:5	Spray Object:	Flux of liquid:1.52
Hydraulic Pressure:0	Spray Angle:1.33	Testing Interval:3
Sampling Number:2	Repeats:	Dist. Between Emission and Receive:
Dist. between nozzle and laser:.01	Dist. Between Nozzle and Instrument:	Dist. Between Sample and Spray:
Measuring Man:A	Measuring Time:2016-05-11	Remark:

Analyse Result(Analyse-Mode:Independent)

V10=20.748 μm	V50=30.612 μm	V90=43.171 μm	VAD=31.465 μm
N10=16.119 μm	N50=23.488 μm	N90=34.637 μm	NAD=24.592 μm
R.S=0.732	N/V=0.767	SMD=29.024 μm	
Fit Error:0.012	Optics Concentration:1.5	Concentration:0.01%	

(V: cumulative volume distribution, N: cumulative number distribution)



d(μm)	V%	ΣV%	d(μm)	V%	ΣV%	d(μm)	V%	ΣV%
12.599	0.000	0.000	26.380	10.976	30.766	55.234	1.805	98.853
14.002	0.325	0.325	29.317	13.390	44.156	61.384	0.588	99.441
15.561	0.839	1.164	32.582	14.735	58.891	68.219	0.201	99.642
17.294	1.707	2.872	36.209	14.248	73.139	75.815	0.135	99.777
19.219	3.235	6.107	40.241	11.685	84.824	84.256	0.121	99.898
21.359	5.450	11.557	44.721	7.915	92.739	93.637	0.102	100.000
23.737	8.233	19.790	49.701	4.309	97.048	104.063	0.000	100.000

1) D10 : Particle diameter, < 10% particle volume summation percent of total particle's volume

2) D50 : Particle diameter, < 10% particle volume summation percent of total particle's volume

3) D90 : Particle diameter, < 10% particle volume summation percent of total particle's volume

4) DAV:The average particle size of the particle swarm

5) S/V: Volume specific surface area; surface area per unit volume of particles

Particle size analysis diagram:

- Horizontal axis is the size of the particle, which is the logarithm distribution.
- Left column is the volume of the cumulative percentage, corresponding to the upward trend curve.
- Right column is the volume percentage of a certain interval, corresponding to the histogram or the ups and downs of the curve.
- The test result of data list is corresponding to the analysis chart.

Application:

GaoHong2008 is widely used in mineral materials, cement, ceramics, chemicals, paint, emulsion, dyes, pigments, fillers, chemical products, catalysts, drilling mud, abrasive, lubricant, coal, sand, dust, bacteria, cells, food, additives, pesticides, explosives, graphite, photosensitive materials, fuel, and ink metal and non metal powder, calcium carbonate, kaolin, coal water slurry and other powder material.