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TM



Analytical[®]
Technologies Limited

Analytical Technologies Particle Size Analyzer Sizer 3002



Analytical Technologies Sizer 3002 is smart wet dispersion particle analyzer with reliable measurement performance from submicron to millimeter. Driven by Standard Operation Procedure (SOP), the instrument minimizes manual participation and makes particle size measurement fast and routine.

EPC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net



Features/Benefits:

- ✦ Measuring range: 0.02 μ m to 2000 μ m
- ✦ Accuracy: $\leq 0.5\%$ (GBRM D50)
- ✦ Repeatability: $\leq 0.5\%$ (GBRM D50)
- ✦ Detector: 90 pieces (forward, lateral, backward)
- ✦ Typical measurement time: ≤ 10 second
- ✦ Dual Lenses Optical System (DLOS)
- ✦ Standard Operation Procedure (SOP)
- ✦ Automatic Centering
- ✦ Automatic alignment
- ✦ High-performance fiber lasers with long lifespan.

Intelligent Particle Sizing Performance

1. Repeatability: $\leq 0.5\%$ (GBRM D50)

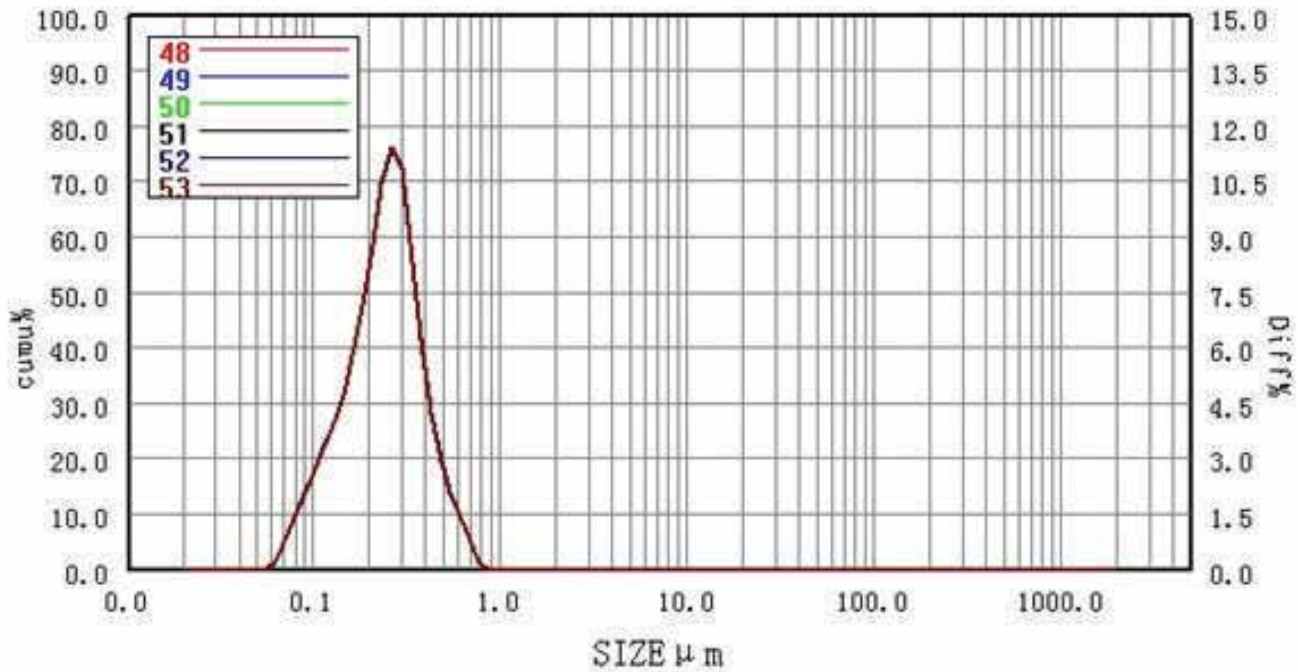
Reproducibility : $\leq 0.5\%$ (GBRM D50)

The assured measurement performance and wide dynamic range of Analytical Technologies Sizer 3002 makes it suitable for a diverse range of applications. The results under same analysis conditions yield good repeatability and reproducibility as shown in the following graphs.

a) Repeatability: $\leq 0.5\%$ (GBRM D50)

item	D3	D5	D10	D16	D25	D50	D75	D84	D90	D97	D98
7	2.951	3.602	4.151	4.731	5.400	6.975	8.860	9.880	10.86	12.95	13.77
8	2.907	3.567	4.113	4.700	5.371	6.946	8.823	9.844	10.82	12.91	13.70
9	2.894	3.561	4.111	4.693	5.362	6.938	8.793	9.797	10.75	12.83	13.57
10	2.891	3.556	4.103	4.690	5.357	6.931	8.780	9.779	10.73	12.80	13.52
11	2.894	3.559	4.110	4.691	5.360	6.935	8.787	9.788	10.74	12.81	13.54
12	2.905	3.583	4.133	4.714	5.385	6.960	8.844	9.862	10.84	12.93	13.74
Rep.	0.32%	0.50%	0.41%	0.35%	0.31%	0.31%	0.38%	0.43%	0.52%	0.51%	0.30%

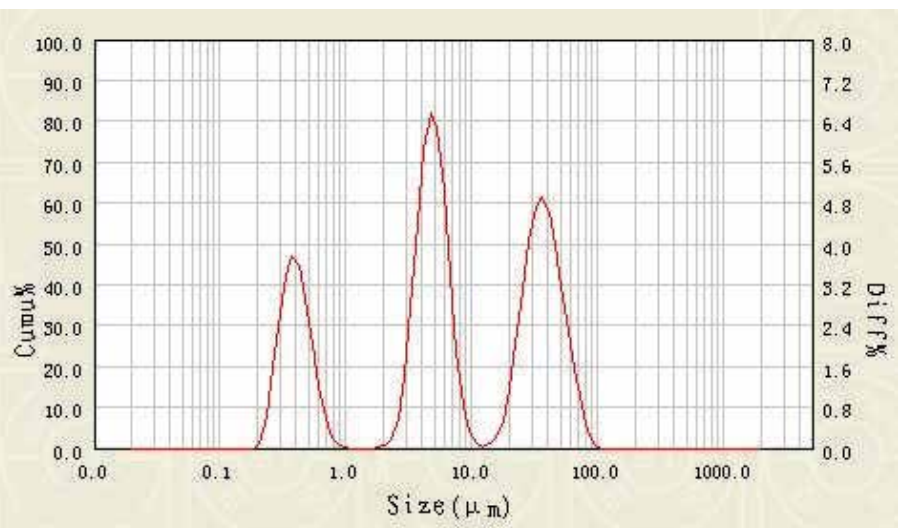
b) Reproducibility: $\leq 0.5\%$ (GBRM D50)



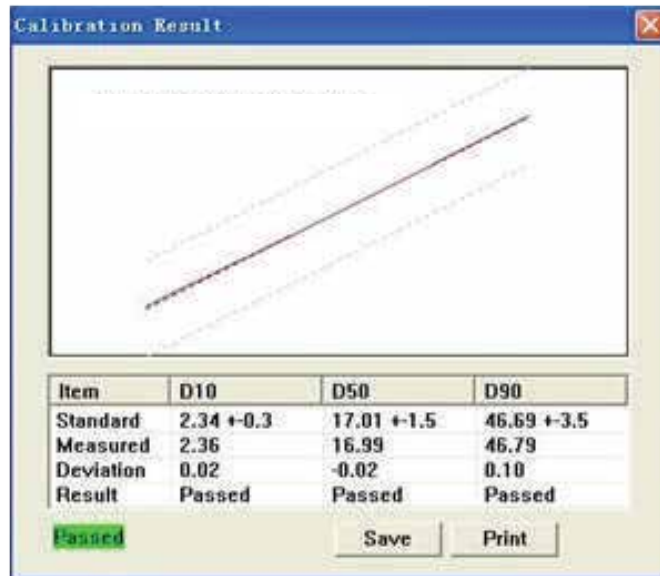
2. Accuracy: $\leq 0.5\%$ (GBRM D50)

The accuracy of Analytical Technologies Sizer 3002 as verified by measurements of standard samples

a) Analytical Technologies Sizer 3002 tested certified reference Sizer materials and resolved three peaks



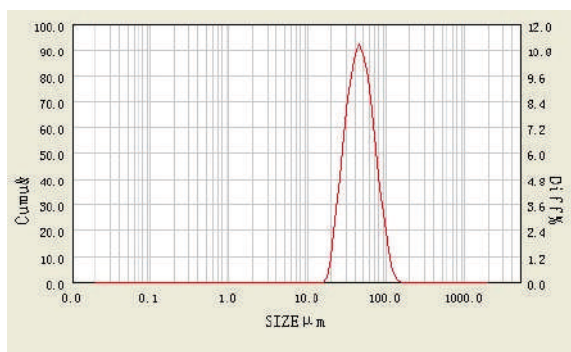
a) Analytical Technologies Sizer 3002 tested Standard Sample to verify Accuracy



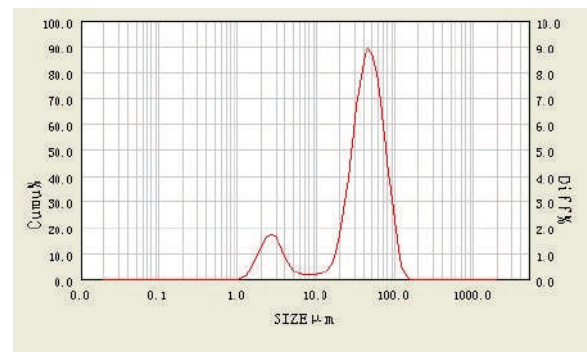
3. Resolution and Sensitivity

The resolution and sensitivity of Analytical Technologies Sizer 3002 as verified by measurement that sample A is gradually added to the sample B. With the addition of sample A, the results change correspondingly.

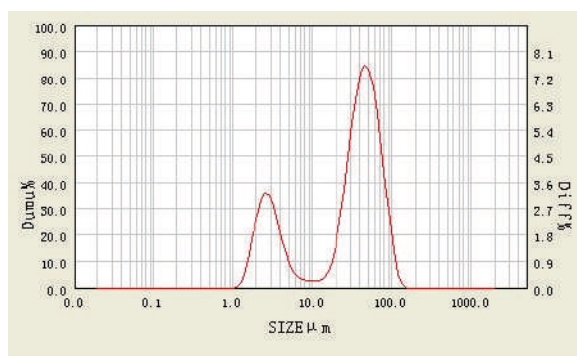
B (A=0)



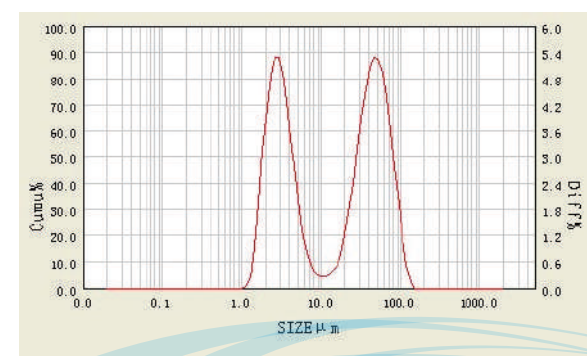
B+A(B=5%B)



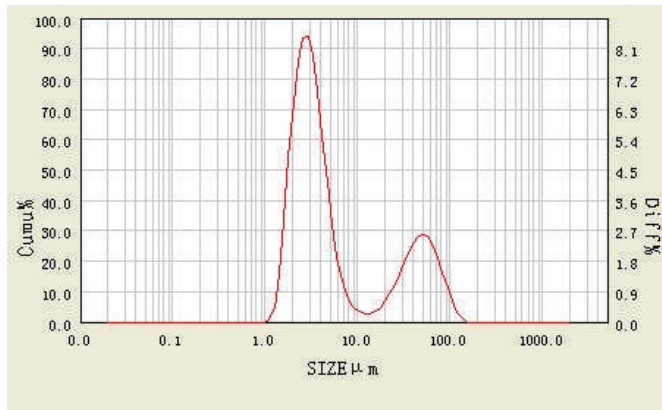
B+A(B=25%B)



B+A(B=100%B)



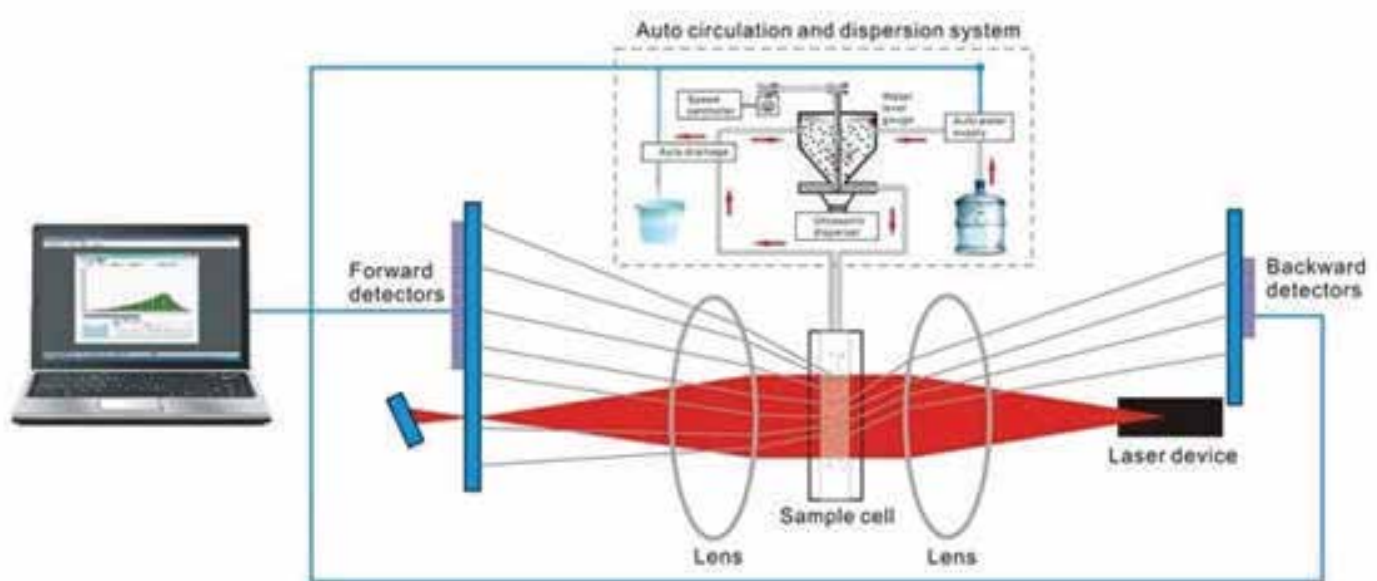
B+A(B=150%B)



Technologies for Reliable Measurement

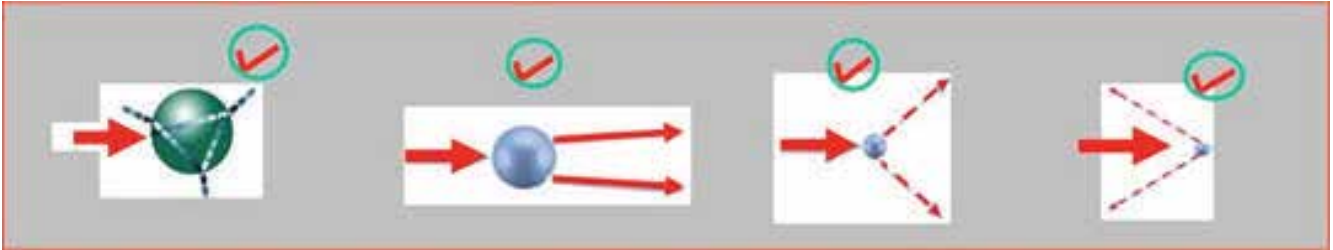
1. Dual Lenses Optical System (DLOS)

Based on Fourier optical system, DLOS is a technical innovation made by us. It detects backward scattered laser by symmetrically adding a second lens behind the sample cell. The second lens also functions as a collimating lens which turns the diverging laser beam into parallel beam. The parallel beam impinging on the sample cell has the advantage of large and constant intensity circle of illumination of the sample. In a laser diffraction measurement, the forward and backward diffraction lasers generated by a single laser source have a consistent wavelength, datum, and continuity, provides superior accuracy across a wide size range.

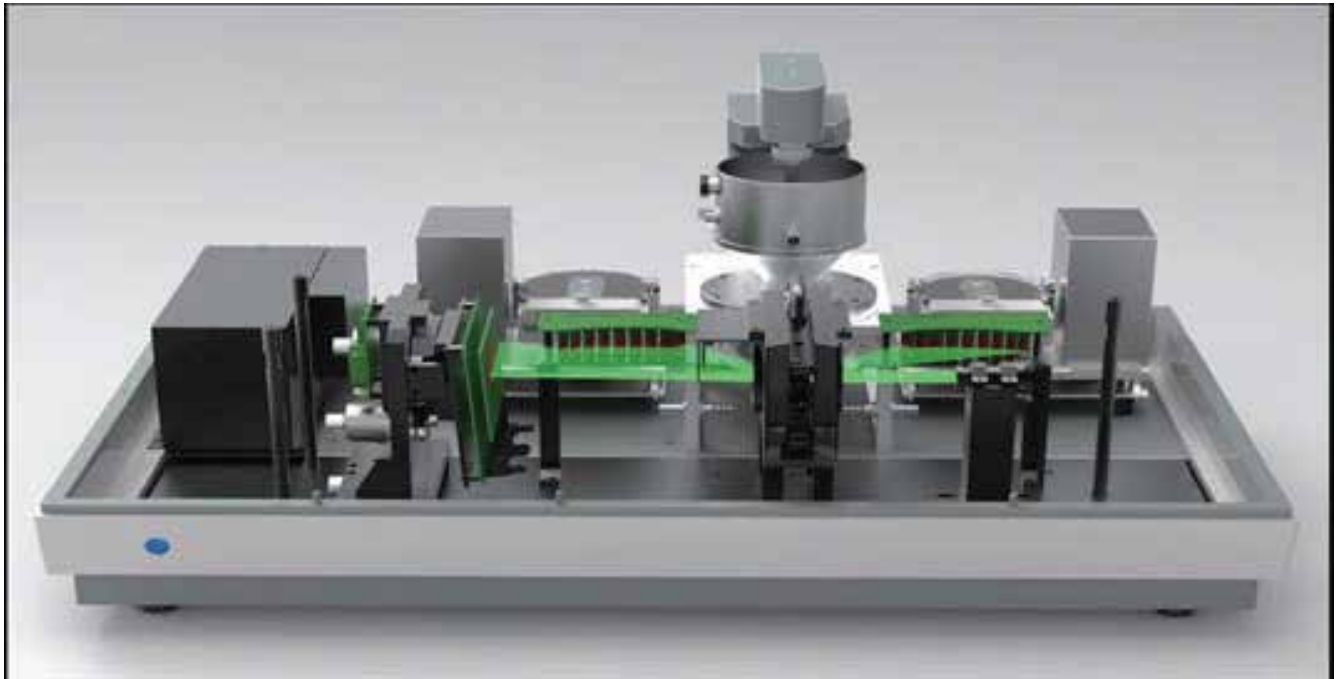


Features and benefits of DLOS:

- * Achieve wide measuring range from 0.02 μ m to 2000 μ m.



- * The second lens can collimate the laser beam as well as detect backward scattering light.
- * 90 surrounded detectors collect scattering light at wide angles to improve the resolution ratio and measuring accuracy.

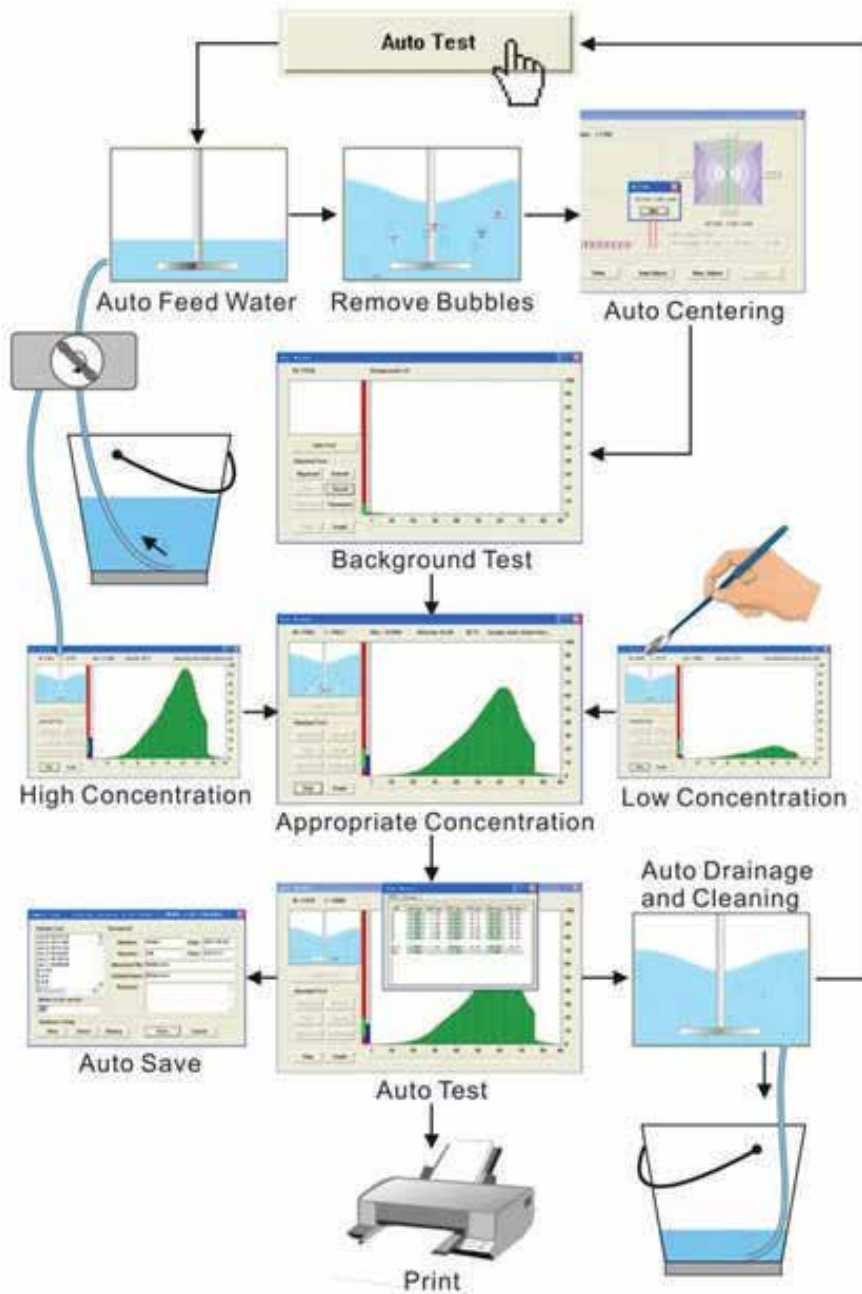


2. Standard Operation Procedure (SOP)

Analysis by one mouse click:

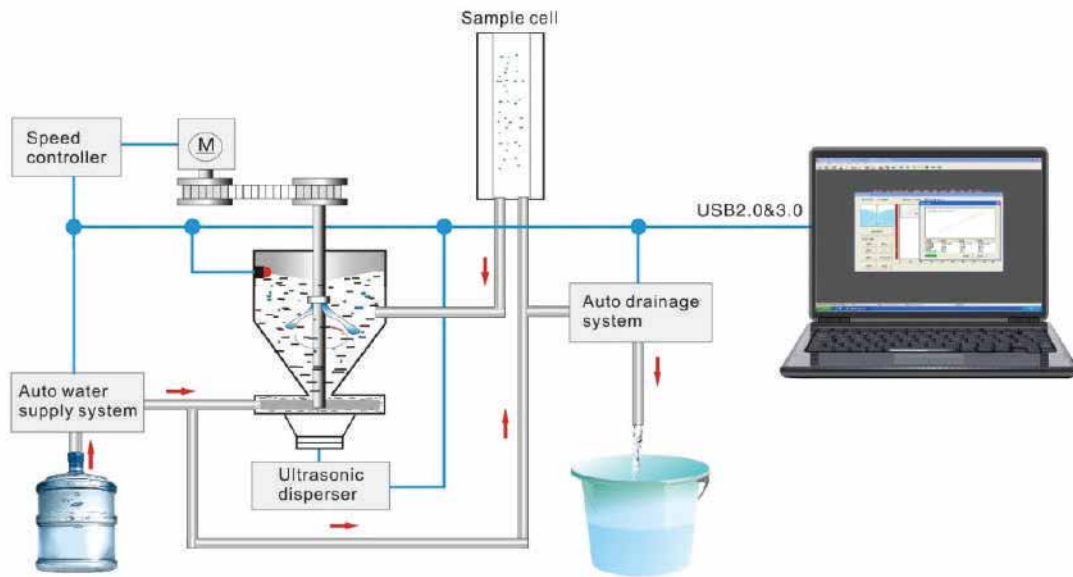
SOP of Analytical Technologies Sizer3002 provides an intuitive solution for standardized and automatic testing. Click once on the auto test button, the testing procedure will run by itself, including water intake, bubble removal, background and obscuration measurement, testing, rinsing, and result save and print. Just add sample and the automatic analysis procedure is just one mouse click away.

SOP not only provides a simplified procedure but also avoids human operation error; therefore, it ensures the repeatability and accuracy of testing results.



3. Automatic Circulation and Dispersion System:

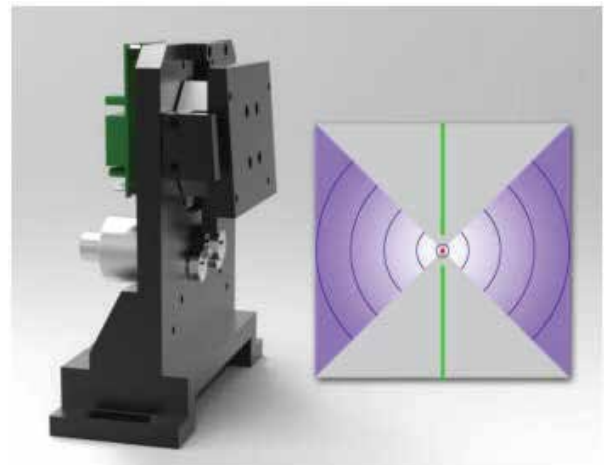
The wet circulation and dispersion system of Analytical Technologies Sizer 3002 ensures a complete sample dispersion hence make sure that each particle would be accounted for through the laser system.



4. Automatic Centering

Guarantee the perfect condition of optical system:

By moving the laser detector center point to the focus point of lens before each test, automatic centering function guarantees the perfect condition of optical system, therefore, provides accurate and repeatable testing results.

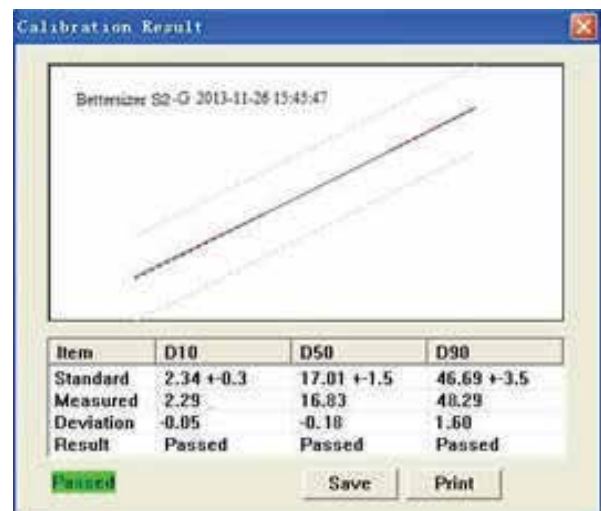


Automatic centering

5. Accuracy Calibration

Maintain accurate datum lifetime:

This function makes operate parameters maintained at consistent conditions, producing consistent and reproducible measurement across the board for all old and new instruments alike.



Accuracy Calibration

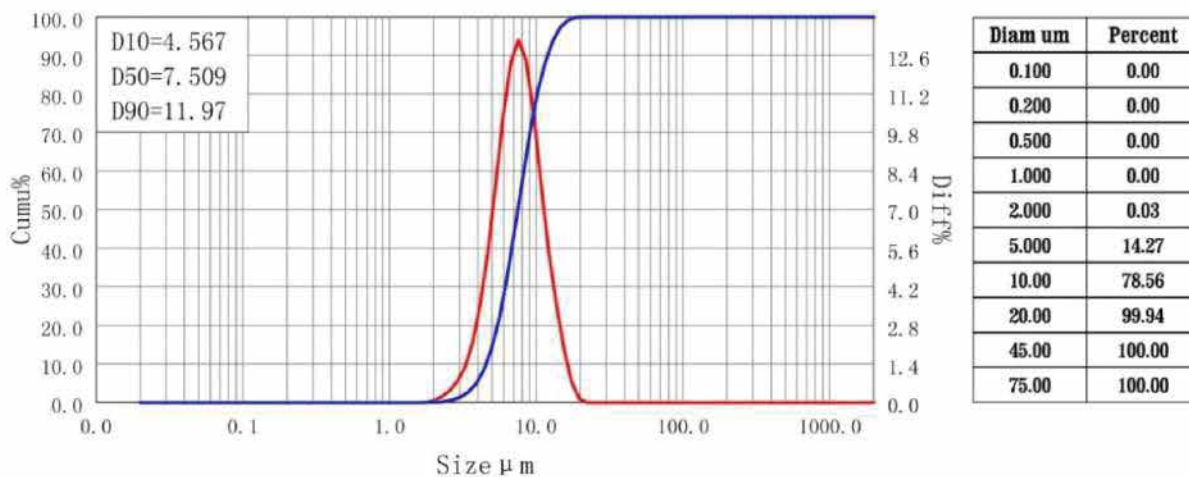


Sizer 3002 Particle Size Analyzing Report

Sample: Ternary	Dispersant:	Sample Owner JARAMY ANALYSIS
Medium: Water	Optical: Mie	Measured By: Analytical Technologies Limited
Particle RI: 1.980-1.0001	Mode: 2.35 General	Operator: LM
Medium RI: 1.333	Date: 2017-06-27	Time: 16:39:31
Remark: (1:3.00)-1-(03)		Distribution: Volume

D 50 : 7.509 um	D [4,3] : 7.928 um	D [3,2] : 6.899 um	OBS. : 12.19 %
SPAN : 0.986	D [2,1] : 5.932 um	SSA : 3220 cm ² /g	Residual : 0.357 %
D03 = 3.516 um	D06 = 4.062 um	D10 = 4.567 um	D16 = 5.138 um
D50 = 7.509 um	D75 = 9.606 um	D84 = 10.79 um	D90 = 11.97 um
			D97 = 14.53 um

Diam um	Diff%	Cumu%	Diam um	Diff%	Cumu%	Diam um	Diff%	Cumu%
0.020-0.024	0.00	0.00	0.911-1.161	0.00	0.00	44.04-56.13	0.00	100.00
0.024-0.030	0.00	0.00	1.161-1.479	0.00	0.00	56.13-71.52	0.00	100.00
0.030-0.039	0.00	0.00	1.479-1.885	0.01	0.01	71.52-91.14	0.00	100.00
0.039-0.049	0.00	0.00	1.885-2.403	0.27	0.28	91.14-116.1	0.00	100.00
0.049-0.063	0.00	0.00	2.403-3.062	1.18	1.46	116.1-147.9	0.00	100.00
0.063-0.080	0.00	0.00	3.062-3.902	3.42	4.88	147.9-188.5	0.00	100.00
0.080-0.102	0.00	0.00	3.902-4.972	9.06	13.94	188.5-240.3	0.00	100.00
0.102-0.131	0.00	0.00	4.972-6.336	18.41	32.35	240.3-306.2	0.00	100.00
0.131-0.167	0.00	0.00	6.336-8.074	25.74	58.09	306.2-390.2	0.00	100.00
0.167-0.212	0.00	0.00	8.074-10.28	22.85	80.94	390.2-497.2	0.00	100.00
0.212-0.271	0.00	0.00	10.28-13.11	13.05	93.99	497.2-633.6	0.00	100.00
0.271-0.345	0.00	0.00	13.11-16.70	5.22	99.21	633.6-807.4	0.00	100.00
0.345-0.440	0.00	0.00	16.70-21.28	0.79	100.00	807.4-1028	0.00	100.00
0.440-0.561	0.00	0.00	21.28-27.12	0.00	100.00	1028-1311	0.00	100.00
0.561-0.715	0.00	0.00	27.12-34.56	0.00	100.00	1311-1670	0.00	100.00
0.715-0.911	0.00	0.00	34.56-44.04	0.00	100.00	1670-2000	0.00	100.00





Specification

Testing parameter	Material
Particle size distribution	Suspension, emulsion, dry powder
General	Analytical Technologies Sizer 3002
Theory	Laser diffraction
Analysis theory	Mie and Fraunhofer
Testing speed	3kHz
Typical measurement time	≤10second
Size	
Size range	0.02 - 2000μm
Number of size classes	More than 100 customized grades
Accuracy	≤0.5% (GBRM D50)
Repeatability	≤0.5% (GBRM D50)
Resolution ratio	Single peak, double peak, multi-peak
Optics	
Green light source	Max.3mW, Semiconductor optical fiber laser, 635nm
Lens arrangement	Dual lenses on the right and left of sample cell
Lens design	F-Theta Lenses
Effective focal length	223mm
Detector	
Arrangement	Log-spaced array
Quantity	90 pieces(forward, lateral, backward)
Light path adjustment	Intelligent automatic alignment
Sample dispersion system	
Dispersion type	Wet and dry
Dispersion system	Ultrasound 50W, 38KHz dry-run protection system
Water circulation	Centrifugal pump 3000 -8000ml/min, auto water intake and rinsing
Water capacity	600ml
Software	
21 CFR Part 11	Enable
SOP Designer	Enable
Report	More than 14 formats report
Auto test	Enable
Data export	EXCEL, PDF,WORD,JPG and etc.
System compliance	
Laser class	Class I laser product
System	
Supply voltage	220VAC
Dimension	800mm x 500mm x 410mm (L x W x H)
Weight	45kg
Computer specification	
Computer interface	At least a USB2.0 port required
Operation system	Windows XP, Windows 7,8 or 10
Hardware specification	Intel Core I5, 4GB RAM, 250GB HD



Analytical[®]

Technologies Limited

HPLC Servicing, Validation, Trainings and Preventive Maintenance :

HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

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Validations :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



About Analytical Technologies

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the global. Analytical Technologies Limited is an ISO:9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

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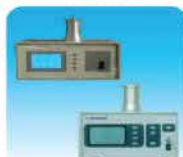
Atomic Absorption
Spectrophotometer



Liquid Partical
Counter



Optical Emission
Spectrophotometer



DSC/TGA



NOVA 2020 plus
Automated Bio Chemistry
Analyzer



HEMA 2020
Hematology
Analyzer



Micro Plate
Reader/Washer



URINOVA 2800
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Total Organic
Carbon



Fully Automated
CLIA



NOVA Basic Semi -Auto
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PCR/Gradient PCR/
RTPCR



Blood Gas
Analyzer



Random access Analyzer
for immunoassay
Proteins & clinical chemistry



Semen Analyzer



Water purification
system

Regulatory compliances



Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



Analytical Foundation

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at Info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds, souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

Reach us @



Technologies Limited

HPLC Solutions MultipleLabs Analytical Bio-Med Analytical Distributors Analytical Foundation (Trust)

Corporate & Regd. Office:
Analytical House, # E67 & E68,
Ravi Park, Vasna Road, Baroda,
Gujarat 390 015. INDIA

T: +91 265 2253620
+91 265 2252839
+91 265 2252370
F: +91 265 2254395

E: info@hplctechnologies.com
info@multiplelabs.com
info@analyticalgroup.net
info@analyticalbiomed.com

W. www.ais-india.com
www.analyticalgroup.net
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