Bettersize™

Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

Bettersizer 2600-WD is smart particle size analyzer with reliable measurement performance from submicron to millimeter. Both wet and dry dispersion are provided by Bettersizer 2600-WD. Driven by Standard Operation Procedure (SOP), the instrument minimizes manual participation and makes particle size measurement fast and routine.

Features/Benefits:

- Measuring range: Wet: 0.02μm to 2600μm Dry: 0.1μm to 2600μm
- Dispersion type: Wet and Dry
- Fourier and Inverse Fourier optical system, Inclined sample cell
- Repeatability: ≤0.5% (Wet) ; ≤1% (Dry) (GBRM D50)
- Accuracy: ≤0.5% (Wet) ; ≤1% (Dry) (GBRM D50)
- Detector: 92 pieces (forward, lateral, backward)
- Detection range: 0.016-165 degree
- Standard Operation Procedure (SOP)
- Automatic Alignment
- Accuracy Calibration
- Automatic Circulation and Dispersion System







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Intelligent Particle Sizing Performance

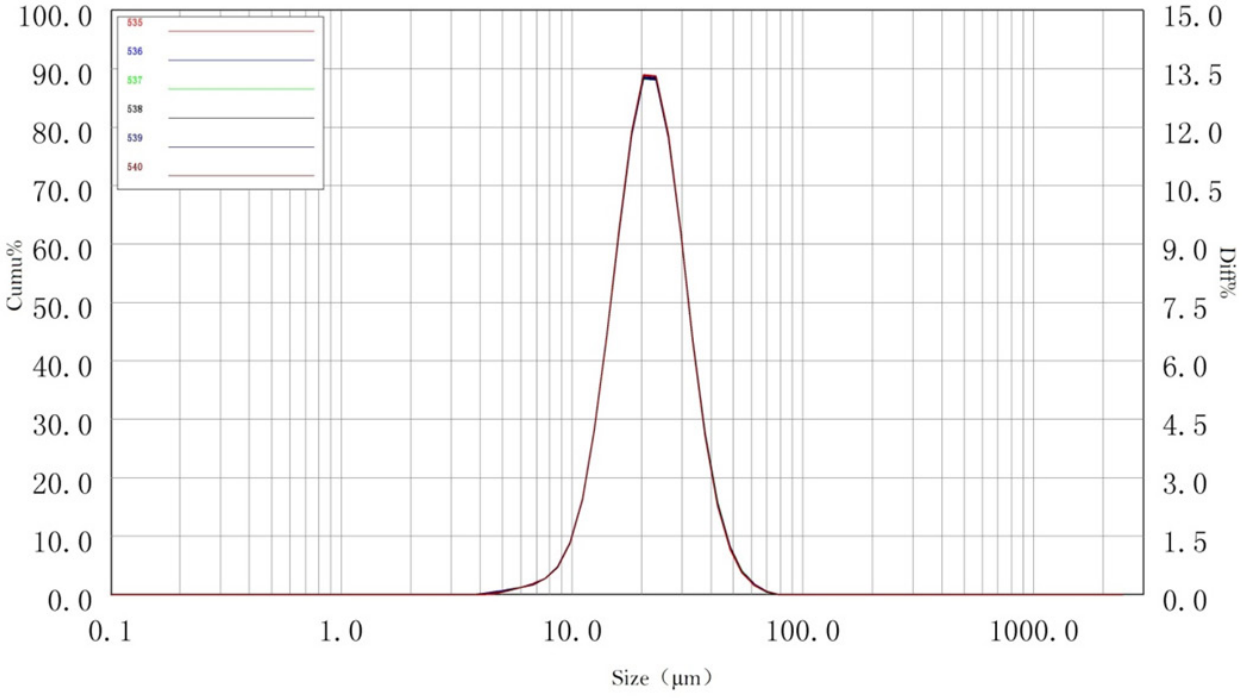
1.Repeatability: ⩽ 0.5% (Wet) (GBRM D50)
Reproducibility: ⩽ 1% (GBRM D50)

The assured measurement performance and wide dynamic range of Bettersizer 2600-WD make 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: ⩽ 0.5% (Wet) (GBRM D50)

Item	D3	D6	D10	D16	D25	D50	D75	D84	D90	D97	D98
535	10.44	12.00	13.42	15.00	16.88	21.58	27.54	30.95	34.45	43.03	45.34
536	10.40	11.97	13.40	14.98	16.88	21.60	27.59	31.03	34.58	43.39	45.98
537	10.38	11.97	13.40	14.98	16.88	21.62	27.63	31.09	34.66	43.48	46.07
538	10.37	11.96	13.39	14.97	16.88	21.61	27.61	31.04	34.58	43.27	45.68
539	10.34	11.95	13.38	14.95	16.86	21.60	27.61	31.06	34.62	43.41	45.97
540	10.42	11.99	13.41	14.99	16.88	21.59	27.56	30.99	34.51	43.21	45.64
Rep.	0.35%	0.16%	0.11%	0.11%	0.05%	0.07%	0.12%	0.16%	0.22%	0.38%	0.60%

b) Reproducibility: ⩽ 1% (GBRM D50)



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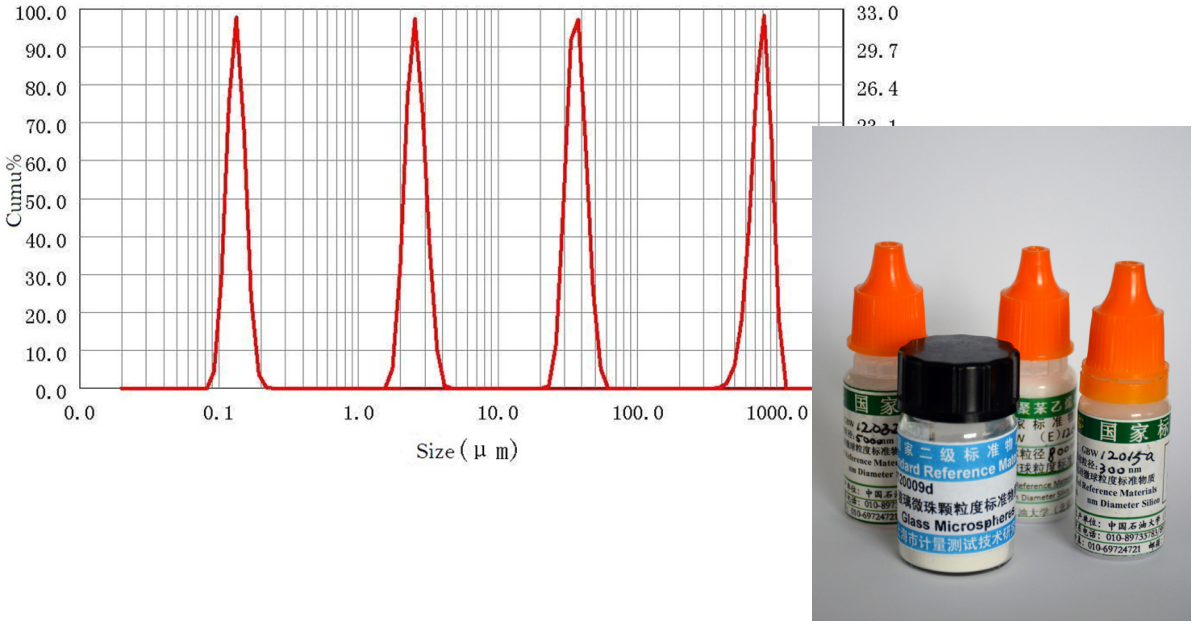
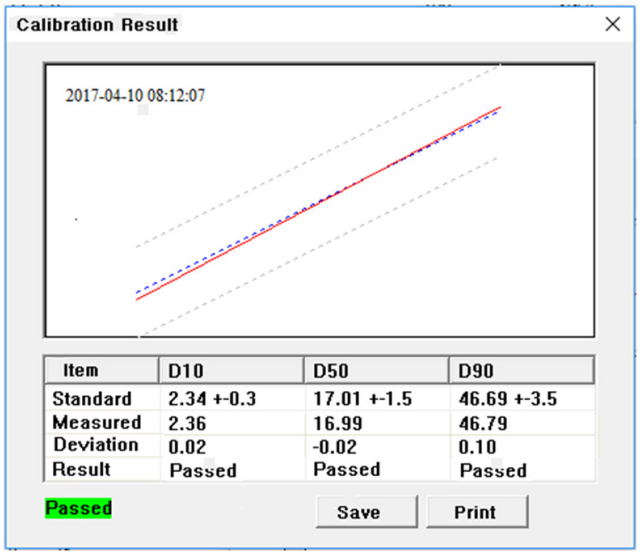
2.Accuracy: ⩽ 0.5% (Wet) ; ⩽ 1% (Dry) (GBRM D50)

The accuracy of Bettersizer 2600-WD as verified by measurements of standard samples

a)Bettersizer 2600–WD tested certified reference materials and resolved four peaks.



b)Bettersizer 2600–WD tested standard sample to verify accuracy.

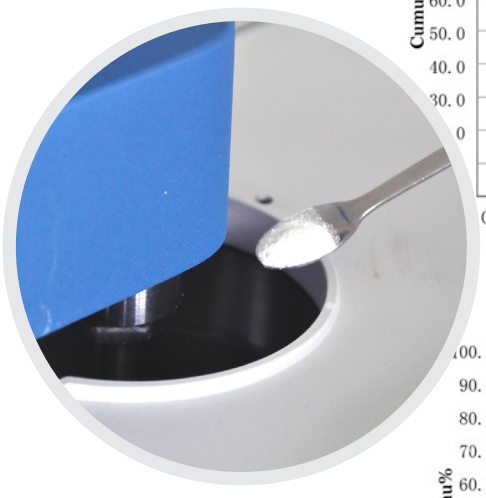


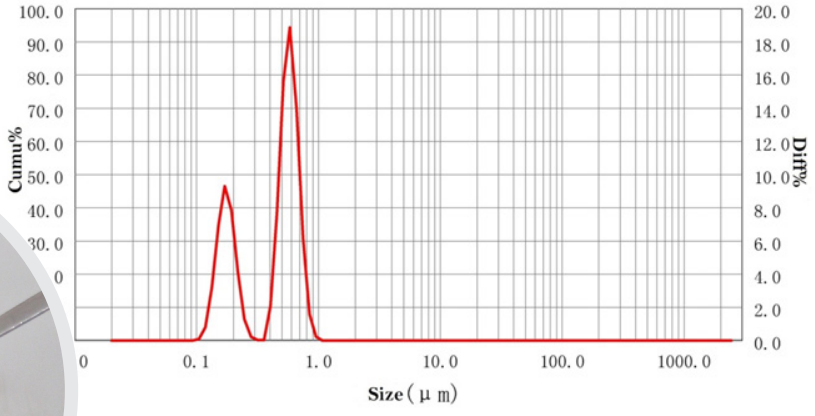
Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

3.Resolution and Sensitivity

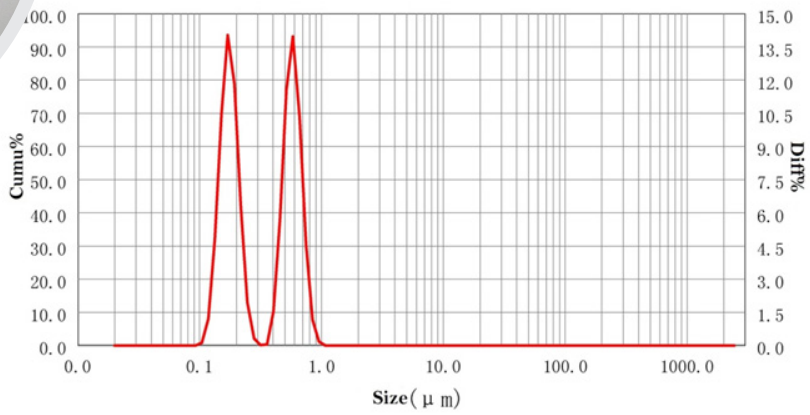
The resolution and sensitivity of Bettersizer 2600-WD as verified by measurement that sample A is gradually added to the sample B. With the addition of sample A, the results change correspondingly.

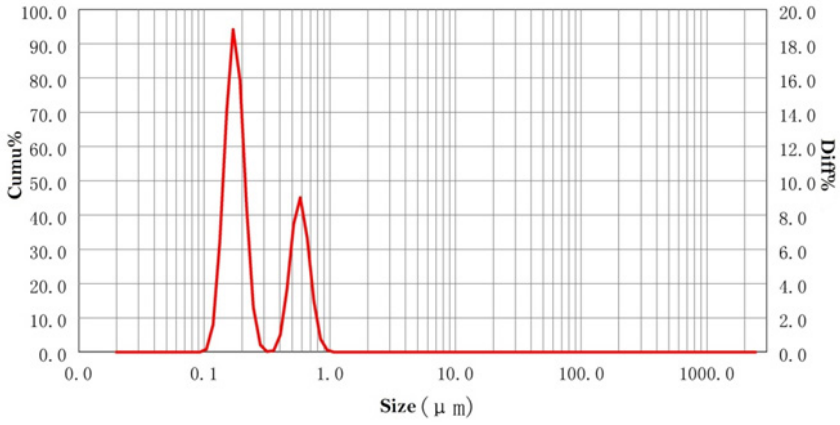
A < B





A=B





A > B

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Bettersizer 2600-WD
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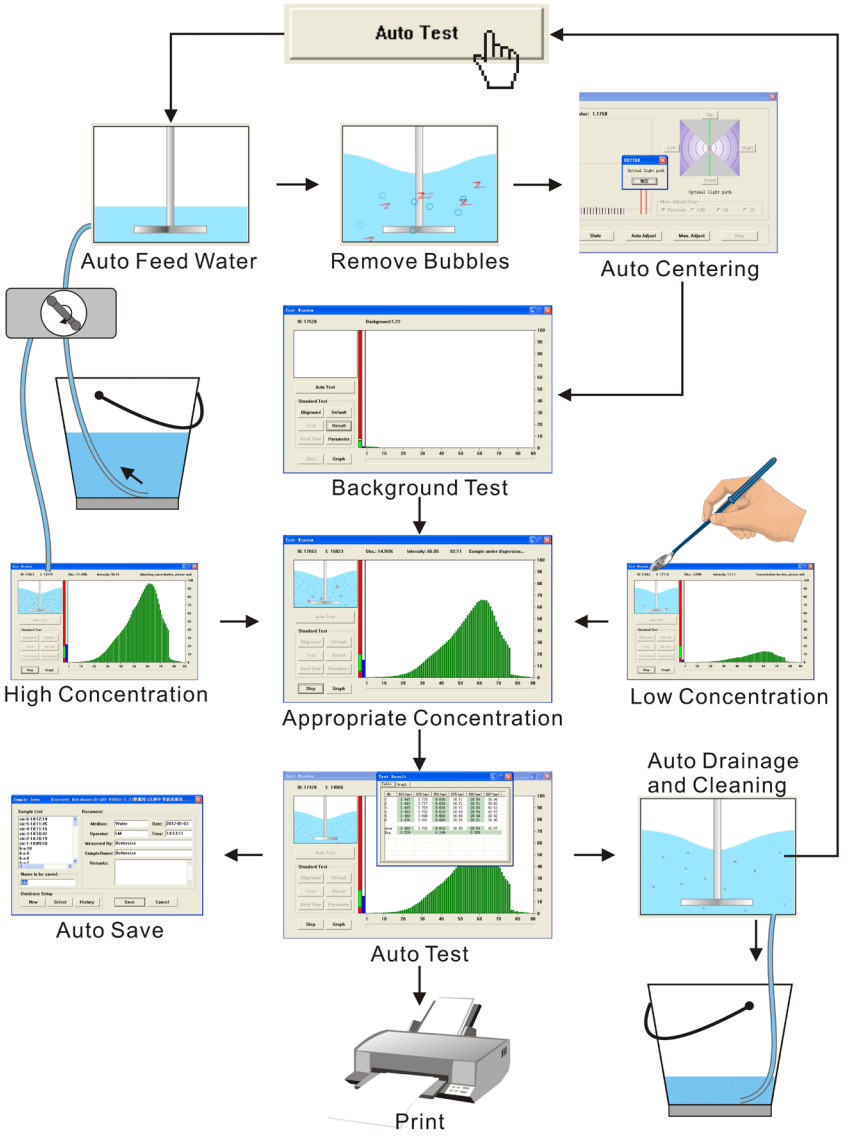
Standard Operation Procedure (SOP)

1.Analysis by one mouse click:

SOP of Bettersizer 2600-WD 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.

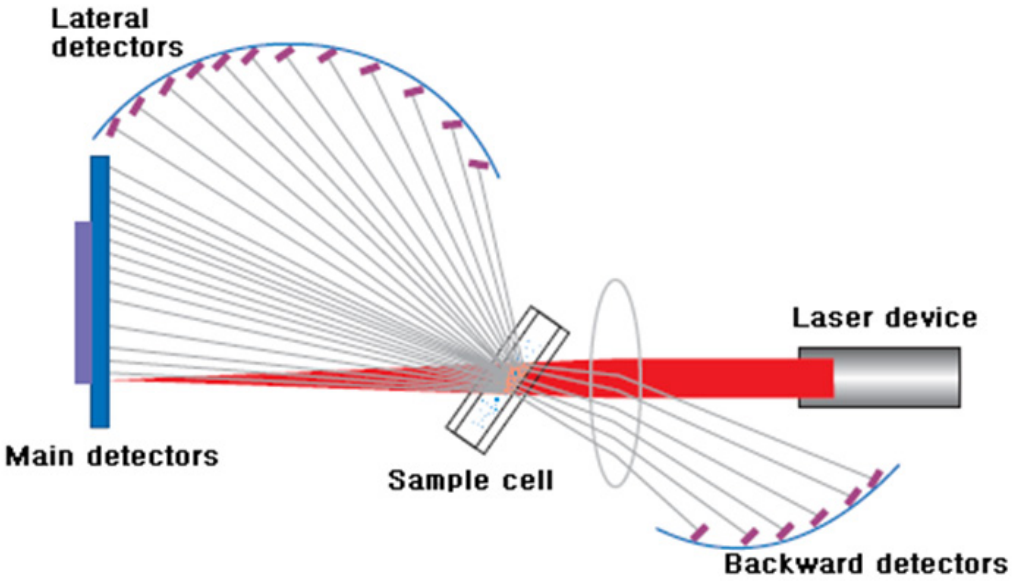
SOP not only provides a simplified procedure but also avoids human operation error; therefore, it ensures the repeatability and accuracy of testing results.



Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

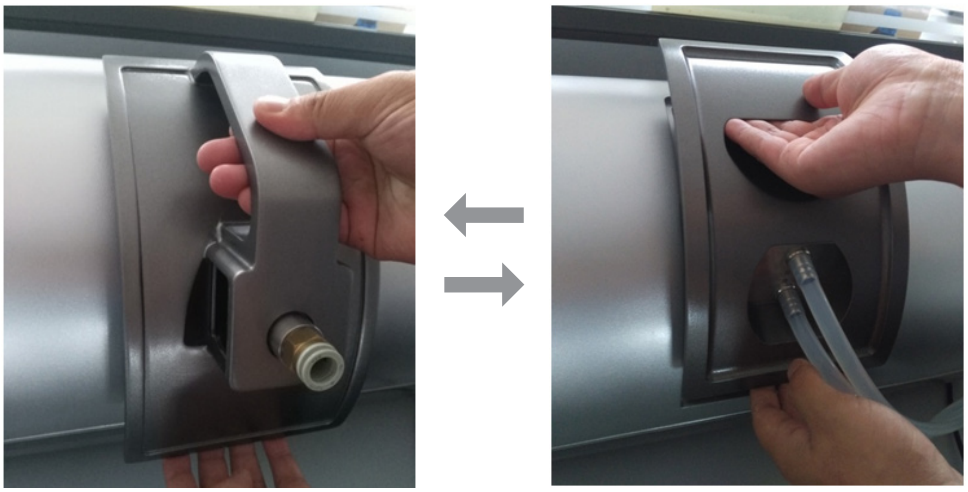
2.Fourier and Inverse Fourier Optical System

Fourier and Inverse Fourier combined optical system: This is a patented technology made by Bettersize. Combined with forward, lateral, backward scattering technology and inclined sample cell technology to achieve full-angle measurement. Enhance the accuracy and resolution of fine particles. Extend the measurement range.



3.Easy to Convert between Wet and Dry Mode

The flexibility of switching between wet and dry dispersion units provides you a stable state to make accurate and reliable particle size measurements. Conversion time between wet and dry mode is less than 2 minutes.



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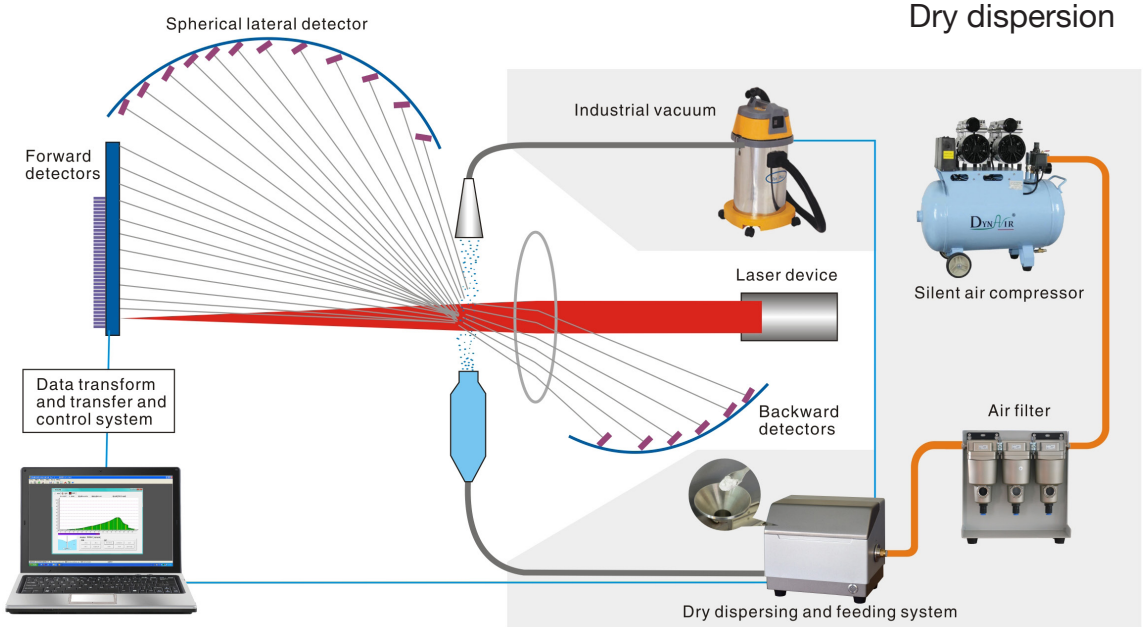
Wet and Dry Laser Particle Size Analyzer

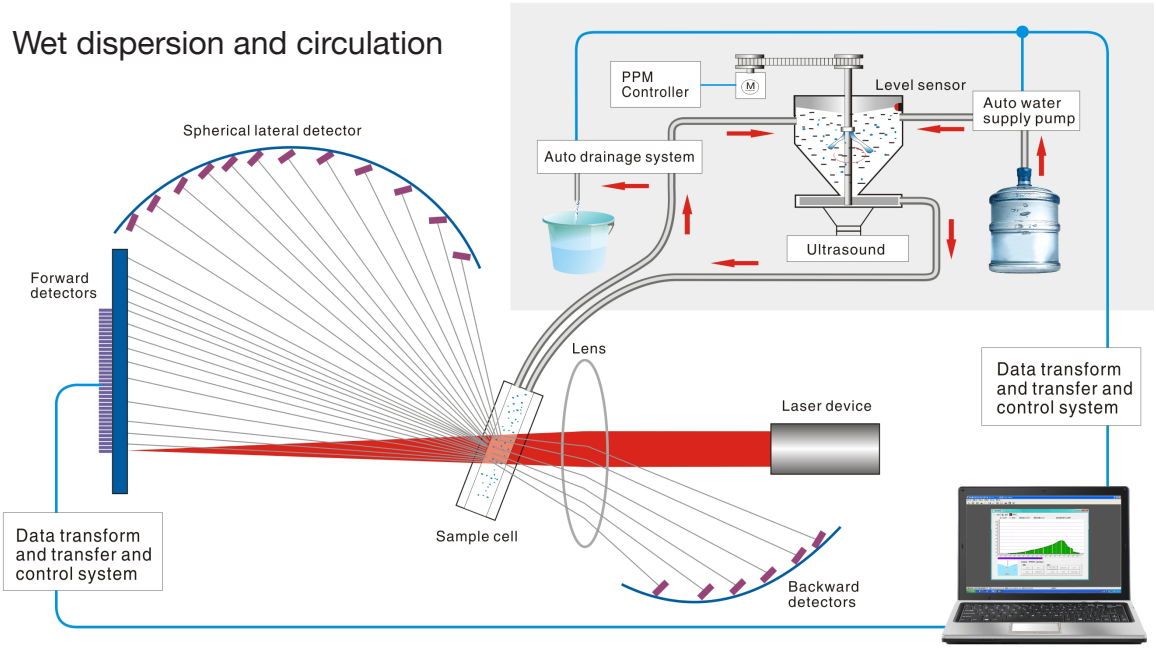
4.Automatic Circulation and Dispersion System:

The wet circulation and dispersion system and the dry dispersion system of Bettersizer 2600-WD ensures a complete sample dispersion hence make sure that each particle would be accounted for through the laser system.

Dry dispersion



Wet dispersion and circulation



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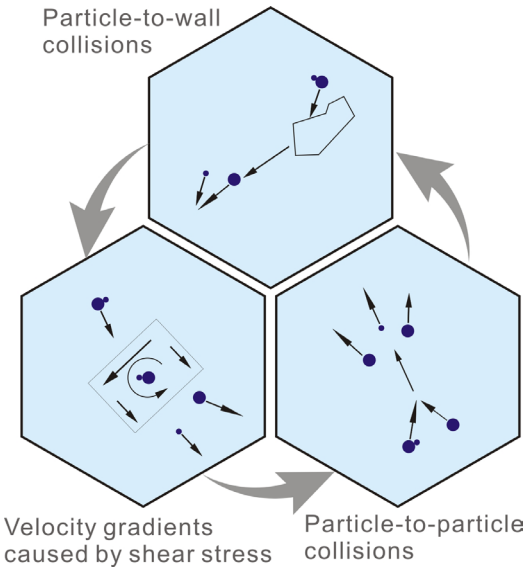
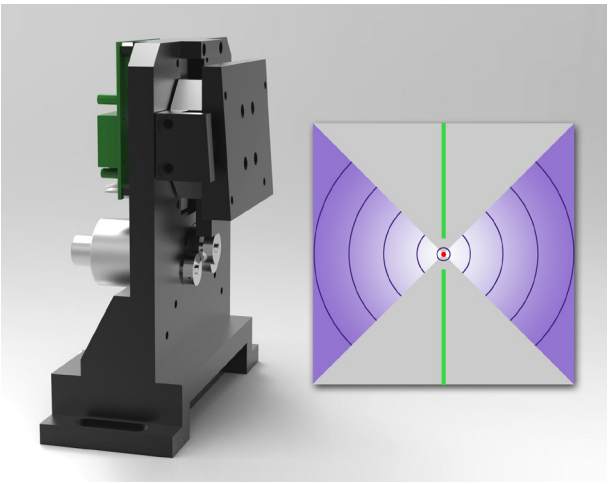
Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer



5.Venturi Disperser

Dry sample dispersion is achieved by accelerating the powder through a venturi using compressed air. Three different dispersion mechanisms can act upon the sample:

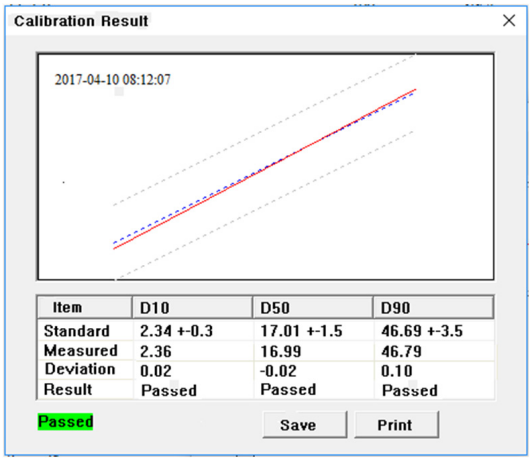


6.Automatic Alignment

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

7.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

Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

The Components of Bettersizer 2600-WD (Dry dispersion)

Dry sample dispersion system comprises silent air compressor, air filter, dry dispersion and sampling system, measuring division and industrial vacuum. Through dry dispersion and feeding system, samples are evenly delivered into the compressed air flow, and continuously sprayed to the disperser, sampling port and collectors.

Silent air compressor

Air filter

Dry dispersion and feeding system

Industrial vacuum

Bettersizer 2600-WD (Dry)

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Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

Example of Report

Bettersize™

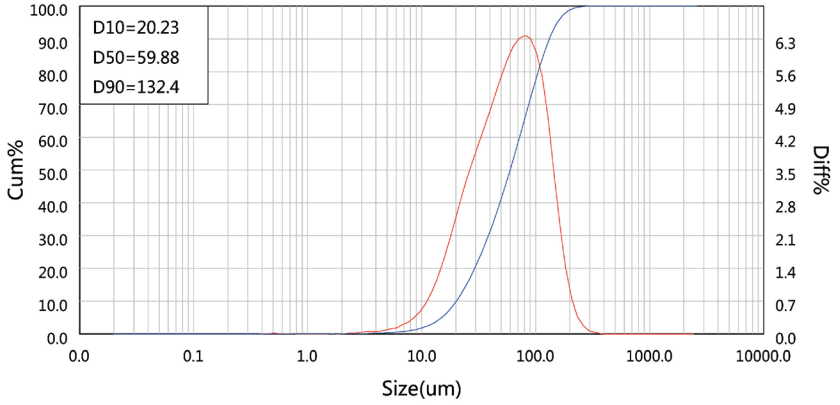
Bettersizer 2600-WD(Dry) Particle Size Analysis Report

Range : 0.1 um - 2600um

Sample :	SampleA		Sample Owner :	Bettersize	
Medium :	Air	Dispersant :	Measured By :	Bettersize	
Particle RI :	1.520-0.1000i	Optical : Mie	Operator :	647	
Medium RI :	1.000	Mode : 8.0 - Multipeak	Date :	2017-10-25	Time : 11:24:34
Remark :	0-0-0(0.70,70)-0		Distribution :	Volume	Method : Laser

D 50 :	59.88	um	D [4,3] :	69.41	um	D [3,2] :	38.22	um	OBS. : 1.49 %
SPAN :	1.873		D [2,1] :	6.035	um	SSA :	58.14	m^2/kg	Residual : 0.994 %

D03 = 12.23	um	D06 = 16.19	um	D10 = 20.23	um	D16 = 25.65	um	D25 = 33.81	um
D50 = 59.88	um	D75 = 95.66	um	D84 = 114.8	um	D90 = 132.4	um	D97 = 172.0	um



Diam um	Percent
50.00	41.17
75.00	61.89
150.0	93.99
250.0	99.73
630.0	100.00
710.0	100.00
800.0	100.00
900.0	100.00
1000	100.00
1250	100.00

Diam um	Diff%	Cum%	Diam um	Diff%	Cum%	Diam um	Diff%	Cum%	Diam um	Diff%	Cum%
0.020-0.022	0.00	0.00	0.379-0.427	0.01	0.01	7.211-8.112	0.25	1.10	136.9-154.0	3.45	94.80
0.022-0.025	0.00	0.00	0.427-0.480	0.01	0.02	8.112-9.126	0.35	1.45	154.0-173.2	2.33	97.13
0.025-0.028	0.00	0.00	0.480-0.540	0.02	0.04	9.126-10.26	0.48	1.93	173.2-194.9	1.42	98.55
0.028-0.032	0.00	0.00	0.540-0.608	0.01	0.05	10.26-11.54	0.65	2.58	194.9-219.3	0.77	99.32
0.032-0.036	0.00	0.00	0.608-0.684	0.01	0.06	11.54-12.99	0.89	3.47	219.3-246.7	0.38	99.70
0.036-0.040	0.00	0.00	0.684-0.769	0.01	0.07	12.99-14.61	1.18	4.65	246.7-277.5	0.18	99.88
0.040-0.045	0.00	0.00	0.769-0.865	0.00	0.07	14.61-16.44	1.56	6.21	277.5-312.2	0.07	99.95
0.045-0.051	0.00	0.00	0.865-0.974	0.00	0.07	16.44-18.48	1.97	8.18	312.2-351.2	0.04	99.99
0.051-0.057	0.00	0.00	0.974-1.095	0.00	0.07	18.48-20.80	2.42	10.60	351.2-395.1	0.01	100.00
0.057-0.064	0.00	0.00	1.095-1.232	0.00	0.07	20.80-23.40	2.87	13.47	395.1-444.5	0.00	100.00
0.064-0.073	0.00	0.00	1.232-1.386	0.00	0.07	23.40-26.33	3.29	16.76	444.5-500.0	0.00	100.00
0.073-0.082	0.00	0.00	1.386-1.560	0.00	0.07	26.33-29.62	3.67	20.43	500.0-562.5	0.00	100.00
0.082-0.092	0.00	0.00	1.560-1.755	0.01	0.08	29.62-33.32	4.03	24.46	562.5-632.8	0.00	100.00
0.092-0.103	0.00	0.00	1.755-1.974	0.00	0.08	33.32-37.49	4.40	28.86	632.8-711.9	0.00	100.00
0.103-0.116	0.00	0.00	1.974-2.221	0.01	0.09	37.49-42.17	4.75	33.61	711.9-800.9	0.00	100.00
0.116-0.131	0.00	0.00	2.221-2.498	0.02	0.11	42.17-47.44	5.14	38.75	800.9-900.9	0.00	100.00
0.131-0.148	0.00	0.00	2.498-2.811	0.02	0.13	47.44-53.37	5.51	44.26	900.9-1013	0.00	100.00
0.148-0.166	0.00	0.00	2.811-3.162	0.04	0.17	53.37-60.04	5.86	50.12	1013-1140	0.00	100.00
0.166-0.187	0.00	0.00	3.162-3.557	0.05	0.22	60.04-67.55	6.14	56.26	1140-1282	0.00	100.00
0.187-0.210	0.00	0.00	3.557-4.002	0.05	0.27	67.55-75.98	6.31	62.57	1282-1443	0.00	100.00
0.210-0.237	0.00	0.00	4.002-4.502	0.06	0.33	75.98-85.49	6.37	68.94	1443-1623	0.00	100.00
0.237-0.266	0.00	0.00	4.502-5.065	0.08	0.41	85.49-96.17	6.31	75.25	1623-1826	0.00	100.00
0.266-0.300	0.00	0.00	5.065-5.698	0.11	0.52	96.17-108.1	6.00	81.25	1826-2054	0.00	100.00
0.300-0.337	0.00	0.00	5.698-6.410	0.13	0.65	108.1-121.7	5.50	86.75	2054-2311	0.00	100.00
0.337-0.379	0.00	0.00	6.410-7.211	0.20	0.85	121.7-136.9	4.60	91.35	2311-2600	0.00	100.00

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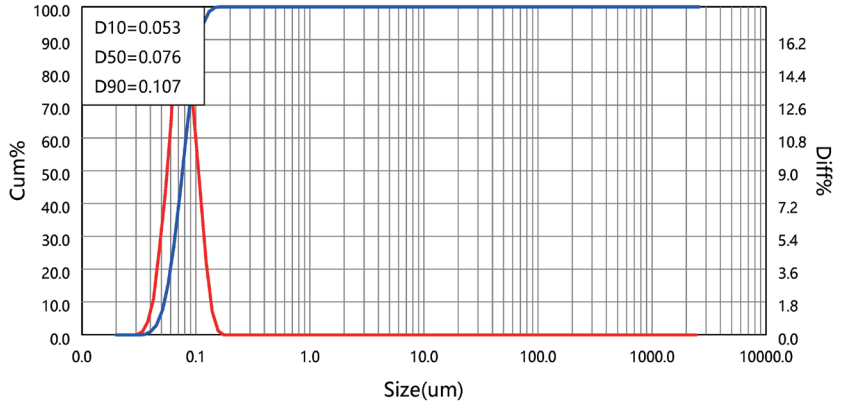
Bettersizer 2600-WD(Wet) Particle Size Analysis Report

Range : 0.02um - 2600um

Sample :	Sample B			Sample Owner :	Bettersize		
Medium :	Water	Dispersant :		Measured By :	Bettersize		
Particle RI :	1.590-0.0000i	Optical :	Mie	Operator :	647		
Medium RI :	1.333	Mode :	8.0 - Multipeak	Date :	2017-10-25	Time :	11:31:34
Remark :	0-0-0(0.70,70)-0			Distribution :	Volume	Method :	Laser

D 50 :	0.076	um	D [4,3] :	0.078	um	D [3,2] :	0.073	um	OBS. : 5.09 %
SPAN :	0.708		D [2,1] :	0.068	um	SSA :	30402 m^2/kg		Residual : 0.922 %

D03 = 0.045 um	D06 = 0.049 um	D10 = 0.053 um	D16 = 0.057 um	D25 = 0.063 um
D50 = 0.076 um	D75 = 0.091 um	D84 = 0.099 um	D90 = 0.107 um	D97 = 0.122 um



Diam um	Percent
0.020	0.00
0.050	6.61
0.100	84.42
0.200	100.00
0.500	100.00
1.000	100.00
2.000	100.00
5.000	100.00
10.00	100.00
20.00	100.00

Diam um	Diff%	Cum%	Diam um	Diff%	Cum%	Diam um	Diff%	Cum%	Diam um	Diff%	Cum%
0.020-0.022	0.00	0.00	0.379-0.427	0.00	100.00	7.211-8.112	0.00	100.00	136.9-154.0	0.00	100.00
0.022-0.025	0.00	0.00	0.427-0.480	0.00	100.00	8.112-9.126	0.00	100.00	154.0-173.2	0.00	100.00
0.025-0.028	0.00	0.00	0.480-0.540	0.00	100.00	9.126-10.26	0.00	100.00	173.2-194.9	0.00	100.00
0.028-0.032	0.00	0.00	0.540-0.608	0.00	100.00	10.26-11.54	0.00	100.00	194.9-219.3	0.00	100.00
0.032-0.036	0.17	0.17	0.608-0.684	0.00	100.00	11.54-12.99	0.00	100.00	219.3-246.7	0.00	100.00
0.036-0.040	0.71	0.88	0.684-0.769	0.00	100.00	12.99-14.61	0.00	100.00	246.7-277.5	0.00	100.00
0.040-0.045	1.95	2.83	0.769-0.865	0.00	100.00	14.61-16.44	0.00	100.00	277.5-312.2	0.00	100.00
0.045-0.051	4.74	7.57	0.865-0.974	0.00	100.00	16.44-18.48	0.00	100.00	312.2-351.2	0.00	100.00
0.051-0.057	7.68	15.25	0.974-1.095	0.00	100.00	18.48-20.80	0.00	100.00	351.2-395.1	0.00	100.00
0.057-0.064	11.54	26.79	1.095-1.232	0.00	100.00	20.80-23.40	0.00	100.00	395.1-444.5	0.00	100.00
0.064-0.073	16.87	43.66	1.232-1.386	0.00	100.00	23.40-26.33	0.00	100.00	444.5-500.0	0.00	100.00
0.073-0.082	16.33	59.99	1.386-1.560	0.00	100.00	26.33-29.62	0.00	100.00	500.0-562.5	0.00	100.00
0.082-0.092	15.12	75.11	1.560-1.755	0.00	100.00	29.62-33.32	0.00	100.00	562.5-632.8	0.00	100.00
0.092-0.103	11.57	86.68	1.755-1.974	0.00	100.00	33.32-37.49	0.00	100.00	632.8-711.9	0.00	100.00
0.103-0.116	7.87	94.55	1.974-2.221	0.00	100.00	37.49-42.17	0.00	100.00	711.9-800.9	0.00	100.00
0.116-0.131	3.97	98.52	2.221-2.498	0.00	100.00	42.17-47.44	0.00	100.00	800.9-900.9	0.00	100.00
0.131-0.148	1.27	99.79	2.498-2.811	0.00	100.00	47.44-53.37	0.00	100.00	900.9-1013	0.00	100.00
0.148-0.166	0.21	100.00	2.811-3.162	0.00	100.00	53.37-60.04	0.00	100.00	1013-1140	0.00	100.00
0.166-0.187	0.00	100.00	3.162-3.557	0.00	100.00	60.04-67.55	0.00	100.00	1140-1282	0.00	100.00
0.187-0.210	0.00	100.00	3.557-4.002	0.00	100.00	67.55-75.98	0.00	100.00	1282-1443	0.00	100.00
0.210-0.237	0.00	100.00	4.002-4.502	0.00	100.00	75.98-85.49	0.00	100.00	1443-1623	0.00	100.00
0.237-0.266	0.00	100.00	4.502-5.065	0.00	100.00	85.49-96.17	0.00	100.00	1623-1826	0.00	100.00
0.266-0.300	0.00	100.00	5.065-5.698	0.00	100.00	96.17-108.1	0.00	100.00	1826-2054	0.00	100.00
0.300-0.337	0.00	100.00	5.698-6.410	0.00	100.00	108.1-121.7	0.00	100.00	2054-2311	0.00	100.00
0.337-0.379	0.00	100.00	6.410-7.211	0.00	100.00	121.7-136.9	0.00	100.00	2311-2600	0.00	100.00

Bettersize™

Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

Specification

Testing parameter	Material
Particle size distribution	Suspension, emulsion, dry powder
General	Bettersizer 2600-WD
Theory	Laser diffraction
Analysis theory	Mie and Fraunhofer
Testing speed	3kHz
Typical measurement time	≤10second
Size	
Size range	Wet 0.02 - 2600μm Dry 0.1-2600μm
Number of size classes	More than 100 customized grades
Accuracy	≤0.5% (Wet) ; ≤1% (Dry) (GBRM D50)
Repeatability	≤0.5% (Wet) ; ≤1% (Dry) (GBRM D50)
Resolution ratio	Single peak, double peak, multi-peak
Optics	
Red 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	92 pieces (forward, lateral, backward)
Light path adjustment	Intelligent automatic alignment
Sample dispersion system	
Dispersion type	Dry and Wet
Dispersion system	Ultrasound 50W, 38KHz dry-burn protection system
Water circulation	Centrifugal pump, 3000 -8000ml/min, auto water intake and rinsing
Water capacity	600ml
Air flow rate	0-6000L/min
Air compressor	Gas container ≥ 60L, pressure ≤ 5bar
Vacuum cleaner	Wet dust collector or bag filter
Air filter	3μm, 0.3μm, 0.01μm
Software	
21 CFR Part 11	Enable
SOP Designer	Enable
Report	More than14 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	705mm x 318mm x 295mm (L x W x H)
Weight	23kg
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

Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

Technical Service and Support

Our goal is to guarantee the lifecycle accuracy and reliability of Bettersize instruments, and to improve your productivity through a series of support, service, and information.

We provide:

- World-wide collaboration with local distributors.
- Efficient technical supports from Bettersize by email, telephone or skype.
- Professional maintenance contract and repair services
- On-site training courses
- Online tutorial videos
- Instrument upgrade support
- Sample preparation and application consulting services

International Qualification

All series of Bettersize instruments have passed ISO9001 international quality management system certification and the European CE certification. Laser particle analyzers obtained the approval of 21 CFR Chapter I Subchapter J, Part 1040.10 and 1040.11.
The software complies with the FDA 21 CFR Part 11 regulation, which ensures the validity and reliability of the results and comply with regulatory requirements.

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Bettersizer 2600-WD
Wet and Dry Laser Particle Size Analyzer

About Bettersize

With over 22 years developing and manufacturing particle characterization instruments, Bettersize provides particle size, particle shape, and powder characteristics analysis and solutions for laboratories and companies worldwide, helping scientists and engineers to understand material properties, facilitate research and improve production efficiency.

Headquarters in China

Go to www.bettersize.com for the best particle characterization solutions.

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