

SIZER™-3026

Laser Particle Size Analyzer



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

Sizer-3026 is smart particle size analyzer with reliable measurement performance from submicron to millimeter. Both wet and dry dispersion are optional. Driven by Standard Operation Procedure (SOP), the instrument minimizes manual participation and makes particle size measurement fast and routine.

►► Features/Benefits:

- Fourier and Inverse Fourier optical system, Inclined sample cell
- Standard Operation Procedure (SOP)
- Automatic Alignment
- Accuracy Calibration
- Automatic Circulation and Dispersion System

| | |
|------------------|--|
| Measuring range: | Wet: 0.02μm to 2600μm |
| Dispersion type: | Wet and Dry |
| Repeatability: | ≤0.5% (Wet) (GBRM D50) |
| Accuracy: | ≤0.5% (Wet) (GBRM D50) |
| Detector: | 92 pieces (forward, lateral, backward) |
| Detection range: | 0.016-165 degree |

►► Intelligent Particle Sizing Performance

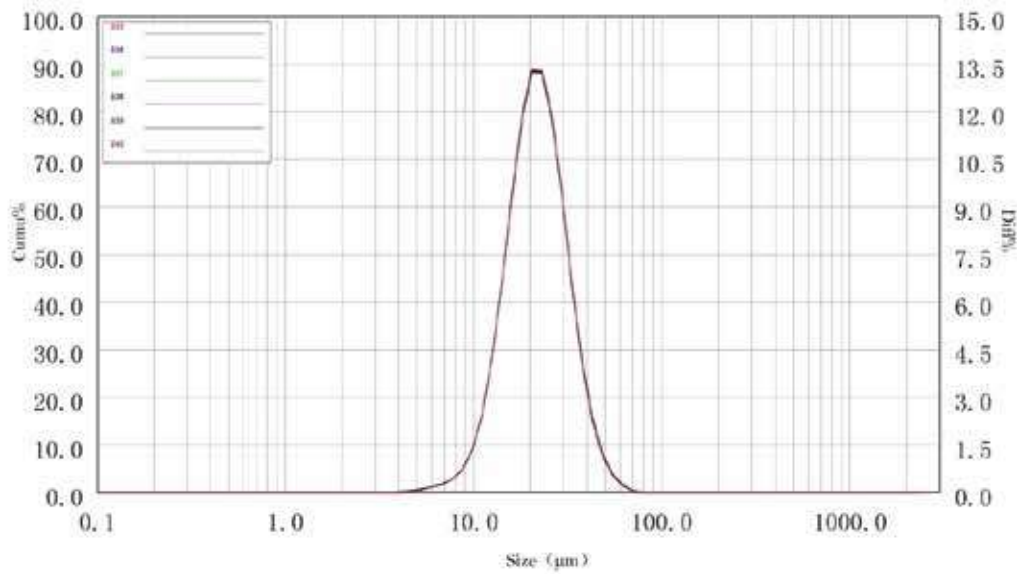
1. Repeatability: ≤0.5%(Wet) (GBRM D50) Reproducibility : ≤1% (GBRM D50)

The assured measurement performance and wide dynamic range of Sizer-3026 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 | 42.27 | 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% |

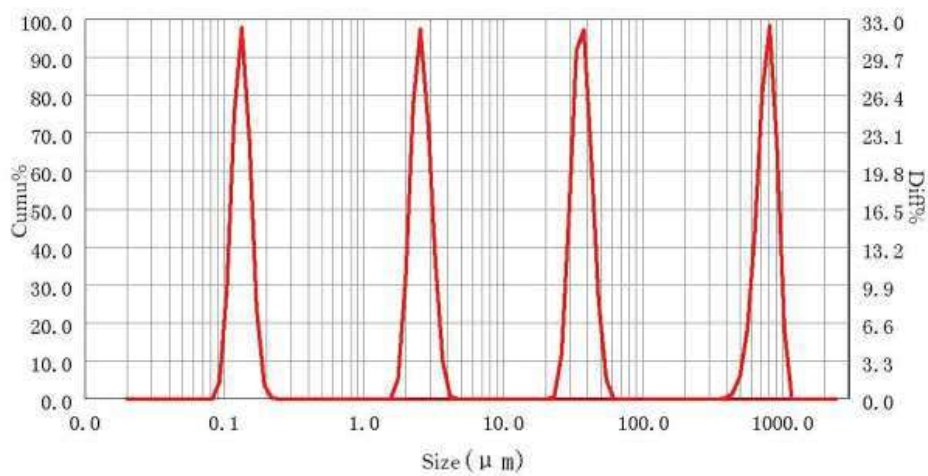
b) Reproducibility: ≤1% (GBRM D50)



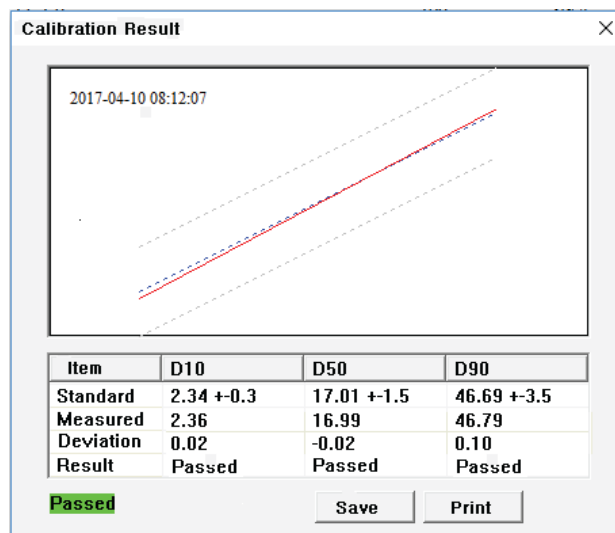
2. Accuracy: $\leq 0.5\%$ (Wet) (GBRM D50)

The accuracy of Sizer-3026 as verified by measurements of standard samples

a) Sizer-3026 tested certified reference materials and resolved four peaks.



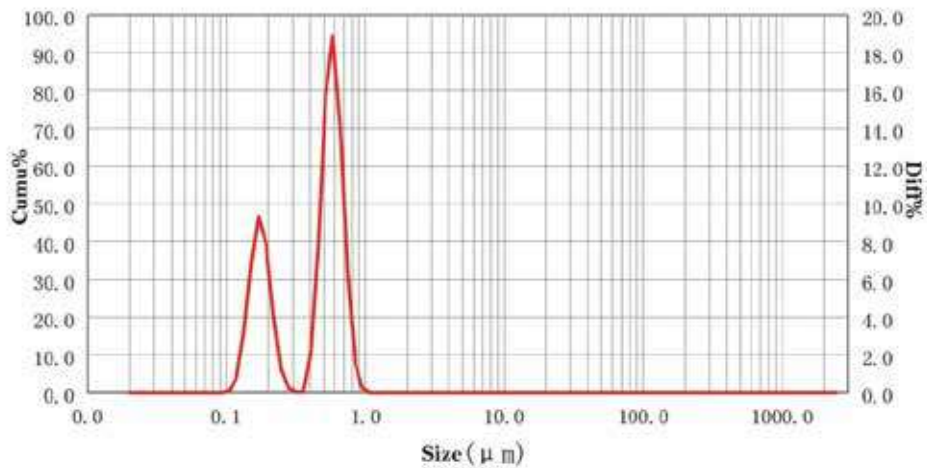
b) Sizer-3026 tested standard sample to verify accuracy.



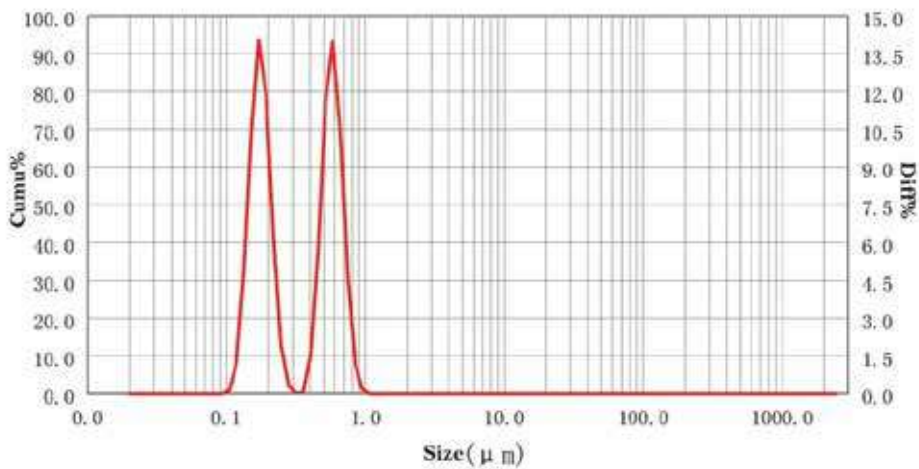
2. Resolution and Sensitivity

The resolution and sensitivity of Sizer-3026 as verified by measurement that sample A is gradually added to the sample B. With the addition of sample A, the results change correspondingly.

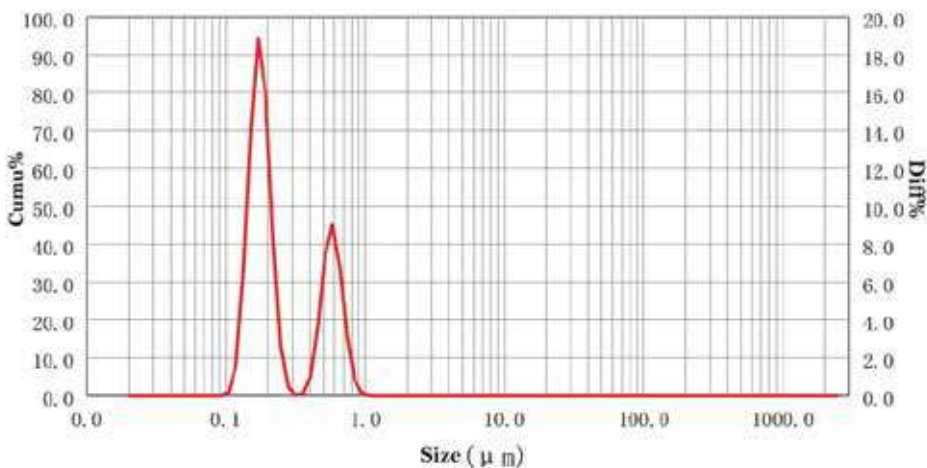
A<B



A=B



A>B



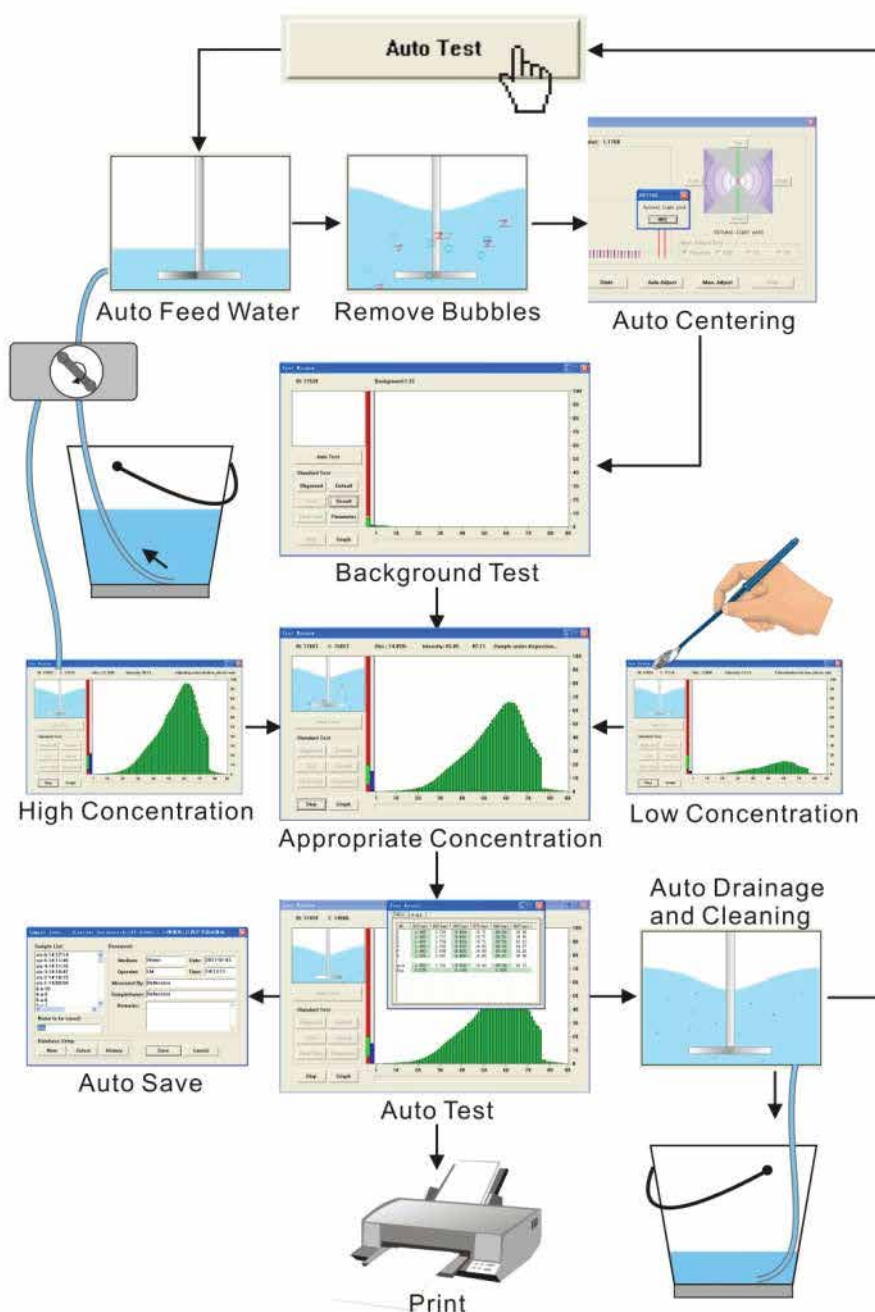
►► Technologies for Reliable Measurement

1. Standard Operation Procedure (SOP)

Analysis by one mouse click:

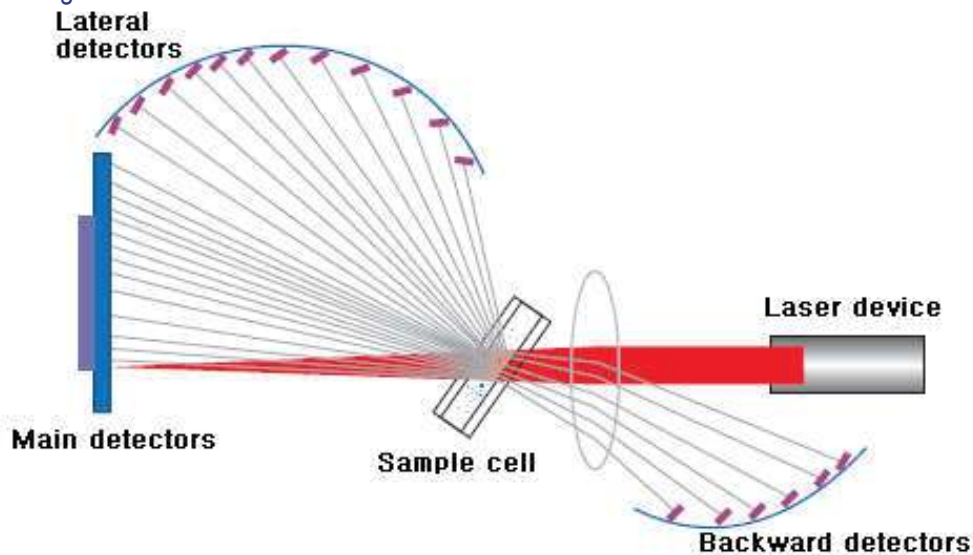
SOP of Sizer-3026 provides an intuitive solution for standardized and automatic testing. Click once on the auto test button, the testing procedure will run by itself, including water intake, bubble removal, background and obscuration measurement, testing, rinsing, and result save and print. Just add 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.



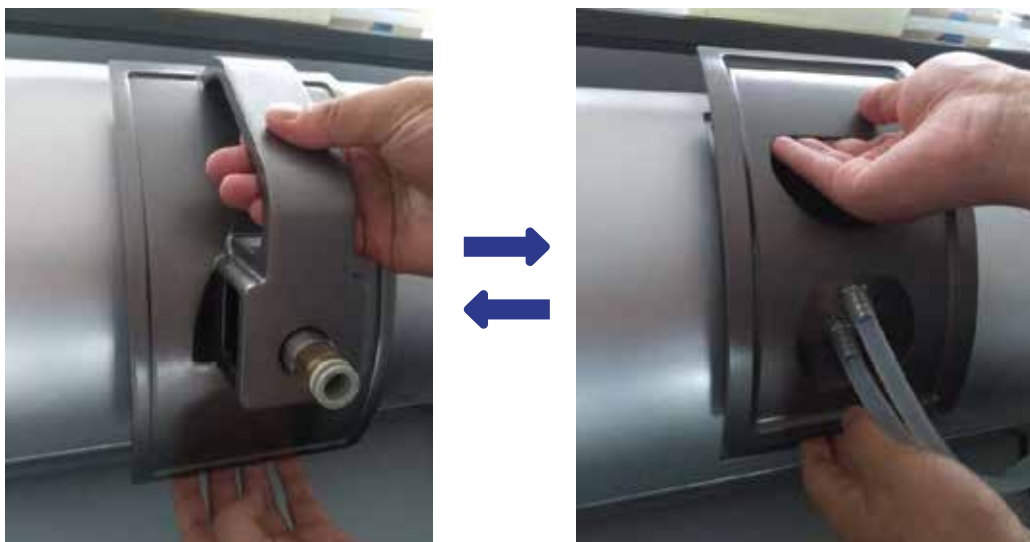
2. Fourier and Inverse Fourier Optical System

Fourier and Inverse Fourier combined optical system: This is a patented technology made by ATL. 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.



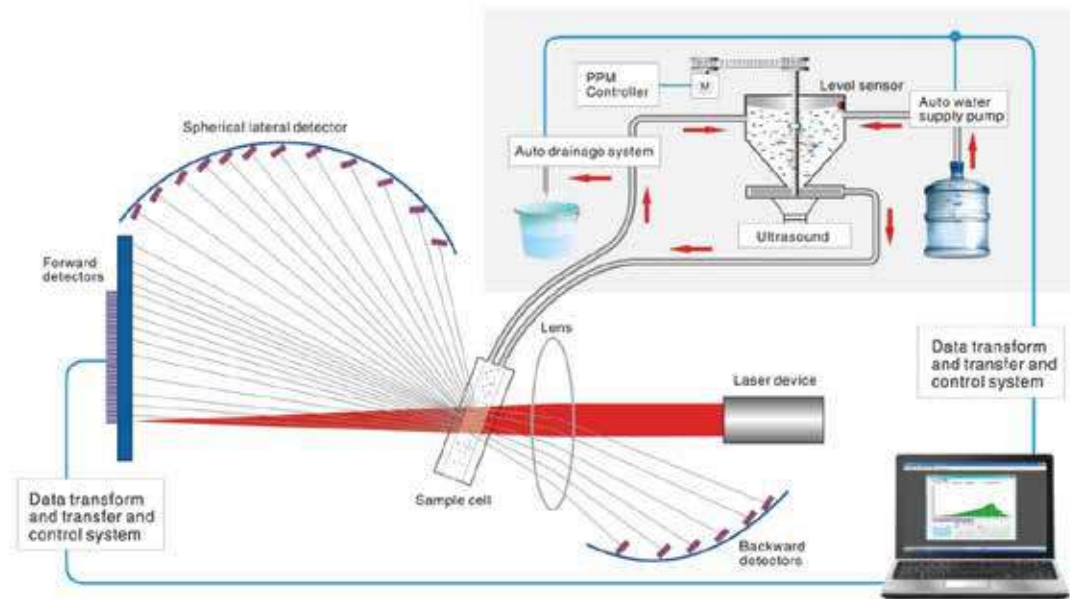
3. Easy to Convert between Wet and Dry Mode

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.



4. Automatic Circulation and Dispersion System:

The wet circulation and dispersion system and the dry dispersion system of Sizer-3026 ensures a complete sample dispersion hence make sure that each particle would be accounted for through the laser system.

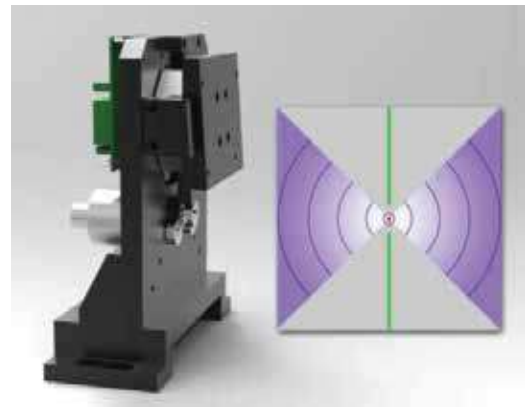


Wet dispersion and circulation

5. 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.

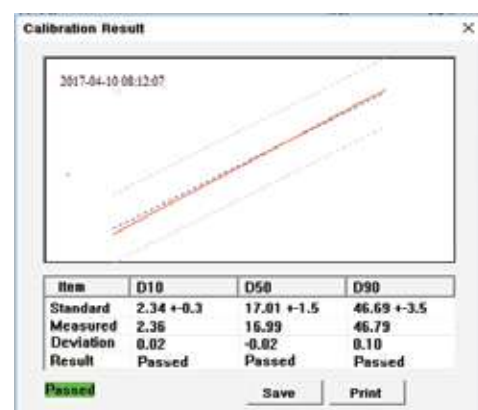


Automatic alignment

6. Accuracy Calibration

Maintain accurate datum lifetime

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



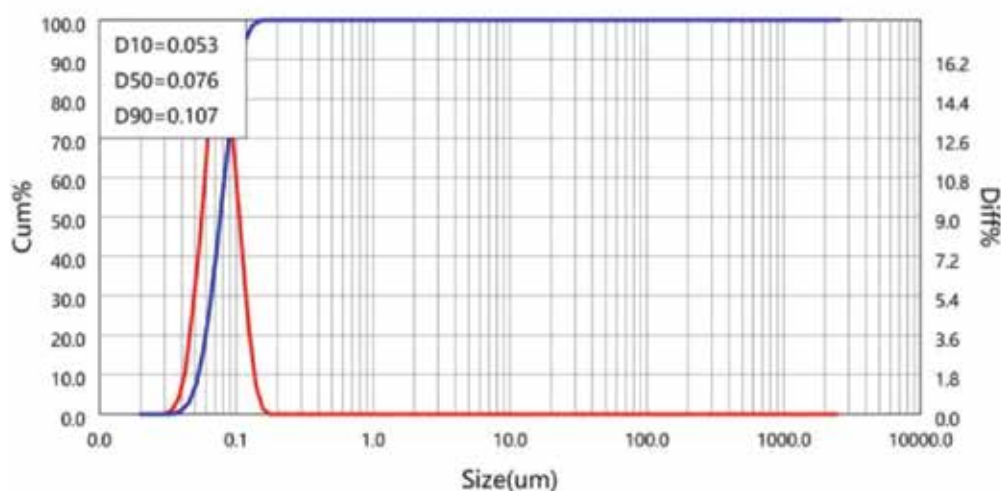
Accuracy calibration

►► Example of Report

SIZER-3026 (wet) Particle Size Analysis Report

Range: 0.02um - 2600um

| | | | | |
|----------------------------|----------------------|-------------------------------|------------------|--------------|
| Sample: Sample B | Sample Owner: ATL | | | |
| Medium: Water | Dispersant: | Measured by: ATL | | |
| 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-(0.70.70)-0 | Distribution: Volume | | Method: Laser | |
| D50: 0.076 um | D[4,3]: 0.078 um | D[3,2]: 0.073 um | OBS: 5.09 % | |
| SPAN: 0.708 | D[4,3]: 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 |

►► Specifications

| Testing parameter | Material |
|---------------------------------|--|
| Particle size distribution | Suspension, emulsion, dry powder |
| General | Sizer-3026 |
| Theory | Laser diffraction |
| Analysis theory | Mie and Fraunhofer |
| Testing speed | 3kHz |
| Typical measurement time | ≤10second |
| Size | |
| Size range | Wet: 0.02 - 2600μm |
| Number of size classes | More than 100 customized grades |
| Accuracy | ≤0.5% (Wet) ;(GBRM D50) |
| Repeatability | ≤0.5% (Wet) ;(GBRM D50) |
| Resolution ratio | Single peak, double peak, multi-peak |
| Optics | |
| Red light | Max. 3mW, Semiconductor optical fiber laser, 635nm |
| Lens arrangement | Single lens |
| Effective focal length | 300mm |
| Detector | |
| Arrangement | Log-spaced array |
| Quantity | 92pieces (forward, lateral,backward) |
| Light path adjustment | Intelligent automatic alignment |
| Sample dispersion system | |
| Dispersion type | Dry & 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 |
| Dispersion system available | Solvent compatible system |
| Air flowrate | 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 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 | 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 |

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

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Our Products & Technologies



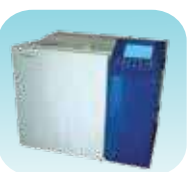
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Spectro 2080+
Double Beam



Infra FTIR



Optima Gas
Chromatograph
3007



Optima Gas
Chromatograph
2979 Plus



Flash
Chromatograph



Atomic Absorption
Spectrophotometer



Liquid Particle
Counter



Optical Emission
Spectrophotometer



DSC/TGA



Semi Auto Bio
Chemistry Analyzer



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Hematology
Analyzer



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Reader/Washer



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Urine Analyzer



Total Organic
Carbon 3800



Fully Automated
CLIA



NOVA-2100
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RTPCR



TOC
Analyzer



Laser Particle
Size Analyzer



Ion Chromatograph



Water purification
system

Regulatory compliances



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