Bettersize

BETTER PARTICLE SIZE SOLUTIONS

About Us

Founded in 1995, Bettersize is China's No. 1 player in particle sizing business. In the most recent years, Bettersize has gained increasing significance at the global market, offering a wide variety of products from basic to advanced research equipment, delivering precise analysis of materials from nanometer to millimeter.

At Bettersize, our mission is to provide best-in-class instruments, comprehensive solutions and exceptional customer services. We are dedicated to assisting scientists, researchers and engineers around the world to understand material properties, facilitate research, improve production efficiency and beyond.

Bettersize instruments and services are trusted by tens of thousands of customers around the world - from fast-growing startups, to global enterprises, distinguished universities and leading research centers.

Bettersize is here to provide you the better particle characterization solutions, and beyond.

Key Figures

No.1
Market Share in China

15%
Revenue Invested in R&D

27+
Years in Business

36
Global Labs

89
Patents Holds

92
Countries Covered

95%
In-house Production for Strict Quality Control

15,000+
Organizations Using Bettersize's Technology

Material Characterization Solutions for You

Bettersize offers a wide selection of instruments that are used in leading industrial and research laboratories for the analysis of particle size distribution, particle shape, zeta potential, and powder characteristics.

Measuring Range*	0.1 nm	1 nm	10 nm	100 nm	1 μm	10 μm	100 μm	1 mm	3.5 mm	10 mm
Laser Diffraction			Bettersizer S3 Plus: 0.01 μm to 3500 μm							
				Bettersizer 2600: 0.02 μm to 2600 μm						
					Bettersizer ST: 0.1 μm to 1000 μm					
Dynamic Light Scattering		BeNano Series: 0.3 nm to 15 μm								
Image Analysis						BeVision Series: 1 μm to 10 mm				

*The measuring range depends on the sample

Applications and Industries

Below are typical applications where our solutions have been successfully employed.

- Abrasives
- Agrochemicals
- Batteries & Fuel Cells
- Cement
- Ceramics
- Chemicals
- Coal
- Cosmetics
- Electronics
- Food & Beverages
- Life Sciences
- Mining & Minerals
- Oil & Petrochemicals
- Paints, Inks & Coatings
- Pharmaceuticals
- Plastics & Polymers
- Soils & Sediments
- Toners
- Universities & Academia
- 3D Printing

For more information about the applications and industries

Our Customers

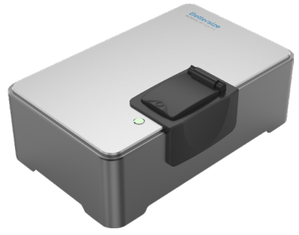
Trusted by over 15,000 businesses of all sizes in 92 countries around the globe.

Academia · Mining & Minerals · Pharmaceuticals · Powders · Chemicals · Agrochemicals · Ceramics · Food & Beverages

BeNano Series

Be the Nanoparticle Expert You Need

Particle size, zeta potential and molecular weight are the important parameters to characterize nanoparticles, which can be measured rapidly and accurately by the BeNano series, the nanoparticle analyzer with most advanced technologies.

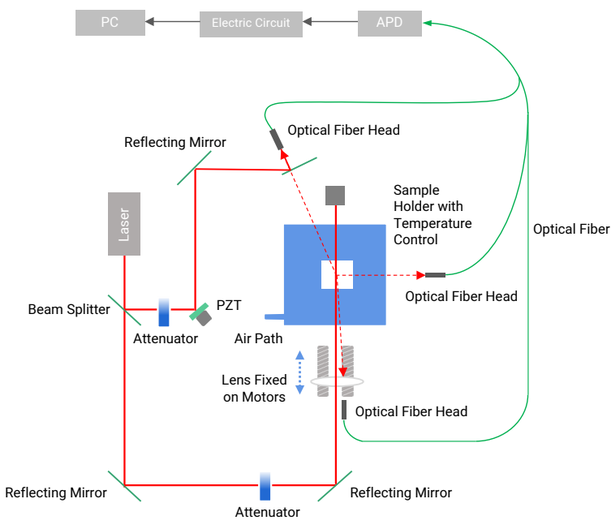


Features

- 671 nm solid-state laser with 50 mW output power
- APD (Avalanche Photodiode) detector providing exceptional sensitivity
- Automatic adjustment of laser intensity depending on the scattering ability of samples
- Intelligent algorithm of result evaluation that minimizes the interference of impurities within the samples

Benefits

- Measures **nano-sized samples down to 0.3 nm across a wide concentration range up to 40%** with the DLS backscattering (173°) detection technology
- **A minimum sample volume of 3 µL** that saves valuable samples with the capillary sizing cell
- Robust and consistent data even for **samples with low electrophoretic mobility** with the PALS (Phase Analysis Light Scattering) technology
- Performs **tests under different temperatures** rapidly and precisely with the programmable temperature control system

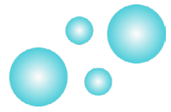


Optical System of the BeNano Series

Measured Parameters

- Z-average size
- Polydispersity index (PDI)
- Size distributions weighted by intensity, volume, surface area and number
- Diffusion coefficient
- Zeta potential
- Zeta potential distribution
- Electrophoretic mobility
- Conductivity
- Molecular weight
- Second virial coefficient

Parameters and Technologies



Particle Size — Dynamic Light Scattering (DLS)

Zeta Potential — Electrophoretic Light Scattering (ELS)

Molecular Weight — Static Light Scattering (SLS)

Typical Applications

Abrasives

Food & Beverages

Nanomaterials

Pharmaceuticals

Academia

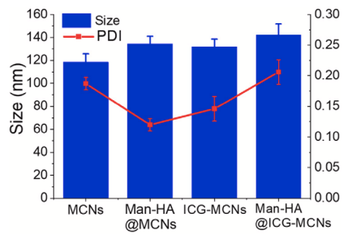
Household Chemicals

Paints, Inks & Coatings

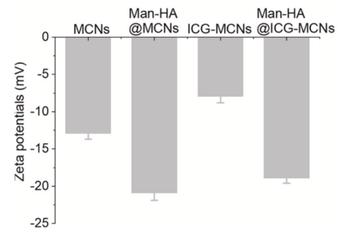
Proteins & Polypeptides

Application Example

Characterizing a multifunctional nanocomposite to investigate its effect for tumor treatment.



The sizes and PDIs of MCNs (mesoporous calcium silicate nanocomposites)



The zeta potentials of MCNs (mesoporous calcium silicate nanocomposites)

Adapted from Gao, S., Liu, Y., Liu, Zhang, M., & Shi, K. (2022). *Journal of Controlled Release, 341*, 383-398.

Select the right BeNano for you

Model	Measured Parameter			Adopted Technology		
	Particle Size	Molecular Weight	Zeta Potential	90° DLS	173° DLS	PALS
BeNano 90	✓	✓		✓		
BeNano 180	✓	✓			✓	
BeNano 180 Pro	✓	✓		✓	✓	
BeNano Zeta			✓			✓
BeNano 90 Zeta	✓	✓	✓	✓		✓
BeNano 180 Zeta	✓	✓	✓		✓	✓
BeNano 180 Zeta Pro	✓	✓	✓	✓	✓	✓

For more information about the BeNano

Bettersizer S3 Plus

Strive for Excellence in All You See

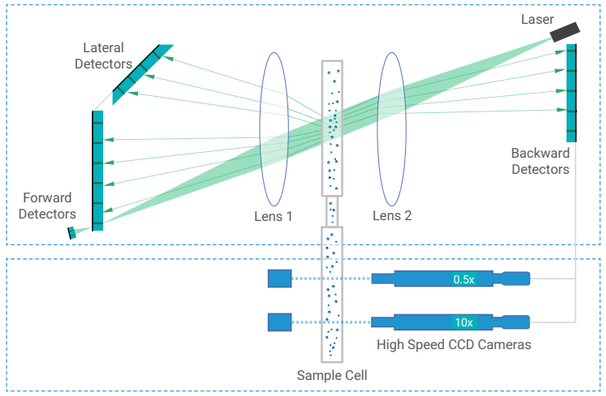
The Bettersizer S3 Plus combines laser diffraction and dynamic image analysis in one instrument. It can measure the size and shape of particles from 0.01 µm to 3500 µm. Its exceptional sensitivity for either ultrafine particles or oversized particles, and unsurpassed resolution, make it the most powerful size and shape analyzer for enthusiastic researchers who conduct top scientific research.

Features

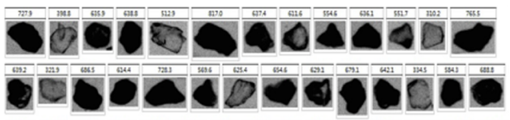
- Combining laser diffraction and dynamic image analysis in one instrument
- Patented DLOI (Dual Lenses & Oblique Incidence) system
- Dual-camera imaging technology
- Refractive index measurement

Benefits

- Obtains **size and shape results** simultaneously
- Measures **ultrafine particles down to 0.01 µm precisely** by using the DLOI system
- Shows **real-time particle images** with the dual-camera imaging system
- Detects **oversized particles up to 3500 µm**
- Determines the **refractive index** of unknown samples and improves the reliability of measurement results



Optical System of the Bettersizer S3 Plus



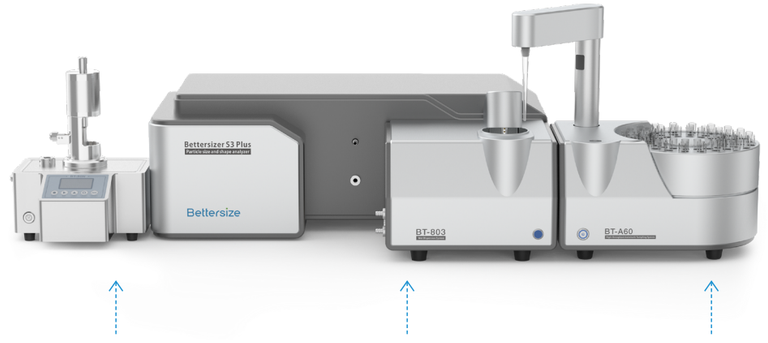
Particle images taken by the Bettersizer S3 Plus

Patented DLOI System

- Measures ultrafine particles accurately with the large angular range (0.02 - 165°) with 96 detectors
- Robust optical system with superior resolution using the dual lenses design
- Single-laser system (532 nm) offers a continuous scattering spectrum with a consistent wavelength

Dual-Camera Imaging System

- Shows images of individual particle and offers authentic number-based distribution
- Suitable for samples with extremely wide size distributions, and identifies overly large particles up to 3500 µm
- Suitable for measuring heterogeneous samples with unknown optical properties



Autosampler BT-A60

Features & Benefits

- **Up to 60 samples in one click**
  Reduces labor cost
- **Measurement automation**
  Ensures higher productivity
- **Accurate sample identification**
  Identifies sample by scanning barcodes
- **Efficient ultrasonic cleaning**
  Prevents sample cross-contamination

Dispersion Module	BT-80N	BT-803
Volume	80 mL	600 mL
Automation	Semi-automated	Fully automated
Compatibility	Samples in organic dispersants	Samples in aqueous dispersants

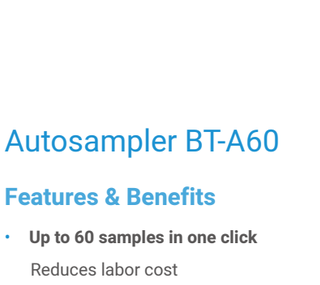
Autosampler	BT-A60
Measurable Upper Limit	200 µm
Sample Capacity	60 samples
Sampling Volume	0.5 mL - 5 mL

Application Example

Measuring the particle shape and size distribution of the soil sample returned from the Moon.

Lunar soil analyzed by the Bettersizer S3 Plus

Volume frequency size distribution



Images of individual particles

Adapted from Zhang, H., Zhang, X., Zhang, G., Dong, K., Gao, X., Yang, M. (2022). *Science China Physics, Mechanics & Astronomy, 65(2)*, 1-8.

Specifications

Parameter	Bettersizer S3 Plus
Measuring Range (Laser System)	0.01 – 3500 µm
Measuring Range (Image System)	2 – 3500 µm
Integrated CCD Camera	0.5x, 10x
Compliance	21 CFR Part 11, ISO 13320, USP <429>, CE

For more information about the Bettersizer S3 Plus

Bettersizer 2600

Better Particle Sizing for Every Need

Particle size can be measured by either wet or dry method, using the Bettersizer 2600. A variety of applications have been covered by this versatile, powerful analyzer with its modular design and patented technologies. Users can characterize materials from 0.02 µm to 2600 µm, easily and accurately.

Modular Design

The Bettersizer 2600 is equipped with versatile modules to meet specific measurement requirements, and thereby covers numerous industries and applications.

Dry Measurement

Dispersion Module	BT-903	BT-902
Mass	0.02 - 1 g	0.2 - 10 g
Automation	Semi-automated	Fully automated
Compatibility	Powders with only small volume	Powders

Wet Measurement

Dispersion Module	BT-802	BT-80N	Wet small volume
Volume	600 mL	80 mL	8 mL
Automation	Fully automated	Semi-automated	Semi-automated
Compatibility	Samples dispersed in aqueous solvents	Samples dispersed in organic solvents	Samples with only small volume

Flexible and Easy Switch Between Modules

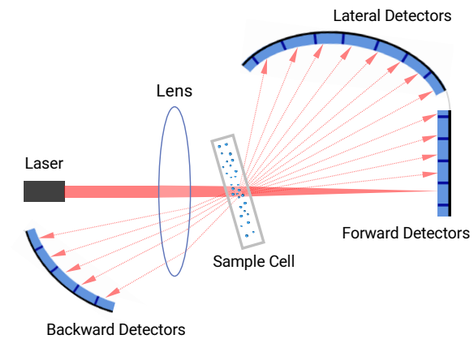
- The flexible switch between dry and wet measurements allows users to develop an optimal methodology for each sample.
- The modular switch can be done by one hand in the Bettersizer 2600, easily and quickly.

Features

- Wet and dry method of particle sizing
- Flexible and easy switch between different modules
- Combination technology of Fourier and Inverse Fourier optical design
- Wide detection angle from 0.016° to 165° with 92 detectors
- Refractive index measurement

Benefits

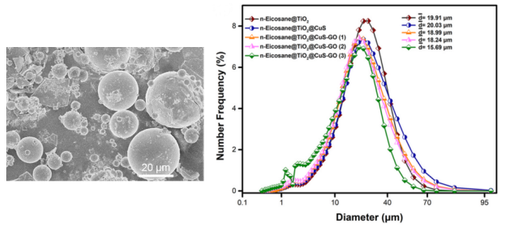
- Suitability for **a wide variety of dispersing particle systems**
- Measures **ultrafine particles down to 0.02 µm** with the Inverse Fourier design and the inclined sample cell design
- **Outstanding sensitivity** to sub-micron particles due to the increased signal-to-noise ratio using the classic Fourier design
- **Superior resolution for polydisperse samples** with the combined Fourier and Inverse Fourier setup



Optical System of the Bettersizer 2600

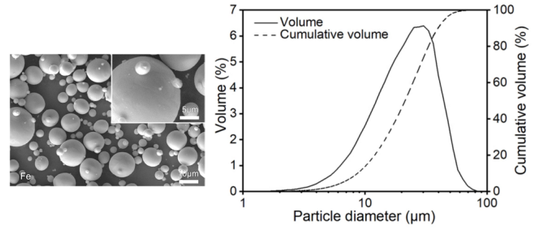
Application Example

Characterizing different samples by either wet or dry method.



Particle size distributions of solar energy converters by **wet method.**

Adapted from Fan, X., Qiu, X., Lu, L., & Zhou, B. (2021). *Solar Energy Materials and Solar Cells*, *223*, 110937.



Particle size distributions of metal powders by **dry method.**

Adapted from Xu, C., Yu, S., Wu, W., Liu, Q., & Ren, L. (2022). *Additive Manufacturing*, 102589.

Specifications

Parameter	Bettersizer 2600
Size Range	0.02 – 2600 µm (wet); 0.1 – 2600 µm (dry)
Wet Dispersion Medium	Water or Organic Solvents
Dry Dispersion Medium	Air/Nitrogen/Noble Gases
Compliance	21 CFR Part 11, ISO 13320, USP <429>, CE

For more information about the Bettersizer 2600

Bettersizer ST

Your One-Stop QC Tool

The Bettersizer ST is a fully automated and integrated particle size analyzer with a smart operation system by wet dispersing. Optimized for the industrial QC process, the Bettersizer ST provides stable and reliable testing results with minimum user intervention. The compact footprint saves valuable workspace for factories and laboratories.

Features

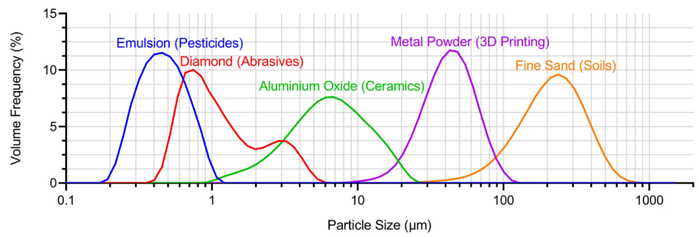
- **Dual lenses system** provides accurate test results on particle size
- **Automatic measurement with SOP** (Standard Operating Procedure) offers easy operation
- **Automatic alignment functionality** leads to good reproducibility
- **User-friendly software** offers the best measurement experience
- **Compact design** saves workspace

Benefits

- **Ease-of-Use**
- **Robustness**
- **Cost-Efficiency**
- **Low maintenance**

Optical System of the Bettersizer ST

Application Example



With its great accuracy and repeatability, the Bettersizer ST is a perfect QC tool for various applications and industries.

Specifications

Parameter	Bettersizer ST
Size Range	0.1 – 1000 µm
Accuracy	± 1%
Repeatability	≤ 1% variation
Compliance	21 CFR Part 11, ISO 13320, USP <429>, CE

For more information about the Bettersizer ST

Overview of Bettersizer Series

Select the right Bettersizer for you

Model	Size Determination		Shape Determination		Innovative Design			
	Wet Method	Dry Method	0.5x CCD	10x CCD	Dual Fourier Lenses	Oblique Incidence Laser System	Inclined Sample Cell	Combined Fourier & Inverse Fourier Optics
Bettersizer ST	✓				✓			
Bettersizer 2600	✓	✓					✓	✓
Bettersizer S3 Plus	✓		✓	✓	✓	✓		

Typical Applications of the Bettersizer Series

Abrasives

Battery & Energy

Building Materials

Ceramics

Food & Beverages

Mining & Minerals

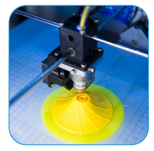
Paints, Inks & Coatings

Pharmaceuticals

Agrochemicals

Household Chemicals

3D Printing Materials



Environmental Analysis

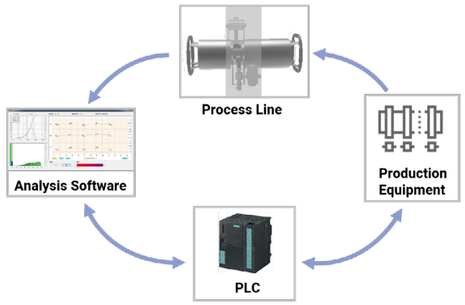
BT-Online Series

On-line Particle Sizing Solution

Driven by Standard Operating Procedure (SOP) and integrated with different control platforms and protocols, the BT-Online series can provide real-time particle size monitoring and control for both wet and dry production lines 24/7. With the automatic alignment system, uninterruptible power supply (UPS), and abnormal pressure protection, the BT-Online series possesses strong environmental adaptability.

Features & Benefits

- Monitors **multiple production lines** with one analyzer at the same time
- **Runs automatically** without operator intervention, ensuring better and real-time quality monitoring
- **Automatic control system** leads to a much tighter tolerance limit by closing the loop
- **Reduced energy consumption and increased sample throughput**
- **High return on investment**

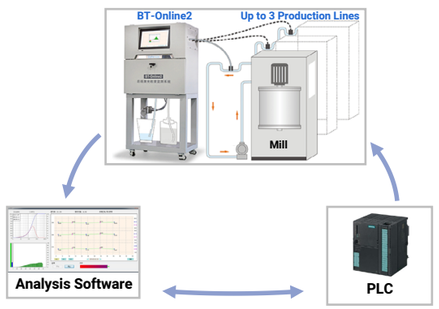


BT-Online1 Control System

BT-Online1

Dry Dispersion On-line Particle Sizer

- **Automatic sampling method**
  Venturi negative-pressure sampling and dispersing
- **Anti-static sampling pipeline**
  Effectively avoids the sample agglomeration due to the buildup of the static electricity
- **Multi-stage air filtration system**
  Removes impurities, oil, and water to ensure the dryness and cleanliness of the compressed air



BT-Online2 Control System

BT-Online2

Wet Dispersion On-line Particle Sizer

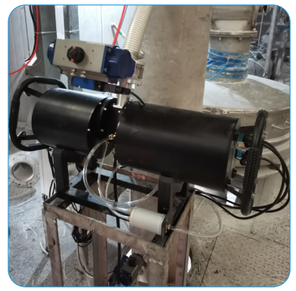
- **Built-in circulation pump and ultrasonic dispersion unit**
  Sufficient sample dispersion to ensure stable and reliable results
- **Compatible with organic solvents**
  Equipped with a waste filtration system to collect organic solvents for recycling, thereby reducing cost and eliminating pollution
- **Superior sampling representation**
  Continuous sampling of the flowing pipeline ensures representative sampling and accurate results

Production Lines Installed with the BT-Online Series

Cement

Clinker

Microsilica

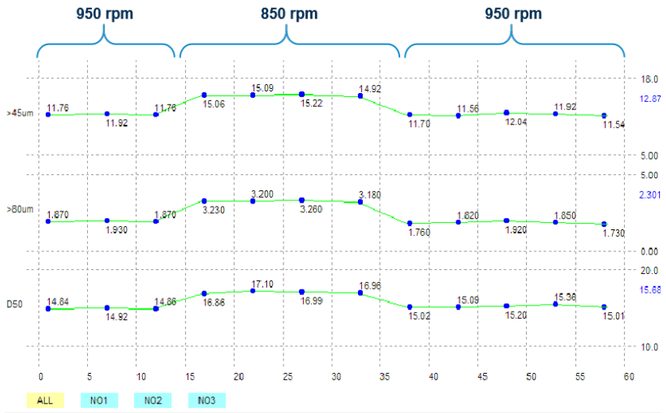


Carbon

Fodder

Metal Powder

Application Example



On-line sizing of cement under different mill speeds

Here is an example of monitoring a cement production line. The monitor window shows key parameters such as % > 45 μm, % > 80 μm and D50, tracking the size changes in real time. And whenever necessary, the PLC provides feedback control to the production equipment to optimize the manufacturing process.

Specifications

Parameter	BT—Online1	BT-Online2
Size Range	0.1 – 1000 μm	0.02 – 2000 μm
Dispersion Medium	Dry	Wet
Accuracy	± 3%	± 0.5%
Repeatability	≤ 3% variation	≤ 0.5% variation
Compliance	21 CFR Part 11, ISO 13320, USP <429>, CE	

For more information about the BT-Online series

BeVision S1

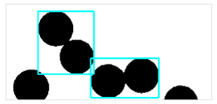
Classic Image Analyzer for Particle Size and Shape

The BeVision S1 combines light microscopy and image analysis, providing intuitive, accurate size and shape distributions of either powder or suspensions. At an objective magnification of up to 100x, even particles as fine as 1 µm can be efficiently analyzed and recorded by the BeVision S1.

Features & Benefits

- **For both dry and wet samples**
  Dry powder or liquid samples can be dispersed well and analyzed
- **Flexible light sources and wide applications**
  The default transmittance light source suits most samples, and reflective or polarized light sources are optional to meet more complex needs
- **Automatic identification of adhered particles**
  The user can exclude the adhered particles from the statistics, or split them into separated particles and include them in the statistics

An optional BT-910 dry powder disperser that helps the user to achieve the rapid and reproducible dispersion of samples.



Identifying adhered particles

Splitting adhered particles

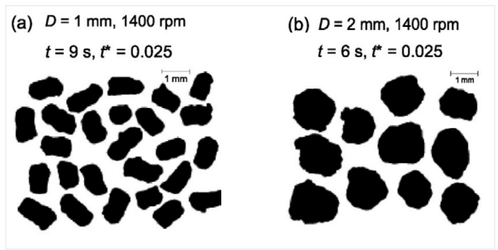
Typical Applications

- Metal Powders
- Paints, Inks & Coatings
- Pesticides
- Glass & Ceramics
- Pharmaceuticals
- Mining & Minerals
- Abrasives (silicon carbide, diamond, etc.)

Application Example

Analyzing the size and shape of extruded pellets made up of MCC (microcrystalline cellulose) and water.

Projected images of extruded granules under different spheronization durations. Adapted from Zhang, M., & Li, Y. (2016). *Powder Technology, 299*, 199-209.



Specifications

Parameter	BeVision S1
Size Range	1 – 3000 µm
Testing	Manual
Total Magnification	160x, 400x, 1600x, 4000x
CMOS Camera	12M Pixels
Compliance	ISO 13322-1: 2014

For more information about the BeVision S1

BeVision M1

Automated Particle Size and Shape Scanner

The BeVision M1 is an automated image scanning system, particularly suitable for the cleanliness analysis of particulates on filters. Equipped with a metallurgical microscope, programmable motorized stage, auto-focus function, and high-resolution CMOS, the BeVision M1 can capture and recognize each individual particle, automatically stitching the images to a large overview image.

Features & Benefits

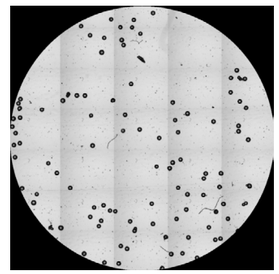
- **Automated test for both dry and wet samples**
  Improves measurement efficiency and avoids operator subjectivity
- **Automatic cleanliness analysis**
  Enables the determination and classification of foreign particulates
- **Intelligently identification of metal and fiber particles**
  Identifies metal and fiber particles based on their morphological and optical characteristics
- **Measurement of centimeter-sized particles**
  With the image-stitching mode, even fibers or coarse particles crossing multiple images can be recorded and analyzed without losing any details

Typical Applications

- Automotive Electronics
- Abrasives
- Pharmaceuticals (injectable suspensions, etc.)
- Microfibers
- Metal Powders
- Mining & Minerals (sand and gravel/ore powder, etc.)

Application Example

The BeVision M1 complies with ISO 16232, and it is extensively applied in the cleanliness analysis for parts and components used in the automotive and electronics industries. Here shows an example that counts the number of particles and fibers on a filter.



Specifications

Parameter	BeVision M1
Size Range	1 – 10000 µm
Testing	Automated
Total Magnification	160x, 200x, 400x, 800x
CMOS Camera	12M Pixels
Compliance	ISO 13322-1: 2014, ISO 16232: 2018

For more information about the BeVision M1

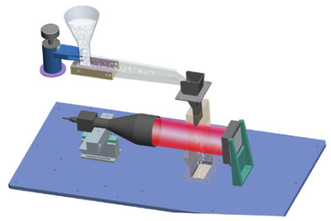
BeVision D2

Dynamic Image Analyzer for Dry Analysis

The BeVision D2 is a high-performance dynamic image particle size and shape analysis system, aiming at the comprehensive characterization of coarse particles and even millimeter-scale powder materials by dry dispersion. The high-speed CCD and multi-threaded software of the BeVision D2 allow rapid identification of more than 10000 particles per minute and obtain reproducible and accurate measurement results.

Features & Benefits

- **Real-time result display** during measurement with multi-threaded processing
- **High-speed CCD camera** - 120 FPS and micro-second exposure time, minimizing the trailing phenomenon of moving particles
- **Automatic identification of adhered particles** - Avoids the interference with authentic results
- **Efficient sampler** - Electromagnetic vibration feeding and gravity-driven dispersion, suitable for coarse particles
- **Simulation feature of sieving results**



Particles are dispersed by a vibrating feeder and fall freely through the test zone, where they are detected and photographed by the CCD camera in real time.

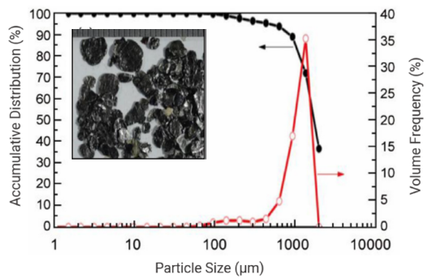
Typical Applications

- Abrasives
- 3D Printing Materials
- Soils & Sediments
- Glass & Ceramics
- Chemicals & Catalysts
- Granular Fertilizers
- Food (grains, salt, sugar, etc.)
- Mining & Minerals (ores, coal, etc.)
- Plastics & Resins (water-absorbing materials, etc.)

Application Example

Measuring the size of graphite ores by a research team of Tsinghua University.

Photo and size distribution of measured ores. Adapted from Li, J. H., Hou, S. Y., Su, J. R., Li, K., Wei, L. B., Ma, L. Q., Huang, Z. H. (2019). *New Carbon Materials, 34(2)*, 205-210.

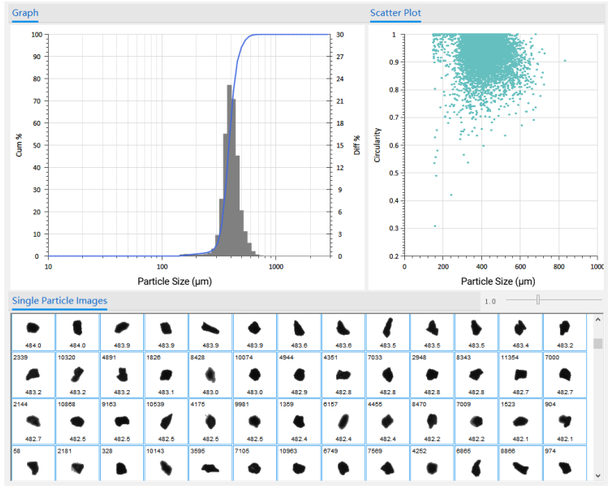


Specifications

Parameter	BeVision D2
Size Range	30 – 10000 μm
Total Magnification	5x – 80x
CCD Camera	1.3M Pixels, 120 FPS
Compliance	ISO 13322-2: 2021

For more information about the BeVision D2

Overview of BeVision Series



Size Parameters	Shape Parameters
Area-equivalent Diameter	L/D Ratio
Perimeter-equivalent Diameter	Ellipse Ratio
Long-axis Diameter	Aspect Ratio
Short-axis Diameter	Elongation
Max. Feret Diameter	Straightness
Min. Feret Diameter	Irregularity
Length x_{LF}	Compactness
Major Axis of Legendre Ellipse	Extent
Minor Axis of Legendre Ellipse	Box Ratio
Max. Martin Diameter	Circularity
Min. Martin Diameter	Solidity
	Convexity
	Concavity

Features & Benefits of BeVision Software

- **Diverse evaluation parameters**
  Include 11 size parameters, 13 shape parameters, and single-particle images
- **Fully automated operation**
  Automates the analysis including image processing, particle identification, particle analysis, particle information statistics
- **Identification of agglomerates**
  Avoids the interference of the adhered particles or agglomerates with the results
- **Visualization of every single particle**
  Helps users to determine whether an irregularly shaped particle is a genuine primary particle or an agglomerate
- **A wealth of result presentations**
  Offers frequency graphs, cumulative graphs, histograms, scatter plots, distribution tables. And the graphs can be highly customized
- **Calibration functionality**
  Accurate calibration of magnification and focus with the stage graticules to ensure the authenticity of results
- **Re-analysis functionality**
  Allows users to re-analyze the saved single-particle gallery, and creates a new record independent of the original one
- **Compliance**
  The representations of all measurement parameters comply with ISO 9276-6:2008

Select the right BeVision for you

Model	Static Image Analysis	Dynamic Image Analysis	Wet Dispersion	Dry Dispersion	Cleanliness Analysis
BeVision S1	√		√	√	
BeVision M1	√		√	√	√
BeVision D2		√		√	

PowderPro A1

Your 14-in-1 Automated Powder Characteristics Tester

The PowderPro A1 integrates many state-of-the-art technologies such as intelligent control via Wi-Fi , image processing technology, and 3D electromagnetic vibration technology. It can measure the physical properties of powders in a fast, simple, and accurate way. As an intelligent powder characteristics tester, it is an essential instrument to help you understand and research powder materials.

Measured Parameters

- Angle of Repose
- Sieve Size
- Angle of Fall
- Angle of Spatula
- Bulk Density
- Tapped Density
- Dispersibility
- Voidage
- Cohesion

Calculated Parameters

- Angle of Difference
- Compressibility
- Uniformity
- Flowability
- Floodability

Features & Benefits

- **Compact design**

  Provides 14 parameters of powder characteristics in one instrument within a short time
- **Automated imaging technology**

  Capture images of the powder pile with the high-resolution CCD camera
- **Automated control technology**

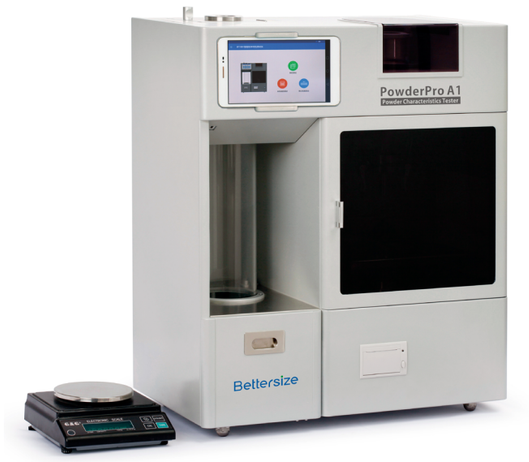
  Ensures easy usage and fast operation. Accurate and reliable results can be obtained with SOPs
- **Multiple controls**

  Performs tests with a tablet, mobile phone, or computer with 21 CFR Part 11 feature
- **Intelligent data transmission**

  An electronic balance is connected with the instrument to transmit the weight data for analysis
- **Convenient data output**

  A mini-printer is available to print the measurement data timely
- **Available in a manual version**

  Cost-effective PowderPro M1 that performs the same analysis through a manual process



Measurement Methods

Angle of Repose (θ_R)

Bulk Density (ρ_B)

$$\rho_B = \frac{Mass\ B - Mass\ A}{Volume\ of\ the\ Cup}$$

Tapped Density (ρ_T)

$$\rho_T = \frac{Mass\ C - Mass\ A}{Volume\ of\ the\ Cup}$$

Typical Applications

Battery Materials

Powder Detergents

Building Materials

Pharmaceuticals

Ceramics

Toners

Metal Powders

Soils & Sediments

Application Example

Evaluating the difference in flowability between whole milk powder and skimmed milk powder of brand M.

Sample	Angle of Repose (°)	Angle of Spatula (°)	Compressibility (%)	Uniformity	Flowability Index	Flowability Evaluation
M (Whole Milk Powder)	52.03	52.09	25.45	2.42	63	Normal
M (Skimmed Milk Powder)	38.90	36.46	12.28	2.42	78	Good

Specifications

Parameter	PowderPro A1	PowderPro M1
Operation Mode	Automatic	Manual
Measuring Angle	1 - 90° measured by CCD camera	1 - 90° measured by protractor
Drop Height	3 or 14 mm	3 or 14 mm
Tapping Speed	50 to 300 taps/min (user adjustable)	250 taps/min
Repeatability	≤ 3% variation	≤ 5% variation
Compliance	ASTM D6393-14, ISO 3953:2011, USP32-NF27<616>, EP7.0 07/2010:20934E	

For more information about the PowderPro A1

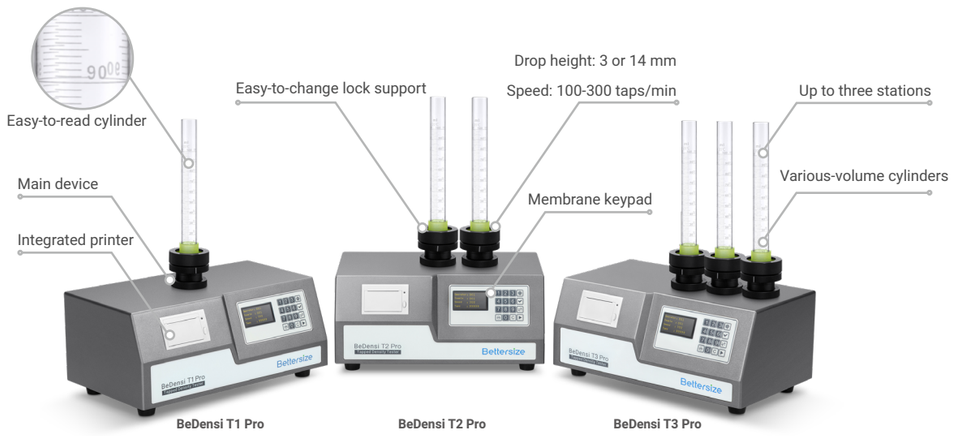
BeDensi T1/T2/T3 Pro

Tapped Density Tester

The BeDensi T Pro series is a reliable tapped density tester that excels at intuitive operation while complying with the USP, EP, ASTM, and ISO standards. It can measure the bulk density and tapped density with less than 1% repeatability variation to help users to understand the flowability of a wide variety of powder materials.

Features & Benefits

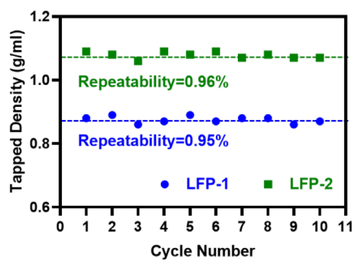
- **Compliance** - Meets the USP, EP, ASTM, and ISO standards to provide reliable results
- **Up to 3 workstations** - Fulfills different needs and scales up the productivity
- **Ease of use**
  - Sets parameters easily with the keypad;
  - Replaces cylinders quickly with the lock holder;
  - One click to print detailed reports by the built-in thermal printer.



Application Example

Characterizing two $LiFePO_4$ samples prepared with different grind times.

The tapped densities of two samples are determined, and the 10-cycle measurements show excellent repeatability (< 1%).



Specifications

Parameter	BeDensi T1 Pro	BeDensi T2 Pro	BeDensi T3 Pro
Number of Workstations	1	2	3
Tapping Speed	100 to 300 taps/min (user adjustable)		
Repeatability	≤ 1% variation		

For more information about the BeDensi T Pro series

BeDensi B1-S/B1/HFlow 1

Bulk Density and Metal Powder Flowability Tester

BeDensi B1-S

Bulk Density Tester (For Metal Powder)

The BeDensi B1-S bulk density tester uses Scott volumeter method to measure the bulk density of various metal powders and pharmaceutical powders. The manufacturing standard of BeDensi B1-S is in compliance with ISO 3923-2, ASTM B329, USP <616>, and EP 2.9.34.

BeDensi B1

Bulk Density Tester (Except Metal Powder)

The BeDensi B1 bulk density tester adopts the natural deposition method. Fully in compliance with GB/T16913.3-1997-Part III: Determination of bulk density.

HFlow 1

Flowability Tester (For Metal Powder)

The HFlow 1 tester evaluates the flow rate of metal powders and powder mixtures by allowing the sample to flow through a standard Hall Flowmeter funnel (2.5 mm orifice) or Carney funnel (5 mm orifice). The HFlow 1 is designed and manufactured based on the ISO 44900, ASTM B213, and ASTM B964.

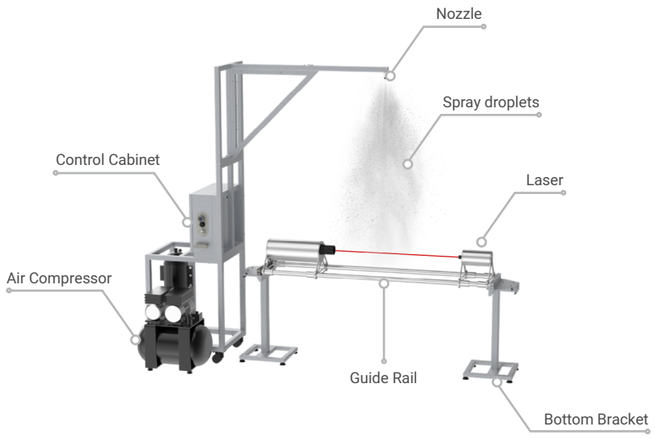
Bettersizer 2000S

Real-Time Spray Particle Size Analyzer

The Bettersizer 2000S is designed for size analysis of spray droplets or aerosols ranging from 1 µm to 2000 µm. It enables users to optimize the nozzle design, determine the spray pressure and evaluate the spray effect. The Bettersizer 2000S, with the corrosion-resistant, water-proof, and dust-proof design, is an ideal spray analyzer to fulfill the requirements of various applications.

Features & Benefits

- **Classic Fourier design** with automatic alignment functionality
- **High-speed sampling system** with an open measuring zone
- **Low maintenance cost** using the lens-protective cover and stainless-steel housing
- **Adjustable width and height** to flexibly adapt to a variety of applications
- **Water-proof and dust-proof design** that is suitable for industrial sites with the harsh environment



Typical Applications

Aerosols

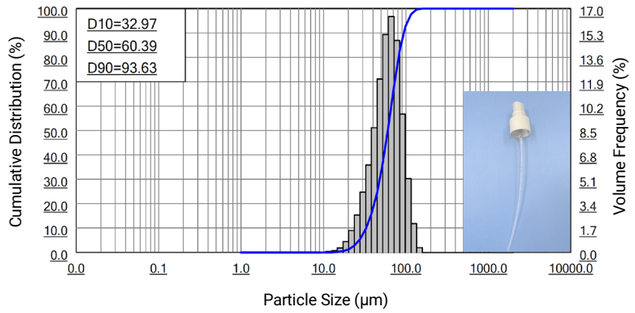
Nozzle Research

Agrochemicals

Drone Spraying

Application Example

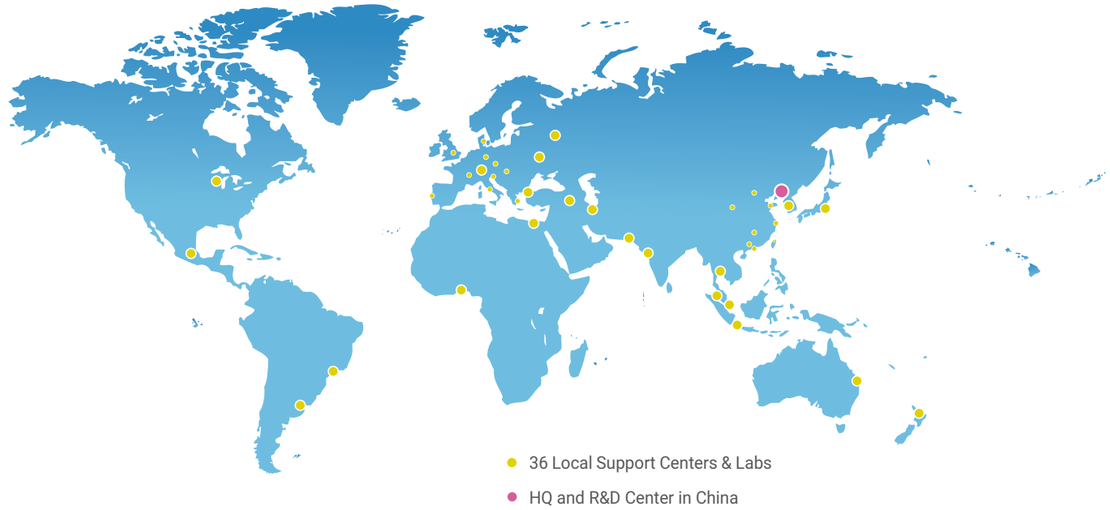
Measuring spray droplets to evaluate the performance of a mist sprayer.



Specifications

Parameter	Bettersizer 2000S
Size Range	1 – 2000 µm
Minimum Duration of Single Test	≤ 10 seconds
Accuracy	± 3%
Repeatability	≤ 3% variation

Global Footprint



Compliance

All series of Bettersize instruments are in compliance with **ISO9001** and **CE certification**. The software complies with **U.S. FDA 21 CFR Part 11**, ensuring the validity and reliability of measurement results and meeting traceability requirements.

Certified Service and Support

We take great pride in our exceptional customer service, providing excellent application technical support and after-sales service throughout the product life cycle.

From product demonstration and installation, to regular product training and workshops, preventive maintenance programs, software and hardware upgrade, trade-in purchase program, to repair coverage and 24/7 emergency service, our certified service team have you covered.

Bettersize
CERTIFIED SERVICE

Bettersize

BETTER PARTICLE SIZE SOLUTIONS

Bettersize Instruments Ltd.

Website: https://www.bettersizeinstruments.com

Email: info@bettersize.com

Address: No. 9, Ganquan Road, Jinquan Industrial Park, Dandong, Liaoning, China

Postcode: 118009

Tel: +86-415-6163800

Fax: +86-415-6170645

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