

## Bettersizer ST

- Exact measurement of coarse and fine particles by patented DLOS technology
- Integrated wet dispersion unit for automatic measurement
- Simple and intuitive software, measurement via standard operation procedures
- Automatic adjustment of the optical system
- Optimal price-performance ratio



### Particle size

by means of laser diffraction  
wet dispersion

# Bettersizer ST Overview & Measurement principle

## The Bettersizer ST

The Bettersizer ST is a state-of-the-art particle size analyzer that works according to the principle of static light scattering (DIN ISO 13320). Sample dispersion takes place in an integrated liquid bath with ultrasonic transducer, the sample delivery is carried out by means of a centrifugal pump. By combining the patented DLOS technology with the automated measuring and evaluation procedure, the Bettersizer ST guarantees stable and reliable results with minimal efforts for the instrument user. In summary, the Bettersizer ST is a particle size analyzer for simple, standardized particle size measurements in liquid media in production control or the laboratory.



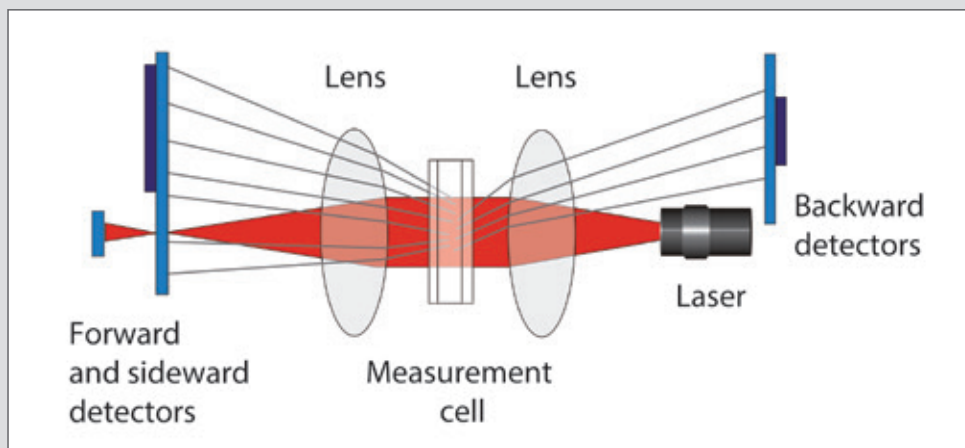
## Key Benefits

- Patented double lens laser technology (DLOS)
- Integrated, easy to operate wet dispersion
- Measuring range: 0.1 - 1,000  $\mu\text{m}$
- Very good accuracy in fine and coarse range by scattered light measurement in all spatial directions with high detector density (86 pcs.)
- Easy operation and data management for quality control
- Accuracy <1 %, Repeatability <1 %
- Automated handling with standard operation procedures
- Evaluation according to Mie and Fraunhofer theory
- Optimum price-performance ratio

## Measurement principle and technology

Bettersize's patented Dual Lens Optical System (DLOS) technology is based on the conventional Fourier design. An additional lens between the measurement cell and the laser converts the divergent laser beam into a parallel beam, and

enables the detection of the backscattered light. The use of only one laser provides a continuous scattering spectrum with a consistent wavelength and therefore guarantees reliable results in combination with the double lens system.



**Figure 1** Schematic design of the optical bench with patented DLOS technology (dual lenses optical system)

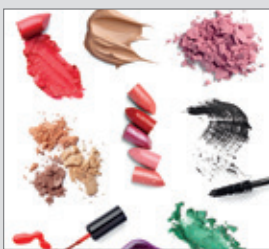
# Betttersizer ST Specifications & Applications

Specifications	
Measurement principle	Static light scattering
Analysis	Fraunhofer or Mie
Applications	Suspensions, emulsions, dry powders
Size range	0.1 - 1,000 $\mu\text{m}$
Number of size classes	> 100
Time of measurement	< 1 min
Accuracy / Repeatability	< 1% / < 1%
Feeding / Dispersion / Volume	Centrifugal pump / ultrasonic bath (50 W) / 600 ml
Number of lasers / -type / -wavelength / -power / -class	1 / Fibre-laser / 635 nm (red) / 3 mW / Class 1
Detector system	Log-space arrangement, 86 pcs. (forward, sideward and backward)
Effective focal length	223 mm
Compliance with	21 CFR Part 11, ISO 13320, CE
Data export	Excel, PDF, Word, JPG and others
Dimension (L x D x H) / weight	660 x 420 x 320 mm / 38 kg
Recommended computer specification	Windows 7 or higher, Intel Core i5, 4 GB RAM, USB 2.0

## Applications



*Building materials*



*Personal care and cosmetics*



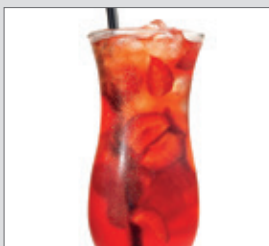
*Soils and sediments*



*Glass and ceramics*



*Carbon and oil*



*Food and beverages*



*Paints and inks*



*Pharmaceuticals*



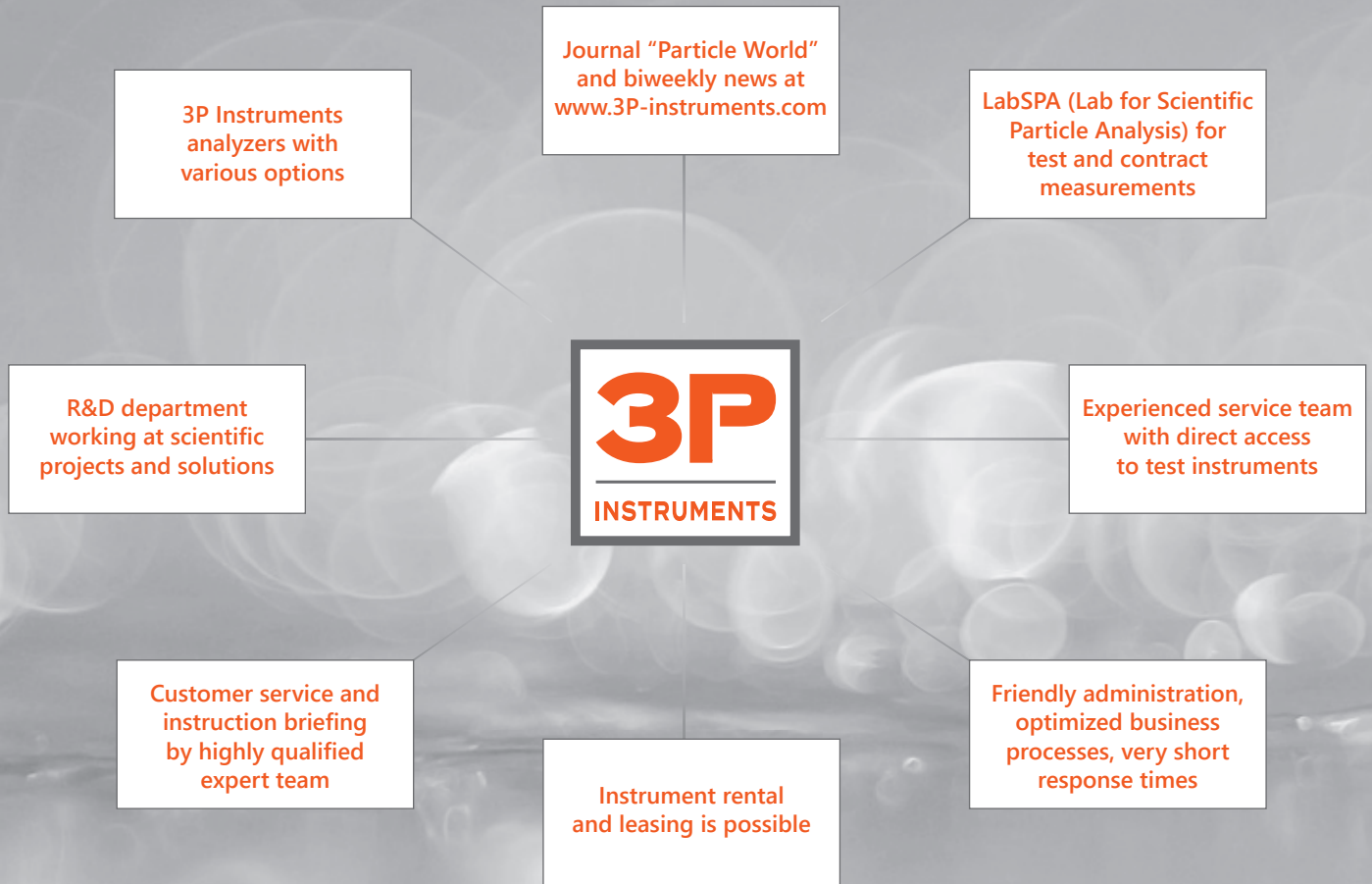
*Polymers and metals*



*Electronics*

# Your partner in particle characterization

3P Instruments has over 30 years of profound expertise in the characterization of emulsions and dispersions, of particles and powders as well as surfaces and pores.



We are happy to provide further information on the other particle sizers of the Bettersizer series.



Bettersizer S3 Series



Bettersizer 2600



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