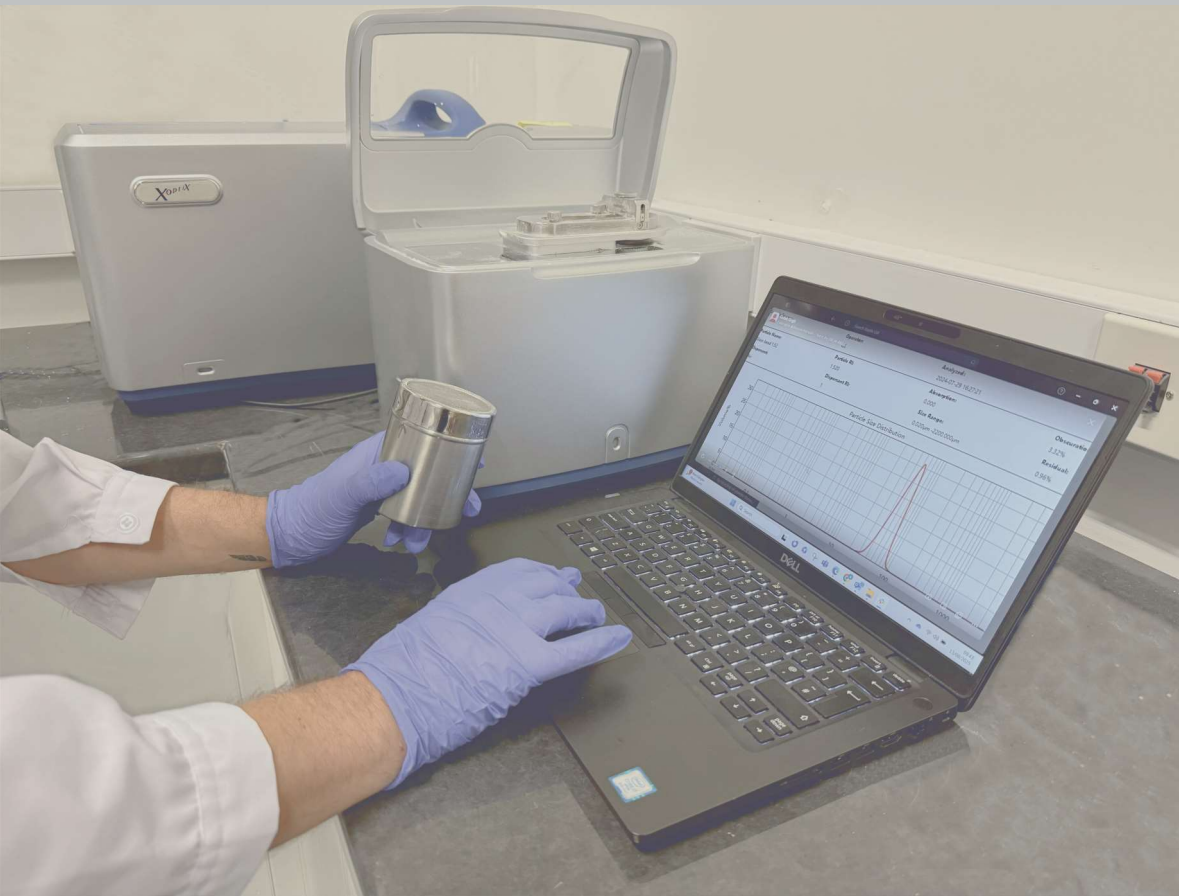


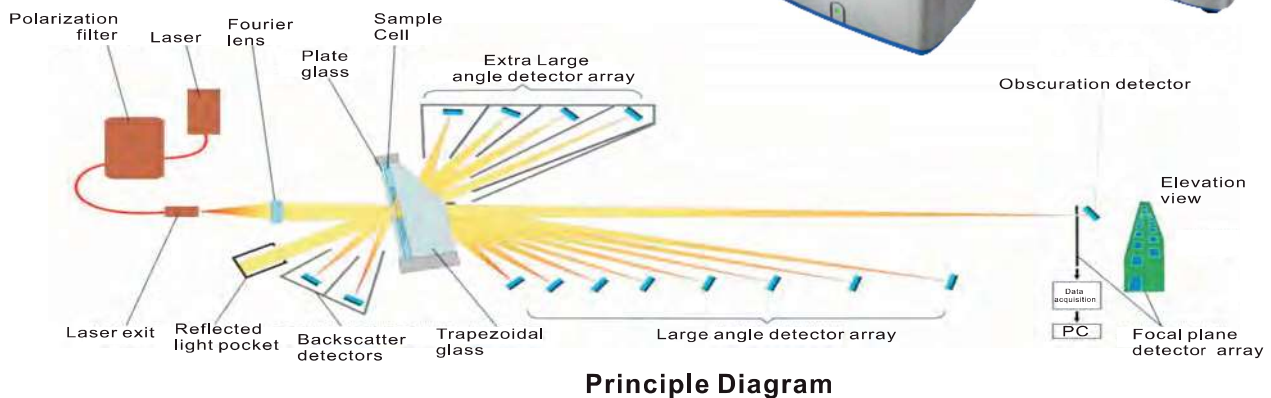
Leading Particle Characterization Technology



XoptiX
LAB

LT 3600 series - Intelligent particle size analysis

The LT 3600 is a new generation of the particle sizing instrument, used by many companies and research institutes across a wide range of industries. The instrument uses the technique of laser diffraction to measure particle size distributions from 0.015µm up to 3600µm. Combined with a range of wet and dry dispersion accessories, it opens up more applications than ever before.



Innovations and Features

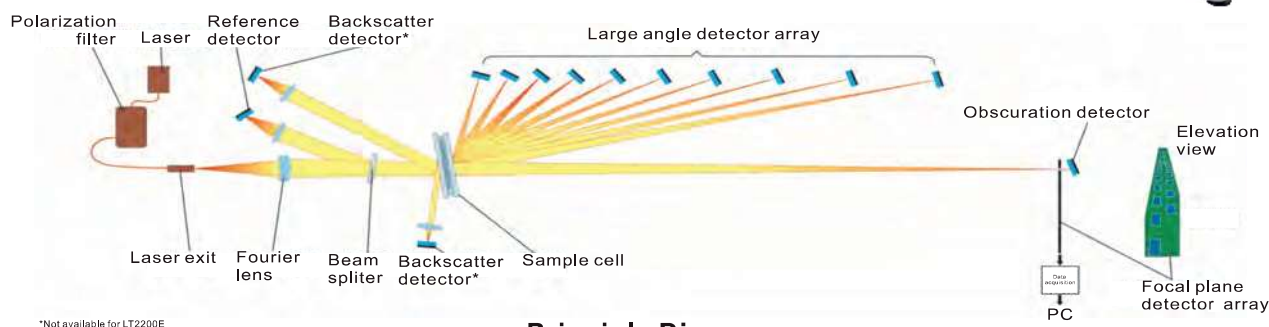
- Fully comply with ISO13320 standard
- Improved inversion algorithm and self-adaptive technique with high resolution and sensitivity
- Size range from 0.015µm - 3600µm with no need for lens change
- Data acquisition rate up to 20kHz
- Solid-state laser light source with automatic temperature stabilizing system
- Spatial filter and polarization combined with optical fibre technology
- Correction of anomalous change of airy disk (ACAD) in diffraction
- Tilted and trapezoid cell windows
- Unique optic configuration with grilling super-large angle detector array, no dead detection zone
- Dual-drive dispersion and integration technology
- Continuing dispersant level sensing and control

Specifications	LT 3600	LT 3600 Plus
Principle	Laser light scattering	
Analysis	Full Mie theory and Fraunhofer scattering	
Size range	0.02µm-3600µm	0.015µm-3600µm
	No need for lens change and calibration	
Detection system	Super large angle of detector array with area compensation and gridded holder, No dead detection zone within angular range	Super large angle of detector array with area compensation and gridded holder, No dead detection zone within angular range, back scatter detectors integrated
Cell Windows	Tilted and trapezoid cell windows	
Light source	Max.20mW,638nm Solid-state laser with thermostat integrated	
Spatial filter	OF filter with polarization	
Alignment	Smart rapid alignment with full automation	
Typical measurement time	Less than 10s	
Data acquisition rate	Up to 20kHz	
Accuracy	Better than 0.6%(The mean size of NIST latex standard)	
Repeatability	Better than 0.5%(Sample and sample preparation dependent)	
Optical system weight	28kg	28.5kg
Optical system dismensions	650mmx300mmx320mm	



LT 2200 series - Intelligent particle size analysis

LT2200 series is newly designed for a practical, reliable solution to the routine particle sizing needs of a variety of industries. It is a flexible and modular, but fully integrated particle sizing system with high performance/price ratio and assured measurement capability from submicron to millimeter, wet or dry, from milligram quantities of precious pharmaceuticals to the measurement of bulk chemicals and minerals.



Innovations and Features

- Fully comply with ISO13320 standard
- Improved inversion algorithm and self-adaptive technique with high resolution and sensitivity
- Size range from 0.02 μm - 2200 μm with no need for lens change
- Data acquisition rate up to 20kHz
- Solid-state laser light source with automatic temperature stabilizing system
- Spatial filter and polarization combined with optical fibre technology
- Correction of anomalous change of airy disk (ACAD) in diffraction
- Unique optic configuration with grilling super-large angle detector array, no dead detection zone
- Dual-drive dispersion and integration technology
- Continuing dispersant level sensing and control

Specifications		LT 2200	LT2200E
Principle	Laser light scattering		
Analysis	Full Mie theory and Fraunhofer scattering		
Size range	0.02 μm -2200 μm		0.1 μm -1200 μm
	No need for lens change and calibration		
Detection system	Super large angle of detector array with area compensation and gridded holder, back scatter detectors integrated		Super large angle of detector array with area compensation and gridded holder, No dead detection zone within angular range
Cell Windows	Parallel and tilted		
Light source	Max.20mW, 638nm Solid-state laser with thermostat integrated		
Spatial filter	OF filter with polarization		
Alignment	Smart rapid alignment with full automation		
Typical measurement time	Less than 10s		
Data acquisition rate	Up to 20kHz		
Accuracy	Better than 0.6%(The mean size of NIST latex standard)		
Repeatability	Better than 0.5%(Sample and sample preparation dependent)		
Optical system weight	26kg		25kg
Optical system dismensions	660mmx260mmx317mm		



Sample dispersion unit family

Our technical team is well aware of the mechanism of particle dispersion and the importance of the sample dispersion system in the process of particle size analysis. The Hydrolink Wet Dispersion and Aerolink Dry Dispersion System have been featured prominently in intelligent change of the dispersing energy and used for fully dispersion and representative delivery of a variety of samples, regular or irregular, fragile or agglomerated, with different densities and size distribution.

Hydrolink

Full-automatic wet dispersion unit



- Standard volume maximum 1000ml
- Dual-drive design and separate control for pump and stirrer to ensure uniform dispersion and delivery of wide distribution or high density samples
- Automatic bubble elimination technology
- High efficiency ultrasonic dispersion unit
- Continuous and adjustable ultrasonic power
- Suspended liquid level sensing and continuous liquid volume control technology
- Automatic sample processing and cleaning
- SOP control and multi-user SOP sharing

Hydrolink SE

Full-automatic wet dispersion unit



- Standard volume maximum 1000ml
- Powerful impeller pump and dual-stirrer to ensure uniform dispersion and delivery of wide distribution or high density samples
- Automatic bubble elimination technology
- High efficiency ultrasonic dispersion unit
- Continuous and adjustable ultrasonic power
- Suspended liquid level sensing and continuous liquid volume control technology
- Automatic sample processing and cleaning
- SOP control and multi-user SOP sharing

Hydrolink SV

Small volume wet dispersion unit



- The minimum sample volume 40ml
- Stainless steel design, Chemically compatible with a wide choice of organic and inorganic dispersants
- Built-in ultrasonic unit is optional
- Controlled by SOP or circulation and stirring keys on board

Aerolink

Dry dispersion unit



- Based on multiple dispersion mechanism, automatically dispersing energy input, to achieve effective dispersion of diverse samples
- Automatic control of air pressure, 0 bar-4.5bar adjustable
- Air pressure control accuracy ± 0.1 bar
- Sample feed rate controlled by SOP with precision better than 1%
- Venturi dispersion unit with variable energy, suitable for all types of samples
- Sample tray with continuously adjustable gap
- Automatic real-time vacuum detection to avoid contamination of the sample cell
- Straight-through sample path to reduce sample adherence



Spraylink - Real time spray dynamics presenting

The spray particle size and its control determine the final quality of many products, such as drug delivery during inhalation and nasal spray, fuel spray, aerosol, fuel efficiency evaluation of rocket launch, energy and chemical industry and nozzle research. The high-speed movement of spray particles with wide particle size range and the irregularity of the spray pattern requires high adaptability and high-speed diffraction signal processing capability for the spray particle size analysis system. Spraylink has been specifically designed to meet these challenges, delivering routine, accurate and precise spray particle size measurement in the size range of 0.1 μ m to 2080 μ m concentration spray up to 90% obscuration with no need for change of lens. The Spraylink system integrates an optimized high-sensitivity detection and holographic signal processing system, combined with high concentration compensation technology, which greatly reduces the effect of multiple diffraction during the measurement of high-concentration spray up to 90% obscuration.



Innovations and Features

- 10kHz maximum acquisition rate, perform 10000 measurements per second and capture the dynamics of size change in every 0.1ms interval
- Unique lens configuration and optimized optics enable measurements over large working ranges
- Measurement across a wide range (0.1 μ m-2080 μ m) with no need for optics change
- The newest algorithm ensures accurate particle size distributions can be measured at high obscuration
- Rapid auto-alignment
- Lens protection with air purging
- Customizable optical bench arrangement
- Measurement synchronization via flexible triggering options
- Stable construction and full metal cover and optical bench design
- Instantaneous playback of size history and frame-by-frame event analysis
- Analysis of the dynamic changes of particle size distribution with time
- Overlay of results at different time point

Specifications	Spraylink
Principle	Laser scattering
Optical models	Mie theory and Fraunhofer scattering, including high concentration compensation technique
Size range	0.1 μ m-2080 μ m, With no need for changing lens
Working range	150mm at 0.3 μ m, >1800mm at 7 μ m
Concentration range	Maximum obscuration : 90%(dependent on particle size range)
Detection system	42 element detector array with area compensation and gridded holder
Measurement triggering	Internal: Based on transmission or light scattering levels; External: Based on TTL input or simple switch trigger
Light source	Max.20mW,638nm Solid-state laser with thermostat integrated
External synchronization	TTL trigger output
Alignment	Automatic rapid alignment
Enclose rating	IP 65 for transmitter and receiver modules
Acquisition rate	Continuous mode: 1Hz, Rapid mode:1kHz, 2.5kHz, maximum 10kHz
Accuracy	Better than Dv50 +/- 0.5%(NIST-traceable latex standard)
Repeatability	Better than Dv50 +/- 0.5%(NIST-traceable latex standard)
Optical system weight	28kg
Optical system dimensions	1100mmx460mmx538mm(Standard optical bench)



Nanolink S901/SZ902 series nano particle size and Zeta potential analyzer

Nanolink S901/SZ902 series adopts the technique of dynamic light scattering and electrophoretic light scattering to measure the particle size and Zeta-potential of a wide range of materials such as organic and inorganic particles, emulsions, polymers, surfactant micelles, virus antibodies and proteins. The measurement technique is absolute, no calibration is required and offer reliable and accurate measurement for your particle characterization needs in a simple way.



Innovations and Features

Determine the size of particles from 0.3nm to 15μm at 90°, 173° and 12°

Full automatic position optimization for Backscatter size measurement with focusing range 10mm

Accurately understand sample stability and agglomeration tendency of particles dispersed in liquid by utilizing laser doppler electrophoresis

The industry - leading Cosine Fitting Phase Analysis Light Scattering (CF-PALS) is better than the current Frequency Analysis method and the traditional Phase Analysis Light Scattering method (PALS)

Max.50mW, 638nm Solid-state laser with thermostat integrated

Creative polarization-maintaining and beam split technology with optimized configuration of optical fiber

Unique technology for spatial interference and beat inside optical fiber

APD detector with dark count less than 20cps and combined with optical fiber technology significantly improves sensitivity and signal/noise ratio

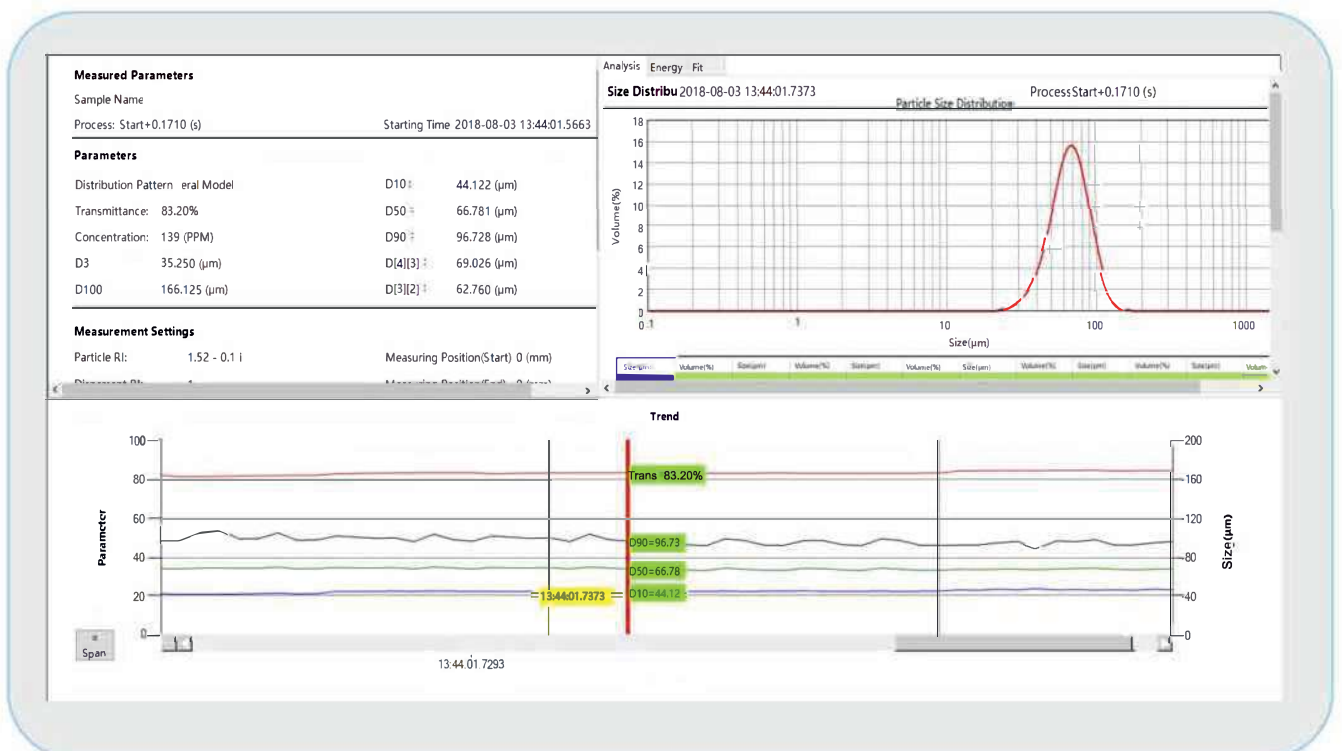
A new generation of high speed digital correlator with dynamic range 10^{11}

Condensation control by dry gas purging

Specifications	S901	S902	S902C	S902M	SZ901	SZ902	SZ902M	Z901
Principle	Dynamic light scattering (DLS), Static light scattering (SLS)				Dynamic light scattering (DLS), Static light scattering (SLS), Electrophoretic light scattering (ELS)			
Measurement angle	90°	173°	90°, 173°	12°, 90°, 173°	12°, 90°	12°, 173°	90°, 173°, 12°	12°
Particle size								
Size range					0.3nm -15µm*			
Minimum sample volume					3µl*			
Minimum sample concentration					0.1mg/ml*			
Maximum sample concentration					40% w/v**			
Detection point position	0-6mm automatic selection and adjustment, positioning accuracy 0.01mm							
Zeta Potential								
Signal processing technique					Cosine Fitting Phase Analysis Light Scattering (CF-PALS)			
Zeta-potential range					No effective limitations			
Particle size for Zeta-potential measurement					1nm – 120um*			
Mobility range					Minimum 0, maximum no practical limit			
Maximum conductivity					270mS/cm			
Sample cell					Parallel electrode sample cell, U-shaped capillary sample cell			
Molecular weight range	340Da – 2x10 ⁷ Da							
Other advanced features	Viscosity, refractive index, sample transmittance/concentration, second virial coefficient, particle interaction coefficient and aggregation index							
System								
Light source	Max 50mW, 638nm solid-state laser with thermostat integrated							
Laser intensity output adjustment	0.0001% - 100% automatic							
Correlator	High speed digital correlator, adaptive channel configuration							
Detector	High sensitivity APD							
Temperature control range	-15°C~+120°C, precision ± 0.1°C							
Sample cell (optional)	12mm cuvette, 3µL capillary super micro volume cell, 40µL micro volume cell							
System weight	18Kg							
System dimension	365mm X 475mm X 180mm							
Note: *Sample and Cell dependent		**Measurement angle dependent						



Multiple data report and display





Xoptix Limited was founded in 2005 by a Team of Scientists and Engineers who are passionate about laser diffraction and particle sizing. Based in the heart of England in Worcestershire, Xoptix have grown in strength, expanding their Headquarters on the Malvern Hills Science Park.

Xoptix lab instruments help customers better understand a wide variety of materials, ranging from pharmaceuticals to polymers and chemicals, through to food powders. From micro and nano particle suspensions as well as emulsions, up to coarser materials, the reliable data we provide supports research, development, and quality control across industries.

Xoptix brings particle sizing technology directly to where it's needed. With a full range of lab-based analyzers and in-process online solutions, we make particle size monitoring simple, reliable, and cost-effective.



Correction of anomalous change of airy disk (ACAD) in diffraction



Optimization of inversion algorithm and self-adaptive technique



Spatial filter and polarization combined with optical fibre technology



Tilted and trapezoid cell windows



Dual-drive dispersion and integration technology



High speed sampling design



Measurement result playback



Condensation control

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