

NEW



# LS 13 320 XR

## LASER DIFFRACTION PARTICLE SIZE ANALYZER

DIFFERENCE YOU CAN MEASURE



The LS 13 320 XR boosts laser diffraction particle size analysis to the next level, with its enhanced PIDS technology and extended measurement range providing higher resolution and more accurate, reproducible results. You can measure a wider range of particles and detect smaller differences in samples more quickly and reliably. And new software with an intuitive interface provides data you need with only a few clicks.

**CHARACTERIZED**  
*by ingenuity.*



# BIG IMPROVEMENTS TO HELP YOU SPOT SMALL DIFFERENCES

Details matter. Minuscule changes in your sample material can result in big differences in a finished product.

That's why the **LS 13 320 XR laser diffraction particle size distribution analyzer** uses 132 detectors to provide higher resolution for more accurate results, together with an expanded measurement range from 10 nm - 3,500  $\mu\text{m}$ .

## DETAILS THAT MATTER

- 1 Expanded measurement range: 10 nm – 3,500  $\mu\text{m}$**   
Provides real (not extrapolated) analytical data down to 10 nm, and high-resolution measurements up to 3,500  $\mu\text{m}$
- 2 Enhanced PIDS technology: Polarization Intensity Differential Scattering**  
Enables more precise raw data detection and increased detector sensitivity of vertical and horizontal polarized scattered light for sub- $\mu\text{m}$  particle size analysis - a measurement quality previously unavailable
- 3 Advanced automodality**  
No knowledge about particle size distribution (e.g., multiple fractions, narrow distribution) needed prior to measurement in order to obtain a correct result
- 4 Optimized, intuitive software**
  - Requires 2 clicks from Start Measurement to result
  - Includes an integrated optical constants database
  - Helpful user diagnostics keep you informed
  - Streamlines workflows to save time

## DATA INTEGRITY & COMPLIANCE

The FDA's Electronic Records and Electronic Signatures Rule (21 CFR Part 11) defines requirements for submitting documentation in electronic form. Choosing the software's highest security option enables you to configure the system to automatically support 21 CFR Part 11 compliance via:

- Secure user sign-on
- User-level permissions
- Audit trail
- Error log files
- Administrative configuration tools

## VALIDATION

This is a must for Good Manufacturing Practices and other regulatory requirements. Therefore the LS 13 320 XR analyzer supports GMP with specific tools for Installation Qualification (IQ) and Operational Qualification (OQ).



**DIFFERENCES YOU  
CAN MEASURE**



# EASY-TO-USE SOFTWARE SIMPLIFIES YOUR DAILY WORKLOAD

## PARTICLE SIZE ANALYSIS IS MORE EFFICIENT THAN EVER BEFORE

You will appreciate the differences in easy-to-use LS 13 320 XR software because functionality is more intuitive, and you don't need extensive operator knowledge to get accurate data.

### START YOUR MEASUREMENT

As soon as a method is set up in the LS 13 320 XR software, a measurement can be started with 3 clicks. Choose a pre-configured method, define your Test-ID and Group-ID and hit start measurement.

### INSTRUMENT SELF-CHECK RESULTS

The instrument keeps you informed during sampling with helpful self-check diagnostics.

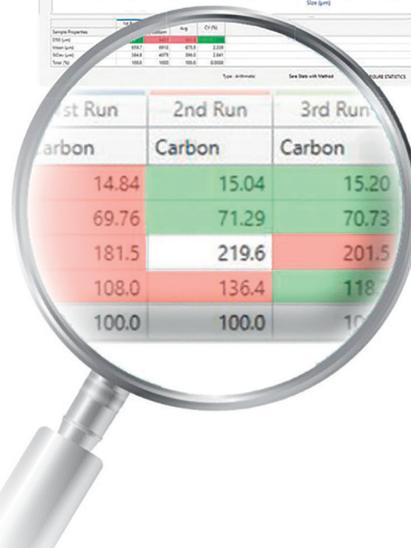
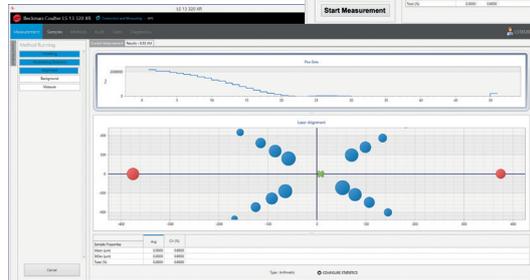
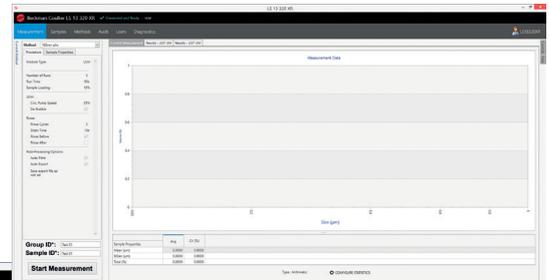
### AUTOMATIC PASS/FAIL CONTROL FOR IMMEDIATE QC

For immediate pass/fail checks of sample specifications, LS 13 320 XR software automatically highlights results in green or red if the measurement is within or outside required specifications. This enables fast quality control responses by experienced and inexperienced operators alike.



### NAVIGATION WHEEL

Data presentation and export handling with just 1 click.



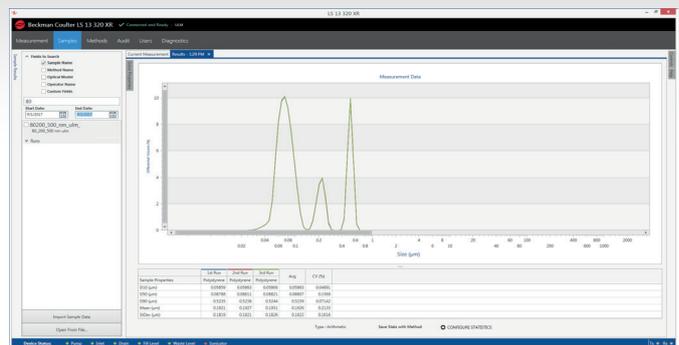
PREPARATION

MEASUREMENT

RESULTS

## PIDS TECHNOLOGY

Polarization Intensity Differential Scattering (PIDS) technology enables not only direct detection of particles as small as 10 nm, but also direct detection of multimodal fractions in the sub-µm range.



# SPECIFICATIONS AND ORDERING INFORMATION

## Specifications

Technology	Low-angle forward light scattering with additional PIDS (Polarization Intensity Differential Scattering) Technology. Analysis of vertical and horizontal polarized light at six different angles using three additional wavelengths. Full implementation of both Fraunhofer and Mie Theories.
Light source	Diffraction: Laser diode (785 nm) PIDS: Tungsten lamp with high-quality band-pass filters (475, 613 and 900 nm)
Particle size analysis range	Measurement range: 10 nm – 3,500 µm Dry Powder System Module (DPS): 400 nm - 3,500 µm Universal Liquid Module (ULM): 10 nm - 2,000 µm
Electrical interface	USB
Power consumption	≤ 6 amps @ 90 - 125 VAC ≤ 3 amps @ 220 - 240 VAC
Temperature range	10 - 40°C (50 - 104°F)
Humidity	0 - 90% without condensation
Compliance	Enables 21 CFR Part 11 compliance RoHS Certifications: - EU EMC Directive 2014/30/EU - CISPR 11:2009/A1:2010 - Australia and New Zealand RCM Mark
Data export file formats	XLSX, TSV, PDF
File import capability	From all LS 13 320 and LS 13 320 XR systems
Software operating system	Microsoft Windows 10
Dimensions	Height: 19.5" (49.53 cm) Width: 37" (93.98 cm) Depth: 10" (25.4 cm)
Weight	52 lbs (23.5 kg)

## Part Numbers Description

B98100	LS 13 320 XR Optical Bench Multi-Wavelength
B98103	Dry Powder System Module
B98105	Universal Liquid Module
B95435	Upgrade Kit, Sonicator for ULM
C06826	HiCap HEPA Vacuum
C20930	Workstation (incl. OS W10 and preinstalled LS 13 320 XR Control Software)