

LISST-PORTABLE | XR

LOW-COST PARTICLE SIZE ANALYZER

Particle Size Distribution • Particle Volume Concentration

The LISST-Portable | XR is the worlds' only portable, battery-powered laser-diffraction based particle size analyzer. Designed for use in the field and the laboratory, it analyzes the sample in a wet state to obtain particle size distribution and particle volume concentration. To ensure maximum portability and complete freedom from a laboratory environment, it features an integrated mixing chamber, touch panel display, rechargeable battery, shock mounted optics, built-in ultrasonic probe and onboard data processing and storage.



FEATURES

- Truly portable: Completely self-contained with built-in data logger, processor, rechargeable battery, ultrasonic probe and 7" touch panel color display
- No PC needed: Touch panel color display allows for easy programming, sample analysis and data display
- Rugged design: Sealed enclosure and shock mounted optics block
- Simplicity: On-screen step-by-step instructions walks the operator through a measurement
- Versatility: Multiple Mie models as well as Fraunhofer model available for inversion, selectable from the touch panel
- All data-processing performed on board and stored in ASCII format. No post-processing
- Outputs: Total volume concentration, mean size, standard deviation, optical transmission, D5, D10, D16, D25, D50 (median grain size), D60, D75, D84, D90, D95, D60/D10 (Hazen uniformity coefficient), particle surface area, silt fraction, silt volume, size distribution, battery voltage, sample notes, operator name and instrument configuration
- Compatible with water and IPA based fluids
- Laser-diffraction based

SPECIFICATIONS subject to change without notice

Operating Concentration Range

- Size range 0.34 μm - 500 μm in 44 log-spaced size classes
- Concentration range 30 $\text{mg}\cdot\text{L}^{-1}$ - 1,900 $\text{mg}\cdot\text{L}^{-1}$. Note: Dependent on particle size (see table)

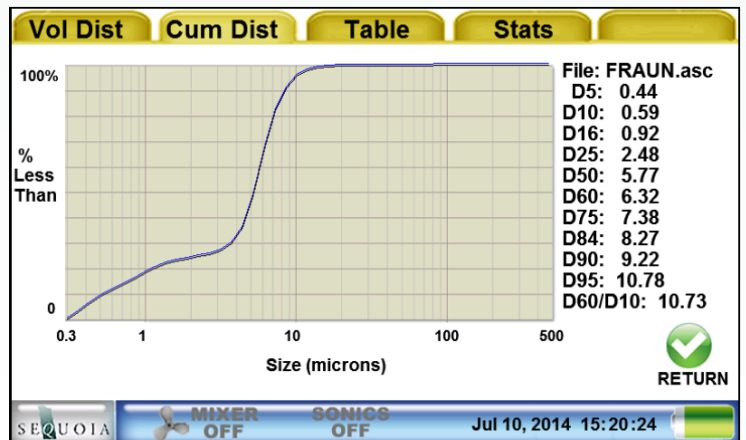
Material	Concentration [mg/l] @ 95% transmission	Concentration [mg/l] @ 75% transmission	D10 [μm]	D50 [μm]	D90 [μm]	SMD [μm]
ISO Fine	30	170	1.5	7	41	3
ISO Coarse	95	395	4	38	99	10
20-30 μm glass beads	195	1,075	19	24	34	24
Sieved sand 75-125 μm	345	1,925	85	122	175	112

Mechanical and Electrical

- Dimensions: [H \times D \times W] 17.7 cm \times 29 cm \times 44.3 cm (7" \times 11.5" \times 17.5")
- Weight: 7.5 kg (17 lbs)
- Shipping box dimensions: [H \times D \times W] 78 cm \times 53 cm \times 28 cm (31" \times 21" \times 11")
- Gross weight: 22 kg (49 lbs)
- Data storage: 1 GB flash card (~100,000 size distributions and associated sample information)
- Rechargeable Lithium-ion batteries provide six hours of sample processing. Batteries classified as non-hazardous for air shipment
- 25 W, 40 kHz ultrasonic probe with controller electronics, managed from the touch panel display



Touch panel Screenshot of Main Menu



Touch panel Screenshot of Size Distribution