

LISST-Portable | XR

Portable 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. It has five unique features:

- Pumped and recirculating mixing chamber that keeps large and heavy particles suspended.
- 7" touch panel display for measuring and displaying data with no need for a PC.
- Rechargeable battery allows for a full day of work without external power
- Shock mounted optics that can

withstand the rigors of field use.

- A built-in ultrasonic probe for complete sample dispersion.

All data is immediately processed and stored in an ASCII file on the instrument for subsequent offloading and report generating.



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FEATURES

- Truly portable - completely self-contained with built-in data logger, processor, rechargeable battery, and 7" touch panel color display.
- Touch panel allows for easy SOP programming, sample analysis and display of data without a PC.
- Shock mounted optics block.
- Multiple Mie models as well as Fraunhofer model available for inversion, selectable from the touch panel.
- All data-processing is performed on board and stored in ASCII-format. No post-processing necessary.
- Outputs: Total volume concentration, mean size, standard deviation, optical transmission, D_5 , D_{10} , D_{16} , D_{25} , D_{50} (median grain size), D_{60} , D_{75} , D_{84} , D_{90} , D_{95} , D_{60}/D_{10} (Hazen uniformity coefficient), particle surface area, silt fraction, silt volume, size distribution, battery voltage, sample notes.
- Built-in ultrasonic probe for complete particle dispersion.
- Based on the laser diffraction principle. Compliant with ISO-13320-1 standard.

SPECIFICATIONS (subject to change without notice)

Size and concentration range

- 0.34-500 μm in 44 log-spaced size classes.
- 30-1,900 mg/l range, depending on particle size (see table). Resolution < 1 mg/l. Accuracy $\pm 20\%$.

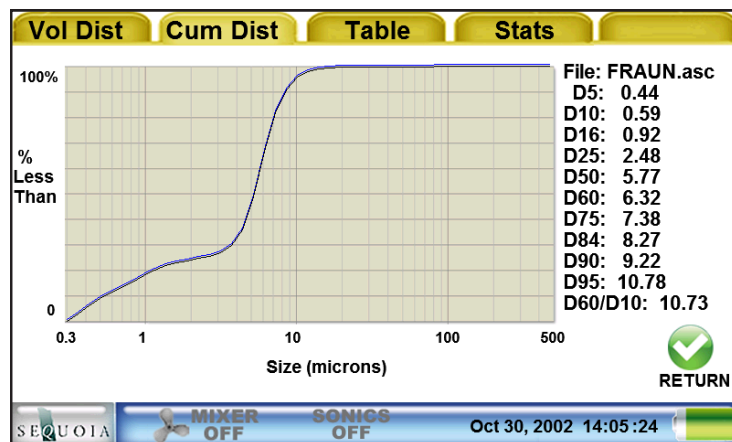
| Material | Concentration [mg/l] @ 95% transmission | Concentration [mg/l] @ 75% transmission | D10 [μm] | D50 [μm] | D90 [μm] | SMD [μm] |
|----------------------------------|--|--|-----------------------|-----------------------|-----------------------|-----------------------|
| ISO Fine | 30 | 170 | 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 and weight of instrument: 17.7 cm (7") \times 29 cm (11.5") \times 44.3 cm (17.5") [H \times D \times W]; 7.5 kg (17 lbs).
- Dimensions and weight in shipping box: 78 cm (31") \times 53 cm (21") \times 28 cm (11"); 22 kg (49 lbs).
- Data storage: 128 MB flash card, capable of storing at least 40,000 size distributions and associated sample information.
- Rechargeable Nickel-Metal Hydride (NiMH) battery provides for 6 hours of sample processing. Batteries are classified as non-hazardous for air shipment.
- Communication Interface: USB and Bluetooth Classic for data offload and device configuration.
- 25W, 40kHz ultrasonic probe with controller electronics, managed from the touch panel display.



Touch panel screenshot of Main Menu



Touch panel screenshot of size distribution



LISST-PORTABLE|XR lid and ultrasonic holder detail (all parts included)



LISST-PORTABLE|XR and toolbox in ship case (included)



LISST-PORTABLE|XR power supply, charger and USB offload cable (included)