

# LISST-Portable XR Particle Size Analyzer



**Brand:** Sequoia Scientific, Inc.

**Product Code:** 365-10

**Availability:** Call for availability

**Lead Time:** 45

## Description

The LISST-PORTABLE XR is the world's 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.

## 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 are immediately processed and stored in an ASCII file on the instrument for subsequent offloading and report generating.
- 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

### Size and Concentration Range

- 0.34 - 500  $\mu\text{m}$  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% Trans mission	Concentration [mg/L] @ 95% Trans mission	D10 [ $\mu\text{m}$ ]	D50 [ $\mu\text{m}$ ]	D90 [ $\mu\text{m}$ ]	SMD [ $\mu\text{m}$ ]
ISO Fine	30	170	1.5	7	41	3
ISO Coarse	95	395	4	38	99	10
20 - 30 $\mu\text{m}$ Glass Beads	195	1,075	19	24	34	24
Sieved Sand 75 - 125 $\mu\text{m}$	345	1,925	85	122	175	112

### Mechanical and Electrical

- Dimensions and weight of instrument: 7" H  $\times$  11.5" D  $\times$  17.5" W (17.7  $\times$  29  $\times$  44.3 cm); 17 lb (7.5 kg)
- Dimensions and weight in shipping box: 31"  $\times$  21"  $\times$  11" (78  $\times$  53  $\times$  28 cm); 49 lb. (22 kg)
- Data storage: 128 MB flash card, capable of storing at least 40,000 size distributions and associated sample information.
- Rechargeable Lithium-ion battery provides for 6 hours of sample processing.

- 25W, 40kHz ultrasonic probe with controller electronics, managed from the touch panel display.

## **Part Number**

- #365-10