

Nephelometer

Real-Time Handheld Dust Monitor



Shown with Optional Protective Boot

The Sensidyne Nephelometer is an advanced real-time dust monitor accurately measuring dust concentrations using proven light scatter technology. This portable instrument accurately measures and records dust from 1-10,000 $\mu\text{g}/\text{m}^3$ with resolution to 1 $\mu\text{g}/\text{m}^3$. Sample modes are selectable between 60 second sample, 15 minute STEL, or continuous sampling.

The Nephelometer has an internal pump drawing samples into the iso-kinetic sampling inlet where they meet sheath air that guides samples past the particle sensor. The sensor is a photo detector that measures laser light scattered by particulates in the sample stream.

Deluxe Model Now Available Offering Size Selection for TSP, PM 2.5, and PM 10 Measurements

Accurate Dust Concentration

Proprietary algorithm provides accurate dust concentration. The sheath air feature prevents internal contamination and improves accuracy.

Reliable and Easy-to-Use

Temperature compensated, durable housing and minimal moving parts ensure reliability. Two-button user-interface ensures easy dust level monitoring.

Field Portable

All-in-one handheld instrument with long-life batteries that fully charge in less than 3 hours.

Environment Profiling

Easy to use software allows programming unique environmental profiles and recording sample data.

Common Applications

- Industrial/Occupational Hygiene Area Surveys
- Particulate Matter Studies
- Immediate Spot Measurement
- Aerosol Research Studies
- Emergency Response Measurements

The instrument multiplies each measurement by a K-factor and displays the real-time reading on the display of the instrument. After each sample the K-factor, Environmental Factor Name, STEL, maximum, minimum, and average readings write to the instrument's data log. When connected to a computer the instrument uploads up to 4,000 data-log records in spreadsheet format.

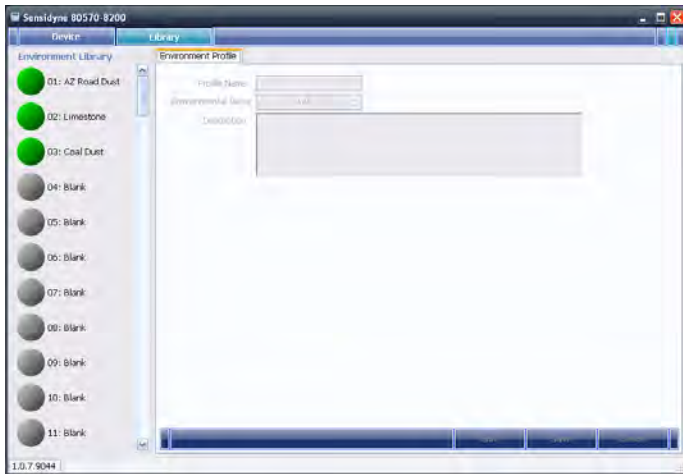
In addition to high sensitivity and ease-of-use the Sensidyne Nephelometer offers a low cost of ownership, automatic power save, long-life, data-logging, facility monitoring features, and user-replaceable filters.

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Nephelometer Diagram



Screen-shot of Facility Monitoring Software

	Part Number	Standard Unit Kits 810-1001-01-US 810-1001-02-Euro	Deluxe Unit Kits 810-1003-01-US 810-1003-02-Euro
PM-2.5 Impactor	811-1004-01		X
PM-10 Impactor	811-1004-02		X
Charger	298-0027-01	X	X
Zero Cap	385-0114-01	X	X
Sheath Air Filter	385-0112-01	X	X
USB Coms Cable	297-0012-01	X	X
PC App/Manual CD	390-0048-01	X	X
Optional Accessories			
Rubber Boot	375-0008-01		
Carrying Case	375-0009-01		
Tri-pod Mount	385-0117-01		

Product Specifications

PERFORMANCE

Measurement Method: Light scatter
 Particle Size Screening: *Standard Model:* TSP
Deluxe Model: TSP, PM 2.5, or PM 10 Selective
 Sample Method: Pump sample draw
 Range: 0.1 – 10,000 µg/m³ (0.0001 to 10 mg/m³)
 Sample Options: 1 minute, Continuous, or 15 min STEL
 Resolution: 1 µg/m³ (0.001 mg/m³)
 Sensitivity: 1 µg/m³ (0.001 mg/m³)
 Accuracy: ± 5% traceable standard with 0.6 µm (0.0006 mg) PSL
 Data logging: 4000 records of STEL, Max, Min and average reading and k-factor

ENVIRONMENTAL

Temperature Ranges
 Operating: 32°F to 122°F (0°C to 50°C)
 Storage: -4°F to 140°F (-20°C to 60°C)

GENERAL

Display: 2 line, 16-character LCD
 Controls: 2-button
 Logging: 4000 Record memory
 Dimensions: 3.75W x 6.75H x 2.0D inches
 9.5W x 17.2H x 5.1D cm
 Weight: 24 oz. (0.67 kg)

ELECTRICAL

Light Source: Laser diode
 Power: 7.2V Lithium Ion self-contained battery pack providing 30 hours of typical intermittent operation and up to 12 hours continuous use.
 Charger: 100-240VAC Lithium Ion Charger 8.4VDC @ 1500mA typical.
 Charging Time: Less than 3 hours
 Communications: USB Mini BType
 Standard Calibration: Arizona Road Dust. K-factors allow direct reading of other substances.
 Safety Conformity: • FDA / CDRH This product is tested and complies with 21 CFR, Subchapter J, of the health and Safety Act of 1968.
 • European Community (CE) Directive 89/336/EEC EN 55011 Group 1, Class B (Emissions) and EN 55082-1 (Immunity)
 • IEC 60825-1 Ed.1.1 (1998-01)
 • EN 60825-1 W/A11 (1996)
 • US 21 CFR 1040.10
 Supplied: Operation manual, Charger with power cord, zero cap, spare filter, software and USB cable.
 Optional: Carrying case and Rubber Protective Boot
 Warranty: One year from date of shipment.

