

AEROCET 531S Particle Mass Profiler & Counter

Two Aerosol Measurements in One Handheld Instrument

The AEROCET 531S is a full-featured, battery operated, handheld **mass monitor** or **particle counter**. This amazing unit simultaneously measures 6 mass concentration ranges (PM1, PM2.5, PM4, PM7, PM10 and TSP) or five particle count sizes (0.3µm, 0.5µm, 1.0µm, 5.0µm and 10µm). View sample history data in either mode.

Key Features:

Aerosol Mass and Particle Count Measurements in a Single Handheld Unit

The AEROCET 531S is a small, handheld, battery operated, and completely portable unit. This unit provides both particle counts and mass PM measurements.

Six Mass Ranges and Five Particle Sizes

Six important mass size ranges (PM1, PM2.5, PM4, PM7, PM10, and TSP) are displayed in mass mode as well as five popular particle sizes in count mode.

Tailored Mass Conversion

The particle counts from eight size ranges are converted to mass using a proprietary algorithm for typical-density aerosols. Accommodation for special particulate with different densities is provided through user-programmable "K-factors."

Flexible Data Interfaces

The AEROCET 531S stores over 6,000 records. These records can be viewed on the display, or transferred to a computer via USB or RS232. Our included Comet download utility makes file transfers easy. Import sample data into a spreadsheet or print hard copies using the optional G3115 printer.

Temperature and Relative Humidity Option

A plug-and-play option that immediately adds ambient temperature and relative humidity capabilities to the displayed and logged data.



Applications:

- Controlled Environments
- Indoor Air Quality
- Industrial/Occupational Hygiene
- HVAC Applications
- Hospitals & Clinics
- Filter Testing

Note: Not recommended for continuous outdoor use.
Avoid sampling in rainy or foggy conditions.



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Measurements & Specifications:

OPERATING PRINCIPLE

Counts individual particles using scattered laser light and calculates the equivalent mass concentration using a proprietary algorithm

PERFORMANCE

Mass Mode

Mass Concentration Ranges

PM1, PM2.5, PM4, PM7, PM10, and TSP

Sensitivity

High = 0.3µm, Low = 0.5µm

Concentration Limit

0 – 1,000 µg/m³

Sample Time

1 minute

Note: Measurement accuracy requires use of appropriate K-Factor for the material being measured.

Particle Count Mode

Particle Size Ranges

High sensitivity: 0.3µm, 0.5µm, 1.0µm, 5.0µm and 10µm

Low sensitivity: 0.5µm, 1.0µm, 5.0µm and 10.0µm

Concentration Limit

0 – 3,000,000 particles per cubic foot (105,900 particles/L)

Sample Time

1 minute

Size Accuracy

± 10%

Sensitivity

User selectable (0.3µm / 0.5µm)

Flow Rate

0.1 cfm (2.83 lpm)

ELECTRICAL

Light Source

Laser diode, 90 mW, 780 nm

Battery Pack

7.4V Li-ion battery pack

Battery Life

6 hours continuous operation

Up to 20 hours of typical (intermittent) operation.

AC Adapter/Charger

Li-ion battery charger, 100 – 240 VAC, 50/60Hz, 0.2A

Communications

RS-232, USB

Certifications

Meets or exceeds CE and ISO 21501

INTERFACE

Display / Keyboard

16-character × 4-line LCD / 7-key membrane keypad

PHYSICAL

Size

Height = 6.25" (15.9 cm) Width = 4.0" (10.2 cm)

Thickness = 2.1" (5.4 cm)

Weight

2.0 lbs - 32oz (0.9 kg)

ENVIRONMENTAL

Operating Temperature

0° to +50°C

Relative Humidity

< 95% (non-condensing)

Storage Temperature

-20° to +60°C

SUPPLIED ACCESSORIES

User Manual

Comet Communications Software

USB Cable

Isokinetic Sample Probe

Zero Particulate Filter

AC Adapter / Battery Charger

Carrying Case

OPTIONAL ACCESSORIES

RH & Temperature Probe

(PN G3120)

Portable Printer

(PN G3115)

Flow Meter

(PN 9801)

Custom Serial Cable

(PN 3228)

Wall/Tripod Mount

(PN 8956-1)

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