

# Aerosol Particulate Profiler

## AEROCET 531

Introducing an aerosol particulate monitor with increased functionality, **particulate mass monitor and particle counting** in a single unit! The 531 combines hand-held portability with highly precise measurements.

Data records are stored in memory, and may be transferred to a PC using the supplied software or printed using the optional portable printer.

### A Remarkably Flexible, Higher Performance Instrument Featuring:

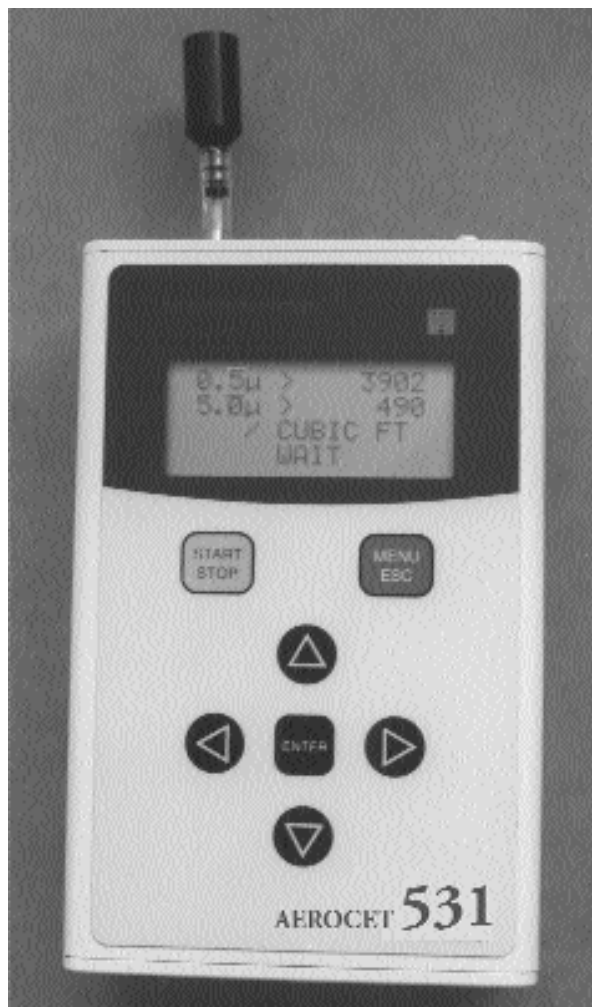
- Operates as either a particle counter, or mass monitor.
- Battery-operated hand-held
- Two channel particle counter
- PM1, PM2.5, PM 7, PM10 and TSP Mass Ranges

### Applications Include:

- Filter Testing
- Air Quality Surveys
- IAQ Source Troubleshooting
- Emissions Sampling
- Work Place Monitoring

### Operation

The 531 operates uniquely from any other instrument, and functions in one of two modes.



AEROCET 531 Hand Held Aerosol Particulate Profiler

**As a mass particulate monitor**, particles are detected, sized, and counted in multiple size ranges. Mass conversion is made using standard conversion factors, or by using user-programmable factors based on unique conditions. The particle mass can be display as PM1, PM2.5, PM 7, PM10 or TSP.

**When configured as a particle counter**, sized-based particle counts are displayed as cumulative (counts above threshold) above 0.5 and 5.0 microns, the two most popular size ranges.



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## How it Works

Using a laser-diode-based optical sensor, the 531 uses light scatter technology to detect, size, and count particles (larger than 0.5 microns). This detected information can be converted into particle mass using mass-density conversion factors, or may be displayed as particles per size range, depending on how the 531 is configured.

## Advanced Data Reporting and Options

On-line printing is provided using the serial communication port. The user may print stored data or print records as they occur.

Software creates data files for viewing or export to EXCEL and other spread sheets.

The optional Relative Humidity /Temperature Sensor may be added at anytime, the 531 will automatically enable the measurements to the display screen and to the data logger.

## SPECIFICATIONS

<b>Measurement Principle</b>	Optical, Light-Scatter using Laser Diode
<b>Display</b>	16 character X 4 line LCD
<b>Keyboard</b>	7 key membrane type
<b>Detectable Particle "Size" Range</b>	0.5 $\mu\text{m}$ to 10 $\mu\text{m}$
<b>Flow Rate</b>	0.1 cfm (2.83 lpm)
<b>Operating Modes</b>	Mass Monitor or Particle Counter
<b><u>Mass-Mode Operation</u></b>	
<b>Mass Range(s)</b>	PM1, PM2.5, PM7, PM10, TSP
<b>Concentration Range</b>	Up to 1 mg/m <sup>3</sup>
<b>Sample Interval</b>	2 minutes
<b><u>Particle Counter-Mode Operation</u></b>	
<b>Range(s)</b>	0.5 $\mu\text{m}$ and 5.0 $\mu\text{m}$ , cumulative
<b>Concentration Range</b>	0-3,000,000 particles/cubic foot
<b>Sample Interval</b>	1 minute
<b>Communication</b>	RS-232, 9600 Baud
<b>Software</b>	Supplied software can create data files for review or export to EXCEL and other spread sheets
<b>Operating Temperature</b>	0 to +50°C
<b>Power</b>	Self-contained battery, 6V NiCd
<b>Size</b>	6.5 in (l) x 4.0 in (w) x 2.1 in (d) 16.5cm(l) x 10.2cm(w) x 5.3cm(d)
<b>Weight</b>	26 oz (0.737 kg)
<b>Supplied Accessories</b>	Battery Charger/ PowerSupply, Isokinetic Probe, CarryingCase, Serial Cable, Software
<b>Optional Accessories</b>	G3120 Relative Humidity /Temperature Sensor G3115 Portable Printer