



Introducing the Model-4 Semi-Continuous Carbon Aerosol Analyzer

Successful air quality monitoring programs depend upon the precise, accurate, time resolved measurement of particulate organic and elemental carbon (OC/EC). Responding to this need, Sunset Laboratory is proud to introduce its Model 4 Semi-Continuous Carbon Aerosol Analyzer. This instrument is the only commercially available field deployable OC/EC analyzer with true laser-based pyrolysis correction and compatibility with accepted NIOSH 5040 methods.

The most recent design incorporates the latest advances in electronic and optical technology, along with an optimized oven and detector design for sensitive and reliable field operation. The new design layout has a reduced footprint, significantly reduced need for support gases, computer controlled flow system for enhanced sensitivity and fast analysis times and improved user access for simplified maintenance and service. Extensive testing of the basic design at several EPA super-sites has demonstrated excellent sensitivity and comparability with co-located integrated filter sampling systems.

Applications for the new analyzer include:

- Ambient air quality and environmental exposure measurements
- Indoor air exposure assessment monitoring
- Long-term environmental research such as studying the effects of regulatory changes
- NIOSH exposure assessments in the workplace



Features of the Sunset Laboratory Model-4 Semi-Continuous OC/EC Field Analyzer:

- New smaller, lighter rack mountable design
- Easy access panel for filter service and calibration
- Analytical results comparable to NIOSH 5040
- Analysis profiles easily selectable to match NIOSH, IMPROVE, STN or custom applications
- Optimized photo detector and optical system
- Time resolution as small as 30 minutes
- Minimum quantifiable levels of $0.5 \mu\text{gC}/\text{M}^3$ each of OC and EC
- Improved NDIR detector with better temperature control and sensitivity
- 16-Bit data system with embedded CPU
- Computer controlled flow controllers for all gasses
- New in line pressure regulators for superior flow control
- Precision tuned optical alignment for enhanced laser stability
- Improved temperature control with superior cooling fan configuration to allow more online sampling time
- New extended-life heating coils, with new power control algorithm