Sunset Laboratory Model 4

Semi-Continuous OCEC Field Analyzer

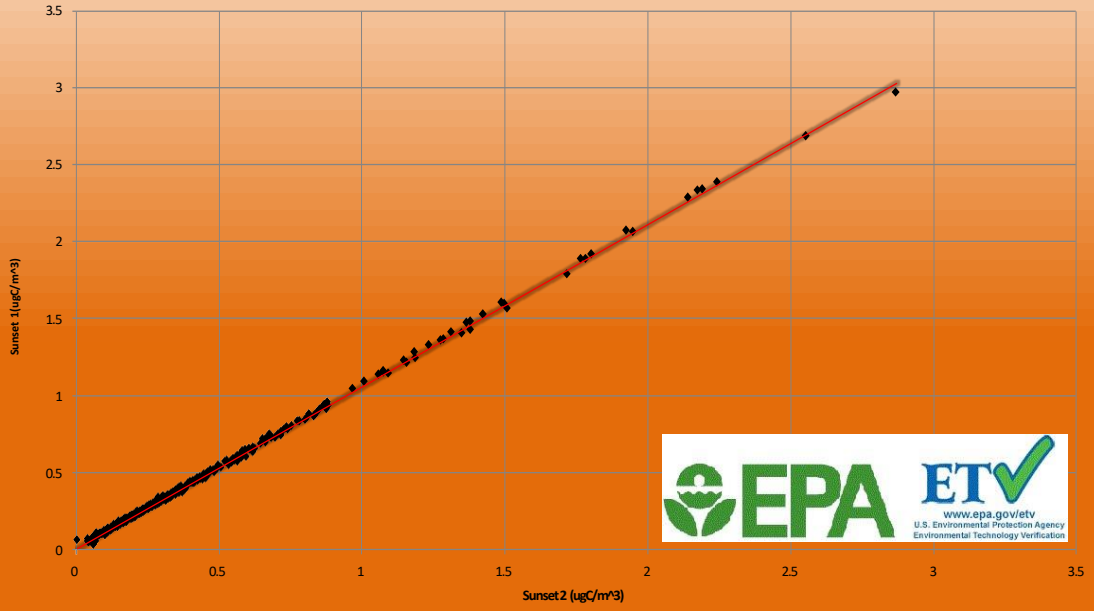
Organic Carbon ✓

Elemental Carbon ✓

Black Carbon ✓

Total Carbon ✓

The **Model 4** is the only U.S. EPA ETV verified **Black Carbon Monitor**
(**REPORT: EPA/600/R-14/308**)



***Results verified by **US-EPA ETV** Testing to be equivalent to US-EPA Reference Method (less than +-4%)

Sunset Laboratory Inc

For further details about the Model 4 OC-EC please contact us or one of our local representatives.
Contact details can be found on the Partners page of our web-site or we may contacted directly.

www.sunlab.com

Model 4 OCEC Instrument Specifications

•Physical dimensions
    1)17” x 15” x 10.5” Standard Rack mount cabinet
    2)Wt; approximately 35 pounds
•Power Requirements - 120 VAC/15 A or 220VAC/8A (Must specify at time of order)

•Instrument Package Includes
    •Model 4G OCEC Instrument
    •Latest Version of Operation & Calculation Software
    •Parallel plate denuder
    •Sampling pump
    •2.5 µm sharp cut cyclone
    •Sample Inlet Installation Kit
    •Controlling Laptop Computer w/ Windows 10 Professional, Operation and Calculation Software

•Performance Characteristics – real time, semi-continuous operation with typical time resolution from 30 minutes to 24 hours.
    1)8 LPM sample rate typical
    2)Sample analysis time; 6 – 20 minutes depending on analysis method
    3)Time resolution; depends on requirements, but 1 hour is typical for a single instrument application (80% or better sampling duty cycle)
    4)Sensitivity and Detection Limit (LDL):
        1. Range: TC - 0.2 to 600 ug/cm2
        2. Range: OC - 0.2 to 600 ug/cm2
        3. Range: EC - 0.2 to 30 ug/cm2
        4. Range: BC (ie. Opt_EC) - 0.05 to 30 ug/cm2
        5. Limit of Detection - 0.10 ug/cm2
        6. Limit of Detection for BC - 0.05 ug/cm2
    5)Measurement Range:
        1. Range for 2 Hour Sample Cycle: OC - 0.2 to 100 ug/M3
        2. Range for 2 Hour Sample Cycle: EC - 0.1 to 20 ug/M3
        3. Range for 2 Hour Sample Cycle: BC - 0.06 to 34 ug/M3
        4. Limit of Detection for 2 Hour Sample Cycle: OC - 0.2 ug/M3
        5. Limit of Detection for 2 Hour Sample Cycle: EC - 0.1 ug/M3
        6. Limit of Detection for 2 Hour Sample Cycle: BC - 0.06 ug/M3

•Measurement Method (User Configurable)
    1. NIOSH 5040
    2. EUSAAR2
    3. Fast TOC with optical EC (BC)
    4. IMPROVE-A temperature profile using TO/Transmission
    5. User defined custom applications

•Calibration
    1. External Standard – Uses an external standard calibration gas. A fixed-loop volume of this gas in injected at the end of every analysis. All calculated results are referenced against this external standard.
    2. Primary calibrations are referenced against sucrose solutions or NIST traceable gas standards. NIST traceable gas standards are USER provided and must be ordered separately if desired.

•Support Gases to be supplied by customer:
    1. He (99.999% or better) – Hydrocarbon and CO2 < 1 ppm
    2. 5% methane in Helium Balance – He (99.999%), Methane CP grade, certification to 2%.
    3. 10% Oxygen in Helium Balance – (99.999% or better for both gases)