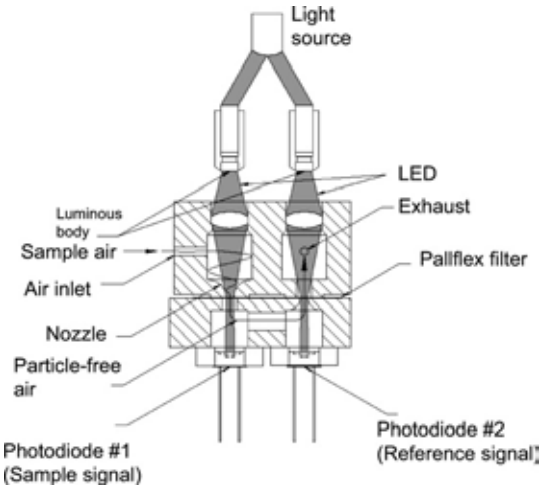
KANOMAX
The Ultimate Measurements

ISO9001 ISO14001
JQA2790 JQA-EM1628

Black Carbon Monitor Model 3130

The Model 3130 is a continuous soot monitoring system for fully automated, high-sensitivity, continuous measurement of light absorption by black carbon aerosols.

Cross-section of the filter and optical setup



Methodology

The Model 3130 monitors changes in transmittance across an automatically advancing quartz fiber filter tape using an LED at a 565 nm wavelength. To achieve measurements with high sensitivity and a lower detectable light absorption coefficient, the Model 3130 uses a double-convex lens and optical bundle pipes to maintain high light intensity and signal data, obtained at 1000 Hz.

Features

- The monitor measures black carbon concentration in the air in real time
- Preprocessing of sample air improves measurement accuracy
- Advanced detection sensitivity enables measurement in low concentrated areas
- Automatic filter feed enables continuous measurement for extended periods

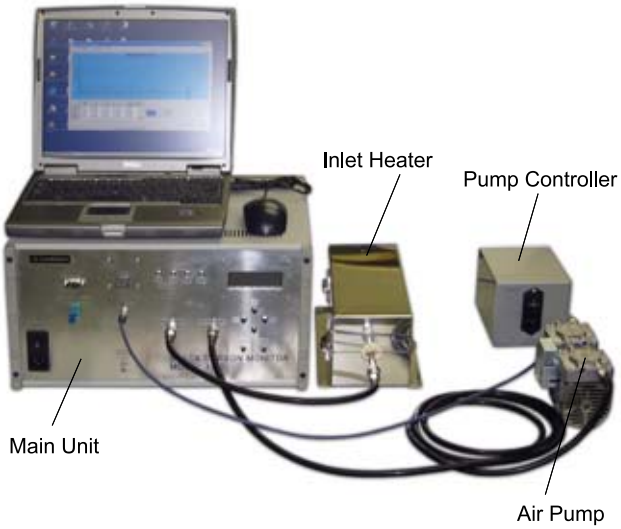
Applications

Assessment of black carbon causing health hazards in metropolitan environments
Creation of basic data for environmental assessment
Black carbon impact assessment for global warming studies
Impact assessment of how black carbon affects mountain and polar snow regions
Black carbon source monitoring
Investigation and monitoring of black carbon diffused from remote locations

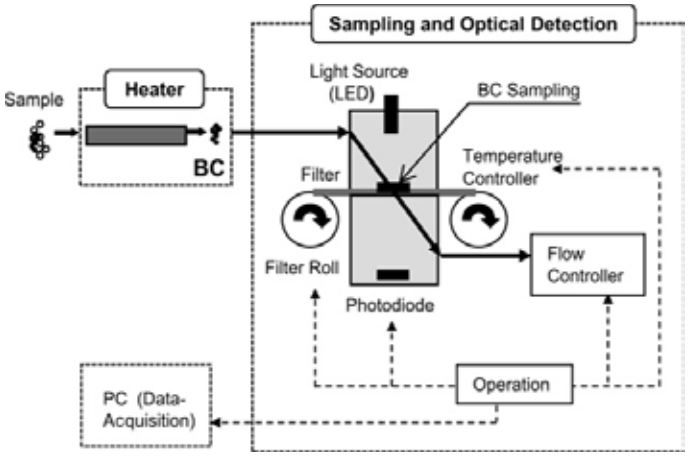
Specifications

Measurement Method	Light Absorption Method
Light Source	LED Wavelength 565 nm
Lowest Detection	0.05$\mu g/m^3$ @1 min @0.8 L/min
Measurement Interval	1 min ~ 5 min
Collection Flow Rate	0.8 L/min
Collection Filter	Fiberglass Filter (Length: 25 m)
Display	Display (LCD): 20 characters x 4 lines Shows Time, Black Carbon Concentration, Alarm etc
Data Output	USB
Power Supply	100 VAC, 6A
Dimension	17(W) x 8.7(H) x 13.9(D) inches (430 x 222 x 352 mm)
Weight	37.5 lbs (17kg)
Components	Main Unit, Inlet Heater, Pump, Pump Controller, 2.5μm Cut Impactor, Power Cable, CD for Software

■ System Components (PC is not included)



System Diagram



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