

Product Specifications

**Measurement Principle**

Real-time sample collection and analysis of Aerosol Black Carbon mass concentration in air using the Aethalometer[®] optical absorption method.

Optical Source

880 nm wavelength (IR) LED

Measurement Range

0-1 mg BC/m³

Measurement Resolution

0.001 µg BC/m³

Measurement Precision

±0.100 µg BC/m³, 1 min avg., 150 mL/min flow rate

Measurement Time Base (User setting)

1 sec, 1 min or 5 min

Flow Rate (User setting)

50 to 150 mL/min

Data Logging

4 MB flash memory, providing up to 1 month data storage when operating on a 5 minute time base, and more than 4 days when operating on a 1 minute time base.

Communications

USB Connectivity to Windows[®]-based PC with microAethCOM, or data stream via digital output through mini USB port (TSI can supply command protocols).

Data Output

Logged files are output to microAethCOM software and stored in .csv file format. Quickview graphs are provided by microAethCOM.

PC Software

microAethCOM software is included. Provides visual interface including real-time BC mass concentration values and graphing. Facilitates calibration routines, downloading data, and uploading new instrument firmware

Consumables

Typical: one filter 'ticket' per sampling event

Filter Media

T60 Teflon-coated borosilicate glass fiber framed in SS 'ticket'

Sample Spot Size

3 mm

Vacuum Pump

Internal 5 VDC with built in mass flow control

Dimensions

4.6 in (117 mm) L x 2.6 (66) W x 1.50 (38) D

Weight

0.55 lbs (250 g)

Power

Internal 3.6 VDC rechargeable lithium-ion battery

Power Supply Adapter (charge through USB cable)

Input: 100-240VAC /50-60 Hz/ 0.2 A

Output: 5VDC/0.5A max

Charging Time

4 hours to full charge (using A/C adapter, turned off)

Total Run Time (single battery charge)

24 hours @ 5 minute time base at 100 mL/min

Operation Environment

0 to 40 °C, non-condensing

Package Includes

Miniature Black Carbon Monitor Model AE51 instrument, 1m conductive sample tubing, AC-power charging adapter, USB charging/interconnect cable, Pack of 5 filter tickets, microAethCOM software, Quick Start Guide (hard copy), and Operating manual (electronic copy).

Manufactured as microAeth[®] Model AE51 by Magee Scientific, Berkeley, CA. Aethalometer[®] and microAeth[®] are registered trademarks of Magee Scientific. Specifications are subject to change without notice.

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