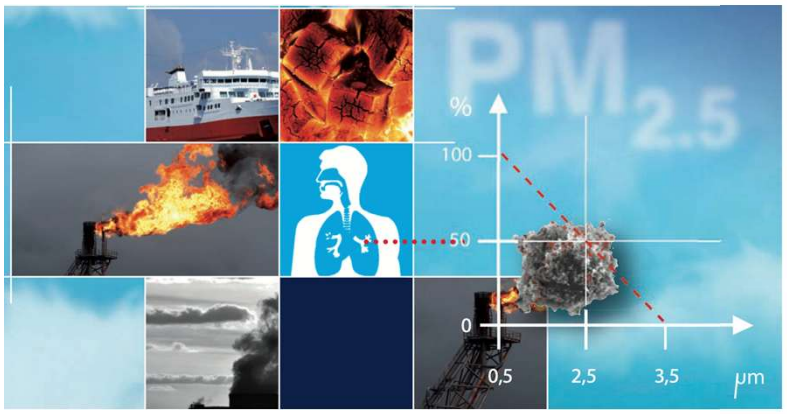
GTE Black Carbon Monitor

Black Carbon – a threat to health



Source: WHO World Health Organization

Measuring anywhere at any time

Main sources of Black Carbon

Black Carbon comes mainly from combustion sources, especially:

- Diesel engines (road vehicles), non-road machinery and ships
- Residential solid-fuel burning (wood/coal heating)
- Open biomass burning (wildfires, agricultural burning)
- Household waste burning

GTE Black Carbon Monitor

combines a weatherproof outdoor enclosure with a high-performance black carbon analyzer and an integrated control & communications package (PC, router, fans, and pre-wired cabling) to deliver reliable, long-term, low-maintenance BC monitoring.

Mobile measurement - campaigns anywhere at any time

Health impacts

Black carbon is linked to serious health impacts. Studies associate BC exposure with cardiopulmonary disease and premature mortality, and because it can carry other toxic chemicals, high BC often signals a more harmful pollution mix

The spectrum measurement

provides insight into the composition of light absorbing carbonaceous particles and helps to distinguish among the different optical signatures of various combustion sources

Turn-key solution

Continuous Real Time Monitoring

Temerature controlled housing

Stand alone operations or connect to any AQMS

Flexible & Mobile

Can be mounted on a wall or pole

GTE Black Carbon Monitor

GTE Black Carbon Housing including BC Monitor

- Dimensions incl. Sun protection Shield Height: 480mm, depth 310mm, width 400mm
- Power input: 100–240 VAC, 50/60 Hz, 2.8 A
- Power Consumption: <150W
- Outdoor Protection: IP 54
- Weight: approx. 8 kg
- Operating Temperature: -10°C to 45°C

Can be simply carried (handle) or mounted on a wall / pole

- Turn-Key-Solution designed for quick field installation with service-friendly access
- Wall-mountable on buildings, station walls or container/shelter exteriors
- Pole-mountable for near-road, street poles, fence-line, traffic hotspot deployments

Upgrade Option for stand alone version

ADM - data logger with integrated router for remote access and secure data transfer

- Web-based dashboard (works in any browser)
- Data export (CSV, Excel…)
- Geo-mapped visualization (map view)
- Data Validation and workflow system managing alarms

Measurement Method

- Real-time Aethalometer® method, 5 wavelength absorption (880 nm, 625 nm, 528 nm, 470 nm, 375 nm)
- Flow Rates Internal pump provides 50, 75, 100, 125, 150 or 170 ml/min

Measurement Range

- Per sampling location, 0-1 mg BC/m3, filter sampling location lifetime dependent on concentration and flow rate setting
- Decreasing proportionally with lowest wavelength optical source enabled

Measurement

- Resolution 0.001 µg BC/m3
- Limit of Detection 30 ng BC/m3, 5 min time base., 150 ml/min flow rate, SingleSpot™
- Sampling 3 mm diameter spot(s) created on filter tape. User selectable DualSpot® or SingleSpot™ mode
- PTFE filter tape
- MicroCyclone™ PM2.5 inlets 50/170 ml/mn

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Data Sheet