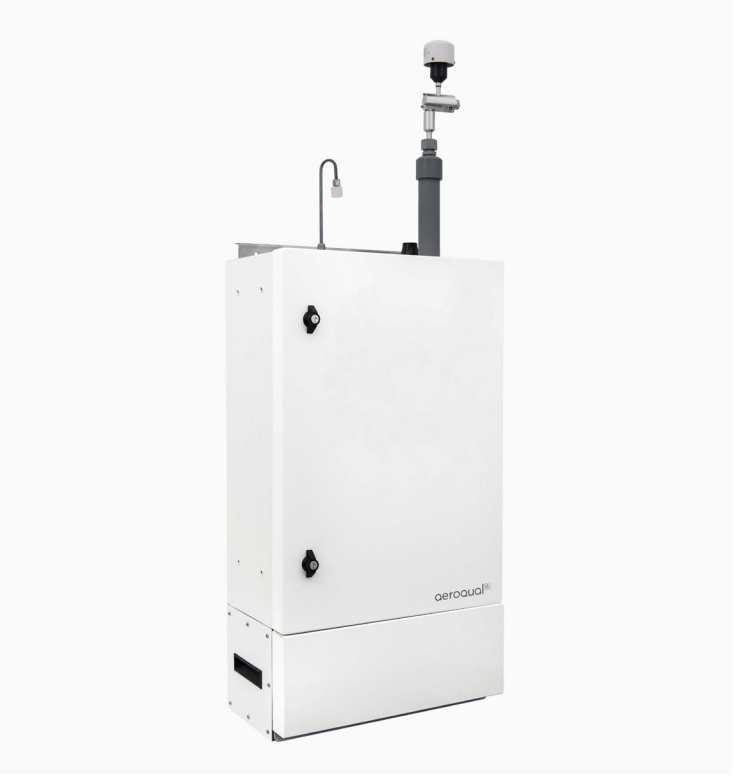
AQM 65 BTEX

Specification Sheet

Near reference real-time monitor for BTEX, gases, and particulate fractions



The AQM 65 BTEX is an all-in-one premium air monitoring solution that combines best in class BTEX sensing technology with near reference particulate and gas measurement available in the rugged AQM hardware and software system.

Continuously measure air pollutants including BTEX, O_3, NO_2, NO_X, CO, SO_2, VOC, H_2S, CO_2, TSP, PM_{10}, $PM_{2.5}$, PM_1, noise and meteorological parameters such as rainfall, temperature, humidity, pressure, wind speed and direction. MCERTS certified for PM_{10}.

What is it?

- Real-time detection of speciated benzene, toluene, ethylbenzene and xylene in ambient air at sub-ppb levels
- Proven long term performance in extreme climates with purpose-built enclosure and advanced temperature and humidity control
- Reduce site visits using two-way communications- remotely troubleshoot, upgrade software, change settings, and calibrate
- More siting options as the system size is smaller without bulky carrier gas bottles
- Respond in real-time via configurable email / SMS alerts

What can it measure?

- Multiple gases, dust fractions, wind, weather and noise

BTEX O_3 NO_2 NO_X CO SO_2

PID H_2S CO_2 PM_{10} $PM_{2.5}$ PM_1

TSP PP8 dB

Who is it for?

- Environmental consultants and industrial operators who need to ensure and demonstrate safe operation of site activities to stakeholders.
    - Remediation sites contaminated with petrochemicals
    - Fenceline monitoring of oil and gas facilities and pipelines
- Environmental protection agencies who need to manage the concerns of communities living close to potential BTEX sources such as oil and gas facilities, remediation sites, and chemical plants.

How we measure BTEX

The BTEX analyzer uses Micro-Electro-Mechanical-System (MEMS) technology and microfluidics for its pre-concentration and chromatographic separation. The detector is a robust photo-ionization detector (PID). The system uses ambient air as the carrier gas.

Real-time micro gas chromatograph module

Gas module	Range	Resolution	Noise Zero; Span % of reading	Lower Detection Limit (2σ)	Drift 24 hour Zero; Span % of FS
BTEX	0.1-50 ppb	0.01 ppb	0.05 ppb	0.1 ppb	<2% FS

Values apply to Benzene, Toluene, Ethylbenzene, Xylene, and calculated with a 15 min cycle time

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Specifications | AQM 65 BTEX

Gas module	Range	Resolution	Noise Zero; Span % of reading	Lower Detection Limit (2σ)	Precision	Linearity (% of FS)	Drift 24 hour Zero; Span % of FS
Ozone O_3	0-500 ppb	0.1 ppb	1 ppb; 1%	1 ppb	2% of reading or 2 ppb	1.5%	1 ppb; 0.2%
Nitrogen dioxide NO_2	0-500 ppb	0.1 ppb	1; 1%	1 ppb	2% of reading or 2 ppb	1%	2 ppb; 1%
Carbon Monoxide CO	0-25 ppm	0.001 ppm	0.02 ppm; 1%	0.02 ppm	3% of reading or 0.050 ppm	1%	0.02 ppm; 0.2%
Sulfur Dioxide SO_2	0-10000 ppb	1 ppb	4 ppb; 2%	9 ppb	3% of reading or 9 ppb	1%	1 ppb; 0.2%
Nitrogen Oxides NO_X	0-500 ppb	0.1 ppb	1 ppb; 1%	1 ppb	3% of reading or 3 ppb	1%	1 ppb; 0.2%
Hydrogen Sulfide H_2S	0-10000 ppb	0.1 ppb	6 ppb; 2%	12 ppb	3% of reading or 12 ppb	1%	1 ppb; 0.6%
Carbon Dioxide CO_2	0-2000	1 ppm	5 ppm; 1%	10 ppm	3% of reading or 10 ppm	2%	1 ppm; 0.6%
VOC (Low range)	0-500 ppb	0.1 ppb	1 ppb 1%	1 ppb	2% of reading or 2 ppb	1%	1 ppb; 1%
VOC (High range)	0-30 ppm	0.01 ppm	0.1 ppm; 1%	0.05 ppm	2% of reading or 0.05 ppm	2%	0.1 ppm; 1%

Particle module	Sizes	Range	Accuracy	Resolution	Lower Detectable Limit (2σ)
Nephelometer	PM_1, $PM_{2.5}$, PM_{10} OR TSP	0 to 60,000 µg/m³	±(2 µg/m³ + 5% of reading)	0.1 µg/m³	1 µg/m³
Profiler (Optical Particle Counter)	PM_1, $PM_{2.5}$, PM_{10} AND TSP	PM_1 200 µg/m³ $PM_{2.5}$ 2000 µg/m³ PM_{10} 5000 µg/m³ TSP 5000 µg/m³	±(5 µg/m³ + 15% of reading)	0.1 µg/m³	1 µg/m³
	Optional Particulate Counts: 0.3, 0.5, 0.7, 1.0, 2.0, 3.0, 5.0, 10 microns (counts range: 0-100,000 counts/L)				

System specifications	
Control system	Embedded fanless PC (Intel Celeron® N3350, 1.1GHz, dual core, 4GB RAM, 32GB SSD hard drive), Debian Linux Operating System
Communications[1]	Standard: WIFI, Ethernet (LAN) Optional modem: Cellular IP 3G HSPA or 4G LTE
Software	**Aeroqual Cloud** – Choose a plan that is right for you **Optimize:** Reduce site visits and improve data quality by managing your monitors and optimizing network performance remotely. **Plus:** Stay one step ahead with enhanced features for viewing and sharing data, real-time alerts, and analysis. Talk to our sales team to learn more about Aeroqual Cloud plans.
Data logging	32 GB Hard Drive (> 5 years data storage)
Averaging period	1 min, 5 min, 10 min, 15 min, 20 min, 30 min, 1 hr, 2 hr, 4 hr, 8 hr, 12 hr, 24 hr
Power requirements[2]	90 - 264 Vac, 47 - 63 Hz Typical draw: 100 W (depends on configuration and ambient temperature)
Enclosure	Outer: IP65 rated aluminum skin with solar reflective coating Inner: 40 - 50 mm (1.6 - 2 ") layer of cross-linked PE foam insulation
Gas sampling system	Inlet: Teflon, glass-coated stainless-steel Pump: 12 V brushless DC diaphragm
PM sampling system	Inlet: Omni-directional 36 cm (14.1 inches) heated inlet; Optional sharp cut cyclones for PM10, PM2.5 or PM1 size selection Pump: 12 V brushless DC diaphragm Optics: 670 nm laser, near-forward scattering nephelometer with sheath air protection
Dimensions[3]	Standard: 1310 H x 510 W x 280 D mm (51.6 H x 20 W x 11 D ")
Weight[4]	< 30 Kg
Operating range	-35 °C to +50 °C (-31 °F to 122 °F)
Mounting	Pole, tripod and wall mounting brackets included
47mm sample filter[5]	47 mm filter for particle loading analysis
Factory integrated sensors[5]	Gill WindSonic (ultrasonic wind sensor), Vaisala WXT536 (weather transmitter), Met One MSO (weather transmitter), Cirrus MK427 Class 1 (noise sensor), Novalynx Pyranometer (solar radiation)
Compatible tested sensors	BSWA 308 (sound level meter), Met-One BC-1060 (black carbon monitor), Met-One E-BAM PLUS (Beta-Attenuation Mass Monitor)

[1] 4G LTE not available in all markets.
[2,4] Configuration used for power and weight calculations: base unit, nephelometer, PM_{10} sharp cut, modem, heater on.
[3] Dimensions are for enclosure. PM sampling inlet with cyclone adds 360 mm (14.17") to total height.
[5] Optional