

AQM 65

Specification Sheet

Near reference real-time monitor for ambient air pollutants

The AQM 65 is a fully integrated, temperature-controlled air quality monitoring station that delivers 'near reference' levels of performance in real-time for multiple gases, particulate matter and environmental parameters.

Continuously measure air pollutants including O₃, NO₂, NO_x, CO, SO₂, VOC, H₂S, CO₂, CH₄, PM₁, PM_{2.5}, PM₄, PM₁₀, TSP, noise and meteorological parameters.



What is it?

- A near-reference air quality station with proven long-term performance in extreme climates with advanced temperature control
- Suitable for mobile monitoring applications
- Compatible with a wide range of sensors including noise, black carbon and met sensors all viewed in one data platform
- Includes two-way communications for remote troubleshooting, software upgrades, and remote calibration
- Enables automatic scheduling of calibrations with optional integrated calibration system
- Provides real-time alerts of exceedances via configurable email / SMS alerts

What can it measure?

- Multiple gaseous and particulate fractions, wind, weather and noise



Who is it for?

- Regulatory authorities who need to extend their ambient air monitoring networks while managing capital and operating expenditure. Particularly suited for:
 - Urban networks
 - Rural/background sites
 - Roadside air monitoring
 - Mobile monitoring
- Environmental consultants and researchers who need to monitor multiple environmental parameters with high data quality, especially in extreme climates
- Industrial operators who need a cost-effective and robust solution to monitor fugitive air emissions for compliance or ESG reporting
 - Industrial perimeter monitoring
 - Oil and gas facilities
 - Quarry and mine operators
 - Port and bulk handling authorities
 - Waste management sites

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Particle module		Sizes		Range		Accuracy		Display 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	
PCX¹		PM ₁ , PM _{2.5} , PM ₄ , PM ₁₀ and TSP		0 - 30,000 µg/m³		< 5% of reading		0.1 µg/m³		0.1 µg/m³	
Gas module	Range	Display 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%	1 ppb; 0.2%				
Nitrogen dioxide NO ₂	0-500 ppb	0.1 ppb	<1 ppb; 1%	<1 ppb	2% of reading or 2 ppb	1.5%	1 ppb; 0.2%				
Carbon Monoxide CO	0-25 ppm	0.001 ppm	0.02 ppm; 1%	0.04 ppm	3% of reading or 0.05 ppm	1%	0.14 ppm; 2%				
Sulfur Dioxide SO ₂	0-10,000 ppb	0.1 ppb	1 ppb; 0.02%	2 ppb	0.14% of reading	0.6%	1 ppb; 0.3%				
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 ₂ S	0-5,000 ppb	0.1 ppb	1 ppb; 0.1%	2 ppb	1% of reading or 3 ppb	0.5%	<1 ppb; <0.5%				
Carbon Dioxide CO ₂	0-2000 ppm	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 1 ppb	1%	1 ppb; 1%				
VOC (High range)	0-30 ppm	0.01 ppm	<0.1 ppm; 1%	<0.1 ppm	2% of reading or 0.05 ppm	2%	0.1 ppm; 1%				
Methane CH ₄	0-500 ppm	0.01 ppm	0.02 ppm; 0.3%	0.04 ppm	0.4% of reading	<1%	0.04ppm; 1%				
System Specifications											
Control system		Embedded fanless PC (Intel Celeron® N3350, 1.1 GHz, dual core, 4 GB RAM, 32 GB SSD hard drive), Debian Linux Operating System									
Communications²		Standard: WIFI, Ethernet (LAN) Optional modem: Cellular 3G or 4G LTE									
Software		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 requirements³		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. External temperature and relative humidity sensor.									
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 PM ₁₀ , PM _{2.5} or PM ₁ size selection Pump: 12 V brushless DC diaphragm									
Dimensions⁴		Standard: 1310 H x 510 W x 280 D mm (51½" H x 20" W x 11" D)									
Weight⁵		< 30 kg									
Operating range		-35 °C to +50 °C (-31 °F to 122 °F)									
Mounting		Mounting brackets included									
47mm sample filter⁵		47 mm filter for particle loading analysis									
Factory integrated sensors⁵		Gill WindSonic (ultrasonic wind sensor), Vaisala WXT536 (weather transmitter), Cirrus MK427 Class 1 (noise sensor), Novalynx Pyranometer (solar radiation), Airmar 200WX (weather station)									
Compatible tested sensors		BSWA 308 (sound level meter), Met-One BC-1060 (black carbon), microAeth MA350 (black carbon), Svantek SV971A (sound level meter)									
Compliance											
In conformity with EC Directives 2014/30/EU and 2014/35/EU; FCC 47 CFR Part 15; RoHS 3 (EU2015/863), REACH											
Certified Modules				MCERTS							
AQM65 PM ₁₀ Nephelometer				Yes - Sira MC160289/02							

¹ Representative values for PM_{2.5}; for individual channel performance please see the Aeroqual Technical Performance Guide

² 4G LTE not available in all markets

^{3,5} Configuration used for power and weight calculations: base unit, nephelometer, PM₁₀ sharp cut, modem, heater on

⁴ Dimensions are for enclosure. Nephelometer sampling inlet with cyclone adds 360 mm (14.17") to total height. PCX adds 200mm (7.87").

⁵ Optional

AQM65 PM₁₀

