

# AQM65

## Near reference real-time monitor for multiple gases plus particulate fractions

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, particulates and environmental parameters.

Continuously measure air pollutants including ozone O<sub>3</sub>, NO<sub>2</sub>, NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, H<sub>2</sub>S, CO<sub>2</sub>, TSP, PM<sub>10</sub>, PM<sub>2.5</sub>, PM<sub>1</sub>, noise and meteorological parameters.



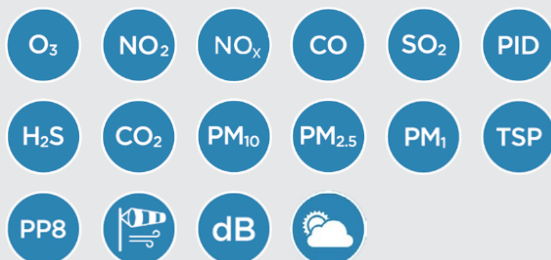
AQM 65 shown with Optional integrated Calibration system

### What is it?

- 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
- Plug in all your devices - noise, weather, reference monitors - to the AQM 65 and view data in one software dashboard
- Enables automatic scheduling of calibrations with optional integrated calibration system
- Respond in real-time via configurable email / SMS alerts

### What can it measure?

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



### Who is it for?

- Industrial operators who need a cost-effective and robust solution to manage and control dust and gas emissions from site activities within regulatory or permitted limits:
  - Industrial perimeter monitoring
  - Oil and gas facilities
  - Quarry and mine operators
  - Port and bulk handling authorities
  - Waste managementsites
- Regulatory authorities who need to fill the gaps in the regulatory monitoring networks
- Environmental consultants and Researchers who want defensible data without the usual time and hassle of air monitoring projects
  - Research and consultancy projects
  - Environmental impact assessments
  - Short term hot spot monitoring
  - Roadside air monitoring

# Specifications | AQM 65

Gas module	Range	Resolution	Noise	Lower Detection Limit (2σ)	Precision	Linearity (% of FS)	Drift 24 hour
			Zero; Span % of reading				Zero; Span % of FS
Ozone O <sub>3</sub>	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 <sub>2</sub>	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%	0.04 ppm	3 % of reading or 0.050 ppm	1 %	0.02 ppm; 0.2 %
Sulfur Dioxide SO <sub>2</sub>	0-10000 ppb	1 ppb	4 ppb; 2 %	9 ppb	3 % of reading or 9 ppb	1 %	1 ppb; 0.2 %
Nitrogen Oxides NO <sub>x</sub>	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 <sub>2</sub> S	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 <sub>2</sub>	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 <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> OR TSP		0 to 60,000 µg/m <sup>3</sup>	±(2 µg/m <sup>3</sup> + 5% of reading)	0.1 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	
Profiler (Optical Particle Counter)	PM <sub>1</sub> , PM <sub>2.5</sub> , PM <sub>10</sub> AND TSP		PM <sub>1</sub> 200 µg/m <sup>3</sup> PM <sub>2.5</sub> 2000 µg/m <sup>3</sup> PM <sub>10</sub> 5000 µg/m <sup>3</sup> TSP 5000 µg/m <sup>3</sup>	±(5 µg/m <sup>3</sup> + 15% of reading)	0.1 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	
	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 <sup>1</sup>	Standard: WIFI, Ethernet (LAN) Optional modem: Cellular IP 3G HSPA or 4G LTE						
Software	<b>Aeroqual Cloud</b> – Choose a plan that is right for you <b>Optimize:</b> Reduce site visits and improve data quality by managing your monitors and optimizing network performance remotely. <b>Plus:</b> 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 <sup>2</sup>	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 PM <sub>10</sub> , PM <sub>2.5</sub> or PM <sub>1</sub> size selection Pump: 12 V brushless DC diaphragm Optics: 670 nm laser, near-forward scattering nephelometer with sheath air protection						
Dimensions <sup>3</sup>	Standard: 1310 H x 510 W x 280 D mm (51.6 H x 20 W x 11 D ") With AirCal 8000: Width = 655 mm (25.8 ")						
Weight <sup>4</sup>	< 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 <sup>5</sup>	47 mm filter for particle loading analysis						
Factory integrated sensors <sup>5</sup>	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)						

<sup>1</sup> 4G LTE not available in all markets.

<sup>2,4</sup> Configuration used for power and weight calculations: base unit, nephelometer, PM<sub>10</sub> sharp cut, modem, heater on.

<sup>3</sup> Dimensions are for enclosure. PM sampling inlet with cyclone adds 360 mm (14.17") to total height.

<sup>5</sup> Optional

