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 O₃, NO₂, NOₓ, CO, SO₂, VOC, H₂S, CO₂, TSP, PM₁₀, PM₂.₅, PM₁, noise and meteorological parameters.

**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 management sites

- **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

**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
### Specifications

<table>
<thead>
<tr>
<th>Gas module</th>
<th>Range</th>
<th>Resolution</th>
<th>Noise</th>
<th>Lower Detection Limit (2σ)</th>
<th>Precision</th>
<th>Linearity (% of FS)</th>
<th>Drift 24 hour</th>
<th>Zero; Span % of FS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone ( \text{O}_3 )</td>
<td>0-500 ppb</td>
<td>0.1 ppb</td>
<td>1 ppb; 1 %</td>
<td>1 ppb</td>
<td>2 % of reading or 2 ppb</td>
<td>1.5 %</td>
<td>1 ppb; 0.2 %</td>
<td></td>
</tr>
<tr>
<td>Nitrogen dioxide ( \text{NO}_2 )</td>
<td>0-500 ppb</td>
<td>0.1 ppb</td>
<td>1 ppb; 1 %</td>
<td>1 ppb</td>
<td>2 % of reading or 2 ppb</td>
<td>1 %</td>
<td>2 ppb; 1 %</td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide ( \text{CO} )</td>
<td>0-25 ppm</td>
<td>0.001 ppm</td>
<td>0.02 ppm; 1 %</td>
<td>0.04 ppm</td>
<td>3 % of reading or 0.050 ppm</td>
<td>1 %</td>
<td>0.14 ppm; 2 %</td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide ( \text{SO}_2 )</td>
<td>0-10000 ppm</td>
<td>1 ppm</td>
<td>4 ppb; 2 %</td>
<td>9 ppb</td>
<td>3 % of reading or 9 ppb</td>
<td>1 %</td>
<td>1 ppb; 0.2 %</td>
<td></td>
</tr>
<tr>
<td>Nitrogen Oxides ( \text{NO}_x )</td>
<td>0-500 ppb</td>
<td>0.1 ppb</td>
<td>1 ppb; 1 %</td>
<td>1 ppb</td>
<td>3 % of reading or 3 ppb</td>
<td>1 %</td>
<td>1 ppb; 0.6 %</td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide ( \text{H}_2\text{S} )</td>
<td>0-10000 ppm</td>
<td>0.1 ppm</td>
<td>6 ppb; 2 %</td>
<td>12 ppb</td>
<td>3 % of reading or 12 ppb</td>
<td>1 %</td>
<td>1 ppb; 0.6 %</td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide ( \text{CO}_2 )</td>
<td>0-2000 ppm</td>
<td>1 ppm</td>
<td>5 ppm; 1 %</td>
<td>10 ppm</td>
<td>3 % of reading or 10 ppm</td>
<td>2 %</td>
<td>1 ppb; 0.6 %</td>
<td></td>
</tr>
<tr>
<td>VOC (Low range)</td>
<td>0-500 ppm</td>
<td>0.1 ppm</td>
<td>1 ppb; 1 %</td>
<td>1 ppb</td>
<td>2 % of reading or 2 ppb</td>
<td>1 %</td>
<td>1 ppb; 1 %</td>
<td></td>
</tr>
<tr>
<td>VOC (High range)</td>
<td>0-30 ppm</td>
<td>0.01 ppm</td>
<td>0.1 ppm; 1 %</td>
<td>0.05 ppm</td>
<td>2 % of reading or 0.05 ppm</td>
<td>2 %</td>
<td>0.1 ppm; 1 %</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Particle module Sizes</th>
<th>Range</th>
<th>Accuracy</th>
<th>Resolution</th>
<th>Lower Detectable Limit (2σ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nephelometer</td>
<td>PM₁, PM₂.₅, PM₁₀ OR TSP</td>
<td>±(±2 µg/m³ + 5 % of reading)</td>
<td>0.1 µg/m³</td>
<td>1 µg/m³</td>
</tr>
<tr>
<td>Profiler (Optical Particle Counter)</td>
<td>PM₁, PM₂.₅, PM₁₀ AND TSP</td>
<td>±(±5 µg/m³ + 15 % of reading)</td>
<td>0.1 µg/m³</td>
<td>1 µg/m³</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

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**: Standard: WIFI, Ethernet (LAN) Optional modem: Cellular IP 3G HSPA or 4G LTE
- **Aerqual Connect**: instrument operating system.
- **Aerqual Cloud**: instrument monitoring, management and technical support via secure cloud servers, accessed via web browser (IE, Firefox, Chrome, Safari).
- **Software**: Cloud standard features; configuration, calibration, diagnostics, remote technical support.
- **Data logging**: 32 GB Hard Drive (> 5 years data storage)
- **Outputs**: 2 x Relay (optional), 4 x 4-20 mA (optional)
- **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**: 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**: 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**: < 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**: 47 mm filter for particle loading analysis
- **Factory integrated sensors**: Gill WindSonic (ultrasonic wind sensor), Vaisala WX5536 (weather transmitter), Met One MSO (weather transmitter), Cirrus MK427 Class I (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)

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1 4G LTE not available in all markets.
2,3 Configuration used for power and weight calculations: base unit, nephelometer, PM₁₀; sharp cut, modem, heater on.
4 Configured as per note 2, and incl. Moxa modem.
5 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)