aeroqual

AQM60

Air Quality Monitoring Station

Accurate real-time air quality information, made affordable.

For those needing to measure and manage common outdoor air pollutants, the AQM60 enables near-analyser levels of performance at a fraction of the cost of traditional reference monitoring stations.

The AQM60 is a totally configurable instrument platform able to measure common air pollutants including ozone (O_3), nitrogen dioxide (NO_2), nitrogen oxides (NO_X), carbon monoxide (CO), sulphur dioxide (SO_2), volatile organic compounds (VOC), hydrogen sulphide (H_2S), non-methane hydrocarbons (NMHC), carbon dioxide (CO_2), particulate matter (TSP, PM_{10}, $PM_{2.5}$, PM_1), noise and meteorological parameters such as temperature, humidity, wind speed and direction.

Key Features

- Continuous measurement of common air pollutants
- Information available in real-time
- Compact and light enough to be carried by one person
- Quick and easy to install and relocate
- Flexible integration of meteorological and noise sensors
- On-board data-logging and remote data retrieval
- Gas modules allow for ease of maintenance
- Robust, temperature-controlled enclosure
- Automated calibration optional
- Calibrated against USEPA (40 CFR Part 53) and EU (2008/50/EC) certified equivalent method instruments

Applications

- Urban air quality monitoring
- Perimeter: petrochemical, power plants, waste sites, industrial point sources
- Airport, ports, railways, construction sites
- Short term monitoring of ‘hot spots’
- Community exposure: epidemiological studies, microenvironment, residential, schools, hospitals
- Near road: motorways, street canyons, traffic information systems
- Environmental impact assessments

Selected Customers

- Dubai Municipality, UAE
- Vale, Brazil
- URS Corporation, Australia
- Repsol YPF, Argentina
- Directorate General of Traffic, Spain
- Saudi Electricity Company, Saudi Arabia
- Cape Town City, South Africa
- Bengkalis Municipality, Indonesia
- Qingdao Government, China

Aeroqual Limited, 109 Valley Road, Mount Eden, Auckland, New Zealand
t +64 9 623 3013 f +64 9 623 3012 e sales@aeroqual.com aeroqual.com

AQM60 Specifications

Typical configuration: 1 to 6 gas modules, particle monitor, weather sensor and auto-calibration system.

Gas Modules	*Range*	*Minimum Detection Limit*	*Accuracy of Factory Calibration*	*Precision*	*Resolution*
Ozone O_3 (GSS)	0-0.5 ppm	0.001 ppm	<±0.008ppm 0 to 0.1 ppm; <±10% of reading above 0.1 ppm	0.005 ppm	0.001 ppm
Nitrogen Dioxide NO_2 (GSS)	0-0.2 ppm	0.001 ppm	<±0.01 ppm 0 to 0.1 ppm; <±10% of reading above 0.1 ppm	0.005 ppm	0.001 ppm
Nitrogen Oxides NO_x (GSS)	0-0.5 ppm	0.001 ppm	<±0.01 ppm 0 to 0.1 ppm; <±10% of reading above 0.1 ppm	0.005 ppm	0.001 ppm
Carbon Monoxide CO (GSE)	0-25 ppm	<0.04 ppm	<±0.1ppm, 0 to 1 ppm <±10% of reading above 1 ppm	0.1 ppm	0.01 ppm
Carbon Dioxide CO_2 (NDIR)	0-2000 ppm	<10 ppm	<±(10 ppm + 5% of reading)	10 ppm	1 ppm
Hydrogen Sulphide H_2S (GSE)	0-10 ppm	<0.03 ppm	<±0.05ppm 0 to 0.5 ppm <±10% of reading above 0.5ppm	0.03 ppm	0.01 ppm
Sulphur Dioxide SO_2 (GSE)	0-10 ppm	<0.03 ppm	<±0.05ppm 0 to 0.5 ppm <±10% of reading above 0.5 ppm	0.05 ppm	0.01 ppm
Volatile Organic Compounds (PID)	0-20 ppm	0.01 ppm	<±0.02ppm 0 to 0.2 ppm <±10% of reading above 0.2 ppm	0.03 ppm	0.01 ppm
Non-methane Hydrocarbon (GSS)	0-25 ppm	<0.1 ppm	<±0.1ppm, 0 to 1 ppm <±10% of reading above 1 ppm	0.1 ppm	0.01 ppm
Particle Monitor (nephelometer)	*Sizes* PM_1 $PM_{2.5}$ *or* PM_{10}	*Range* 0-2000 µg/m^3	*Accuracy* <±(2 µg/m^3 + 5% of reading)	*Flow rate* 2.0 LPM	*Resolution* 0.01 µg/m^3
Particle Profiler (OPC)	*Sizes* PM_1 $PM_{2.5}$ *and* PM_{10}	*Range* 0-500 µg/m^3	*Accuracy* <±(5 µg/m^3 + 15% of reading)	*Flow rate* 1.0 LPM	*Resolution* 0.01 µg/m^3
Control Module	*Communication* RS 232	*Data Storage* 2 GB SD card	*Data- logging Interval* 2 to 255 minutes	*Display* VFD 4 x 20	*Status* Event Log
Gas Treatment Module	*Sampling Pump* 12V diaphragm	*Inlet Manifold* PTFE/PVDF	*Zero Scrubber Media* Purafil chemisorbant, activated carbon & hopcalite		

Thermal Management System	Setpoint controlled A/C system
Software	PC software for configuration, calibration and data acquisition
Manual Gas Calibration (optional)	AIRCAL 1000 portable calibrator with gas dilution module and zero air source
Automatic Gas Calibration (optional)	AIRCAL 8000 integrated calibration system with gas dilution module, zero air source and span gas storage
Wireless communication (optional)	Cellular IP Gateway RF Modem GSM Modem
Third party sensors (optional)	Gill WindSonic (ultrasonic wind sensor) Vaisala WTX520 (weather transmitter) Met One MSO (weather transmitter) Cirrus MK427 (noise monitor)
Power Requirements	100-240V AC; 100-150W (depends on configuration)
Enclosure	IIP65 fibre reinforced polycarbonate with aluminium solar shielding and compressor housing
Dimensions (H x W x D) in mm	900 x 555 x 400 Height with PM_{10} inlet : 1300
Environmental Operating Range	Temperature: -20°C to +50°C; RH: 10 to 95%
Weight	25-40 Kg
Conformity	Power Supply : EN55015, EN55022 Class B, EN61000-3-2,3, EN61000-4-2,3,4,5,6,8,11, ENV50204, EN61547, EN61347-1, EN61347-2-13; UL1012, UL60950-1; TUV EN60950-1 Gas Modules : Part 15 FCC Rules, 2004/108/EC; EN 61000-6-1: 2001, EN 61000-6-3: 2001 Particle Monitor & Profiler : Class 1 laser; IEC 60825-1:1998; 72/23/EEC; EN 61010-1; EN 60825-1:1996; US 21 CFR 1040.10

Aeroqual Limited, 109 Valley Road, Mount Eden, Auckland, New Zealand
t +64 9 623 3013 f +64 9 623 3012 e sales@aeroqual.com aeroqual.com