

Specification Sheet

Air quality network monitor

The AQY R is designed for air monitoring networks of all sizes. Typical applications include community exposure studies, roadside and perimeter monitoring, and smart city grid networks.

It pairs with [Aeroqual Unify](#), our seamlessly integrated package of monitors, software, and services that delivers credible and useful hyperlocal air quality data, without the high operating costs.



What is it?

- Delivers continuous real-time measurement and part-per-billion (ppb) detection of key criteria pollutants, temperature, relative humidity and dew point
- Auto-corrects for cross-interferences and sensor drift
- 100% data capture due to on-board storage and data transmission to Aeroqual Cloud every minute
- Access real-time data and remote technical support and servicing through Aeroqual Cloud
- Couple with Aeroqual Unify for an integrated air quality monitoring network that delivers hyperlocal air quality data.

What can it measure?



Who is it for?

- Government authorities who have clean air initiatives and need to deliver credible and hyperlocal air quality data through:
 - Community exposure studies
 - Roadside and perimeter monitoring
 - Smart city grid networks
- Community organizations who are influencing positive change through air quality monitoring projects
- Industrial organizations who need to manage particulates and gases from site activities, within regulatory or permitted limits:
 - Construction and remediation
 - Quarry and mine operators
 - Port and bulk handling terminals

Specifications | AQY R

Particle Sensing	Sizes	Range	Accuracy	Lower Detectable Limit (2σ)
Laser scattering	PM _{2.5}	0 to 1000 µg/m ³	<±(10 µg/m ³ + 5% of reading)	<1 µg/m ³
	PM ₁₀ ¹	0 to 1000 µg/m ³	<±(10 µg/m ³ + 10% of reading)	<1 µg/m ³

¹ PM₁₀ is only available to Aeroqual pre-approved projects

Gas Sensing	Range (ppb)	Resolution / ppb	Noise Zero; Span % of reading	Lower Detection Limit / ppb	Precision	Linearity (% of FS)	Drift 24 hour Zero; Span % of FS
Ozone (O ₃)	0-200	0.1	<1 <2%	1	<4% of reading or 4 ppb	<3%	<2; 1%
Nitrogen dioxide (NO ₂)	0-500	0.1	<2 <4%	2	<8% of reading or 8 ppb	<6%	<4; 1%

System specifications	
Control system	Advantech embedded PC (Intel Celeron Dual Core, 4GB RAM, 30GB SSD) Linux Operating System
Communications	WiFi, CAT6 Cellular modem that supports 2G/3G/4G cellular connectivity, External LTE MIMO combination antenna
Software	Talk to our sales team to learn more about Aeroqual Unify , our seamlessly integrated package of monitors, software, and services for air quality sensor networks.
Data logging	30GB SSD (> 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	Built in DC/DC Converter with battery voltage monitoring Regulated 12 VDC 16 W (standard); 110-260 VAC 14.5W (optional) ¹
Enclosure	Weather proof IP33 with solar shield
PM sampling system	Inlet: 4cm anti-static inlet Sampling: 5V DC fan
Gas Sampling System	Inlet: PTFE, stainless steel Sampling: 5V DC fan
Dimensions	350H x 225W x 265D mm (including solar shield armour & mounting brackets)
Weight	< 5 kg
Operating range	-10 °C to +40 °C
Mounting	Mounting bracket included for pole, tripod or wall
Life expectancy	System: 5 years Sensors: ~ 12months based on 0-50 µg/m ³ annual average PM ₁₀

¹ 60W 12V plug pack can be supplied as an optional extra.