AQLite Specifications

General Specifications

AQLite Standard (FEM ozone plus sensor package)

Power Consumption: 15 watt
Dimensions: 10.12 x 8.12 x 4.38 in (25.7 x 20.6 x 11.1 cm)
Weight: 7 lb (3.2 kg)
Operating Temperature Range: 0 to 50 °C for ozone
Measurement Interval: 2 s
Data Outputs: Cellular Upload to Cloud, RS232, Bluetooth, microSD data card

AQLite Basic (FEM ozone)

Power Consumption: < 7 watt
Dimensions: 10.12 x 8.12 x 4.38 in (25.7 x 20.6 x 11.1 cm)
Weight: ~6 lb (2.7 kg)
Operating Temperature Range: 0 to 50 °C for ozone
Measurement Interval: 2 s
Data Outputs: RS232

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Instrument/Sensor Specifications (per manufacturer)

Ozone (O_3)

Instrument: 2B Tech Model 108-L Ozone Monitor (FEM)
Measurement Principle: UV absorption at 254 nm, single beam
Measurement Range: 0-100,000 ppb (0-100 ppm)
Precision: Greater of 1.5 ppb or 2% of Reading
Resolution: 0.1 ppb
Measurement Interval: 2 s
Response Time: < 20 s
Flow Rate: Minimum required: 0.6 L/min; Maximum: 1.5 L/min
Sensitivity Drift: < 1%/day, < 3%/year
Baseline Drift: < 3ppb/day, < 6 ppb/year

Carbon Dioxide (CO_2)

Sensor: Telaire T6713 (NDIR)
Measurement Range: 0-5000 ppm
Accuracy: 400-5000 ppm: ± 30 ppm, ± 3% of reading
Response Time: < 3 min for 90% step change

Particulate Matter (PM_1, $PM_{2.5}$)

Sensor: Plantower PMS7003 (Laser Scattering)
Particle Size Range: 0.3-10 µm
Mass Concentration Range: 0-999 µg/m^3
Count Accuracy: 50% @ 0.3 µm, 98% @ ≥ 0.5µm
Response Time: < 10 s

Carbon Monoxide (CO)

Sensor: Alphasense CO-A4 (Electrochemical)
Measurement Range: 0-500 ppm
Precision: contact 2B Tech for information
Response Time: < 30 s for a 10-ppm step change

Total VOCs

Sensor: ION Science Mini-PID2 HS (Photoionization)
Measurement Range: 0 to 3 ppm
Minimum Detection Limit: 0.5 ppb
Response Time: < 12 s
Sensitivity: > 600 mV per ppm

Nitrogen Dioxide (NO_2)

Sensor: Alphasense NO2-A43F (Electrochemical)
Measurement Range: up to 20 ppm
Noise (±2 SD): ±15 ppb equivalent
Response Time: < 80 s from 0 to 2 ppm NO_2

Sulfur Dioxide (SO_2)

Sensor: Alphasense SO2-A4 (Electrochemical)
Range: up to 50 ppm
Noise (±2 SD): ±15 ppb equivalent
Response Time: < 20 s from 0 to 2 ppm SO_2

Pressure

Sensor: Bosch BME680
Measurement Range: 300 to 1100 hPa
Accuracy: ± 1.0 hPa
Resolution: 0.18 Pa
Long-Term Stability: ±1.0 hPa per year

AQLite Instrument Temperature and Relative Humidity

Sensor: Honeywell HIH8120 (Platinum RTD / Capacitive)
Measurement Range: 0-65 °C / 0 to 100 %RH
Accuracy: ± 0.5 °C from 5 °C to 50 °C / ± 2 %RH
Response Time (RH): 8 s

* The instrument also outputs values for PM_{10}, but as discussed on our AQSensors vs. Instruments page, PM_{10} is not accurately measured by sensors because of the difficulty of sampling large particles without loss due to impaction.
** AQLite-Standard: Any 2 of the following sensors can be chosen in the Customizable sensor packages: total VOCs, CO, SO_2, NO_2.

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