

AQSync Air Quality Monitoring Station: Detailed Specifications

Instrument/Sensor Specifications (per manufacturer)	
<p>Ozone (O₃)</p> <p>Measurement Method: UV Absorbance at 254 nm Instrument: 2B Technologies Model 108-L (FEM) Linear Range: 0-100,000 ppb Precision: 1.5 ppb or 2% of reading for 10-s avg Accuracy: 1.5 ppb or 2% of reading Response Time: 4 s for 2-s avg, 20 s for 10-s avg</p>	<p>Nitrogen Dioxide (NO₂)</p> <p>Measurement Method: Direct Absorbance at 405 nm Instrument: Based on 2B Tech Model 405 nm NO₂/NO/NO_x Monitor (FEM approval pending) Linear Range: 0-10,000 ppb Precision: 0.5 ppb Accuracy: 2 ppb or 2% of reading Response Time: 20 s</p>
<p>Nitric Oxide (NO)</p> <p>Measurement Method: Oxidation to NO₂ with O₃ followed by Absorbance of NO₂ at 405 nm Instrument: 2B Tech Model 405 nm NO₂/NO/NO_x Monitor Linear Range: 0-2,000 ppb Precision: 0.5 ppb Accuracy: 2 ppb or 2% of reading Response Time: 20 s</p>	<p>Particulate Matter (PM₁, PM_{2.5}, PM₁₀)</p> <p>Measurement Method: Optical Particle Counter, right angle light scatter detection with sheath flow and heated inlet Instrument: Met One Instruments Model 83214 Range: 0-320,000 particles per liter Minimum Particle Size: 0.3 µm Accuracy: 10% Response Time: minimum 1 s</p>
<p>Carbon Dioxide (CO₂)</p> <p>Measurement Method: Non Dispersive Infrared (NDIR) Absorbance with Auto-Zeroing Instrument: PP Systems CO₂ Gas Analyzer, Model SBA-5 Linear Range: 0-1,000 ppm Precision: 1 ppm Accuracy: 5 ppm Response Time: 10 s</p>	<p>Carbon Monoxide (CO)</p> <p>Measurement Method: Amperometry Linear Range: 0-50 ppm Sensor: Alphasense CO-A4 Precision: 0.02 ppm Accuracy: 0.1 ppm Response Time: 20 s</p>
<p>Total VOCs</p> <p>Measurement Method: Photoionization Detector Sensor: ION Science Mini-PID2 HS Measurement Range: 0 to 3 ppm Sensitivity: > 600 mV per ppm Minimum Detection Limit: 0.5 ppb Response Time: < 12 s</p>	

*Option for SO₂ sensor; contact 2B Tech for information.

Weather Station Specifications

(per manufacturer)

RM Young ResponseONE 92000	Range	Accuracy
Temperature	-40 to +60 °C	±0.3 °C (-20 to +50 °C) ±0.7 °C (other)
Pressure	500 – 1100 hPa	±0.3 hPa (0 to 60 °C) ± 1 hPa (-40 to 0 °C)
Relative Humidity	0 – 100% RH	±2 %RH (5 to 95 %RH)
Wind Speed (2-D Sonic Anemometry)	0-70 m/s (156 MPH)	±2% (0-30 m/s) ±3% (>30 m/s)
Wind Direction (2-D Sonic Anemometry)	0-360 degrees azimuth	±2 degrees

System Specifications

Weight	54.5 lb, 24.8 kg (varies with modules chosen)
Size	25.5 H x 25.5 W x 10.3 D in (65 x 65 x 26.2 cm); height with weather station is 49 in (124.5 cm)
Power	35 watt (53 watt max during warmup) (varies with modules chosen)
Data Transmission	Cellular or WiFi to the Cloud; Ethernet option
Sample Flow Rate	~4 L/min (varies with modules chosen)