VAISALA

The four technologies of a complete air quality monitoring system

Understanding air quality requires measurements of different parts of the atmosphere. The combination of ground-based measurements with boundary layer profiling provides in-depth, dependable intelligence people can confidently act on — enabling businesses and communities to make better decisions.

1 Weather & environmental sensors

Both air quality and weather measurements are important: Weather affects pollutant concentration and movement. With Vaisala technology you can see all major pollutants, measure their concentration in specific areas, and track how weather affects the amount and location of air pollutants — now and over time.

Vaisala Air Quality Transmitter AQT530

- Measures nitrogen dioxide (NO_2), nitrogen monoxide (NO), ozone (O_3), and carbon monoxide (CO), as well as $PM_{2.5}$ and PM_{10} particulate matter
- Integrates with Beacon™ Station or can be connected to your own system

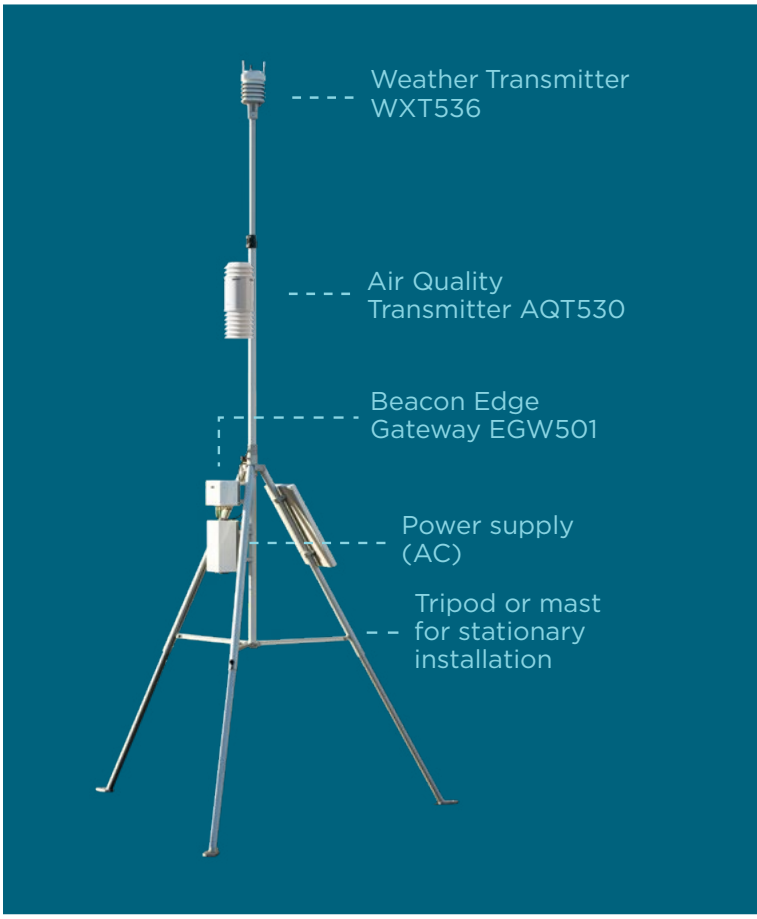
Vaisala Weather Transmitter WXT530 Series

- Measures the six most important weather parameters: wind speed and direction, air pressure, temperature, humidity and rainfall
- Solid-state technologies minimize operation and maintenance costs
- Integrates with Beacon™ Station or can be connected to your own system

2 Connectivity & visualization

An efficient method of acquiring and displaying the data must provide real-time and historical insights. Vaisala Beacon Station is a modular, full environmental monitoring solution that combines air quality and weather measurements as well as connectivity and visualization. This powerful combination provides a complete understanding of air quality, its fluctuations, and the drivers affecting it.

- Can be equipped with Air Quality Transmitter AQT530 and/or Weather Transmitter WXT530 Series (or other desired sensors, including CO_2)
- Integrated SIM card and cellular data plan make the station ready for use as soon as it is installed
- Included Wx Beacon software collects and visualizes measurement data from the station for easy sharing with third-party systems
- Edge Gateway EGW501 provides a secure data transfer between the sensors and Vaisala Wx Beacon cloud software



3 Boundary layer measurements

Boundary layer measurements are essential for improving air quality monitoring and forecasting. Vaisala offers three top quality ceilometers, created to meet varying needs for different organizations.

CL31

Compact basic model for 24/7 boundary layer analysis and cloud detection in all weather conditions

CL51

Enhanced performance over CL31 to provide higher details on boundary layer structure including high-altitude clouds

CL61

High-end model features depolarization to characterize aerosols, differentiates liquid/frozen precipitation, and detects dust, sand and ash layers

4 Wind lower troposphere observations

Continuous observations of the lower troposphere provide insight on how and where wind is transporting pollutants. WindCube® lidars are known the world over as the gold standard in accurate wind measurements.

WindCube vertical profiling lidar

- Provides accurate, local wind profile measurements in real time up to 300m with 20 simultaneous heights measured per second
- Includes WindCube Insights — Fleet software, an easy-to-use, secure, cloud-based tool that provides real-time insights and simple management
- Simple to deploy in urban areas such as rooftops and other structures

WindCube Scan

- Full 3D scanning models measure ranges up to 3km, 6km or 10km
- Highly accurate and flexible technology for wind monitoring, wind profiling or atmospheric cross-sectioning
- Provides simultaneous, state-of-the-art wind, aerosol backscatter, cloud and boundary layer height measurements

The right access to the right information allows people to connect deeper to their environment and new ways of thinking about business and community.

Learn more about our trusted air quality measurement solutions.

VAISALA

vaisala.com/airquality

Scan the code for more information