

Dust

Specification Sheet

Cloud-connected portable dust monitoring solution

Aeroqual Ranger™ | Dust is a real-time, active-sampling monitor that provides simultaneous measurements of five particle fractions (PM₁, PM_{2.5}, PM₄, PM₁₀, TSP) in a connected, lightweight handheld solution with Cloud-based data visualizations.



More than just hardware

- Never lose data again: access data remotely and receive alerts to respond in real time
- More information for less effort: automatic calculations and visualizations for reports
- Zero-downtime on factory calibrations with exchangeable sensor heads
- An extremely lightweight handheld monitor with incredible battery life
- Suitable for diverse projects with support for 28 gas sensor heads and 15 compounds (optional)

What is it for?

- Occupational hygiene monitoring
- Personal exposure assessments
- Indoor air quality testing
- Ambient air quality monitoring
- Engineering control assessments
- Environmental impact assessments
- Measurement of multiple particle fractions:

PM₁

PM_{2.5}

PM₄

PM₁₀

TSP

Who is it for?

- **Air quality professionals** who need real-time defensible measurements
- **Environmental health and safety professionals** who need to demonstrate safe environments
- **Industrial hygienists** who need a portable device
- **Indoor air quality professionals**
- **Building certifiers**

Solution | Aeroqual Ranger™ | Dust

Active sampling technology

Ranger | Dust is a real-time, active sampling monitor that integrates a laser optical particle counter and particle binning. It samples, logs, and displays PM₁, PM_{2.5}, PM₄ (respirable), PM₁₀, TSP, temperature, and relative humidity. Mass calculations apply corrections using Kohler theory.

In addition, Ranger | Dust features an omnidirectional inlet designed for accurate sampling at any angle.

Hot-swap calibration

Returning your equipment to the factory for annual calibration is a thing of the past. Because Ranger's sensors are interchangeable, you benefit from perpetual zero-downtime factory calibrations. We'll send you a factory-calibrated sensor before the certificate on the old sensor head expires.

Remote data access

Ranger | Dust lets you see what's happening at the job site, even when you're not there. All logged data is backed up on Ranger Cloud, in real time, wherever Wi-Fi is available. Sign up to receive alerts and minimize loss of data.

Ranger Cloud

As soon as you synchronize your sampled data through Wi-Fi, you're already halfway done writing your report in Ranger Cloud. This browser-based software requires no costly IT installation and calculates time-weighted averages, generates advanced charts, and displays exposure summaries against OSHA and ACGIH.

Air Monitoring as a Service (AMaaS)

If you require dust monitoring for a long period, but prefer not to invest in ownership, try AMaaS. You can still get it all at a lower cost: the hardware, Ranger Cloud, and Hot-swap calibration.

A monitor as diverse as your projects

A flexible and cost-effective alternative to traditional gas monitors, the monitor base that's included in Ranger | Dust may be paired with gas sensors. Optionally choose from 28 gas sensors spanning 15 compounds.

Pays for itself in the first year

The efficiencies you gain with Ranger | Dust will transform into bottom line savings in the first year of ownership. Inquire about our cost/benefit spreadsheet, so you can be sure that replacing the old fleet is the right choice for your organization.

Specifications | Aeroqual Ranger™ | Dust

Measurement units	mg/m ³ , µg/m ³ , °C or °F
Reading functions	Instant, sensor state, color-coded AQI display (Cal/OSHA)
Sampling	Channels: PM ₁ , PM _{2.5} , PM ₄ , PM ₁₀ , TSP Method: Active Concentration range: 0 – 30.0 mg/m ³ Resolution: 0.001 mg/m ³ Minimum detectable, 50% eff: 0.3 µm Flow rate: 1l/min Measurement time: 1s
Field calibration	Types: Zero
Factory calibration	Frequency: Annual, recommended Standard: ISO 12103 Downtime: 0 days with Hot-swap
Environmental conditions and enclosure	Rating: IP20 Operational temperature: 0° to 40° C
Power	Charger: USB-C Battery life: 21h Battery type: Lithium Ion
Data storage	5 years on-board Unlimited on Ranger Cloud Log interval: 1 min (minimum)
Data download	Ranger Cloud
Software	Ranger Cloud
Connectivity	Wi-Fi
Physical characteristics	Size: 25.5 x 10.0 x 4.2 cm (10.03 x 3.93 x 1.65") Weight: 600g (21.16 oz)
EMC and Safety	IEC/EN 61326-1 EN 55011:2010 AS/NZS CISPR 11:2011 IEC/CISPR 11:Ed.5.1 FCC Part 15 IEC 61010-1:2010+A1:2016AU/NZ: AS 61010.1; Europe: EN 61010-1:2010 + A1:2019; Canada: CAN/CSA-C22.2 No. 61010-1-12 3rd Edition; USA: UL 61010-1 3rd Edition.

Specifications are subject to change without notice.