

DUST PROFILER

Continuous outdoor dust and particle counter

Accurate real-time air quality information, made affordable

Designed for those who want maximum data from a single monitor, the Dust Profiler provides continuous and simultaneous measurement of PM₁₀, PM_{2.5}, PM₁, and TSP. It uses an optical particle counter to calculate the particle size distribution which is then converted into a mass measurement.

Compared to reference-equivalent monitors like TEOMs and BAMs, the Dust Profiler reports multiple parameters at 1 minute intervals and has a lower total cost of ownership (up to 5 times less). In addition, the Dust Profiler weighs less than 13 kg, is mobile and able to run off remote power systems.

Unlike other continuous real-time dust monitors the Dust Profiler is built tough for long-term outdoor monitoring. It has: a robust enclosure with integrated solar shielding, 20 years of on-board data storage, a wide range of outputs for flexible integration, and a suite of optional environmental sensors e.g. wind, noise, weather, solar to choose from.

Now the Dust Profiler comes with two powerful software systems with no additional charge – Aeroqual Connect and Aeroqual Cloud. Connect is the instrument operating software. It opens in your browser so there is no software to install or update. With Aeroqual Cloud you can remotely access data on any device even when your instrument is offline.



Now with FREE web-based data & diagnostics software.



Key Features

- Simultaneous reporting of TSP, PM₁₀, PM_{2.5} and PM₁ mass fractions
- Optional reporting in counts / L (8 channels)
- Measures and reports data in 1 minute intervals with user selectable averaging
- On board storage for over 20 years of data
- Rugged weatherproof enclosure with solar shielding for very hot climates
- Quick set up and relocation in under 10 minutes
- Email / SMS alerts and FTP data export (optional)
- Optional plug and play environmental sensors

Applications

- Air quality research & consultancy
- Industrial perimeter monitoring: construction and waste sites, quarries and mines, ports and bulk handling terminals, transport hubs
- Near road: motorways, street canyons, traffic information systems
- Mobile vehicle mounted monitoring
- Short term monitoring of 'hot spots'
- Community exposure: epidemiological studies, microenvironment, residential, schools, hospitals
- Environmental Impact Assessments

Dust Profiler Specifications

Technology	Sizes	Range	Accuracy	Flow Rate	Lower Detectable Limit (2σ)
Optical Particle Counter (OPC)	PM ₁ , PM _{2.5} , PM ₁₀ and TSP	PM ₁ 200 µg/m ³ PM _{2.5} 2000 µg/m ³ PM ₁₀ 5000 µg/m ³ TSP 5000 µg/m ³	<±(5 µg/m ³ + 15% of reading)	1.0 LPM	<1 µg/m ³

System Specifications	
Control System	Embedded fanless PC, Intel Atom N2600, 1.6GHz, 2GB RAM, 32GB SSD, Ubuntu Linux
Communications	Standard: WIFI, Ethernet (LAN) Optional: Cellular IP GPRS modem
Software	Connect: Runs on embedded PC, accessed via web browser (IE, Firefox, Chrome, Safari) Cloud: Runs on secure 'cloud' servers, accessed via web browser Connect / Cloud Features: configuration, diagnostics, journal, calibration and data acquisition, plus SMS and email alerts (optional), and auto data export via FTP and email (optional)
Data logging	32GB Hard Drive (>20 years data storage)
Averaging period	1 min, 5 min, 10 min, 15 min, 30 min, 1 hr, 2hr, 4 hr, 8 hr, 12 hr, 24 hr
Outputs	RS232 (legacy mode) 2 x Relay (optional) 4 x 4-20mA (optional)
Power requirements	100-260VAC (standard): 15W / 24W* Regulated 12VDC (if required): 15W / 24W*
Enclosure	Lockable IP65 GRP cabinet with integrated aluminium solar shield armour Inlet: 36cm heated inlet
Dimensions	483H x 330W x 187D mm (including solar shield armour & mounting brackets)
Weight	<13 kg*
Environmental operating range	-10°C to +50°C
Mounting	Pole, tripod and wall mounting brackets included
47mm Sample Filter (Optional)	47mm filter for particle loading analysis
Factory Integrated & Tested Sensors (Optional)	Gill WindSonic (ultrasonic wind sensor) Vaisala WXT520 (weather transmitter) Met One MSO (weather transmitter) Cirrus MK427 Class 1 (noise sensor) Novalynx Pyranometer (solar radiation)

*Configuration used for power and weight calculations: base unit, modem, heater off / heater on.



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戶外即時懸浮微粒粉塵監測站

OUTDOOR REAL-TIME PARTICULATE MONITORING

紐西蘭

aeroQUAL

型號: **DUST PROFILER**



DUST PROFILER 粉塵監測站 / 懸浮微粒監測站

- ◆戶外即時懸浮微粒監測站針對需要監控及管理粉塵排放而設計，精確即時測量 PM10、PM2.5、PM1，或 TSP，且價格實惠。
- ◆和 TEOMs、BAMs 此類缺乏短樣本週期精確度的參考當量監測器相比，粉塵監測站可提供至平均每分鐘的測量週期且價格更低(高達 5 倍價差)。
- ◆可選配多項環境參數配件，如風力、噪音、天氣及太陽輻射...以達到最大效用。

◆特色：

- 1.精確測量質量數 PM10、PM2.5、PM1、TSP
- 2.主機記憶體可儲存達 20 年以上的偵測資料
- 3.可由電子郵件及行動通訊系統存取資料及警示
- 4.堅韌防水的外殼、可屏蔽炎熱氣候中的熱能

◆用途：

- 1.建築工地環境監測
- 2.道路、隧道環境監測
- 3.礦場、砂石場周邊環境監測
- 4.垃圾運輸及處理廠環境監測

◆規格：

- 1.測量方式：光學粒子計數法
- 2.測定參數及範圍：TSP、PM10：0-5,000 $\mu\text{g}/\text{m}^3$
PM2.5：0-2,000 $\mu\text{g}/\text{m}^3$
PM1：0-200 $\mu\text{g}/\text{m}^3$
- 3.準確度：+/- (5 $\mu\text{g}/\text{m}^3$ + 15%讀值)
- 4.流量：1.0 L/min；進氣：36 cm 加熱進氣
- 5.控制系統：嵌入式電腦、2GB RAM
- 6.通訊：WiFi、乙太網(Ethernet)或 GPRS 數據機(選購)
- 7.資料儲存：32GB 硬碟(> 20 年資料儲存量)
- 8.平均週期：1、5、10、15、30 分鐘及 1、2、4、8、12、24 小時
- 9.輸出：RS-232(標配)，或 4-20mA/Relay(選配)
- 10.電源：AC 100 ~ 260 V(標配)或 12 VDC(選購)
- 11.外箱：可鎖式玻璃纖維強化塑膠(GRP)製、防塵防水等級 IP65
- 12.安裝方式：立桿、壁掛式或三角架(選購)
- 13.操作環境溫度：10°C to +50°C
- 14.尺寸：約 W330×D187×H483 mm (包含遮陽板及安裝架)，重量：<13 kg(僅主機)



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