

DS5 - Combined Filter Reference Sampler and directional dust gauge

The system

The DS5 is a new concept in particulate monitoring, providing a low-cost flexible solution to ambient dust monitoring designed primarily for outdoor use.

The system incorporates 2 separate monitoring technologies;

- the DustScan direction nuisance dust gauge and,
- a battery powered filter reference PM₁₀ or PM_{2.5} sampler.

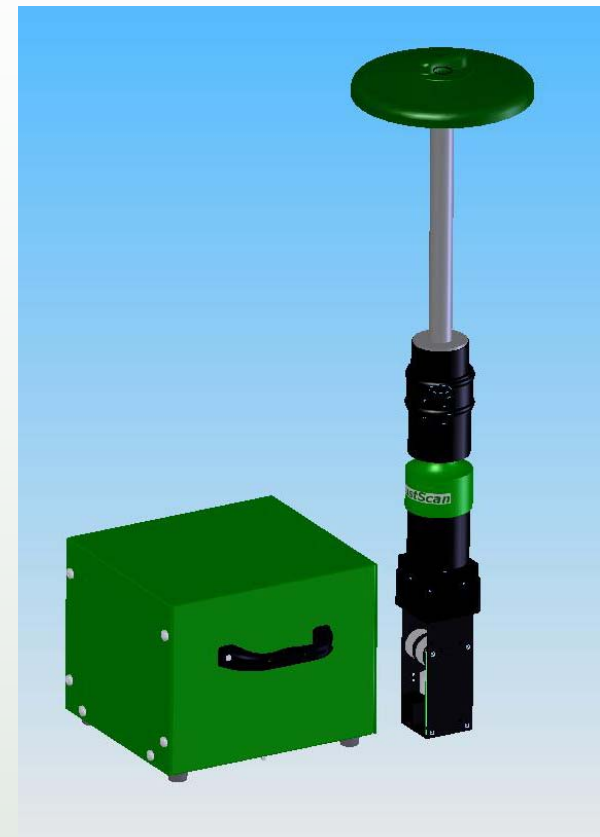
The directional monitor, as a passive system, requires no power and sampling heads only need changing on a weekly basis. The battery pack supplied with the filter reference sampler is designed to power the internal pump and logger for a full week to coincide with routine filter and directional gauge changes.

Applications

As a combination nuisance/ambient dust sampler the equipment has numerous applications across a wide range of industrial sectors. The bespoke battery supply means location and/or availability of a mains power supply is not an issue.

Typical uses include:

- Baseline monitoring for ambient and PM₁₀ /PM_{2.5} dust levels
- Short term monitoring programmes to identify and/or rate dust issues
- Compliance monitoring
- Routine boundary monitoring
- Dust source identification studies



Note: Image shown without cylinder mount for directional monitoring

Application sites include:

- Quarries
- Waste management facilities
- Construction sites
- Materials handling facilities
- Demolition sites
- Heavy Industrial establishments e.g. cement works, steel works.

PM₁₀/PM_{2.5} Monitoring

The battery powered filter reference PM₁₀ / PM_{2.5} sampler comprises the following components:

- Inlet with interchangeable jet for PM_{2.5} and PM₁₀ size selective cut-off points
- Air Sampling pump set at 4LPM
- Battery pack 12V 40A with enclosure and charger.
- Filter media and filter holders

Inlet

The inlet is a size selective impactor. It is designed to provide easy access, simplifying routine servicing and enabling the size selective jet to be changed.

Key features are:

- An interchangeable jet (shown on the right in red) for TSP, PM₁₀ and PM_{2.5} (patent pending).
- Easy access for cleaning and purging

Air Sampling Pump

This is a “remove and replace” unit with pump, pre-loaded filter cassette and data logger that records the sampling frequency and duration. This unit is removed and return for analysis on a weekly basis.

Key features include:

- Air Sampling pump set at 4L per minute
- 37mm diameter GFA filter media and filter holders
- Data logger to record sampling interval
- Expandable logging capability for additional sensors

Battery Pack

Portable battery pack designed to provide power to the air sampling pump and logger for a week long period, prior to recharging by the client

Key features are:

- Self contained battery case
- 12V supply at 40A

