

# DustScan

Dust Monitoring and Dust Consultancy Services

## DS500 - Combined PM<sub>10</sub> and Directional Dust Gauge

The DS500 is a low-cost flexible method for ambient, outdoor dust monitoring but it can also be used in indoor environments where long term data are required. It combines the DustScan directional dust gauge and a battery-powered filter reference PM<sub>10</sub> gauge in one unit for simultaneous sampling of dust flux and gravimetric particulates. The PM<sub>10</sub> gauge is also available as a stand alone device.

The directional monitor is a passive system that requires no power supply and the sampling heads are systematically changed every 7 or 14 days. The filter reference sampler is programmed to run for a full week and can be powered either by battery (12V) or the mains (240V).

The DS500 can be located in remote sites and is therefore ideal for baseline PM<sub>10</sub> monitoring, compliance monitoring and routine boundary monitoring.

A “remove and replace” PM<sub>10</sub> sampler system is used so each unit is supplied with two sampler pumps. While one is in use, the other is returned to us so that its data can be downloaded and the filter changed.

The DS500 has a certificated PM<sub>10</sub> size-selective inlet that can be easily removed and cleaned. The  $\mu\text{g}/\text{m}^3/24\text{hr}$  average PM<sub>10</sub> concentration is calculated from the 7 day sample.

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## Analysis and Reporting

The DS500 features our directional gauge.

A standard report is issued for each directional sample processed. This can be in paper or electronic formats. The standard report provides a statement of overall AAC% (Actual Area Coverage) and EAC% (Effective Area Coverage), directional data for each 15° segment of the 'sticky pad' and directional 'dust rose' plots for each of these measurements. AAC represents the dust coverage of a surface irrespective of colour. It is widely used to identify dust sources. EAC is a measure of dust soiling, or the loss of reflectance of a surface. It takes into account the colour of dust and therefore is used to assess the nuisance potential of a dust source. Guidance note number 3 gives more information.

A 'dust rose' is similar to a wind rose, in that the length of the bars represents the magnitude of the dusting. In the example on the right, most of the dust came from the north-west, so it was heading in a south-easterly direction. Dust roses can be used to help predict where dust may travel away from a site, or to see if dust is arriving at a site from specific sources.

Dust roses can also be superimposed onto site plans and provide information on environmental controls.

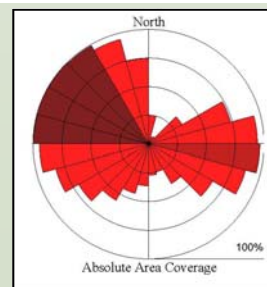
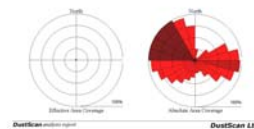


**DustScan**  
FACTUAL DUST MONITORING REPORT

Client: [Redacted] Site: [Redacted] Quantity: [Redacted]  
Order Ref: [Redacted] Date: [Redacted]  
Date: 21 October 2013 Date: 21 October 2013  
Observer: [Redacted] Photo Ref: [Redacted]

**STATEMENTS AND RESULTS**

Segment	SAC	SAC*	SAC*	SAC*	EAC	Warning	AAC	Warning	Warning	Warning
000-015	10.00	10.00	10.00	10.00	10.00					
015-030	10.00	10.00	10.00	10.00	10.00					
030-045	10.00	10.00	10.00	10.00	10.00					
045-060	10.00	10.00	10.00	10.00	10.00					
060-075	10.00	10.00	10.00	10.00	10.00					
075-090	10.00	10.00	10.00	10.00	10.00					
090-105	10.00	10.00	10.00	10.00	10.00					
105-120	10.00	10.00	10.00	10.00	10.00					
120-135	10.00	10.00	10.00	10.00	10.00					
135-150	10.00	10.00	10.00	10.00	10.00					
150-165	10.00	10.00	10.00	10.00	10.00					
165-180	10.00	10.00	10.00	10.00	10.00					
180-195	10.00	10.00	10.00	10.00	10.00					
195-210	10.00	10.00	10.00	10.00	10.00					
210-225	10.00	10.00	10.00	10.00	10.00					
225-240	10.00	10.00	10.00	10.00	10.00					
240-255	10.00	10.00	10.00	10.00	10.00					
255-270	10.00	10.00	10.00	10.00	10.00					
270-285	10.00	10.00	10.00	10.00	10.00					
285-300	10.00	10.00	10.00	10.00	10.00					
300-315	10.00	10.00	10.00	10.00	10.00					
315-330	10.00	10.00	10.00	10.00	10.00					
330-345	10.00	10.00	10.00	10.00	10.00					
345-360	10.00	10.00	10.00	10.00	10.00					



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