

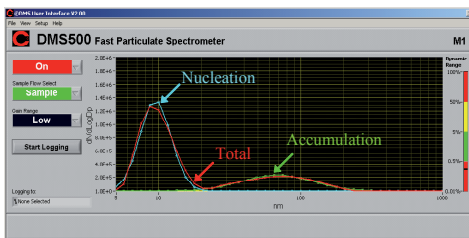


# CAMBUSTION DMS SERIES: Real-time Particulate Mass Measurement

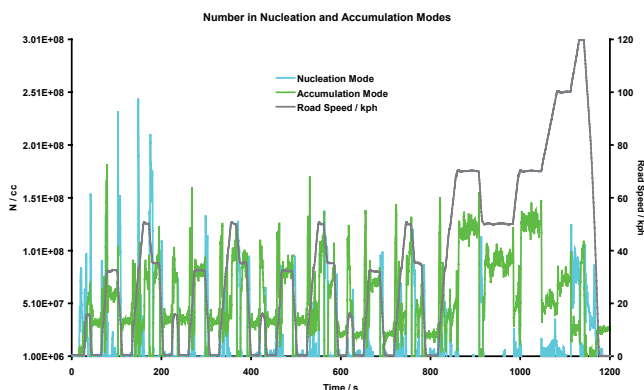
- Real-time particulate mass from DMS500 and DMS50 to file or analogue output
- Automatic discrimination of nucleation and accumulation modes
- Applications include:
  - DPF efficiency / evaluation
  - Engine calibration
  - Real-world emissions

## Mode Finding

The DMS user interface now automatically finds the peaks in the particulate spectrum. These modes are parameterised in terms of mean size, width and concentration. One can see at a glance the size, number concentration or mass concentration of any component of the aerosol, making PM measurements as easy to analyse as those for gases.



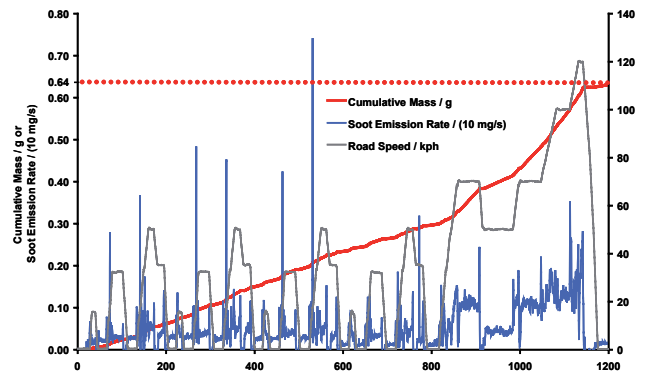
For Diesel engine applications, discrimination of nucleation and accumulation modes allows each to be treated separately in terms of their mass or number contribution. The instrument can even distinguish modes which partially overlap. Separation of the modes allows PMP comparable number concentration measurements to be made without the use of a thermal diluter.



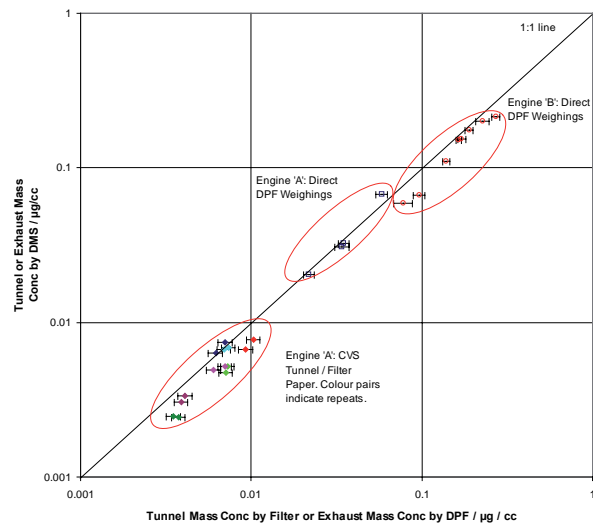
The system ignores signals due solely to measurement noise.

## Mass Calculation

A size to mass relationship for Diesel agglomerates is used to produce a mass concentration signal. An engine air intake or exhaust mass flow signal can be supplied to the DMS so the instrument can be configured to give soot mass rate.



Mass sensitivity is 0.1 % of reading + 2  $\mu\text{g} / \text{m}^3$ . The technique has been validated against the gravimetric methods of filter paper and DPF weighing:



For more information, download DMS application notes 1 and 6 at [www.cambustion.com](http://www.cambustion.com), or contact:

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