

CAMBUSTION

DMS500 Certificate of Calibration with Soot Agglomerates after Service and Adjustment

Company Name: *Cambustion*

Instrument Serial No: *M161*

Company Location: *United Kingdom*

Calibration No (matrix): *m2cqs74*

Ship Date: *N/A*

Date Calibrated: *28th April 2014*

In addition to the standard spherical calibration (m2cq74), an additional calibration is provided for measurement from highly fractal aerosols, e.g. Diesel. This applies only to the accumulation mode lognormal fit output given by the *Diesel* aerosol description file (.dmd).

The calibration standards used for these measurements are traceable to relevant international standards. The results refer to measurements made at the time of test and not to the instrument's ability to maintain calibration. *The reported measurement uncertainties are based upon a standard uncertainty multiplied by a coverage factor k = 2, which for a normal distribution provides a level of confidence of approximately 95%. The standard uncertainties are a consolidation of the uncertainty in the standard and the uncertainty in performing the measurement.*

Size and Gain: against Differential Mobility Analyser Sized Aerosol, with concentration indicated with a standard aerosol electrometer
Electrometer filter flow = 8.0 slpm

Aerosol	DMA Size (nm)	DMS Size (nm)	Electrometer Concentration (#/cc)	DMS Concentration (#/cc)
Soot	50.0 ± 5.0	50.2	17900 ± 3570	18000
Soot	100 ± 10	102	11600 ± 2330	11800
Soot	200 ± 20	200	11900 ± 2370	11600

Standards used:

Function	Mfr and Model	Serial Number	Calibrated By	Calibration Reference	Calibration Date	Calibration Due	
DMA	TSI 3034	0345001	Cambustion	3034/0345001/14	31/01/2014	31/01/2015	
Aerosol Electrometer	Electrometer	Keithley 6514	1247513	Keithley / Techtronics	1443380001 T	14/10/2013	14/10/2014
	Mass flow meter	Aalborg GFC171	162693-1	Aalborg	131001162693-1	01/10/2013	01/10/2014

Calibrator:

Approved By:

Dr J.P.R. Symonds

Director

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