

# CAMBUSTION

## DMS500 Certificate of Calibration after Service and Adjustment

Company Name: *Cambustion*

Instrument Serial No: *M161*

Company Location: *United Kingdom*

Calibration No (matrix): *m2cqw74*

Ship Date: *N/A*

Date Calibrated: *28<sup>th</sup> April 2014*

The DMS500 system is certified as meeting or exceeding the Test Specifications, when tested prior to dispatch. 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.*

(a) 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)
H <sub>2</sub> SO <sub>4</sub>	15.0 ± 1.5	15.0	16700 ± 3330	16900
NaCl	50.0 ± 5.0	50.0	15400 ± 3070	15100
NaCl	100 ± 10	99.0	14900 ± 2990	14800

(b) Size Only: Nebulised, dried and neutralised suspension of NIST Traceable Certified NanoSpheres (PSL), Thermo Scientific

PSL Size (nm)	DMS Size (nm)	Lot No	Expiry Date
296 ± 30	297	41699	01/02/2016
600 ± 60	602	40867	01/08/2015
903 ± 90	919	42457	01/09/2016

Standards used for part (a)

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	Keithley / Techtronics	1443380001 T	14/10/2013	14/10/2014
	Mass flow meter	Aalborg GFC171	Aalborg	131001162693-1	01/10/2013	01/10/2014

**Calibrator:**

**Approved By:**

Dr J.P.R. Symonds

Director

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