

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



0205

Accredited to
ISO/IEC 17025:2017

NMO Calibration

(Part of the Office for Product Safety and Standards within
the Department for Business, Energy and Industrial Strategy)

Issue No: 041 Issue date: 27 August 2021

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Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks
MASS	Nominal value (kg)	(mg)	NOTES 1. Intermediate values can be calibrated with an uncertainty equal to that of the next higher nominal value. 2. Calibrations can be given in other units as required. 3. Calibrated using Borda substitution method
	1000	3 000	
	500	250	
	250	125	
	100	50	
	60	10	
	50	6.0	
	Nominal value (g)	(mg)	
	30 000	1.5	
	20 000	1.0	
	10 000	0.50	
	5 000	0.25	
	2 000	0.10	
	1 000	0.030	
	500	0.025	
	200	0.010	
	100	0.005 0	
	50	0.003 0	
	20	0.002 5	
	10	0.002 0	
	5	0.001 0	
	2	0.000 50	
	1	0.000 50	
	0.5	0.000 40	
	0.2	0.000 40	
	0.1	0.000 40	
	0.05	0.000 40	
	0.02	0.000 30	
	0.01	0.000 30	
	0.005	0.000 30	
0.002	0.000 20		
0.001	0.000 10		
0.000 5	0.000 20		
0.000 2	0.000 20		
0.000 1	0.000 10		
0,000 05	0.000 10		



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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks
LENGTH	(mm)	(μm)	Calibrated by comparison to reference standards
Precision scales (linear)	0 to 2300	$1.0 + (1.0 \times \text{length in m})$	
High quality invar tapes	0 to 50 m	$10 + (0.6 \times \text{length in m})$	
Graduated tapes, bands, and scales (linear)	0 to 50 m	$25 + (3.0 \times \text{length in m})$	Calibrated Gravametricaly
VOLUME			
Metal contents and delivery measures	1 litres to 500 litres	0.008 %	
Burettes	Nominal value (mL)	(mL)	
	10	0.014	
	25	0.020	
	50	0.037	
	100	0.066	
Automatic pipettes	Nominal value (mL)	(mL)	
	5	0.011	
	10	0.013	
	20	0.016	
	25	0.020	
	50	0.033	
	70	0.042	
	100	0.052	
	125	0.059	
	150	0.067	
	175	0.074	
	200	0.082	
	250	0.090	
	500	0.12	
	1000	0.17	
	2000	0.26	
	2500	0.30	
	5000	0.47	
	10000	0.74	
	20000	1.2	
Manual graduated pipettes	Nominal value (mL)	(mL)	
	1	0.004 0	
	2	0.006 0	
	5	0.010	
	10	0.016	
	25	0.036	



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Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks
VOLUME (continued)			Calibrated Gravimetrically
Measuring cylinders	Nominal value (mL)	(mL)	
	5	0.021	
	10	0.038	
	25	0.083	
	50	0.14	
	100	0.19	
	250	0.35	
	500	0.62	
	1000	0.95	
	2000	1.8	
Flasks	Nominal value (mL)	(mL)	
	5	0.007 0	
	10	0.010	
	20	0.013	
	25	0.016	
	35	0.026	
	50	0.032	
	70	0.037	
	100	0.044	
	125	0.051	
	150	0.058	
	175	0.066	
	200	0.075	
	250	0.084	
	500	0.104	
	1000	0.13	
	2000	0.23	
	2500	0.30	
	5000	0.48	
	10000	0.80	
END			



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Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand. Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation $Q[a, b]$ stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$