


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>UKAS CALIBRATION</p> <p>0455</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p>Sartorius UK Limited</p> <p>Issue No: 027 Issue date: 18 August 2021</p>	
	<p>Longmead Business Centre Blenheim Road Epsom Surrey KT19 9QQ</p>	<p>Contact: Andrew Vaughan Tel: +44 (0)1372 737143 Fax: +44 (0)1372 722151 E-Mail: andrew.vaughan@sartorius.com Website: www.sartorius.com</p>
<p>Calibration performed by the Organisations at the locations specified below</p>		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
<p>Address Longmead Business Centre Blenheim Road Epsom KT19 9QQ</p> <p>Local contact: Andrew Vaughan</p>	<p>Volume Rotational speed Time Temperature</p>	<p>Perm</p>

Site activities performed away from the locations listed above:

Location details	Activity	Location code
<p>At customer premises</p> <p>The customers' site or premises must be suitable for the nature of the particular calibrations undertaken and will be the subject of contract review arrangements between the laboratory and the customer.</p> <p>Contact: Andrew Vaughan</p>	<p>Calibration of Non-Automatic Weighting Machines Volume Rotational speed Time Temperature</p>	<p>Site</p>



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Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
NON-AUTOMATIC WEIGHING MACHINES Self-indicating and semi-self- indicating instruments. See notes 1 and 2.	100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 50 kg 100 kg 200 kg 500 kg 1000 kg 2000 kg 3000 kg	0.018 mg 0.022 mg 0.029 mg 0.037 mg 0.044 mg 0.059 mg 0.074 mg 0.093 mg 0.11 mg 0.18 mg 0.37 mg 0.93 mg 1.8 mg 3.7 mg 9.3 mg 18 mg 200 mg 500 mg 10 g 20 g 50 g 100 g 200 g 300 g	Note 1 Weights are available in OIML class: E2 1 mg to 5 kg. max grouped load 11 kg. F1 10 kg to 20 kg. Max grouped load 60 kg. M1 10 kg to 250 kg. Max grouped load 6000 kg Note 2. Other loads within the overall listed range may also be used. Note 3.Method based on the requirements of Euramet guide cg-18	Site
VOLUME of liquids (See Notes 3, 4 and 5)	Nominal value Single Channel Pipettes 0.2 µL to 10.0 µL 10.0 µL to 20.0 µL 20.0 µL to 100 µL 100 µL to 200 µL 200 µL to 500 µL 0.5 mL to 1 mL 1 mL to 2 mL 2 mL to 5 mL 5 mL to 10 mL Multi Channel Pipettes 0.5 µL to 10 µL 10.0 µL to 20.0 µL 20.0 µL to 100 µL 100 µL to 200 µL 200 µL to 500 µL 0.5 mL to 1.2 mL	0.18 µL 0.26 µL 0.41 µL 0.60 µL 1.4 µL 0.003 0 mL 0.008 0 mL 0.020 mL 0.030 mL 0.60 µL 1.1 µL 1.6 µL 2.3 µL 4.4 µL 0.007 3 mL	Note 3. For water delivered from piston and/or plunger operated volumetric apparatus. Single Channel Pipettes and Multi-Channel Pipettes Note 4. Gravimetric method 10 readings or 5 readings Note 5. Users requiring conformity to ISO 8655 should note that this cannot be demonstrated using fewer than 10 readings.	Perm



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ROTATIONAL SPEED Centrifuges	100 rpm to 1000 rpm 1000 rpm to 5000 rpm 5000 rpm to 20000 rpm 20000 rpm to 30000 rpm	1.7 rpm 3.3 rpm 12.1 rpm 18.0 rpm	Calibration via Optical Tachometer	Perm & Site
TEMPERATURE Temperature controlled heat blocks Temperature probes built in to centrifuges	37 °C nominal 0 °C to 10 °C	1.1 °C 2.1 °C	For calibration of <i>Ortho Clinical Diagnostics</i> heat blocks and similar devices.	Perm & Site
TIME Timers	60 s to 900 s	1.3 s	Calibration to a reference stopwatch	Perm & Site
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: $Q[a, b] = [a^2 + b^2]^{1/2}$