

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 9558 Accredited to ISO/IEC 17025:2017	Thermo Electron Manufacturing Limited trading as Unity Lab Services Issue No: 010 Issue date: 17 September 2024	
	Stafford House Boundary Way Hemel Hempstead HP2 7GE United Kingdom	Contact: Simon Alexander Tel: +44 (0) 01442 233555 E-Mail: simon.alexander@thermofisher.com Website: www.thermoscientific.com
Calibration performed by the Organisation at the locations specified		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Unity Laboratory Services Stafford House Boundary Way Hemel Hempstead HP2 7GE United Kingdom Local contact Simon Alexander	Temperature Humidity Gas analysis Time Rotational speed	Lab

Site activities performed away from the locations listed above:

Location details	Activity	Location code
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.	Temperature Humidity Gas analysis Time Rotational speed	Site



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Calibration and Measurement Capability

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
TEMPERATURE				Lab & site
Temperature controlled incubators, ovens, environmental chambers, fridges/refrigerators and freezers	-100 °C to -80 °C -80 °C to 0 °C 0 °C to 50 °C	0.50 °C 0.40 °C 0.30 °C	Single and multipoint time dependent temperature profiling, also referred to as spatial temperature surveying or mapping	
Temperature indicators and recorders	-100 °C to 50 °C	0.30 °C	By comparison in block calibrator	
HUMIDITY				Lab & site
Relative humidity incators and recorders	11 %rh to 90 %rh at 23 °C 11 %rh to 90 %rh at 37 °C	2.0 %rh 2.0 %rh	By comparison in humidity controlled chamber	
Temperature probes built in to humidity indicators and recorders	23 °C 37 °C	0.30 °C 0.35 °C	By comparison in temperature controlled chamber	
GAS ANALYSYS				
Gas analysers	Amount fraction mol/mol	Amount fraction mol/mol		
carbon dioxide	3 % at ambient, 23 °C, 37 °C 7 % at ambient, 23 °C, 37 °C 9 % at ambient, 23 °C, 37 °C 15 % at ambient, 23 °C, 37 °C	0.12 % 0.20 % 0.09 % 0.13 %	By comparison with reference gas	Lab
	3 % to 9 %, 23 °C to 37 °C	0.77 %	By comparison with transfer standard	Lab & site
Temperature probes built in to carbon dioxide indicators and recorders	Ambient, 23 °C and 37 °C	0.55 °C	By comparison in temperature controlled chamber	Lab
Carbon dioxide incubators	Amount fraction mol/mol	Amount fraction mol/mol		
carbon dioxide	3 % to 9 %, 37 °C 3 % to 9 %, 23 °C to 37 °C	0.35 % 0.45 %	By comparison with transfer standard	Lab & site
ROTATIONAL SPEED				Lab & site
Centrifuges	100 rpm to 20000 rpm	2.0 rpm	Using optical tachometer	
Centrifuge temperature	0 °C to 25 °C	1.7 °C	Using thermocouples	
TIME INTERVAL				
Timers	60 s to 1 hour	0.80 s	By comparison with a standard timer	Lab & 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: $Q[a, b] = [a^2 + b^2]^{1/2}$