Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

9854

Accredited to ISO/IEC 17025:2017

Pendragon Scientific Limited

Issue No: 005 **Issue date:** 19 August 2021

44 Winslow Road
Granborough
Buckinghamshire
MK18 3NQ

Contact: Mr R Johns
Tel: +44 (0)845 496 0613
E-Mail: info@pendragonscientific.com
Website: www.pendragonscientific.com

Calibration performed by the Organisations at the locations specified below

Locations covered by the organisation and their relevant activities

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 calibration of Incubators Dynamic validation of PCR Machines and thermal cyclers Temperature in a centrifuge Rotational speed (Centrifuges) Time (Centrifuges) Carbon Dioxide content in an incubator	S

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
TEMPERATURE				
Temperature controlled incubators, refrigerators, media perparators and chambers	0 °C to 70 °C	0.40 °C		S
Dynamic validation of PCR© machines and thermal cyclers			The PCR© (Polymerase Chain Reaction), process is covered by patents owned by Hoffman-LaRoche Inc.	
Accuracy and uniformity	10 °C to 90 °C 90 °C to 100 °C	0.43 °C 0.84 °C	Multipul sensor system	S
Temperature in a centrifuge	4 °C to 40 °C	0.50 °C		S
ROTATIONAL SPEED				
Centrifuges	30 rpm to 20000 rpm 20000 rpm to 60000 rpm	4.0 rpm 18 rpm		S
TIME INTERVAL				
Timers associated with centrifuges	0 s to 3600 s	0.60 s		S
GAS CONTENT				
Carbon Dioxide	5%	0.20%	Gas Analyser	SS
Carbon Dioxide	5%	0.30%	Single point calibration in the centre of the incubator	S

END

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: $Q[a, b] = [a^2 + b^2]^{1/2}$