

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 UKAS CALIBRATION 4350 Accredited to ISO/IEC 17025:2017	Cole-Parmer Instrument Company Ltd.	
	Issue No: 016	Issue date: 02 September 2021
	9 Orion Court Ambuscade Road Colmworth Business Park St Neots PE19 8YX	Contact: Joao Fonseca Tel: +44 (0)1480 217181 Fax: +44 (0)1480 218191 E-Mail: joao.fonseca@coleparmer.com Website: www.coleparmer.co.uk
Calibration performed by the Organisations at the locations specified below		

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address 9 Orion Court Ambuscade Road Colmworth Business Park St Neots PE19 8YX Local contact As above	Volume	A

Site activities performed away from the locations listed above:

Location details	Activity	Location code
Customers' premises 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.	Volume	Site



4350
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Cole-Parmer Instrument Company Ltd.
Issue No: 016 Issue date: 02 September 2021

Calibration performed by the Organisation at the locations specified

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
VOLUME of liquids (See Notes) For water delivered from a POVA	Nominal value 0.1 µL to 2 µL 2 µL to 5 µL 5 µL to 10 µL 10 µL to 20 µL 20 µL to 100 µL 100 µL to 200 µL 200 µL to 500 µL 500 µL to 1 mL 1 mL to 5 mL 5 mL to 10 mL 10 mL to 25 mL 25 mL to 50 mL 50 mL to 100 mL	0.060 µL 0.080 µL 0.10 µL 0.14 µL 0.48 µL 0.65 µL 2.1 µL 0.002 7 mL 0.016 mL 0.032 mL 0.082 mL 0.19 mL 0.38 mL	Note 1. For water delivered from a piston and/or plunger operated volumetric apparatus (POVA) using procedures agreed with UKAS. Single and multi-channel pipettes Note 2. Gravimetric method up to 10 readings for each of up to 3 volumes Note 3. Users requiring conformity should note that ISO 8655, 7.1.2 requires 10 readings	A and Site
END				



4350
Accredited to
ISO/IEC 17025:2017

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Cole-Parmer Instrument Company Ltd.
Issue No: 016 Issue date: 02 September 2021

Calibration performed by the Organisation at the locations specified

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