


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <b>0767</b>  Accredited to <b>ISO/IEC 17025:2017</b>	<b>HORIBA UK Ltd</b>	
	Issue No: 031	Issue date: 19 January 2023
	<b>Kyoto Close</b> <b>Moulton Park Industrial Park</b> <b>Northampton</b> <b>NN3 6FL</b>	<b>Contact: Mr T Lowe</b> <b>Tel: +44 (0) 1604 542500</b> <b>E-Mail: tony.lowe@horiba.com</b>
<b>Calibration performed by the Organisations at the locations specified below</b>		

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

Location details	Activity	Location code
<b>Address</b> Kyoto Close Moulton Park Industrial Park Northampton NN3 6FL	<b>Local contact</b> Mr T Lowe	Pressure Temperature Humidity Flow Electrical  Permanent

#### Site activities performed away from the locations listed above:

Location details	Activity	Location code
The customer's 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	Pressure Temperature Humidity Electrical Force Speed	Site



0767  
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

**HORIBA UK Ltd**  
**Issue No: 031 Issue date: 19 January 2023**

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
<p><b>PRESSURE</b></p> <p><u>Gas Pressure Gauge</u> Calibration of pressure indicating instruments and gauges</p> <p><u>Gas Pressure Differential</u> Calibration of pressure indicating instruments and gauges</p> <p><u>Gas Pressure Absolute</u> Calibration of pressure indicating instruments and gauges</p>	<p>-95 kPa to 0 kPa 0 kPa to 500 kPa 500 kPa to 1 MPa 1 MPa to 2 MPa</p> <p>± 3 kPa ± (3 to 12) kPa ± 2 kPa ± (2 to 20) kPa</p> <p>30 kPa to 200 kPa</p>	<p>Q [0.038 %, 89 Pa] Q [0.038 %, 97 Pa] Q [0.038 %, 151 Pa] Q [0.038 %, 210 Pa]</p> <p>Q [0.30 %, 0.84 Pa] Q [0.30 %, 0.89 Pa] Q [0.48 %, 0.86 Pa] Q [0.44 %, 6.8 Pa]</p> <p>82 Pa</p>	Methods consistent with EURAMET CG17	Perm and site
<p><b>TEMPERATURE</b></p> <p>Temperature indicating instruments with resistance thermometer sensors</p>	0 °C to 100 °C	0.18 °C	Direct comparison with a reference probe	Perm and site
<p><b>HUMIDITY</b></p> <p>Relative humidity instruments</p>	<p>1 °C to 10 °C 5 %rh to 90 %rh</p> <p>10 °C to 50 °C 5 %rh to 95 %rh</p> <p>50 °C to 60 °C 5 %rh to 90 %rh</p>	2.9 %rh	Direct comparison with a reference hygrometer	Perm and site
<p><b>FORCE</b></p> <p>Dynamometer load cells in tension and compression.</p>	500 N to 7500 N	7.0 N	Calibration using masses and lever amplification	Site
<p><b>SPEED</b></p> <p>Dynamometer speed</p>	20 km/h to 200 km/h	0.56 km/h	Calibration by diameter and rotational speed	Site



0767  
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

**HORIBA UK Ltd**  
**Issue No: 031 Issue date: 19 January 2023**

Calibration performed by the Organisation at the locations specified

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ( $k = 2$ )	Remarks	Location Code
<p>FLOW</p> <p><u>Gas Flow – volume</u></p> <p>Calibration of Critical Flow Orifices</p> <p>Calibration of gas dividers</p> <p>Calibration of pitot tubes</p>	<p>400 ml/min to 1.2 l/min</p> <p>5 ml/min to 50 ml/min 50 ml/min to 5 l/min</p> <p>5 l/min to 30 l/min 30 l/min to 60 l/min</p> <p>100 l/min to 200 l/min 200 l/min to 1000 l/min 1000 l/min to 2000 l/min 2000 l/min to 10000 l/min 10000 l/min to 30000 l/min</p>	<p>0.76 %</p> <p>0.40 % 0.42 %</p> <p>0.56 % 1.03 %</p> <p>2.8 % 2.8 % 2.8 % 2.8 % 2.8 %</p>	<p>Calibration gas – propane (prover method)</p> <p>Calibration gas – nitrogen (mass flowmeter method)</p> <p>Calibration gas – nitrogen (mass flowmeter method)</p> <p>Calibration gas – air (subsonic nozzle method)</p>	<p>Perm only</p>
<p>ELECTRICAL</p> <p>DC Voltage</p> <p>DC Current</p> <p>Resistance</p> <p>Frequency</p> <p><u>Temperature simulation:</u> Temperature simulators and indicators, calibration by electrical simulation</p> <p>Base metal thermocouple</p> <p>PRT Simulation (PT 100)</p>	<p>0 V to 100 mV 100 mV to 200 mV 200 mV to 2 V 2 V to 20 V</p> <p>0 A to 20 mA 20 mA to 55 mA</p> <p>0 <math>\Omega</math> to 400 <math>\Omega</math> 400 <math>\Omega</math> to 4000 <math>\Omega</math></p> <p>40 mHz to 1 kHz 1 kHz to 50 kHz</p> <p>- 100 <math>^{\circ}</math>C to 1370 <math>^{\circ}</math>C</p> <p>- 200 <math>^{\circ}</math>C to 800 <math>^{\circ}</math>C</p>	<p>17 <math>\mu</math>V Q [0.012 %, 30 <math>\mu</math>V] Q [0.011 %, 180 <math>\mu</math>V] Q [0.020 %, 1.6 mV]</p> <p>Q [0.014 %, 3.4 <math>\mu</math>A] Q [0.020 %, 8.6 <math>\mu</math>A]</p> <p>Q [0.010 %, 13 m<math>\Omega</math>] Q [0.010 %, 140 m<math>\Omega</math>]</p> <p>40 mHz 290 mHz</p> <p>1.0 <math>^{\circ}</math>C</p> <p>0.12 <math>^{\circ}</math>C</p>	<p>Calibration of measuring devices by direct comparison with a reference meter.</p> <p>Including cold junction compensation</p>	<p>Perm and site</p>
END				



0767  
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

**HORIBA UK Ltd**  
**Issue No:** 031    **Issue date:** 19 January 2023

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