# Schedule of Accreditation

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# United Kingdom Accreditation Service

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**27982**

**Accredited to ISO/IEC 17025:2017**

## QROMETRIC LIMITED

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Calibration and Measurement Capability (CMC)

| Measured Quantity Instrument or Gauge | Range | Expanded Measurement Uncertainty ($k$ = 2) | Remarks |
|---|---|---|---|
| **HUMIDITY** | | | Measurement of devices with analogue outputs may be undertaken. |
| Dew Point | -75 °C to -50 °C<br>-50 °C to -20 °C<br>-20 °C to +10 °C<br>+10 °C to +70 °C<br>+70 °C to +85 °C | 0.133 °C<br>0.067 °C<br>0.057 °C<br>0.059 °C<br>0.065 °C | Calibration by comparison with a reference chilled mirror hygrometer. |
| Relative humidity | Example conditions:<br><br>-10 °C to 20 °C<br>10 %rh to 95 %rh<br><br>20 °C to 24 °C<br>10 %rh to 95 %rh<br><br>24 °C to 85 °C<br>10 %rh to 95 %rh | Corresponding to the dew point and temperature in air uncertainties<br><br>0.07 °C<br>0.21 %rh to 0.77 %rh<br><br>0.07 °C<br>0.21 %rh to 0.62 %rh<br><br>0.07 °C<br>0.21 %rh to 0.60 %rh | Calibration by comparison with a reference chilled mirror hygrometer and platinum resistance thermometers. |
| **TEMPERATURE** | | | Measurement of devices with analogue outputs may be undertaken. |
| Platinum resistance thermometers and temperature sensors with digital displays including data loggers | -10 °C to +85 °C | 0.073 °C | Calibration by comparison with reference platinum resistance thermometers performed in air using an environmental chamber. |
| Platinum resistance thermometers | -100 °C to +155 °C | 0.033 °C | Using a dry block calibrator. Calibration can be undertaken on PRTs with sheath widths of 2 mm to 3.2 mm or 1/8 inch only. |
| 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: $Q[a, b] = [a^2 + b^2]^{1/2}$