Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

6772

Accredited to ISO/IEC 17025:2017

Torquemeters Ltd

Issue No: 004 **Issue date:** 23 January 2025

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Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)		Remarks
TORQUE				
Electronic Torque Calibration Equipment to BS 7882:2017 and DIN 51309:2022-08	300 N·m to 500 N·m 500 N·m to 3500 N·m	0.030 % See Notes 1, 2 and 3 0.025 % See Notes 1, 2 and 3		1 The uncertainties quoted is for both the application of the calibration torque and the characteristics of the device being calibrated. 2 Calibration results may also be given in units of lbf in and lbf ft, or units of signal output, e.g., phase angle, frequency or mV/V. 3 Calibrated statically using supported Beam and Masses
ELECTRICAL				
Electrical phase angle	0° to 360°	At 50 mV rms	At 500 mV rms	4 The capabilities are based on the use of calibrated phase angle generators. They are for the calibration of Torquemeters signal processing units, and similar instruments. The CMCs are shown in terms of phase angle but may also be expressed in % phase, where 100 % = 360°. Intermediate values of applied voltage may be used and will attract the larger of the adjacent uncertainties.
	55 Hz to 1 kHz *1 kHz to 10 kHz* *10 kHz to 50 kHz* *50 kHz to 100 kHz*	0.046° 0.046° to 0.040° 0.040° to 0.030° 0.030° to 0.034°	0.046° to 0.051° 0.051° to 0.044° 0.044° to 0.045° 0.045°	

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