

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p><b>UKAS</b> CALIBRATION 6772</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p><b>Torquemeters Ltd</b></p> <p>Issue No: 002    Issue date: 03 September 2021</p>	
	<p>West Haddon Road Ravensthorpe Northamptonshire NN6 8ET</p>	<p>Contact: Martin Yeates Tel: +44 (0)1604 770 232 Fax: +44 (0)1604 770 778 E-Mail: sales@torquemeters.com Website: www.torquemeters.com</p>
<p><b>Calibration performed at the above address only</b></p>		

### Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty ( $k = 2$ )		Remarks
<p><b>TORQUE</b></p> <p>Electronic Torque Calibration Equipment to BS 7882:2017 and DIN 51309:2015-12</p>	<p>300 N·m to 500 N·m 500 N·m to 3500 N·m</p>	<p>0.030 % See Notes 1, 2 and 3 0.025 % See Notes 1, 2 and 3</p>		<p>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 or mV/V. 3 Calibrated statically using supported Beam and Masses</p>
<p><b>ELECTRICAL</b></p> <p>Electrical phase angle</p>	<p>0° to 360°</p> <p>55 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 50 kHz 50 kHz to 100 kHz</p>	<p>At 50 mV rms</p> <p>0.046° 0.046° to 0.040° 0.040° to 0.030° 0.030° to 0.034°</p>	<p>At 500 mV rms</p> <p>0.046° to 0.051° 0.051° to 0.044° 0.044° to 0.045° 0.045°</p>	<p>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.</p>
<p><b>END</b></p>				



6772

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

#### Torquemeters Ltd

Issue No: 002 Issue date: 03 September 2021

Calibration performed at main address only

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