

### 1. Document Information

<b>Document Number</b>	ADCF056
<b>Document Title</b>	Expected Uncertainty Intervals – Torque Requirements 2017
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<b>Author</b>	TQR Manager
<b>Document Type</b>	Company Form
<b>Review Cycle</b>	Upon Significant Changes

### 2. Revision History

Version/Revision	Date	Description of change	Author	Approved by
1	Oct-23	Document created	DM	Quality
2	Nov-24	New format	AP	Quality

### 3. Document Distribution

Department(s)	Distribution Method & Location	Access Level
Quality	Hard Copy / T: Drive	Internal
Customer	<a href="https://www.avon-dynamic.co.uk/quality/">https://www.avon-dynamic.co.uk/quality/</a>	External

### 4. Related Documents

Document Number	Document Name
BS EN ISO 6789-2:2017	Assembly tools for screw and nuts – Hand torque tools

### 5. ISO Related Clauses

Standard	Title	Clause
ISO 17025	Reporting statements of conformity	7.8.6
ISO 9001	Operational planning and control	8.1

#### Scope:

The below information outlines the process the laboratory will take as standard process for the calibration of torque wrenches to the above referenced specification, unless consulted otherwise from the end user.

#### Expected Uncertainty Intervals

Where customers have requested a UKAS Calibration to BS EN ISO 6789-2:2017 there is a requirement to request the expected measurement error and expected uncertainty intervals. For expected measurement error we recommend the manufacturers specification (if known) or BS EN ISO 6789-1:2017 (5.1.5).

If you have no expected uncertainty interval for the torque tool, we recommend & will apply BS EN ISO 6789-1:2017 plus 2%.

If you have a requirement for a different expected uncertainty interval, please let us know prior to the calibration of the item.

All torque wrenches will be calibrated in the clockwise direction unless stated by the customer

#### Clarification of the expected uncertainty interval.

*The new standard defines an 'uncertainty interval' for the torque tool at each set point calibrated. This term is derived from the mean error of the torque tool + the maximum error of the measuring device used to calibrate it + the expanded uncertainty of the measurement.*

*We will compare this value to the customers 'Expected Uncertainty Interval' requested above. The addition of the 2% that we have recommended is to cover our calibration uncertainty and measuring device error.*