

1. Document Information

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2. Revision History

Version/Revision	Date	Description of change	Author	Approved by
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2	Nov-24	New format	AP	Quality
3	Dec-25	Updated to include all types of calibration disciplines	AP	Quality
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3. Document Distribution

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4. Related Documents

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5. ISO Related Clauses

Standard	Title	Clause
ISO 17025	Process requirements	7
ISO 9001	Operation	8

Scope:

The document details the standard procedure that the laboratory will follow for calibrating the specified equipment, concerning conformity reporting, decision rules, and standard features recorded, as well as the calibration method employed, unless otherwise advised by the end user. Additionally, this document outlines the calibration intervals and their application to customer orders.

Table of contents:

Page 1	Document Control (Internal use only)
Page 2 to 3	Types of Calibrations – What is the difference?
Page 4	Method of Calibration – Customer Guidance
Page 5	Expected Uncertainty Intervals – Torque Wrenches & Drivers to BS 6789-2:2017
Page 6	Conformity Statement – Torque Wrenches & Drivers to BS 6789:2003
Page 7	Conformity Statement – Torque Meters to BS 7882:2017
Page 8	Conformity Statement – Gauge Blocks
Page 9	External Micrometers – Standard Calibration Offering
Page 10 to 12	FAQS – Frequently Asked Questions

Types of Calibrations – What is the difference?

What is UKAS Calibration?

Calibration essentially involves the comparison of a measuring device, known as the Unit Under Test (UUT), against a Standard that has a defined level of accuracy. Ideally, this standard should exhibit a higher accuracy than the UUT and should be accompanied by a calibration certificate that can be traced through a continuous chain of calibrated standards to a relevant standard upheld by a National Laboratory. In the UK, this standard is generally the National Physical Laboratory (NPL).

UKAS Calibration pertains to calibration conducted by a laboratory that has been independently audited and accredited by UKAS to perform such tasks. These disciplines are listed on the laboratory's schedule of accreditation, which is available on the UKAS website. The Avon dynamic Calibration Schedule of accreditation for calibration (0199) and dimensional testing (2800) can also be found on our website, so please feel free to explore our accredited services.

Who are UKAS?

UKAS (United Kingdom Accreditation Service) is the sole body recognised by HM Government for assessing and accrediting the competence of calibration and testing laboratories.

The difference between UKAS Accreditation and non-accredited calibration(s)?

Laboratories receive accreditation from UKAS to ISO 17025, which is the globally recognized standard for the competence of calibration and testing laboratories.

As a UKAS accredited laboratory, our systems, personnel, their training, and our technical capabilities undergo regular and thorough evaluations by a team of UKAS auditors, on an annual occurrence, each an expert in their respective fields. Although this process is costly and time-consuming, our continuous accreditation and adherence to ISO 17025 requirements assure you of our competence, impartiality, and performance capability, enabling us to consistently provide technically valid calibration results every time.

Accreditation to ISO 17025 also indicates that our quality management systems align with the principles of ISO 9001. This is supported by three major international organizations: the International Organization for Standardization (ISO), the International Laboratory Accreditation Cooperation (ILAC), and the International Accreditation Forum (IAF). Consequently, separate certification of an accredited laboratory to ISO 9001 is unnecessary for calibration activities. However, Avon Dynamic Calibration hold certification to ISO 9001, to make customer procurement options simplified.

The certification of a laboratory to ISO 9001 pertains solely to the quality management systems of the laboratory, not its technical competence. A laboratory that holds only ISO 9001 certification and lacks ISO 17025 accreditation should not be regarded as a suitable alternative to a UKAS accredited laboratory.

You can download our UKAS Certificate of Accreditation from our website page. It is crucial to understand that UKAS accreditation of a calibration laboratory does not automatically imply that the laboratory can issue UKAS certificates for all items it calibrates. Each specific calibration technique must be accredited individually. The laboratory's 'UKAS Schedule of Accreditation' will specify the activities for which it has received accreditation.

Our UKAS Schedule of Accreditation is available for download from our website page. If you are uncertain whether we or any other laboratory is UKAS accredited, please reach out for clarification.

UKAS & “Traceable” or “Inhouse” Calibration Certificates

A UKAS Calibration Certificate is compliant with ISO17025 and should be easily identifiable by the UKAS Accreditation Symbol featuring the Royal Crown, which is located in the top right corner of the front page.

The certificate must include the measured calibration results, both prior to and following any adjustments if applicable. Additionally, it should specify the uncertainty of measurement related to the reported results.

It is not always feasible to acquire a UKAS calibration certificate for every possible type of measuring equipment. There are cases where no laboratory has been accredited for certain types of instruments. Alternatively, a UKAS laboratory may possess extra capabilities that have not received formal accreditation.

In such situations, a 'Traceable', 'In-House', calibration certificate (which mean the same thing) is typically provided. Although it does not carry the UKAS symbol with the Royal Crown, this certificate should at the very least include the measured calibration results and the associated measurement uncertainty. It should also enumerate any standards utilized during the calibration process, thus ensuring documented traceability to National Standards.

Regrettably, many manufacturers' 'calibration certificates' that come with new instruments fail to satisfy any of the aforementioned criteria. Consequently, they are merely 'Certificates of Conformity' rather than authentic calibration certificates. Such documents would generally not be acceptable to an auditor, so please seek further guidance within your own quality system if this is acceptable for you or not.

Method of Calibration – Customer Guidance

As standard for calibrations we will perform the following:

- **Option A:** In accordance with the British or ISO standard or the manufactures specification.
- **Option B:** No specification, results reported “as received”
- **Option C:** Customer specification

Please note: For option C – Customers should submit their requirements in writing prior to calibration activities commencing.

Charges may apply for creation of customer templates that are not designed around the British standard or manufacturers guidance of the calibration method.

- The laboratory shall inform the customer when the method requested by the customer is inappropriate or out of date

Expected Uncertainty Intervals – Torque Wrenches & Drivers to BS 6789-2:2017

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.

Please note: Calibration costs only include one direction, so charges will occur for both a direction calibration

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.

Conformity Statement – Torque Wrenches & Drivers to BS 6789:2003 (Withdrawn Standard)

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.

Conformity Statement that will be applied:

Where statements of conformity are used i.e., calibrated to Customers, manufacturers, BS EN ISO 6789:2003 (Withdrawn standard) are used. Avon Dynamic Ltd will provide a simple acceptance shared risk decision as stated below.

“Conformity / Non-Conformity statements are based on simple acceptance rule (ILAC G8:09/2019) Where, Acceptance Limit (AL) equals Tolerance Limit (TL). Provided that the Tolerance Uncertainty Ratio (TUR) $\geq 1:1$.”

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

Please note: Calibration costs only include one direction, so charges will occur for both a direction calibration

Conformity Statement – Torque Meters to BS 7882:2017

Scope:

The below information outlines the process the laboratory will take as standard process for the calibration of torque meters to BS 7882:2017, unless consulted otherwise from the end user.

Contract Review:

- Devices sent in for calibration will be calibrated and the 'As Found' readings recorded.
- Where possible the unit will be adjusted with "as left" results.
- The calibration will be performed to the appropriate British Standard BS 7882 2017 unless requested otherwise.
- The range of Calibration will be 0.04 to 1500Nm and calibration will be carried out in Nm unless otherwise requested or the unit under test dictates units measured.
- Transducers must be supplied with associated display to ensure calibration as a system.
- Calibration will be carried out to BS 7882 Fig A.1e unless stated otherwise.
- All calibrations will be in the clockwise direction unless otherwise requested.

Please note: Calibration costs only include one direction, so charges will occur for both a direction calibration

Decision Rule

- Classification is inherent in BS7882:2017. The uncertainty of the applied torques are directly accounted for and no further consideration was made when the unit under test was classified.

Conformity Statement – Gauge Blocks:

Scope:

The below information outlines the process the laboratory will take as standard process for the calibration of gauge blocks, unless consulted otherwise from the end user.

Conformity Statement that will be applied:

Where customers have requested a UKAS Calibration or gauge blocks, the calibration certificate will provide the status information of gauges that are either within or exceed the tolerance bandwidth of the appropriate specification (conforming or non-conforming).

The decision rule associated with the statement of conformity / non-conformity can be found below and will appear on the certificate of calibration.

Conformity / Non-Conformity statements are based on simple acceptance rule (ILAC-G8:09/2019) where, Acceptance Limit (AL) equals Tolerance Limit (TL). Provided that the Tolerance Uncertainty Ratio (TUR) $\geq 1:1$.

External Micrometers – Standard Calibration Offering

Scope:

The below information outlines the process the laboratory will take as standard process for a calibration of an external micrometer, unless consulted otherwise from the end user.

Method of calibration

Calibration will be performed in accordance with the British Standard specification. Feature “Error in alignment” is not included in the scope of the calibration as this is deemed a non-critical feature, however, please ensure this satisfies your own internal requirements. All other specified parameters and functional checks will be verified and calibrated as part of the standard process to the relevant standard.

If you require different procedure to the above, please specify this at the quoting stage prior to the work commencing.

Frequently Asked Questions

Q = Do you offer collection and delivery?

A = Yes, we offer collection and delivery to selected UK mainland business locations. Please contact us to check availability and current pricing.

Please pack your equipment securely, as you would expect it to be returned to you.

Q = What if you don't offer collection and delivery to my business?

A = If we do not cover your area, we will usually ask you to arrange your own courier.

Where possible, and depending on availability, we may be able to arrange collection through an approved courier in most UK mainland areas. As we do not pack the items or verify the consignment, we cannot accept liability for loss or damage in transit to us, so please make sure items are packed securely and insured.

Unless you ask us otherwise, return delivery will be arranged through our approved courier.

Please contact us for current pricing.

Q = Insurance against loss or damage

A = Items collected and delivered by our own drivers are insured against loss or damage.

For third-party courier collections or deliveries arranged by us, you can choose insured or uninsured cover when accepting your quotation. If you choose insured cover, please provide the consignment details. If you choose uninsured cover, we cannot accept liability.

If you use your own courier, please ensure your items are packed securely and insured, as we cannot accept liability for loss or damage in transit.

Q = What is your turnaround time for calibration?

A = Please refer to your quotation or sales order acknowledgement for the estimated turnaround time. Times are assessed at quotation stage and may change, so we recommend sending your equipment promptly after issuing your PO.

If your requirement is urgent, please let us know and we will do our best to help.

Please note that subcontracted items may take longer due to transit time and external laboratory lead times.

Q = Who decides when an instrument should be re-calibrated?

A Unless set by law, regulation, or an agreed service arrangement, calibration intervals are normally determined by the customer based on intended use, risk, historical performance, and any applicable quality system requirements. Please include your required interval on your purchase order. If no interval is provided, the due date will be left blank on the certificate and/or label.

If you ask to change the interval after calibration, an admin fee of £5 per label and £15 per certificate reissue will apply.

Q = Do you send reminders when re-calibration is due?

A Yes, we offer this service. Please contact Customer Service for more details.

Q = How do I get my certificates?

A You will usually receive your digitally signed certificate by email. Certificates are sent daily at around 5am, so larger consignments may arrive in more than one batch.

Once you open the email link, you will have 72 hours to view and download your certificate(s), and you may share them internally if needed.

If you need the link to be resent later, a £10 admin charge will apply.

If you need a different certificate delivery option, please contact Customer Service.

Q = Will my certificate be wet signed?

A ISO 17025 does not require issued certificates to be signed. We now use a digital signature platform, so you can view digitally signed certificates, while the version in Indysoft remains unsigned. If you need a signed certificate for audit purposes, please let us know and we will provide one for full traceability.

Our internal processes confirm signatory approval in line with ISO 17025.

Q = What do you do if instruments require adjustment?

A Where agreed and technically appropriate, we may carry out minor adjustments to help bring an instrument back within specification. This may also include small repairs such as burr removal or zero resets.

Major or time-consuming adjustments may be treated as repairs, quoted separately, and supported by an engineer's report.

Q = What if an instrument fails calibration?

A If an instrument does not meet the agreed specification, this will be shown on the certificate using the applicable acceptance key and decision rule. The delivery note will also include a calibration code showing each item's status.

We may also be able to offer replacement, repair, or scrap services for failed equipment. Please contact Customer Service to check what is available.

The customer or end user remains responsible for deciding whether equipment is suitable for its intended use. The calibration certificate provides the information needed to support that decision.

Q = Does the calibration price include batteries and fuses?

A If equipment arrives with a low or flat battery, or a blown fuse, we may need to replace it so calibration can continue. To help avoid extra charges, please check these before sending your item.

Q = Do you subcontract any work?

A We complete the majority of work in-house. If an item falls outside our capability or capacity, we may need to use an approved external provider.

We use approved suppliers to make the process as smooth as possible. The main differences are usually longer turnaround times and, in some cases, different pricing.

We will let you know if work needs to be subcontracted, and this will be made clear at quotation or review stage. We do not present another laboratory's results as our own.

Please contact Customer Service if you would like to check whether this service is available for your requirement.

Q = Do you require a purchase order before starting work?

A We review and agree the requirements for the work before it starts in line with ISO 17025. A purchase order is one common way of confirming those requirements, and we recommend including all relevant details to help avoid delays or recalibration charges.

If no PO is provided, payment will be required before your instruments can be returned.

An open PO is often the most convenient option, as it can cover work over a set period and helps avoid raising separate POs for repairs or extras.

Q = How do I pay for the work?

A Customers with a credit account and a valid purchase order will be invoiced. We can also take card payments by phone or provide a pro-forma invoice.

Our standard payment terms are 30 days end of month. If you need alternative terms, please contact Customer Service in advance.