

# Calibration laboratory

**Precision for torque sensors**



# Calibration of torque sensors.

**At ATESTEO, we have manufactured torque measurement technology for the automobile industry for more than 30 years, applying these metrological instruments to our own drivetrain testing projects. Our ATESTEO calibration laboratory ensures that our demanding automotive customers, just as we ourselves, can rely on extremely precise calibration for tests and measurements.**

## High precision. Guaranteed measurement results.

The professional calibration of a torque sensor is decisive for the quality of the measurement result, especially for repetitive measurement routines. In our calibration laboratory, which is accredited by DAkkS in accordance with ISO 17025 – 2018, torque sensors are calibrated for excellent precision of torque.

The accreditation ensures the metrological competence of our laboratory and calibration team. Our direct

connection to the PTB (National Metrology Institute of Germany) and regular assessment by independent experts are your guarantee for excellent precision and assured measurement results. The calibration certificates issued by the ATESTEO calibration laboratory are internationally recognised.

## From standard to special applications.

We cover the range of 0.2 N·m to 100 kN·m with our calibration equipment. DAkkS calibrations in accordance with DIN 51309 are possible from 0.2 N·m to 20,000 N·m. We can provide factory calibrations from 20,000 N·m to 100 kN·m. Likewise, we are able to calibrate many special applications. We manufacture our own calibration adapters in house, so you can count on short turnaround times of your calibration order.

# Professional. And traceable at all times.

To ensure maximum validity when calibrating, the torque sensors are measured in three mounting positions. For this purpose, the sensor is mounted, dismantled, and rotated by 120° each time on the test bench a total of three times. We show the following traceable results on the calibration certificate:

- Exact measurement values for each calibration step
- Hysteresis values
- Repeatability and reproducibility
- Creep behaviour
- Return to zero point
- Remanence value
- Interpolation error (possible deviations of the measured value from the cubic and linear approximation)
- Indication of measurement uncertainty for each calibration step
- Classification in accordance with DIN 51309

This method of calibrating your torque sensors guarantees that your torque transducer is a traceable measuring device, as is required by ISO 9001.





## Calibration equipment for various torque values.

ATESTEO has applied many years of experience and all its in-house resources to the development and implementation of unique calibration facilities with associated software. This allows all types of torque sensors to be calibrated, independently of manufacturer. The ATESTEO calibration laboratory is accredited in accordance with DIN EN ISO/IEC 17025 – 2018, fulfilling all its requirements. The DAkkS calibration laboratory is equipped with state-of-the-art technology and its staff are experienced and competent, allowing a short turnaround time for each and every calibration.

## Scope of services in accordance with DIN 51309

Measurand/ Calibration object	Measuring range/ Measurement span	Measurement conditions/ Procedure	Expanded/ Measurement uncertainty	Remarks
Torque/Torque transducer	0.2 N·m to 20,000 N·m	DIN 51309 – 2005	0,02%	According to the reference principle

## Advantages of ATESTEO torque calibration

- DAkkS-accredited and certified calibration laboratory
- Traceability of the results
- Great flexibility and high precision
- Rapid execution of your calibration order
- Secure outward and return transport of your torque sensor in a custom transport case
- Lasting and valid measurement results
- Custom service
- High efficiency and reliability of the calibration through process optimisation
- ATESTEO database for measurement equipment

## Your calibration order at the ATESTEO calibration laboratory

### 1. Enquiry

Determine the following criteria for calibration:

- Measuring range
- Torque direction
- Calibration standard
- Manufacturer/type

### 2. Quotation

Detailed quotation according to the defined criteria, including price and delivery date.

### 3. Order

You receive an order confirmation after you have ordered. You send your torque sensor to ATESTEO for DAkkS or factory calibration.

### 4. DAkkS calibration

We calibrate your torque sensor in our DAkkS-accredited calibration laboratory.





Excellence in drivetrain testing

**Find out now about the possibilities of the ATESTEO calibration laboratory! Benefit from our fast turnaround times and the highly precise calibration results we deliver. Our internationally recognised calibration certificates provide you with the greatest assurance.**

**Our experts Yavuz Durdagi and Özkan Yildiz will be delighted to answer any questions you may have. Call us at +49 2404 9870-583 or +49 2404 9870-129 or send us email to [calibration@atesteo.com](mailto:calibration@atesteo.com).**

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