

Calibration Laboratory for the Measuring Value Torque DKD-K-09301-4

Measuring unit

Torque (N·m)

Measuring ranges

1 N·m (smallest step) up to 1,000 N·m,
divided into the sub-ranges
20 N·m, 50 N·m, 100 N·m, 200 N·m,
500 N·m, 1000 N·m, each in max.
10 sub-steps.
1,000 N·m up to 20,000 N·m

Measuring method

Direct mass effect in the gravitational
field at bilateral lever arm (beam),
bearing of the turning point in a low-
friction radial air bearing and slightly pre-
tightened double axial air bearing.
Automatic mass laying with changeable
mass stacks (sub-ranges).
Testing method according to DIN 51309
or EA-G04/xx (Draft)

Influence values

Gravity acceleration according to
measurement by *Institute for Theoretical
Geodesy, Bonn, Germany*. Reference and
traceability: main gravity net of Germany
1982

$g = 9.8112401 \text{ m/s}^2$ at a height above
sea-level 343.046 m and $51^\circ 11' 21''$
geographical latitude.

Lever arm length, each side:
1019.389 mm +/- 0.006 mm.

Total 120 mass disks, uncertainty
class F1 (+/- 0.0005%), controlled
temperature, $21^\circ\text{C} \pm 0.3^\circ\text{C}$, traceable
supervised, controlled humidity, 50%
relative humidity, +/- 5% rel. humidity,
uncertainty of measurement

Accredited uncertainty

(expanded): 0.01% (1...1,000 N·m)

Factor E_n :	0.1
Uncertainty of passing-on:	0.01%
Uncertainty of display:	0.002%
Repeatability:	< 0.001%

The professional handling is guaranteed
through authorized and trained specialist
personnel according to quality
management reference book according to
ISO/IEC 17025.

SI Units

SCHATZ uses SI units in calibration
processes according to NIST
(National Institute of Standards
and Technology) and the *NIST
Metric Program*. All calibration
certificates are based on metric
units (e.g. N·m). We will calculate
other units on request.

Please contact NIST in
Gaithersburg, MD for more
information about SI units or visit
the NIST homepage: www.nist.gov

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SOFTWARE HARDWARE SERVICE

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Calibration For Torque and Angle



IN HOUSE AND ON SITE CALIBRATION SERVICE



SCHATZ torque calibration laboratory

The SCHATZ DKD calibration laboratory for **torque** offers a calibration service from **0.01 to 20,000 N·m**.

We calibrate static and rotary-shaft transducers, mechanical and electronic torque wrenches and specialized torque measuring equipment.



Torque calibration equipment for up to 20,000 N·m (14,740 ft.lb.)

The majority of calibration services are available on-site as well. Our trained personnel will arrange an appointment even on weekends and holidays to avoid or minimize down time.



Certified calibration specialists complete the service on site

A new service offers calibration for **angle** in a range from **0.05° to 7,200°**.

SCHATZ can offer this service worldwide as the only calibration laboratory, which can directly align torque and angle to a national standard.



Mobile angle calibration lab.

Beside of its mobile calibration service, SCHATZ also maintains several calibration laboratories worldwide to ensure direct traceability to a national standard.

SCHATZ USA offers calibration traceable to NIST (National Institute for Standards and Technology), our calibration laboratory in Mexico is in line with CENAM (Centro Nacional de Metrology) and the laboratory in Taiwan is accredited by CNLA (Chinese National Laboratory Accreditation).

Furthermore SCHATZ consulted several international calibration laboratories in connection with our calibration equipment to allow them accreditation to a national standard.



Calibration laboratory in Taiwan

Please contact SCHATZ USA, if you have questions about torque and angle calibration or national and international standards for calibration.