SPECIFICATION SHEET

Quality Sense Technologies
Measuring Solutions
Torque, Force Sensors, Torque Wrench calibrator, Spring Testing Machines and custom Builds Equipment's.

Torque Wrench Calibration System

(Manual Version - with Table)

MODEL: QTWC – 02M

Applications

- **Ideal for calibrating Click Type, Dial Type, Digital type Torque wrenches per the standard IS/ISO 6789:2017**

Importance of Torque Wrench Calibrator

- Controlling torque of a torque tool is important for companies to ensure proper torque being applied for their product's quality, safety and reliability and also to maintain gauge requirements associated with ISO 9001 quality standard.
- By regular calibration one can assure that the accuracy of a torque tool is within the specified tolerances and maintain continuous quality standards in the assembly process. The Calibration ensures the performance of a torque tool and indicates the need for any adjustment. Also the potential tooling problems can be identified before they arise, either due to tool wear and tear or broken components.
- Hence, the torque tool calibration equipment plays an important role along with traceability to assure that all measuring results are in accordance to the National/international standards

Features

The system consists of loading unit mounted on a test bench, with provision to mount various ranges of torque sensor, torque wrench under test and display unit.

LOADING UNIT:

- Designed to reduce the induced variations during the calibration process. It improves the consistency of calibration by reducing variations that will occur naturally between different operators and even the same operator at different times.
- Designed to for simulation of the torque application conditions with minimum physical effort and enhanced safety for the calibration technician assuring a more accurate calibration.
- It enables quick and easy torque wrench calibration and presetting, independent of human influence or sensor side and end load factor.
- The drive system of the loading unit assures the load application, eliminates potential operator induced test errors.
- The large hand wheel on the loading unit operates in clockwise and counter clockwise directions and allows for slow and uniform application of torque
- Provided with holding arm along with adjustable clamp (length & height wise) to adjust the different size and ranges of Torque Wrench during calibration.
- Worm and worm wheel gear box design with higher gear ratio allows high torque to be applied, with minimum effort and also ensures that the operator doesn't exceed the rate of increase of torque specified in the standards.
  - ✓ **Designed to suit majority of torque wrenches available with a torque value 1 to 2000 Nm.**
- Floating reaction point minimises the side loads on torque wrench.
- The design allows for easy interchange of torque sensors.

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Digital Display Unit

- High resolution LCD Display unit with feather touch keys to read Torque in **Trace mode**, **Peak hold** & **First peak mode** with high sampling rate of 2400 Hz.
- To comply with IS/ISO 6789:2017 for click type torque wrench calibration, the system is provided with a Timer in order to measure time during slow and uniform application of torque from 80% to 100% to achieve the set torque value in 0.5 to 4s.
- Selectable unit of measurement, Nm, kgfm & Ft lbs.
- Operates on 230 V 50Hz A.C.
- Suitable for clock wise and counter clock wise operation.
- Combined accuracy of the torque sensor and the display unit (including measurement uncertainty) better than 1 % of the reading from 20% to 100 % of the range.
- Calibration facility
- RS-232 Output to log the data in the computer using suitable software.

Torque Sensor

- Strain gauge based sensors
- Rated output (Sensitivity): 2 mV/V ± 10%
- Bridge resistance 350 ohms nominal.
- Cable length: 2.5 metres.
- Model No. QTS – 01U

Range of the Torque sensor in Nm	Display Resolution in Nm	Female Square drive size
0.2 – 2	0.0001	¼ ”
0.5 - 5	0.001	¼ ”
1-10	0.001	3/8 ”
2-20	0.001	3/8 ”
5- 50	0.01	1/2 ”
10- 100	0.01	1/2 ”
20-200	0.01	1/2 ”
50-500	0.1	3/4 ”
100- 1000	1	1 ”
200- 2000	1	1 ”

Optional Features

- Analog output for Torque (0-2V DC or 0-5V DC, 4-20mA or 0-20mA)
- Additional Fixture for calibration of screw driver type hand torque tool as per standard IS/ISO 6789:2004
- **More than 2000 Nm capacity system- on request.**

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Important Note

- In view of continuous improvement in Design and performance, specification is subject to Change without notice.
- Consult factory for more technical information

Factory Contact Details

Quality Sense Technologies
No.2, 3rd Main Road,
Jammanakunta Layout,
Vidya Nagara, Tumkur Road,
Bangalore – 560057,
Karnataka, INDIA.

Mobile No - 07337836620
Email: info@qualitysensetechnologies.in
Web: www.qualitysensetechnologies.in