

The Model 3714 Portable Torque Calibrator is a self-contained standards lab designed to generate, control, measure, and display the rotational forces applied to torque-measuring instruments.

Users can calibrate a variety of general-purpose torque measuring instruments, such as wrenches, screwdrivers, T-handle drivers, and torque watches in the clockwise and counter-clockwise directions. Versions are available with a 250 ft-lbs maximum range and a 500 ft-lbs maximum range.

Using the included adapters, the Model 3714 Portable Torque Calibrator can accommodate all direct reading dial and beam type, and click type micrometer torque measuring instruments.

The system incorporates a unique precision torque loading system consisting of a hand wheel coupled to a torque-measuring transducer via a double-reduction worm gear. The worm gear mechanism eliminates the potential for errors and inaccuracies introduced by variations in the load applied by the operator when conventional torque calibrators are used.

Portable Torque Calibrator



By precisely controlling the load applied to the unit under test, the Model 3714 Portable Torque Calibrator offers measurement accuracy of $\pm 0.5\%$ of reading from 10% to 100% of the transducer measurement range and repeatability of $\pm 0.15\%$ of reading or ± 0.2 in-oz, whichever is greater.



Model 3741 Portable Torque Calibrator

Features & Benefits

- Self-contained torque measurement standards lab
- Accurate to $\pm 0.5\%$ of reading
- 250 ft-lbs and 500 ft-lbs max. range versions available
- Tests torque wrenches, screwdrivers, and watches
- Software-driven controls for ease of use
- Create setup files for frequently used tests
- TRACK, MAXIMUM, and FIRST PEAK operating modes
- Includes weights and equipment for standardization
- Rugged transit cases included with system
- Ideal for use in remote field locations

Self-Driven Controls for Ease of Use

All aspects of the measurement process using the Model 3714 Portable Torque Calibrator are automated using custom-designed controller software running on a PC-compatible computer.

Test Wide Range of Torque Tools!

- Calibrates direct reading and micrometer-type torque wrenches; track mode for beam-type and first peak mode for click type
- Reaction Bar Extender for small torque wrenches calibrates in lbs, oz, and kg-gm torque measuring tools
- Vertical test fixture and specialized adapters; calibrates screwdrivers, T-handles, and torque watches

Model 3741 Portable Torque Calibrator

Characteristics

System Range:

Specifications

Model 3714-1-250: 96 oz-in to 250 ft-lbs

Model 3714-1-500: 96 oz-in to 500 ft-lbs

System Repeatability:

±0.15% of reading or ±0.2 in-oz, whichever is greater. Based on an average of five readings.

System Accuracy:

±0.5% of reading from 10% to 100% of transducer range.

Transducers:

Quantity: 3

Range, Mod. 3714-1-250: 0 to 5 ft-lbs, and 0 to 250 ft-lbs

Range, Mod. 3714-1-500: 0 to 5 ft-lbs, 0 to 50 ft-lbs, and 0 to 500 ft-lbs

Resolution:

0 - 10 lb-ft - 0.001 ft-lbs

10 to 100 lb-ft - 0.001 ft-lbs

100 to 250 lb-ft - 0.01 ft-lbs

250 to 500 lb-ft - 0.01 ft-lbs

Display units:

ft-lbs, in-lb, in-oz, i-m, kdn-m, kg-m, kg-cm

Temperature range:

Operating: +15°C to +35°C (59°F to 95°F)

Storage: -40°C to 75°C (-40°F to 167°F)

Humidity (operating): 20% to 60% RH, non-condensing

Operating Modes:

Continuous tracking, maximum applied torque, and first peak torque

Direction of rotation:

Clockwise (CW) and counter-clockwise (CCW)

Interface compatibility:

RJ-45 Ethernet connection

Input power, calibrator stand:

Voltage: 100 to 250 VAC

Frequency: 50 to 60 Hz

Current: 0.5 AMP

Weight & Dimensions

Characteristics

Case Type:

Specifications

IAW MIL-C-04150H, Type II, Style 1

Color:

Gray-blue, IAW FED-STD-595, chip no. 24148

Dimensions (inches):

Calibrator Case & Accessory Case: Each 33.125 (L) x 21 (W) x 20.625 (H)

Weight case #1: 13.125 (L) x 13.125 (W) x 14.375 (H)

Weight case #2 (500 lb-ft only): 13.125 (L) x 13.125 (W) x 14.375 (H)

Weight:

Calibrator Case: 43 lbs empty, 140 lbs full

Accessory Case: 46 lbs empty, 186 lbs full

Weight case #1: 11 lbs empty, 74 lbs full

Weight case #2 11 lbs empty, 71 lbs full