

UNIVERSAL TORQUE SCREWDRIVER CALIBRATION MACHINE



Photo above shows a UTSCM with Control Box, Handheld Controller, and an Intelligent Inline Torque Transducer.

DESCRIPTION

The all new AWS Universal Torque Screwdriver Calibration Machine (UTSCM) for compliance to ISO 6789:2017 provides an efficient means of calibrating and testing manually operated torque screwdrivers to international or company specific standards and specifications.

The UTSCM applies torque to the screwdriver via a tooth belt drive and an AWS microcontroller, the torque achieved is measured by 1 of 3 AWS Intelligent Inline Torque Transducers (IITT's), connected to an in-built Professional Transducer Display to automatically detect a peak signal.

The UTSCM can be used with our new ADMS Kepler 4 software to speed up completion of the calibration & certification process to ISO 6789:2017, 2003 or type approval for manufacturers.

With the variation in torque screwdriver operation, the UTSCM using a microcontroller, runs through a learning cycle before calibration to record the shape of the torque curve, ensuring the torque is applied at the correct rate meeting the ISO standard. As required by the standard, the number of operations are selectable, capturing each reading consecutively, greatly reducing the time for the calibration & certification process.

Due to the great variation in screwdriver handles, grip adaptors are bespoke designed to fit a specific model. This to minimise the uncertainty of torque screwdriver alignment, ensuring it is within $\pm 2^\circ$ of vertical alignment, as required by the standard.

FEATURES

- Designed to calibrate/test screwdrivers up to 30 N·m.
- Inbuilt microcontroller and display for accurate control of torque applied and operational speed. The microcontroller learns the shape of the torque curve, ensures adherence to the minimum and maximum target torque approach times, complying with the ISO standard, for the setting of the screwdriver being calibrated.
- The screwdriver type can be selected, to be either cam, dial (indicating) or click type.

- Auto operation meaning the number of consecutive operations can be selected, either 1, 3, 5 or 10 as required by the standard and then started with the push of a button.
- An in-built 3-Way Transducer Switch Box keeps the AWS Intelligent Transducers powered continually, aiding temperature stability. This allows quick selection of transducers. The controller automatically interrogates and displays the correct transducer range.
- Interchangeable handle adaptors each designed to accurately fit the model of torque screwdriver to minimise the uncertainty of adaptor alignment and ensure the screwdriver is within $\pm 2^\circ$ of vertical.
- Height adjustable transducer carriage taking into account varying torque screwdriver lengths.
- Pendant control for fast movement or jog facilitate quick calibration set up of individual screwdrivers.
- Safety features ensure that the machine, transducers and screwdriver are not overloaded in operation or over driven due to a fault.
- 3/8" - 1/4" female square drive compatible with a range of torque transducers.
- A customer's existing transducers may be converted into IITs using AWS's Intelligent Instrumented Transducer Cables. Each cable has an inline module converting the analogue output of the transducer into a digital torque signal for display on the PTD.
- 96mm X 55mm Bright, Full Colour, Sunlight Readable LCD Display built into the microcontroller.
- Soft keys, in conjunction with the graphics, allow selection of the required Mode, Measurement Unit, and Limit Selections.
- Active 6 Digit display. Accuracy better than 1% of reading from 4% to 100% full scale deflection of the selected transducer when used with AWS Intelligent Torque Transducers.
- For viewing difficult to read indicating type screwdrivers, an optional flexible probe camera with a built in display is available.
- The AWS Universal Torque Screwdriver Calibration Machine (UTSCM) is fitted with our Timing Module to demonstrate verification of the screwdriver timing requirements to ISO 6789:2017 (see page 53).

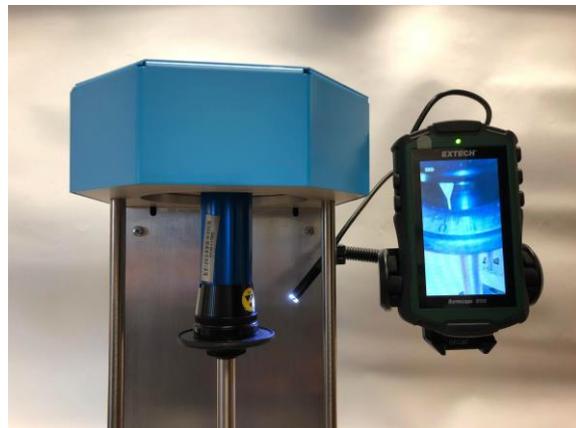


Photo above shows a UTSCM in use with the optional flexible probe camera, showing a view of the dial on its in-built display.

DIMENSIONS

Dimensions for mounting on benches/ tables: Approximately 31cm L by 45cm W by 45cm H.

UTSCM Weight: 16.5kg with an AWS IIT transducer, Control Box Weight: 5kg

MORE INFORMATION ON THE INTELLIGENT INLINE TORQUE TRANSDUCERS RANGE AND KEPLER 4 SOFTWARE IS AVAILABLE IN SEPARATE DATA SHEETS ON THE AWS WEBSITE WWW.AWSTORQUE.CO.UK.

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