# **Data Sheet**

#### 32-1154 REV 1020



Series TT01 Cap Torque Testers are designed to measure application and removal torque of bottle caps up to 100 lbFin [11.5 Nm]. Adjustable posts effectively grip a broad range of container shapes and sizes, while optional flat and adjustable jaws are available for unique profiles. A rugged aluminum design, and simple, intuitive operation allow for use in laboratory and production environments.

Digital Cap Torque Testers Series TT01

Class-leading accuracy of  $\pm 0.3\%$  and blazingly fast sampling rate of 7,000 Hz ensure reliable and consistent test results, even in quick-action applications.

The TT01 includes a range of sophisticated productivity-enhancing features, including USB, RS-232, Mitutoyo, and analog outputs, automatic data output and zeroing upon cap removal, memory storage for 1,000 readings, pass/fail indicators and outputs, and more. Password

protection is provided to prevent unauthorized changes to settings and calibration.

Series TT01 testers include MESUR<sup>\*</sup> Lite data acquisition software. MESUR<sup>\*</sup> Lite tabulates continuous or single point data. Data stored in the TT01's memory can also be downloaded in bulk. One-click export to Excel allows for further data manipulation.



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MESUR Lite data acquisition software is included with Series TT01 testers

### Features

- High-speed 7,000 Hz sampling rate accurately captures peak torque values
- First / second peak detection for slip and breakaway torques in tamper evident closures
- Moveable posts and other available gripping options accommodate a wide range of sample shapes and sizes
- USB, RS-232, Mitutoyo, and analog outputs

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- Automatic output, data storage, and zeroing upon bottle cap removal helps automate testing processes
- 1,000-point data memory with statistics and outputs
- Programmable set point indicators and outputs for pass/ fail determination
- Password protection prevents unauthorized changes
- MESUR<sup>®</sup> Lite data collection software included



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#### Specifications subject to change without prior notice

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# Digital Cap Torque Testers Series TT01

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### **Optional Items**



CT001 Flat jaws Set of rubber jaws for gripping square or odd shaped containers.



CT002 Carrying case Provides storage space for the TT01 tester, gripping jaws, AC adapter, and accessories.



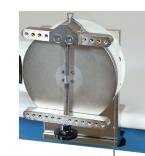
AC1077 Connector cover kit Helps protect the rear connectors against liquid entry.



CT003 Adjustable jaws Rubber-edged arms may be independently repositioned to accommodate unique samples.



CERT Calibration certificate w/data Includes 10 data points in each measurement direction (short form certificate without data is included)



#### AC1036 Calibration kit

Complete set of brackets, cable, and hardware for calibration of any Series TT01 torque tester. Weights not available from Mark-10.

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CT005 / CT006 / CT007 Extended length post sets CT005: Four 2.5" (63 mm) posts CT006: Four 4" (101 mm) posts CT007: Kit of four of each length: 1.25" (31 mm), 2.5" (63 mm), and 4" (101 mm)

Accuracy: ±0.3% of full scale

## Specifications

Sampling Rate:	7,000 Hz
Bottle diam- eter range:	Ø0.5 – 7.5 in [12.7 – 189.4 mm] With CT001 optional jaws: Ø0 – 5.9 in [0 – 149.9 mm] With CT003 optional jaws: Ø0 – 4.6 in [116.8 mm]
Power:	AC adapter: 100-240VAC, 50-60 Hz, 0.3 A Battery: Rechargeable 8.4V NiMH Low battery indicator appears when battery level is low, and gauge powers off automatically when power reaches critical stage.
Battery life:	Backlight on: up to 7 hours of continuous use Backlight off: up to 24 hours of continuous use
Units:	ozFin, lbFin, kgFcm, Nm, Ncm
Outputs:	USB / RS-232: Configurable up to 115,200 baud. Mitutoyo: Serial BCD suitable for all Mitutoyo SPC-compatible devices. Analog: ±1 VDC, ±2% of full scale at capacity. General purpose: Three open drain outputs, one input. Set points: Three open drain lines.
Safe overload:	150% of full scale (display shows "OVER" at 110% and above)
Weight:	8.4 lb [3.8 kg]
Environmental requirements:	40 - 100°F, max. 96% humidity, non-condensating
Warranty:	3 years (see individual statement for further details)



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# Digital Cap Torque Testers Series TT01

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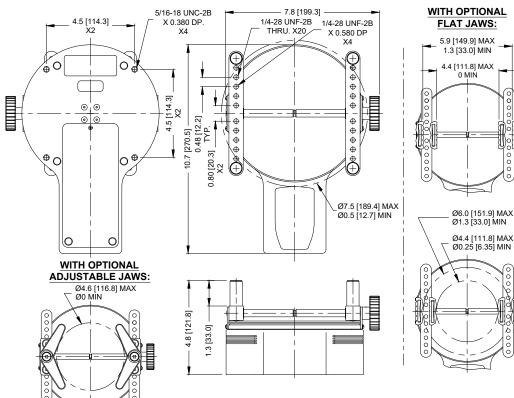
# In The Box

Series TT01 torque testers are shipped as shown at right, and include the following accessories:

- (4) Sample gripping posts
- (1) USB cable
- (1) AC adapter
- (1) Battery
- (1) Certificate of calibration without data (data is optional)



### Dimensions in [mm]



### Capacity x Resolution

Model No.	lbFin	ozFin	kgFcm	Ncm	Nm
MTT01-12	12 x 0.005	192 x 0.1	14 x 0.01	135 x 0.1	1.35 x 0.001
MTT01-25	25 x 0.01	400 x 0.2	28 x 0.02	290 x 0.2	2.9 x 0.002
MTT01-50	5 0 x 0.02	800 x 0.5	58 x 0.05	570 x 0.5	5.7 x 0.005
MTT01-100	100 x 0.05	1600 x 1	116 x 0.1	1150 x 0.5	11.5 x 0.005

All models include 110V AC adapters. Add suffix 'E' for euro plug (220V), 'U' for UK plug (220V), or 'A' for Australian plug (220V).

Ex: MTT01-12E, MTT01-25U, MTT01-50A



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