Series TT01 Cap Torque Testers are designed to measure application and removal torque of bottle caps up to 100 lb-fin [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.

Class-leading accuracy of ±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® Lite data acquisition software. MESUR® 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.

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
- 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® Lite data collection software included

Controls & Indicators

Set points
- Current or peak reading
- Set point (pass/fail) indicators
- Battery indicator
- Memory storage for 1000 readings (auto-save also possible)
- Access the tester’s settings menu via an easy-to-use interface
- One-push data output to a PC, printer, or other device (auto-output also possible)

Clockwise/counter-clockwise indicator

Peak readings (CW/CCW or 1st/2nd peaks) peaks)

Measurement mode
- Unit of measurement

Analog load bar w/set point markers

Zero the reading to begin a new test (auto-zero also possible)

Toggle between real time, peak, and 1st peak/2nd peak display modes
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.

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

- **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)

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

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

Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>±0.3% of full scale</td>
</tr>
<tr>
<td><strong>Sampling Rate</strong></td>
<td>7,000 Hz</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>AC adapter: 100-240VAC, 50-60 Hz, 0.3 A</td>
</tr>
<tr>
<td></td>
<td>Battery: Rechargeable 8.4V NiMH</td>
</tr>
<tr>
<td></td>
<td>Low battery indicator appears when battery level is low, and gauge powers off automatically when power reaches critical stage.</td>
</tr>
<tr>
<td><strong>Battery life</strong></td>
<td>Backlight on: up to 7 hours of continuous use</td>
</tr>
<tr>
<td></td>
<td>Backlight off: up to 24 hours of continuous use</td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td>ozFin, lbFin, kgFcm, Nm, Ncm</td>
</tr>
<tr>
<td><strong>Outputs</strong></td>
<td>USB / RS-232: Configurable up to 115,200 baud</td>
</tr>
<tr>
<td></td>
<td>Mitutoyo: Serial BCD suitable for all Mitutoyo SPC-compatible devices.</td>
</tr>
<tr>
<td></td>
<td>Analog: ±1 VDC, ±0.25% of full scale at capacity.</td>
</tr>
<tr>
<td></td>
<td>General purpose: Three open drain outputs, one input.</td>
</tr>
<tr>
<td></td>
<td>Set points: Three open drain lines.</td>
</tr>
<tr>
<td><strong>Safe overload</strong></td>
<td>150% of full scale (display shows “OVER” at 110% and above)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>8.4 lb [3.8 kg]</td>
</tr>
<tr>
<td><strong>Environmental requirements</strong></td>
<td>40 - 100°F, max. 96% humidity, non-condensing</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>3 years (see individual statement for further details)</td>
</tr>
</tbody>
</table>

AC1036 Calibration kit
Complete set of brackets, cable, and hardware for calibration of any Series TT01 torque tester. Weights not available from Mark-10.
**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 Resource CD (USB driver, MESUR® Lite software, MESUR®gauge software demo, and user’s guide)
- Certificate of calibration without data (data is optional)

**Dimensions in [mm]**

**Capacity x Resolution**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>lbFin</th>
<th>ozFin</th>
<th>kgFcM</th>
<th>Ncm</th>
<th>Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTT01-12</td>
<td>12 x 0.005</td>
<td>192 x 0.1</td>
<td>14 x 0.01</td>
<td>1.35 x 0.1</td>
<td>1.35 x 0.001</td>
</tr>
<tr>
<td>MTT01-25</td>
<td>25 x 0.01</td>
<td>400 x 0.2</td>
<td>28 x 0.02</td>
<td>290 x 0.2</td>
<td>2.9 x 0.002</td>
</tr>
<tr>
<td>MTT01-50</td>
<td>50 x 0.02</td>
<td>800 x 0.5</td>
<td>58 x 0.05</td>
<td>570 x 0.5</td>
<td>5.7 x 0.005</td>
</tr>
<tr>
<td>MTT01-100</td>
<td>100 x 0.05</td>
<td>1600 x 1</td>
<td>116 x 0.1</td>
<td>1150 x 0.5</td>
<td>11.5 x 0.005</td>
</tr>
</tbody>
</table>

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

Specifications subject to change without prior notice