

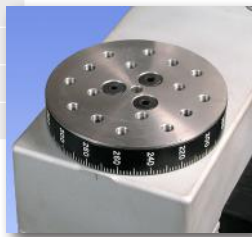
The TSTM-DC is an advanced motorized torque test stand, designed for a wide variety of applications requiring up to 100 lbFin (11.5 Nm) of torque, including closure torque testing, fastener torque testing, and more. A 200 lbFin (22 Nm) capacity upgrade is available as an option. The stand includes a torque loading plate with tapped holes for grip and fixture mounting. Stepper motor design eliminates speed variation with load. A lever-operated slider with travel stops makes engaging and disengaging samples quick and efficient. A modular mechanical design allows the stand to be configured for a variety of applications.

The TSTM-DC's controller adds a significant amount of sophistication, including integrated angle display and output, programmable angle travel limits, an extended speed range, PC control capability, programmable cycling, auto return, overload protection, password protection, and other features.

## Specifications

|  |   |
|--|---|
| <b>Maximum torque:</b>                     | Standard: 100 lbFin [11.5 Nm]<br>Optional: 200 lbFin [22 Nm]                      |
| <b>Speed range:</b>                        | Standard: 0.01 - 15 RPM [0.05 - 90°/s]<br>Optional: 0.04 - 60 RPM [0.2 - 360°/s]* |
| <b>Speed accuracy:</b>                     | ±0.2% of setting, ±0% variation with load   |
| <b>Maximum programmable travel limits:</b> | ±999,999.9° / ±2,777.77 revolutions   |
| <b>Rotational travel accuracy:</b>         | ±0.7° / 0.02 rev.   |
| <b>Rotational travel repeatability:</b>    | 0.1° / 0.01 rev.  |
| <b>Rotational travel resolution:</b>       | 0.1° / 0.01 rev.  |
| <b>Universal power supply:</b>             | 80-250 VAC  |
| <b>Slider travel rate:</b>                 | 1.047" [26.6 mm] / lever revolution   |

\* Maximum torque decreases proportionately with speed. Examples:  
 - Maximum torque at 60 RPM = 25 lbFin [2.8 Nm]  
 - Maximum torque at 30 RPM = 50 lbFin [5.6 Nm]



^ Rotating torque plate includes a matrix of tapped holes for grip or fixture mounting



^ The TSTM-DC is shown in a cap torque test, with a Series R50 torque sensor, M5i force/torque indicator, G1023 universal closure grip, and G1053 cap grip

## Features

- Mounting holes for bench mounting
- Base may be removed for alternative mounting
- Grip / fixture mounting plate with 25 #10-32 threaded holes
- Integrated angle indication with programmable travel limits

## Optional Hardware

- Upgrade to 200 lbFin [22 Nm] capacity
- Upgrade to 60 RPM maximum speed
- Series R50 torque sensors  
Mount directly to the test stand. Capacities available from 10 ozFin to 100 lbFin (7 to 1,150 Ncm).
- Model MR55-200 torque sensor  
200 lbFin (22 Nm) capacity. Requires optional mounting adapter.
- Force/torque indicator  
Displays the torque value. Several models are available. All mount directly to the test stand.
- Communication cables and USB converter



^ The TSTMH-DC is shown in a torsion spring test, with a Series R50 torque sensor and M5i force/torque indicator



## Controller Features

### ■ Computer Control

An RS-232 port is provided to interface with a PC. A command set is provided to allow for full control from a PC. The following are required with PC control:

- Model 7i or 5i force/torque indicator
- 09-1162 multi-function cable
- 09-1056 serial cable

### ■ Digital Angle Indication

Rotational travel is indicated in degrees or revolutions, with output of angle data.

### ■ Programmable Angle Limits

The TSTM-DC can stop at or cycle between programmable upper and lower angle limits. Programmable in degrees or revolutions.

### ■ Overload Protection

Protects the torque sensor against overload (requires a Model 7i or 5i force/torque indicator and 09-1162 multi-function cable). The user programs the desired percentage of full scale of the sensor.

### ■ Auto-return

The torque table rotates to an angle limit or torque set point (requires a Model 7i or 5i force/torque indicator and 09-1162 cable), stops, and reverses direction at full speed to the other angle limit or torque set point.

### ■ Cycling / Dwell Time

Same as auto-return, but with the ability to program up to 100,000 cycles. Programmable dwell time for upper and lower limits (set independently) can be set up for up to 10,000 seconds. Independent CW and CCW speeds may be programmed.

### ■ Programmable CW / CCW Button Functions

Programmable CW and CCW button functions - momentary motion, maintained motion, or auto.

### ■ Independent CW and CCW Speeds

Programmable independent speeds for CW and CCW directions.

### ■ Selectable Speed Units of Measurement (RPM and deg/s)

### ■ Password Protection

Prevents unauthorized changes to controller settings.

## Ordering Information

| Model No. | Description                                   |
|-----------|---|
| TSTM-DC   | Motorized torque test stand, vertical, 110V   |
| TSTMH-DC  | Motorized torque test stand, horizontal, 110V |
| SP-2496*  | Upgrade to 200 lbFin capacity                 |
| SP-2624*  | Upgrade speed range to 60 RPM max             |
| 09-1162   | Multi-function cable, indicator to controller |
| 09-1056   | Serial cable, controller to PC                |
| RSU100    | Converter, RS-232 to USB                      |
| AC1016    | Mounting adapter, MR55-200 to test stand      |
| ---       | Column extensions                             |

\* These two upgrades cannot be ordered simultaneously

## In The Box



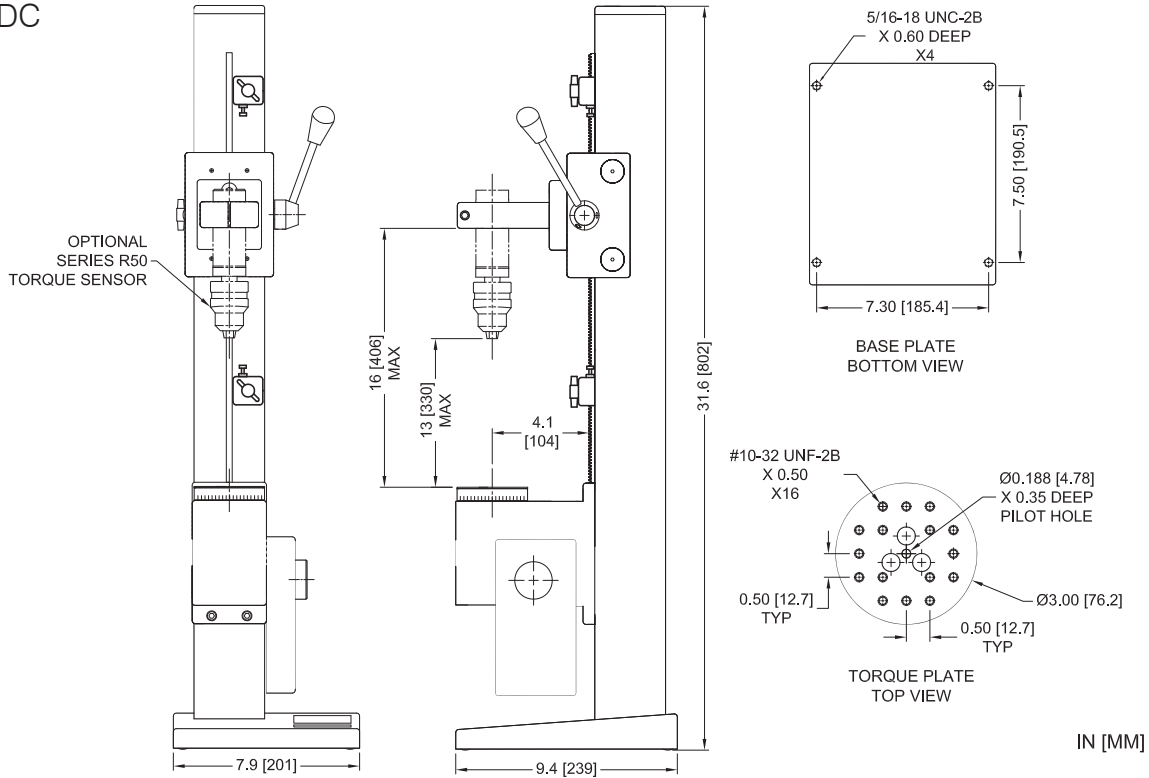
The TSTM-DC and TSTMH-DC test stands are shipped as shown above, and include the following accessories:

- |  |   |
|--|---|
| (1) DC controller                      | (1) Resource CD                                       |
| (1) Controller connection cable        | (1) Base with hardware (TSTM-DC)                      |
| (1) Indicator mounting kit             | (2) Mounting leg with hardware (TSTMH-DC)             |
| (1) Encoder cable                      | (1) Additional column cap with hardware (TSTMH-DC)(1) |
| (1) Column cap with hardware           | Power cord  |
| (1) Allen wrench set                   | (1) Resource CD                                       |
| (4) Thumb screw for mounting indicator |   |
| (1) Power cord                         |   |

## Dimensions

in [mm]

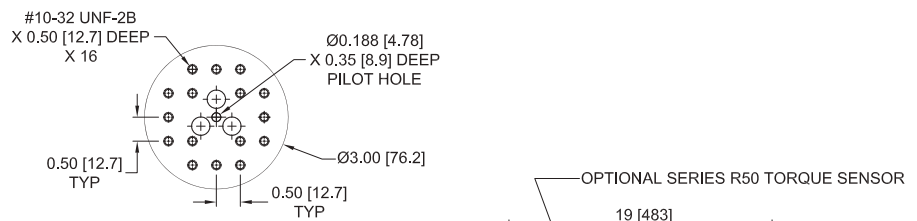
### TSTM-DC



IN [MM]

TORQUE PLATE  
TOP VIEW

### TSTMH-DC



### CONTROLLER

