

# UNIVERSAL TESTING MACHINE

TT Series computer controlled testing machine has been developed for quick and accurate testing of tensile properties of various materials such as plastics, rubber, Teflon, leather, fabrics, textile yarn, tyre cord yarn, metals, films, cork sheet, particle board, plastic strips, PVC, wires, foils, tapes & springs etc. It is also useful to carry out needle piercing test. The ergonomically designed test system offers all the advantages of latest technology of Micro Controllers, variable frequency drives and dot net based software. It is also suitable for material quality checks, production and R & D applications. The rated loading capacity of machine ranges from 10 Kgs to 10000 Kgs.

A variety of grips and fixtures can be supplied with the machine which makes it versatile for any kind of testing. Additionally, the machine is controlled by software and data is stored in computer for further analysis.

## SAFETY PRECAUTIONS

Care should be taken to ensure that the load cell is not over-loaded; otherwise it could be damaged irreparably. Repairs should not be attempted by unqualified personnel. DO NOT lift the machine by the column rods as it may disturb the alignment causing malfunction during operation.

## POWER SUPPLY

The TT series machines less than 1000 Kg operate on a 220V, 50 Hz AC Supply. For machines higher than 1000 Kgs 3 Phase Supply is required.

## OPERATING CONTROLS

### 1. ON/OFF SWITCH

This switch controls the main supply to the instrument. It is located on the machine front panel.

### 2. FUSE HOLDER

Located next to the ON/OFF Switch, it protects the motor from damage in case of a fault.

### 3. USB CONNECTION

If computerized testing option is availed a USB Connection is provided at the side of the panel.

### 4. LOADCELL CONNECTOR

A 5-Pin Amphenol connector connects the load cell to the internal electronics. If machine is supplied with multiple load cells, this needs to be connected on the back panel.

## OPERATING PROCEDURE

1. To start the machine, press the RED power button on the side of the panel.
2. The internal electronics boots up in about 1 second. Then connect the USB cable to the computer, start the SnC UTM software and enter the batch, sample and other values before starting the test.
3. After all values are entered in press the CONNECT Button to establish communication with the machine. Once Connection is done, the graphical display will show current force and displacement value.
4. Move the machine to the decided Gauge Length using the handheld local UP or DOWN buttons and hold the sample using the gripping fixture.
5. Press the STARE Button and FTARE Button to initialize the displacement position and force to zero.
6. Press the START button to initiate the test. The graphical interface shows the live force, peak force and displacement values along with the graph. Once the sample break, the machine stops automatically.
7. The software has the option to reject or accept the test and store the raw data in excel format. If the test is accepted the sample number is automatically increased. Repeat the same procedure for other samples.
8. Detailed manual on software is available separately

## MAINTENANCE

The lead screw and nut mechanism needs to be greased regularly. The frequency of greasing depends on the usage; however, it is advised to inspect the columns and screws once a month. Either grease or light machine oil can be used for lubrication. The guide columns and lead screws and nut arrangement can be accessed by opening the bellows. The Load Cell provided with it machine needs to be calibrated as per the duration specified in the calibration certificate. Typically calibration certificates are valid for one year.

## GUARANTEE

The TT Model is sold with a guarantee for a period of 12 months. This covers free repairs for any manufacturing defects. The guarantee is void in case of physical damage or attempted repairs from the customer end. The instrument must be sent to our facility to for repair works.

## MODEL VARIATIONS

All variations on the TT machine are based on the capacity of the load cell. For example UT-20 has a maximum capacity of 20 Kgs, UT-2000 has a maximum capacity of 2000 Kgs and so on.

**SPECIFICATIONS**

Model:	TT - X
Crosshead Speed:	5mm/min to 500mm/min
Power Supply:	230V AC, 50 Hz
Size:	250 mm * 150 mm * 750 mm (L *W *H)
Weight:	25Kg approx.
Accuracy:	+/- 0.5% FSD
Force Resolution:	16-Bit
Displacement Resolution:	0.1mm

**MODEL** : TT-10

Maximum Force Rating : +/- 10 Kgs

Force Resolution : 10 grams approx.

**MODEL** : TT-100

Maximum Force Rating : +/- 100 Kgs

Force Resolution : 100 grams approx.

**MODEL** : TT-1000

Maximum Force Rating : +/- 1000 Kgs

Force Resolution : 1000 grams approx.

**MODEL** : TT-10000

Maximum Force Rating : +/- 10000 Kgs

Force Resolution : 10 Kgs approx.

**Note: All TT Series machines are made to order and can be modified as per customer requirement for different sizes, grips and fixtures.**

**CONTACT INFORMATION**

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