

# SOM-002 DIGITAL UNIVERSAL TESTING MACHINE





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## **DESCRIPTION**:

A universal testing machine (UTM) is used to test the tensile strength and compressive strength of materials. The "universal" part of the name reflects that it can perform many standard tensile and compression tests on materials, components, and structures

### RANGE OF EXPERIMENTS :

- 1. To Perform Tension Test
- 2. To Perform Compression Test
- 3. To Perform Transverse Test
- 4. To Perform Bending Test

#### **TECHNICAL DESCRIPTION :**

The Universal testing machine comprises of Load Frame consisting of two strong supports for the machine. Cross head - A movable cross head (crosshead) is controlled to move up or down Electronic Panel to measure the load Test fixtures, specimen holding jaws

#### FEATURES:

- a. Loading accuracy as high as  $\pm$  1%.
- b. Straining rate to cover a wide range of materials.
- c. Continuous roll type load elongation recorder.
- d. High reading accuracy due to large size and design of dial.
- e. Simple controls to facilitate ease of operation.
- f. Fully enclosed and protected load-measuring system.
- g. Wide range of standard and special accessories including

load stabilizer.

- h. Robust straining frame.
- i. Suitable for standard specimen and also structures.
- j. Motorised UP/DOWN movement of lower crosshead to enable easy and rapid fixing of test specimen.

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## Software facilities

Windows based, Menu driven software with GUI (Graphical User Interface)

1) Onec PC connected, All operations from PC. All Displays, Keys operation from PC.

2) View Report, Print Report Facility. Facility to add Customers Logo in certificate.

3) Load Unit Selection (kN, kg, pounds) Displacement unit (mm, inch)

4) Online Graph Auto scaling. On line 2 graphs with Extensometer facility.

5) Statistics include Water fall dig. for curve, Histogram, variation, Mean Deviation on selected result like Ult. Load, Ult. Stress, Elongation etc. Facility to get Batch report as per selection.

6) Data bank define facility for continious production specimans. Here you can get statistics over long period like monthly, yearly etc.

7) Facility to select different graphs. Plot load, Displacement Vs Time etc

8) Facility for Graph comparision (Compare with standard by plotting both simulatneously). Graph zoom, point tracing, Selected portion zoom etc.

9) Modulus data, yield calculation by method selection etc.

10) Facility to select different speciman types like Round solid, Round Hollow, Rectangular, Irregular shape, TMT etc.

Facility for Sample Id. , customer details

11) Results with Standard Test includes Ultimate Load, Displacement at ult. Load, Max. Displacement. Ult. stress, % Elongation, % Reduction in Area, Yield with Method selection. (If speciman doesn't have distinct yield it is recommended to use Extensometer for Yield calculation) Extensometer Test : Yield, proof (with offset selection)

## Capacity Of UTM: 100 KN TO 2000KN

SERVICE REQUIRED :Power Supply: 440 V, 50 Hz, A.C.ThreePhase , Foundation As Per DrawingSPACE REQUIRED : 2 m. ( L) x 2.0 m (W) X 3 m (H).WEIGHT ::@ 2000 Kg

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