

**Product Name :**  
Computerized Universal Testing Machine (UTM)

**Product Code :**  
TN415



**Description :**

Computerized Universal Testing Machine (UTM)

**Technical Specification :**

Computerized Universal Testing Machine (UTM)

Capacity: Up to 20 Ton

Test Speed

Test speed: 0.01 mm/min.

Test speed: 500 mm/min.

Full & return speeds: Compatible with above speed

Force at full speed: Compatible with full speed

Dimensions and features of cross heads of UTM

Width: in the range of 1000- 1200 mm

Depth: in the range of 500-600 mm

Height: in the range of 1600-2000 mm

Total crosshead travel: in the range of 1200-1400 mm

Total vertical test space: in the range of 1200-1400 mm

Frame Stiffness: Medium (Higher is preferable)

Mechanical test to be carried on UTM (able to performed all mentioned test)

Tensile Test

Compressive Test

Adhesion Test

Ductility Test

Fatigue/Cyclic Test

Flexure / Bending  
Shear/Torsion Test  
Operational Condition  
Test Temperature: Room Temperature  
Test Humidity: Normal  
Display/User interface Digital Readout/Interface  
Video/Graphic Display  
Computer Interface: there (Via USB or Ethernet)  
Application Software (Controlled by PC): there (Suitable and is compatible with OS)  
Strain Measurement System: Industry Standards that is followed and their document Grade/Class Range limits  
Follow any of mentioned standards  
Accuracy:  $\sim 0.5 \text{ } \mu\text{m}$   
Repeatability:  $\sim 0.25 \text{ } \mu\text{m}$   
Discrimination / Resolution: 0.0004% of Range  
Force measurement System  
Accuracy:  $\sim \pm$  the larger of 0.5 % of reading or 0.01 % of capacity  
Repeatability:  $\sim \pm$  the larger of 0.25 % of reading or 0.005 % of capacity  
Load frame & drive system specification  $\sim \pm 0.25\text{mm}$  (0.01 in.) over full  
Lateral Motion: Crosshead Travel  
Speed accuracy:  $\sim \pm 0.1\%$  of set speed for all forces within the capacity of the machine when average over the larger of 15 seconds or 50mm (2 inches)  
Position Resolution:  $\sim 0.6 \text{ } \mu\text{m}$  (25 micro inches) standard/ $0.06 \text{ } \mu\text{m}$  is optional with high resolution encoder  
Position accuracy: The greater of 0.025 mm (0.001 in.) or 0.025% of movement  
Measuring Units  
Micrometer type: Reading to 0.001 mm (0.00005 in)  
Caliper type: Reading to 0.01mm (0.0005 in)  
Dial Indicator type: Reading to 0.025, 0.0025 or 0.00025 mm (0.001, 0.0001 or 0.00001 in)  
Standard to be followed (follow one the mentioned standard relating to UTM and testing of materials)  
Practice for Force verification of testing machine  
Practice for calibration of Force measuring instrument for verifying the force indication of Testing machine  
Practice for verification and Classification on extensometer systems  
Practice for verification of test frame and specimen alignment under tensile and compressive Axial force application  
Standard guide for evaluating computerized data acquisition systems used to acquire data from Universal Testing Machines;  
Transmission: Hydraulic Type  
Suitable for mechanical testing of following material  
Tension Grip: Grip for rod, grip for plate  
Compression Grip: Bending grip  
Stainless Steel  
Modified Stainless Steel such as SS 316, SS 316 LN (follow one the mentioned standard relating to UTM and testing of materials)  
Polymer such as FRP, Polyamides, Epoxy esters  
Different Metals such as Copper, Aluminum Alloys etc.

## Naugralabequipments

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