



## SERVOTEC FULLY AUTOMATIC UNIVERSAL TESTING MACHINE 200kN (TWIN COLUMN)

Standard: BS EN 10002-1, ISO 7500-1, ASTM A370

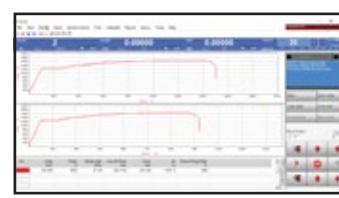
### Tensile & Compression

TT Servotec Fully Automatic Universal Testing Machine out tester adopts DC speed regulating servomotor & reduction gears as the power source. Its real time displays test data & test status with LCD module. Professional designed servo control system realizes the PWM pulse width modulation control mode. It really comes up to with test speed closed loop control mode. It is controlled by single chip automatically control.

### Main Use & Range

Used for measurement & test of mechanical property & analytical study of metal, non-metal & composite material, such as aviation, petrochemical, machinery manufacture, wire, cable, textile, fibre, plastic, rubber, ceramic, food, medicine packaging, aluminium plastic tube, plastic door & window, geo-textile, film, wood, paper, metal material & manufacture industry & etc.

It can record the max. test force, fracture value, yield value, max. compression value automatically. It can also calculate the fracture extension & all kind of strength value manually. The RA232 connector can do the function of communicating with computer to do the data work. It is an essential equipment for manufacture, construction unit, product quality supervision & inspection bureau & building material test department. It also could be used in the university for teaching purpose.



Test Curve Page



User Setting Page



Test Result Page

**Features:-****Testable Items**

General test item: (General display value and calculated value)

- Tensile stress
- Tensile strength
- Pulling strength
- Stable tensile stress
- Constant stress force value
- Tear off the elongation
- Constant stress elongation
- Tear strength
- Any point force value.
- Any point elongation
- Extraction
- Computation of adhesion and peak value
- Pressure test
- Bending test
- Adhesive force stripping force test
- Extraction force piercing force test
- Cycle test

**Special test items**

1. Elastic coefficient is the elastic Young's modulus Definition: The ratio of normal stress components to normal strain in the same phase. In order to determine the coefficient of stiffness of the material, the higher the value, the stronger the material.

2. Proportional Limit: The relationship between load and elongation can be maintained in a certain range, and the maximum stress is the specific limit.

3. Elasticity Limit: Maximum stress for material to withstand pull-out force puncture test without permanent deformation.

4. Elastic Deformation: When the load is removed, the deformation of the material disappears completely.

5. Permanent Deformation: After removing the load, the material remains deformed.

6. Yield point: When a material is stretched, the deformation increases, and the stress remains unchanged. This point is the yield point. The yield point is divided into upper and lower yield points, and the above yield points are generally regarded as yield points. Yield: When the load exceeds the proportional limit, it is no longer proportional to the elongation. The load will drop suddenly. Then, over a period, it will fluctuate up and down, and the elongation will change greatly. This phenomenon is called yield.

7. Yield Strength: The quotient obtained by dividing the permanent elongation to a specified load by the original cross-section area of the parallel part in tension.

8. Spring K Value: Ratio of Force Component in Phase with Deformation to Deformation.

9. Effective Elasticity and Lag Loss: On a tension machine, when the specimen is stretched to a certain elongation or to a specified load at a certain speed, the percentage of the work recovered during shrinkage and the work consumed during stretching is determined as effective elasticity; and the percentage of the work lost during elongation and shrinkage to the work consumed during elongation is determined as hysteresis loss.

**Main Technical Parameter :**

|                               |  |
|-------------------------------|--|
| <b>Model Number</b>           | TT 6000 X / 024EW  |
| Max Test Force                | 200kN  |
| Structure Type                | Twin Rigid Column with Twin High Precision Ball Screw  |
| Traveling Space               | 950 mm (exclude fixtures)  |
| Width Space                   | 600 mm   |
| Test Force Accuracy           | ±0.5%  |
| Test Speed Range              | 0.01 - 500 mm/min  |
| Load Resolution               | 1/100 000  |
| Displacement Resolution       | 1/1000   |
| Displacement Accuracy         | ≤0.5%  |
| Resolution of Metal Extenders | 1/1000   |
| Accuracy of Metal Extenders   | ≤0.5%  |
| Accuracy of Extenders         | ±1 mm  |
| Measuring Range               | 0.5% - 100% Full Scale   |
| Load Unit                     | Gf, kgf, N, kN, Lbf, etc.  |
| Curve Display                 | <u><b>Selectable Axial Parameters:</b></u><br><b>Y-axis</b> - time, load, displacement, deformation, stress, strain.<br><b>X-axis</b> - time, load, displacement, deformation, stress, strain. |
| Data Display                  | Max. Force, Speed, Specimen Detail, Strength (Kpa, Mpa, N/mm, Nmm )  |
| Main Drive Unit               | Precision Servo Drive & Servo Motor  |
| Safety Feature                | Emergency Stop, Overload Protection, Upper & Lower Limit Switch<br>Load Sensor with Auto Retreat   |
| Power Source                  | 380 ~ 415V, 1500W, 5A, 3Ph, 50/60Hz, 2Hp   |
| Product Dimension             | 1100(L) x 550(W) x 2200(H) mm  |
| Packing Dimension             | 1250(L) x 650(W) x 2450(H) mm  |
| Approx Weight                 | 600 kg   |
| Packing Weight                | 700 kg   |

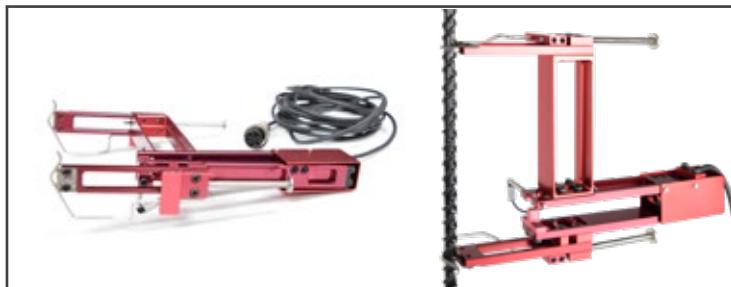
**Unit Consists Of :**

| Model Number   | Parts Description                                       | Qty     |
|----------------|---|---------|
| TT LC – 200kNC | 200kN High Precision Load Cell<br>(Cell Type)           | 1 Unit. |
| TT 6ST – G05   | Mechanical Wedge Clamp<br>(0-9mm/300kN)                 | 1 Unit. |
| TT 6ST – HC1   | Handheld Magnetic<br>Control Unit                       | 1 Unit. |
| TT 6ST – PC1   | Desktop Computer Unit c/w<br>Operation and the Software | 1 Unit. |

**Optional Accessories :**

| Model Number    | Parts Description                           | Qty    |
|-----------------|---|--------|
| TT CDT1         | Console Desk T1                             | 1 Set. |
| TT 6ST – CTS    | Cycle Test Software                         | 1 No.  |
| TT AEX – 25/10  | Axial Electronic Extensometer (GL25/D10)    | 1 No.  |
| TT AEX – 50/25  | Axial Electronic Extensometer (GL50/D25)    | 1 No.  |
| TT AEX – 100/25 | Axial Electronic Extensometer (GL100/D25)   | 1 No.  |
| TT 6ST – LTX-2  | Long Travel Electronic Extensometer (LTX-2) | 1 No.  |
| TT CP – 200     | Computer Printer                            | 1 No.  |
| TT 6ST – PBU    | Portable Bench Unit                         | 1 No.  |

\*1 Copy of Manual Instruction



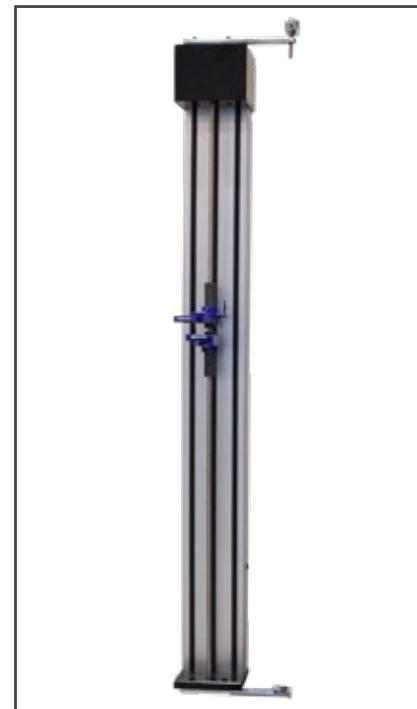
**Axial Electronic Extensometer**



**Desktop Computer Unit**



**Computer Printer**



**Long Travel Electronic Extensometer**