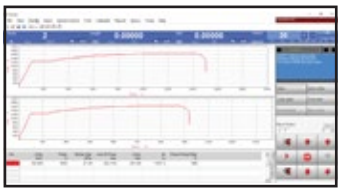
TT 6000 X / 020N

SERVOTEC FULLY AUTOMATIC UNIVERSAL TESTING MACHINE 20kN (TWIN COLUMN, DESK TOP VERSION)

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.



Test Curve Page

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.

User Setting Page

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 Result Page

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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.

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Main Technical Parameter :

Model Number	TT 6000 X / 020N
Max Test Force	20kN
Structure Type	Twin Rigid Column with Twin High Precision Ball Screw
Trailing Space	950 mm (exclude fixtures)
Width Space	350 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	**Selectable Axial Parameters:** **Y-axis** - time, load, displacement, deformation, stress, strain. **X-axis** - 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 Load Sensor with Auto Retreat
Power Source	220 ~ 240V, 600W, 4A, 1Ph, 50/60Hz, 0.8Hp
Product Dimension	660(L) x 450(W) x 1700(H) mm
Packing Dimension	760(L) x 550(W) x 1800(H) mm
Approx Weight	186 kg
Packing Weight	210 kg

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Unit Consists Of :

Model Number	Parts Description	Qty
TT LC – 20kNC	20kN High Precision Load Cell (Cell Type)	1 Unit.
TT 6ST – G02	Mechanical Wedge Clamp (0-9mm/20kN)	1 Unit.
TT 6ST – HC1	Handheld Magnetic Control Unit	1 Unit.
TT 6ST – DSV1	Laptop Unit c/w Operation Software (TESTRONZ TUS-1.0)	1 Unit.

*1 Copy of Manual Instruction

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.

Axial Electronic Extensometer

Console Desk T1

Computer Printer

Long Travel Electronic Extensometer

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