



TT 6000 X 029CX

## ELECTRO-HYDRAULIC SERVO CONTROL UNIVERSAL TESTING MACHINE (Multi Wire Strand) 1200kN

Standard: BS EN 10002-1, BS 5896, ISO 7500-1, ASTM A370, ASTM A1061/A

### Tensile & Compression

This TT 6000 Series UTM used for the mechanics property test such as the tensile, bending, compression and flexural to various materials such as rebar, wire strand, bolts & nuts, concrete cylinder, concrete beam and hollow block. The testers have been developed according to BS EN 10002-1, ISO 7500-1 & ASTM A370 "Metal Tensile Test Method" with the adoption of the electro-hydraulic servo control and electronic measurement. It can automatically process the test result for statistical purpose and print default or user-defined test report.

TT 6000 Series UTM use the micro-computer automatic data collection and processing, real time display of the test data and curves. It has the functions such as unlimited storage of test result in the computer, printing the test results and curves, processing the batch test result report, managing the database and so on. It also has the network interface. It can automatically seek the multiple technical parameters such as elastic module E upper yield strength ReH, lower yield strength REL, stipulated non-proportional elongation intensity Rr, tensile strength Rm, stipulated total elongation intensity Rt, yield point percentage elongation and etc.

TT 6000 Series UTM have the features such as the high precision, advantage performance, high reliability, convenient operation and etc.

## OPERATION DISPLAY

Computer Screen Display unit with the following functions

- \*Test force display
- \*Break detection
- \*Full auto test range switching function
- \*Auto return function
- \*Peak / Break value display function
- \*Test conditions

## SAFETY FEATURES

The system include with the followings safety features

- \*Emergency stop switch
- \*Overload limit
- \*Ram-stroke limit
- \*Hydraulic pump motor over-current & over heating protection
- \*Leak / over current protection
- \*Automatic stop control
- \*Safety Guard

## CONTROL & DATA PROCESSING SOFTWARE

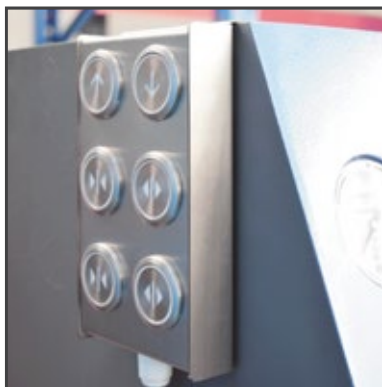
- \*User friendly & easily due to clear and brief operation – operation interface
- \*Automatically save the test conditions & results
- \*User define test curves including : Stress / Strain, Force / Elongation, Strength / Time to suit various requirement
- \*Individual or combine display test curves on the same screen to compare with other several data at the same time
- \*Compatible with Microsoft Excel by import or export function
- \*Base of testing with digital sample break detection, auto ranging, auto calibration, quick tare & auto return facilities
- \*Exceeds all International Standards for accuracy, ASTM, DIN, ISO, JIS, EN, GB...etc
- \*Tension, Compression, Shear, Cycling & Creep Test facilities
- \*User define Real Time Display Including Load, Stress, Elongation, Strain, Speed or Time
- \*Advanced protection features with software setting or / & hardware switch upper & lower limit setting
- \*Operation fully control by computer
- \*USB communication system & ethernet
- \*Grips & fixtures for tension, compression, flexural, shear & products testing available
- \*Fully user define report including Report Sheet, Label, Chart & Bitmap or JPG
- \*Report sheet consist of Load, Elongation, Yield, Break, Stress Modulus, Strain, Tear Strength, Peel Strength etc
- \*Force display unit : kN,N,tons, & mN
- \*Stress display unit : GPa,Mpa,Pa,psi,N/sq.mm,Kg/sq.mm & Tons/sq.inch
- \*User define Yield Strength, Young Modulus, Offset Setting, Graph Offset, Export & Import test data, ...etc

## UNIQUE FEATURE :

- \*Over size prestressed 4 column with twin screw
- \*High toughness fragment safety guard with transparence sliding door
- \*High precision load cell ram
- \*Built-in shock absorbing system on base mounting
- \*Console Control Unit



Top Grip



Magnetic Remote Control



Control Console

## 1200kN Specification

### Technical Specifications :

Model Number	TT 6000 X / 029CX
Load. Capacity	1200 kN
Machine Class	Class 1
Load. Accuracy	±1%
Displacement Resolution	0.001 mm
Piston Stroke	200 mm
Max. Cross Head Speed	240 mm/min
Test Speed	100 mm/min
Wire Strand Size	Ø8 - Ø18 mm
Round Specimen Size	Ø14 - Ø45 mm
Max. Distance of Bending Test	300 mm
Load Frame :-	
- Max. Bearing Deformation	≤ 0.45 mm
- Coaxility	< 0.03 mm
- Cylinder Layout	Lower Type
- Max. Bearing Capacity of Oil Cylinder	1500 kN
- Cylinder Linearity ; Ellipticity	≤ 0.015 mm
Verticality	≤ 0.03 mm
Roughness	≤ Ra 0.4 µm
Oil Sources :-	
- Pump ; Flow	6.26 l/min
Pressure	20.4 Mpa
- Transducer ; Sensitivity Coefficient	2 mv/v
Nonlinear	0.2% FS
Repeatability	0.05%
Force Measuring Range	12 - 1200 kN
Relative Error of Test Force Indication	± 1%
Force Resolution	1/300000 FS
Displacement Resolution	1/300000 FS
Displacement Indication Error	≤ ± 0.5mm
Deformation Resolution	1/300000 FS
Deformation Resolution Error	≤ ± 0.5%
Equal Rate Control Range of	0.1 - 4% FS
Test Force	



Displacement Constant Rate	0.5 - 90 mm/min
Control Range	
Strain Constant Rate Control Range	0.00007 - 0.0025/s
Speed Control Accuracy Error	≤ ± 1% of Set Value
Max. Distance Between Upper & Lower Pressure Plates	980
Parallellism of Upper & Lower Pressing Plates	≤ 0.01 mm
Flatness of Pressing Plate	< 0.016 mm
Hardness of Pressing Plate	> 55 HRC
Surface Roughness of Pressing Plate	< 0.8 µm
Maximum Distance Between Stretching Jaws	1090 mm
Effective Distance Between Columns	680 mm
Clamping Width of Flat Specimen	≤ 100 mm
Clamping Thickness of Flat Specimen	0 - 40 mm
Clamping Dia. of Round Specimen	15 - 60 mm
Dimension Of Upper & Lower Pressing Plates	240 x 240 mm
Dimension (Load Frame)	950 (L) x 700 (W) x 2810 (H) mm
Dimension (Control Console)	1100 x 750 x 900 mm
Power	220 V, 1Ph, 50 / 60 Hz
Weight (Control Console)	300 kg
Weight (Frame)	4550 kg

## Unit Standard Accessories :

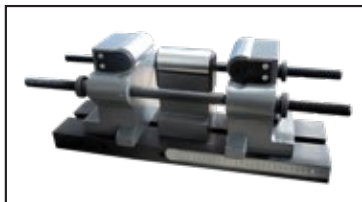
Model Number	Accessories Description	Qty
TT 6000 X / 013 – P001	Flat Specimen Jaw Set (A : Ø0 - Ø20 mm) (B : Ø20 - Ø40 mm)	1 set
TT 6000 X / 013 – P002	Round Specimen Jaw Set (A : Ø15 - Ø30 mm) (B : Ø30 - Ø45 mm)	1 set
TT 6000 X / 013 – P003	Round Specimen Jaw Set (C : Ø45 - Ø60 mm)	1 set
TT 6000 X / 029 – P001	Wire Strand Jaw Set (Ø8 - Ø18 mm)	1 set
TT 6000 X / 013 – P004	Compression Platen Set c/w Spherical Seat	1 set
TT 6000 X / 013 – P005	Bending Test Device c/w Mandrel	1 set
TT 6000 X / 013 – P006	Footing Stopper Bar c/w Wall Plug (2 Bar & 4 Plug)	1 unit
TT CP – 200	Computer Printer	1 unit
TT 6000 X TSL	2 Steps Ladder	1 unit
TT SVP – 2.2 CX	Servopack Console Control Unit with Built-in Computer and Pre-Installed with TestMaster Software	1 unit



Grip Jaw



Compression Platen Set



Bending Jig

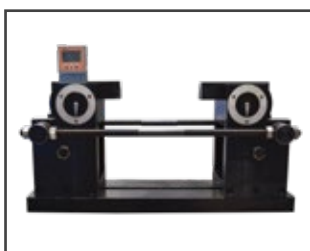


Bottom Grip

## Optional Accessories :

Model Number	Accessories Description
TT AEX – 25/10	Axial Electronic Extensometer (GL25 / D10)
TT AEX – 50/25	Axial Electronic Extensometer (GL50 / D25)
TT AEX – 100/25	Axial Electronic Extensometer (GL100 / D25)
TT AEX – 500/25	Axial Electronic Extensometer for PC Strand (GL500 / D25)
TT 6000 X / BRD	Bend & Re-bend Device
TT 6000 X / BRD – A1	Bending Holder & Mandrel Set
TT 6000 X / AGP1	Aluminium Grip Piece (T=1.5mm) For 12.7mm Wire
TT 6000 X / AGP2	Aluminium Grip Piece (T=2.4mm) For 12.7mm Wire
TT 6000 X / AGP3	Aluminium Grip Piece (T=1.5mm) For 15.6mm Wire

\*1 Copy of Manual Instruction



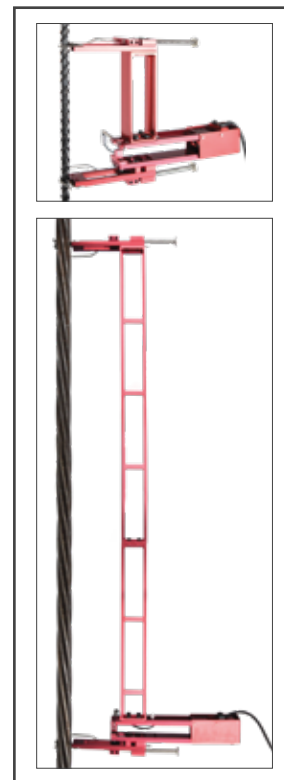
TT 6000 X / BRD



TT 6000 X / BRD – A1



TT 6000 X AGP



Extensometers

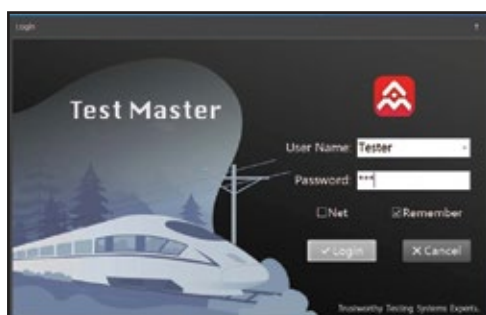
## TESTMASTER SOFTWARE



Main Interface



Query Interface



Software Login



Shock Absorbing System



Computer Printer



2 Steps Ladder