

## TMA - WAW-600B Electro-hydraulic Servo-controlled Universal Testing Machine



**I Equipment name:** Computer Control Electro-hydraulic Servo Universal Testing Machine

**II Model:** TMA - WAW-600B

**III Usages and characteristics:**

This machine adopts the electro-hydraulic servo technology, the automatic controlling of the testing force, displacement, speed by the microcomputer, and the full implementation of automation from the experimental data acquisition to processing and printing, the test can be carried out. Highly effective in accordance with national standard of GB228-2002, the sample folder adopts hydraulic chuck; it is easy

to operate, safe and reliable. It cannot carry out the conventional tests of material pulling, pressing, bending, shear, it also provides a wide range of attachment necessary for the special testing.

**IV The main technical parameters:**

1. Max. test power: 600KN
2. Number of columns: four column
3. Measuring range: 2%~100%FS (full range)
4. Accuracy class: 1 class
5. Relative Error of Indicating Value:  $\leq \pm 1\%$
6. Test Force Resolution: 0.01KN
7. Deformation Measuring Range: 2% to 100% of extensometer scale
8. Deformation Error Value:  $\leq \pm 1\%$  of indicating value
9. Deformation Resolution: 0.001mm
10. Displacement error value:  $\leq \pm 1\%$
11. Displacement resolution: 0.01mm
12. Clamping method: Hydraulic
13. Piston Max. Stroke: 200mm
14. The piston max. movement speed: 50mm/min
15. Distance between two columns: 500mm
16. Max. Tensile Space: 600mm
17. Max. Compression Space: 500mm
18. Max. Flat Sample Clamping Width: 70mm
19. Flat Sample Clamping Thickness: 0-15mm



20. Round Sample Clamping Diameter:  $\text{Ø}6\sim\text{Ø}40\text{mm}$
21. Compression Plate Size:  $\text{Φ}188\text{mm}$
22. Bending Test Roller Space: 120mm
23. Bending Test Roller Width: 140mm
24. Bending Pressure Head Diameter:  $\text{Φ}30$
25. The host machine overall dimension:  $(810\times 620\times 2150)$  mm
26. Weight: About 2400Kg
27. Voltage: 415V/50Hz

**V Performance characteristics:**

First: Mechanical process structures

The host of the oil cylinder underneath type, chain transmission and hydraulic clamping, tensile space is located in the upper part of the host, compression, bending, shear test space is located in the main beam and between table; Oil source part adopts Piano desktop hydraulic oil source.

1. The table and beams using cast steel materials, post and screw use and 40Cr quenching and tempering, rigid.
2. Cylinder with special process, honing processing, clearance seal, seal is extremely strong, long service life.
3. Import ATOS electro-hydraulic servo valve, imported high pressure oil pump, low noise, smooth operation.

4. Oil source using steel plate forming with plastic-sprayed surface treatment, marble mesa can place the computer and printer, clean and tidy, save space.

#### Second: Control and Measurement System

The control and measurement system of this machine adopts the advanced technology of testing industry. With the electro-hydraulic closed loop control and measuring system, which can finish the uniform stress, constant strain, constant test force, constant displacement, test force keeping, displacement keeping, etc. This system has multiple protection function, which can realize the protection to overload, overflowing, overvoltage, under-voltage, overrun and limit, etc.

This system is equipped with professional measurement software, which can deal with the statistics and data processing, and can calculate the upper and lower yield point, tensile strength, breaking strength, elastic modulus, elongation,  $\sigma_{0.2}$ , etc. It shows the force, displacement, stress etc. and the dynamic display of test curve during the whole test process, and also it can change between the test-time, test-displacement, displacement-time, and the test reports and curves can be output.

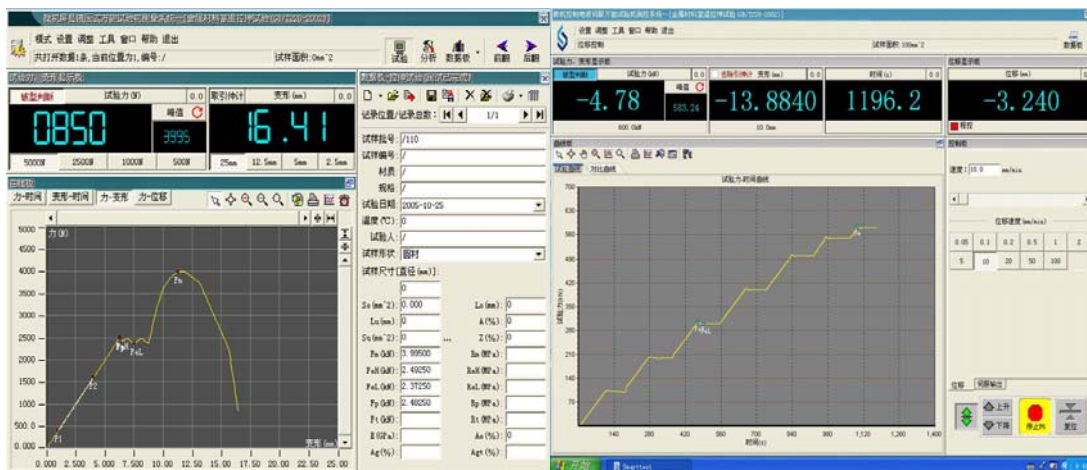
1. The classification management user permissions, the user login, according to its authority to open the corresponding operation

function module;

2. Using the most advanced multi-threading technology to collect data, speed, rate stability, and a variety of anti-interference processing of sensor data, to avoid accidental acquisition failed control failure defects;

3 Has a powerful report editing features, the user can according to their own requirements for the preparation of the test report, output the various needs of the result, the data can also use Word format for easy editing;

4. Database management automatically save all test data and curves, and has curve enlarge, compare and times refer function for the laboratory network to provide a quality basis.



## VI. Configuration

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|--|-----|
| 1. The host ( 600kN cylinder down-setting )  | one |
| 2. The electric-hydraulic servo oil source   | one |
| 3. Electric-hydraulic servo valve - imported | one |



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|--|---------|
| 4. Oil pressures Sensor  | one     |
| 5. High-pressure oil pump - imported   | one     |
| 6. Manual control box  | one     |
| 7. Extensometer  | one     |
| 8. Lenovo computer   | one     |
| 9. Color inkjet printer  | one     |
| 10. Computer observe and control software  | one     |
| 12. Attachment   |         |
| 1) Tensile fixture (Round jaw $\Phi$ 13- $\Phi$ 26、 $\Phi$ 26- $\Phi$ 40 Flat jaw 0-15, 15-30) |         |
| 2) Compression fixture $\Phi$ 188mm  | one set |
| 3) Bending fixture ( $\Phi$ 30mm)  | one set |
| 13. Foundation bolt  | four    |

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