

WDW-xxx Common Electromechanical Universal Testing System

WDW-xxx series common electromechanical materials testing systems adopt rigid load frames, high accurate load weighting system, advanced PCI measuring & control system and intuitive modular application software. Configured with extensive range of accessories for various applications, it can provide the optimal testing solutions for your individual application needs. With abundant experience of 20 years of involvements in materials testing industry & application knowledge on all kinds of sectors, TE is capable of configuring the exactly suitable solutions & more accurately test system to customer involving the choice of load frame, core measuring & control elements, software package, grip/fixture etc based on their specified test application and requirements.



Load Frame

According to load capacity & test application, its load frame can be available in single column, table and floor type to meet a variety of test applications.

Single column machine is more suitable for biomaterials, textiles, plastic film industries where test load requires low capacity; Dual column table type is the main choice of rubber, plastic, composites & metal sectors where specimen needs wide test area and middle strength; While floor type is optimal units for most demanding applications of metal & alloys, fasteners etc. where specimen sizes and strength requires high capacity.

The frames all incorporate human factor considerations in the design to ensure safety, reduce operator fatigue, and provide the highest level of flexibility. Extremely robust crosshead guidance is incorporated in all frame designs providing the highest level of lateral crosshead stiffness.

Load cell is with high accuracy interchangeable for all frames allowing each frame to operate full capacity.

High accuracy: The preloaded precision ball-screw with high speed low noise ensures high speed and position measurement accuracy and less noise.

High stiffness: The load frame is with 2/4 columns and heavy duty pre-loaded bearings.

Safety features: The testing machine stops automatically when the change in the test force exceeds a specified

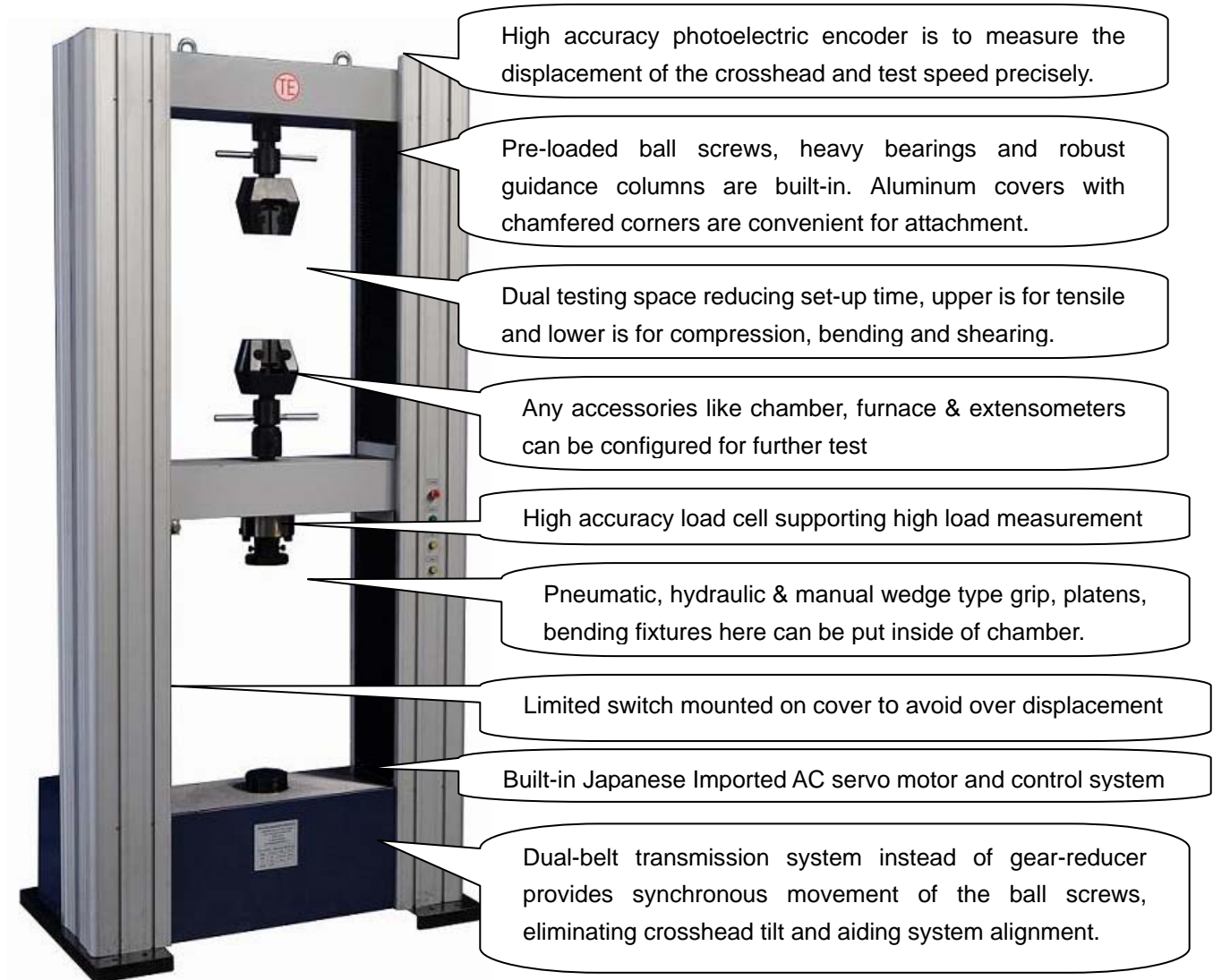
value during operations.

Large space in the working area: The insides of columns provide wide space for the operator.

Over-stroke limiter: The range of the crosshead movement mechanically limited.

Comfortable working area

The wide legroom under the load unit provides a comfortable working area for attaching and removing jigs.



Loading weight system:

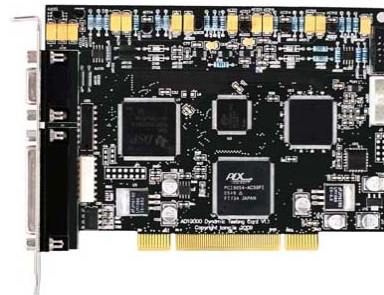
Loading weight system is the most critical aspect of mechanical testing. TE has accumulated great experience in selection of superior core loading weight system in terms of materials, design, construction technology and especially performance & accuracy. Cooperating with top-quality manufacturer of load cell, TE made a special customs design so that it can be optimized match with measuring & control system for most accurate test results. With advanced PCI measuring control card, the readability can be from 0.4%(1/250) to 100% of the rated capacity, Calibration within 0.5% accuracy can be carried out as per ASTM E4, ISO7500-1, EN 10002-2, BS1610, DIN 51221 standards.



This special load cell provides excellent immunity to impact and side forces, rugged & low-profile measuring body with strictly symmetrical design is optimally suited to ensure high endurance strength. Excellent linearity guarantees highly precise measurement, additional mechanical protection of the strain gage area. It can be set for protections of 105% over range protection, over load capacity of 150% without permanent zero shift and over load projection of 300% of the rated capacity without mechanical damage. This meets the stringent Weights and Measures requirements throughout Europe and the USA.

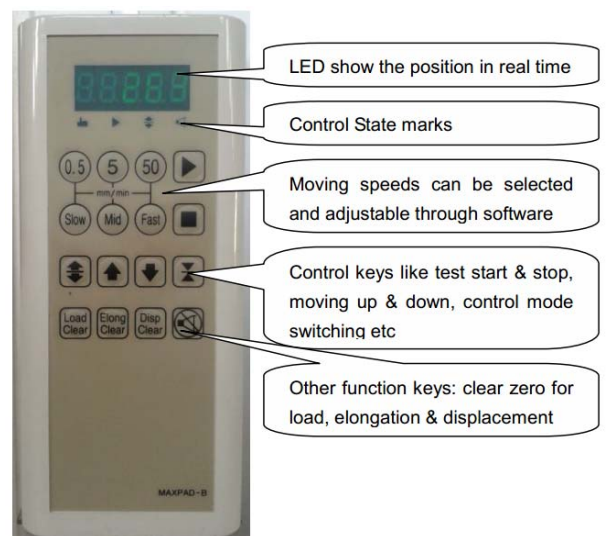
Electronics and Control Part:

Self-developed & most advanced card for testing machine realizes the functions of real time data collection, communication, measuring and control etc. according to related ASTM, ISO standards. It can be inserted PCI slot of computer and connected with testing machine by data cable, then above functions can be done easily. Effective sampling rate can be up to 50Hz, in addition, the different versions for sampling rate of 200Hz, 500Hz and 10 kHz are available as options to meet special test requirements. Besides applying for static tests, such card with related configuration is also able to be utilized for low cycle test up to 6Hz.



A second component of this series is the manual control panel MaxPad which magnetically attached the load frame providing crosshead moving control in adjustable three speeds & LED showing in real time and some functional keys like test start & stop, moving up & down etc.

Patent technology of TE: Calibration of load and extensometer by Electrical way and provide you a quick convenient way. No necessary to calibrate the load and extensometer by calibrators. Do the calibration whenever you need.



Grip, Fixtures and Accessories

Grip & fixtures are one of most important aspects of your test system, which ensured that each individual test application can be efficiently performed with highest level of safety. TE has great experience in producing customized solutions for particularly difficult applications. TE is possess of extensive customs design capabilities & an array of ready-made application for accessories, environmental chamber, furnace and extensometers for strain measurement, you can exclusively count on us to work out an excellent solution for your needs.

Common specimen grips:

Mechanical manual wedge type grip
Mechanical screw action grip
Pneumatic action grip
Hydraulic action grip



Compression fixtures
Flexure fixtures
Shear fixtures



Special purpose fixtures:

Adhesive peel fixture
Burst/puncture fixture
Ceramic fixture
Composites fixture
Elastomeric O-ring fixture
Fasteners fixture



Food fixture
Paper & board fixture
Spring fixture
Tensile, cord and yarn fixture
Wire and cable fixture
Wood fixture



Environmental Chambers:

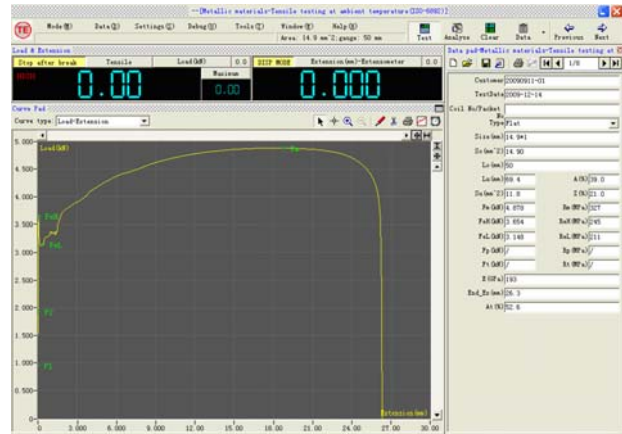
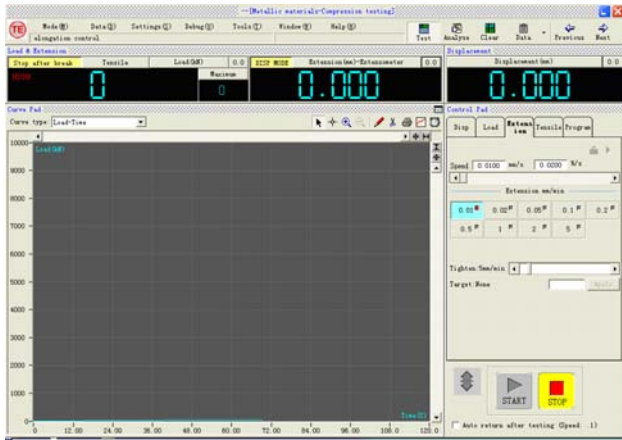
High and low temperature
Furnaces and cryostats
High and low temperature accessories



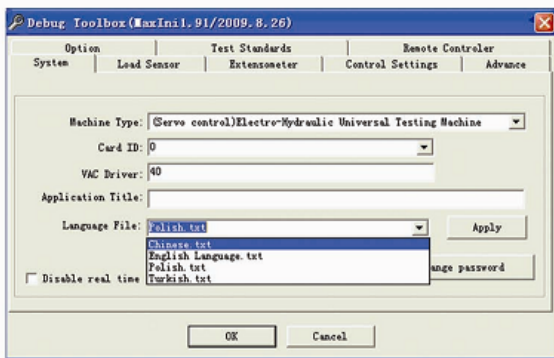


Software

TE software refers to the characteristics of the famous brands of testing machine in the world and proposals of various testing requirements from end users, and combines all the major advantages of earlier versions of software with lots of new features. Optimized software structure makes the testing operation easy, convenient and powerful.



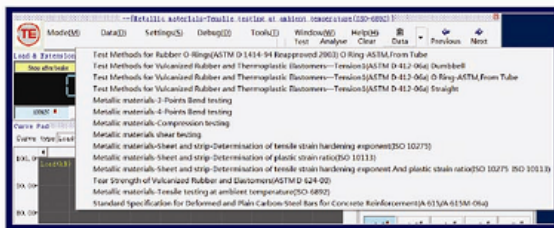
The control mode, test data and curves can be displayed in real time in the main interface and can be switched at any time. Data sampling rate can be set per the testing requirement.



The deep-seated parameters of software are contained in Debug Toolbox.

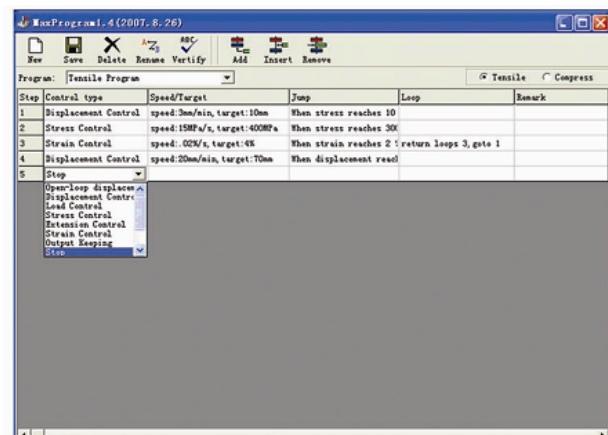
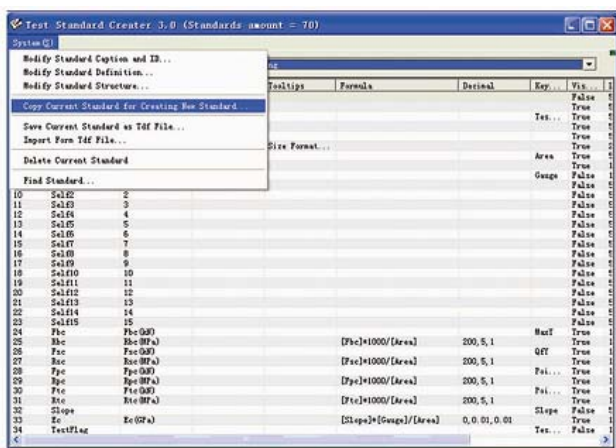
Multi-language function:

With the flexible language edited function, it supports Multi-language such as English, Chinese, Portuguese, French, Spanish, Italian, Turkish and Polish etc, you can translate the software language into native language by yourself.

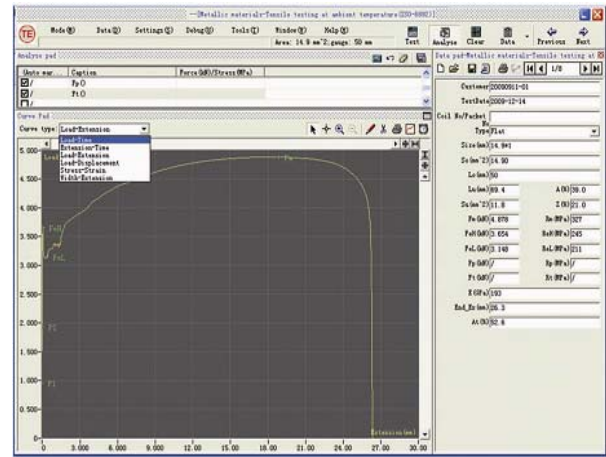
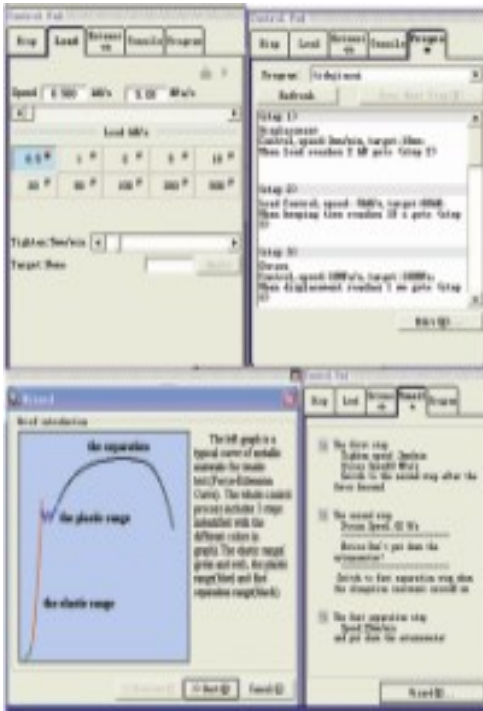


Software supports all kinds of popular testing standards i.e. ISO, ASTM, BS EN, DIN, JIS, GB etc.

Users can modify and add own testing standards and method as your requirement.

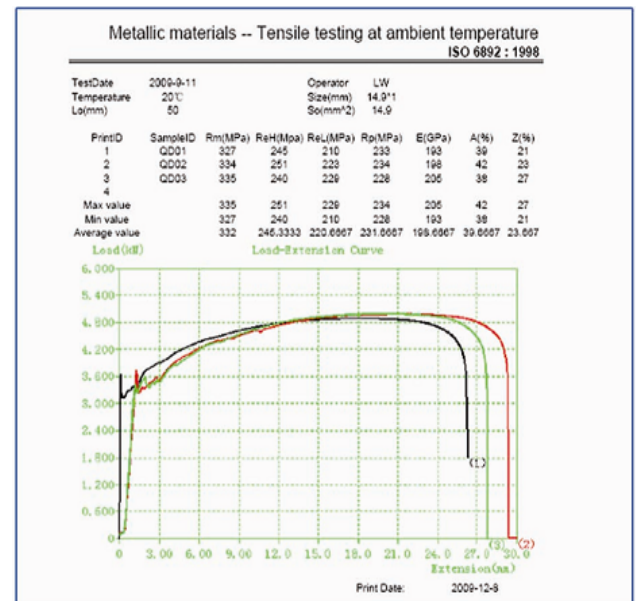
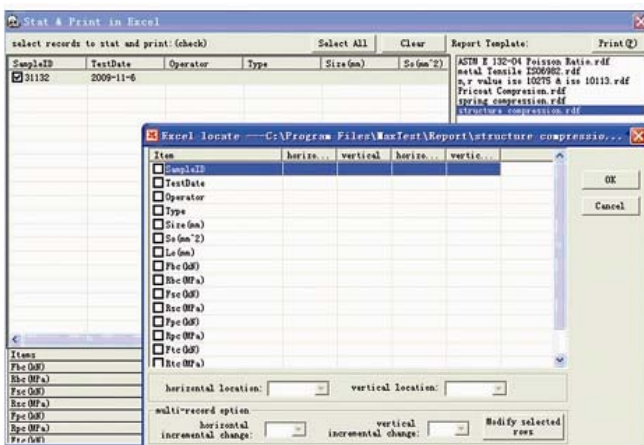


MaxProgram Editor possess of multi-kinds full digital control modes, i.e Displacement control, Stress (Load) control, Strain (Deformation) control, Low cycle control. Users can edit the most complex and logical procedure by MaxProgram Editor. The combination of above functions can meet all kinds of routine test purpose.



Multiple curves function, real time display including Load-Extension, Load-Displacement, Stress-Strain, Load-Time, Extension-Time, Width-Extension Characteristic points such as Elastic Modulus, Yield points, Rp, Rm etc. can be marked on the curves, for a direct and highlighted observation. Test result automatically can be obtained and also it can be manually got from the test curves.

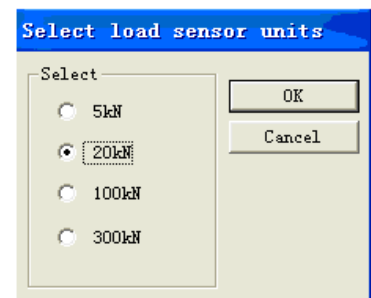
Through the Tensile Program Editor, user can setup test steps according to standards' requirement.



TE software contains all kinds of Report Templet. Customer can design various testing reports according to the requirement. The test result and the curve can be printed in Excel or printed in the auto-creating report templet.



Except the clip-on Extensometer, TE software supports Long Travel Extensometer, Full Automatic Extensometer, video Extensometer, laser Extensometer and up to eight Extensometers.



Environment of testing machine

- Operating temperature: +10°C to +38°C
- Storage temperature: -40°C to +66°C
- Humidity range: +10% to +90%, non-condensing
- Atmosphere: Designed for use under normal laboratory conditions. Protective measures may be required if excessive dust, corrosive fumes, electromagnetic field or hazardous conditions are encountered.

TE software supports four load cells.



Special applications for electromechanical testing machines:

TE has extensive experience in providing the electromechanical testing machine with different configurations to meet various applications. With different kinds of grips (manual, hydraulic & pneumatic type), it can clamp different specimens. With furnace or climatic chamber, it can do test under a certain temperature condition. With different extensometers, it can do various testing according to international standard or customers' requests.