Model WDW-10 Computer Control Electromechanical Universal Testing Machine

Applications:

WDW-10 computer control electromechanical universal testing machine is designed and manufactured according to ASTM, ISO, DIN, GB etc standards. It is computer-controlled precision Testing Machine, suitable for wide range of material for tension, compression, flexural and shearing and low cycle fatigue test. It has high stability as well as high precision, equipped with PC system & printer for graph, test result display, printing & data processing. Complete with modulus for metal, spring, textile, rubber, plastic and other material testing. It is widely used in many fields of such as industry factories, research & development, test institutes and training centers etc.

Applied Standards:

Load meets or exceeds the following standards: ASTM E4, ISO7500-1, EN 10002-2, BS1610, DIN 51221.
Strain measurement meets or exceeds the following standards: ASTM E83, ISO 9513, EN 3846 and EN 1002-4

Load Frame:

The purpose of design with table type load frame & double columns is to ensure safety, reduce operator fatigue, and provide the highest level of flexibility. Concretely, it features as following:
High accuracy:

The preloaded precision ball-screw ensures high speed and position measurement accuracy. A built-in scale on the frame indicated the crosshead position for verification of normal strain testing.

Safety features:

Mount with the upper and lower limit switches, the testing machine stops automatically when the change in the test force exceeds a specified value during operations.

Large space in the working area:

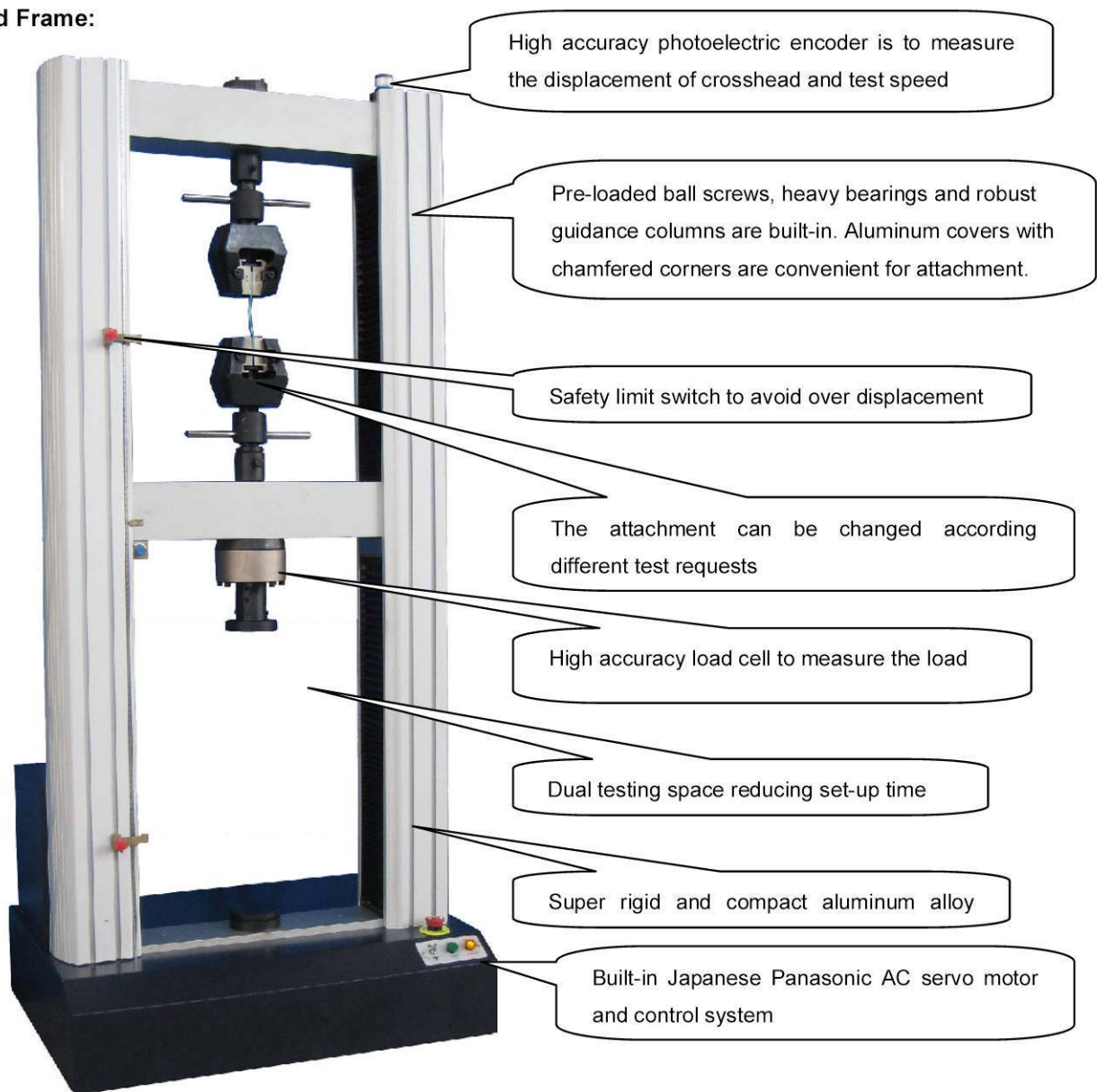The insides of columns provide wide space for the operator.

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.

Load Frame:

High accuracy photoelectric encoder is to measure the displacement of crosshead and test speed

Pre-loaded ball screws, heavy bearings and robust guidance columns are built-in. Aluminum covers with chamfered corners are convenient for attachment.

Safety limit switch to avoid over displacement

The attachment can be changed according different test requests

High accuracy load cell to measure the load

Dual testing space reducing set-up time

Super rigid and compact aluminum alloy

Built-in Japanese Panasonic AC servo motor and control system

Main Specification:

- Load capacity: 10kN
- Load accuracy: ≤±0.5%
- Deformation accuracy: ≤±0.5%
- Displacement resolution: 0.001mm
- Speed range: 0.005mm/min ~500mm/min (Stepless)
- Effective tensile space: 750 mm
- Total Crosshead Travel: 1100mm
- Test space width: 450 mm
- Power supply: 220VAC, 1 phase, 50Hz
- Overall dimension: 800 x 577 x 1737mm
- Weight: 300kg

Standard Accessories:

- Tensile test attachment with 10kN capacity

Grips for flat specimen: 0-7mm, 7-14mm	1 set each
Grips for round specimen: Φ4-Φ9, Φ9-Φ14mm	1 set each

- Compression test attachment with Platen: dia.120mm: 1 set

- Bending test attachment: 1 set

- Electronic Extensometer: 1 set

Gauge length: 50mm; Travel: 10mm.

- Photoelectric encoder: 1 pc

- High precision Load cell: 1pc

  Flat load cell +/-10kN, Tensile & Compression type

- Computer & software & printer   1 set
  Computer: Dell or Lenovo;
  Software: English **& Russian** Version (For details, please refer **Annex-1**);
  Printer: HP Color ink

- Servo Control system   1 set

  Maker: from Japan

- Tool kit: 1 set

Annex-1 Software Instruction

Features of Measuring & Control software

TE software refers to the software characteristics of the top manufacturers of testing machine in the world and proposals of various testing requirements from the end users, and combines all the advantages of former versions of software with lots of new features. Optimized software structure makes the testing operation easy, convenient and powerful. Main interface as following,
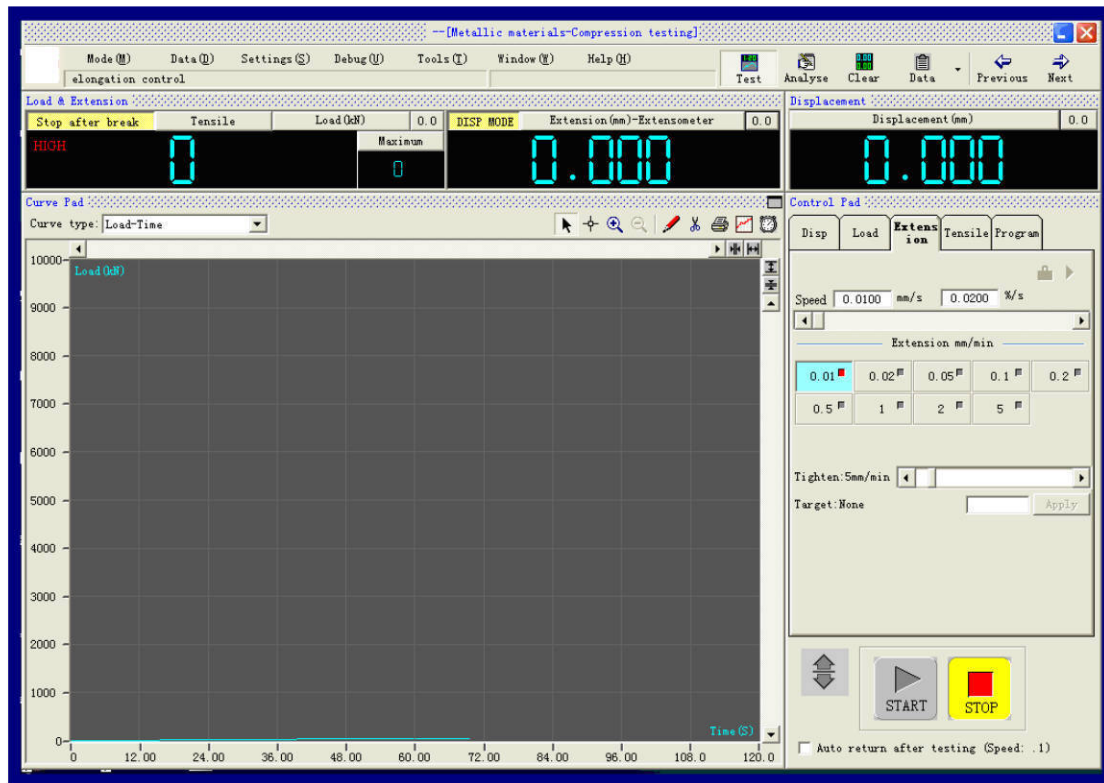
Features:

1. Full digital control

The whole measuring and control system adopts the special controller, which can achieve the digital adjustment of zero point and gain of load, deformation and displacement, and it's easy to operate and possesses the high reliability.

2. Possess the functions of storage, setting and loading for various kinds of parameters, which make it convenient to connect multiple transducers with one load frame.

3. Realize the close-loop control, and show the reference curve during the executive operator adjusting the close-loop parameters, so the user can observe the close-loop effect caused by the parameters.

4. Perfect intelligent expert system of control mode to offer the automatic programming function. The user can set control mode during the test or each step of the test as the regulation according to the user's actual needs to compile the program, which can meet the test requests of various kinds of materials and test standards at home and abroad.

5. Perfect graphic function to complete the functions of the reappearance, amplification, reduction, self-adaptation, lapping of the curves, display and print the curve at the appointed range, observe the coordinate of the test point.

6. Data processing supports automatic analysis and graphic man-machine mutual processing, which is convenient to check and compare the test results.

7. The user can self-define the output of the test reports, which has the utmost flexibility.

8. Perform the automatic inspection of the operation system,; real-time acquisition and control under the platform of Win2000、WinXP, etc. NT mode; accurate timing and high-speed sampling;

9. Multilevel identity management integrates the flexible function of the testing machine with easy operation, which not only makes the operation easy by ordinary operator but also protect the system effectively.

10. Framework type design concept and open type program structure make it easy to extend the function of the machine and further exploitation for the user. It can also connect externally internet program module to

complete the requests of data connecting internet.

11. Based on the database, test data is stored by form of text file, which is convenient for the user to inquire about and utilize the various kinds of commercial report forms to reprocess the test data, meanwhile transfer the data to the internet conveniently.

12. Multilevel identity management

Multilevel identity management, different identity has different functions, which not only makes the operation quick by ordinary operator, but also protect the system effectively.

Please see more information with some pictures:
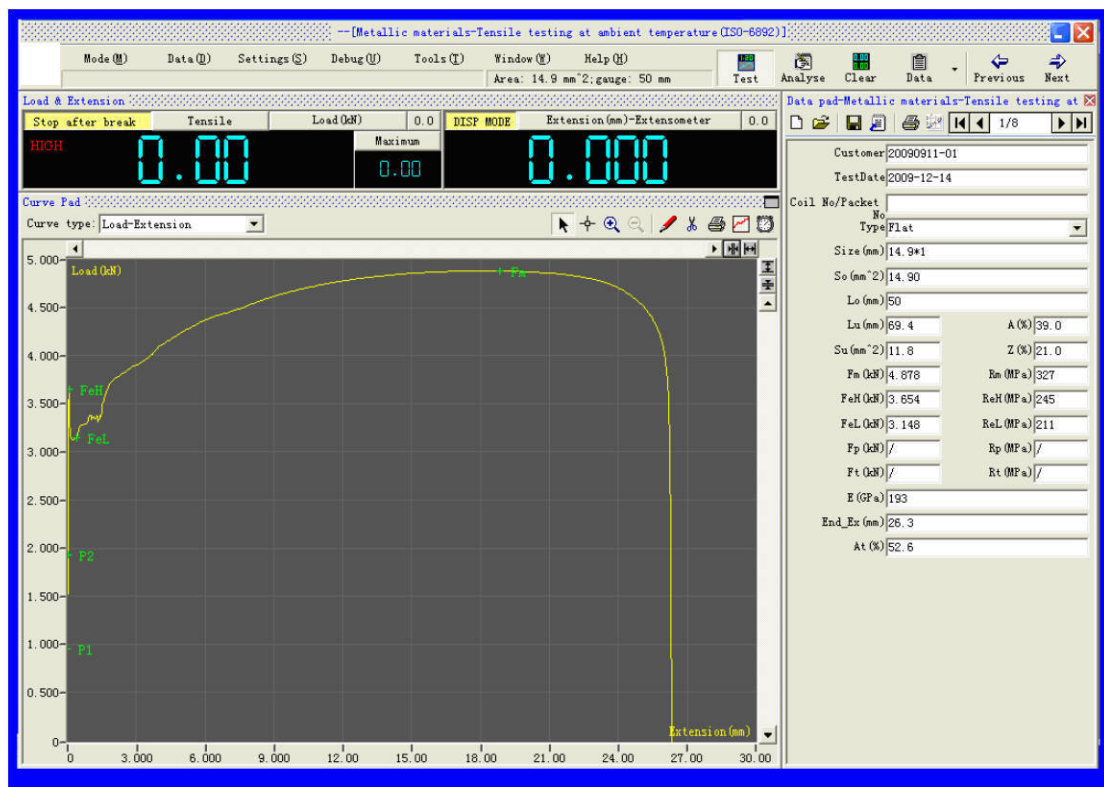
The control modes, test data and curves can be displayed in real time in the main interface and can be shifted at any time.
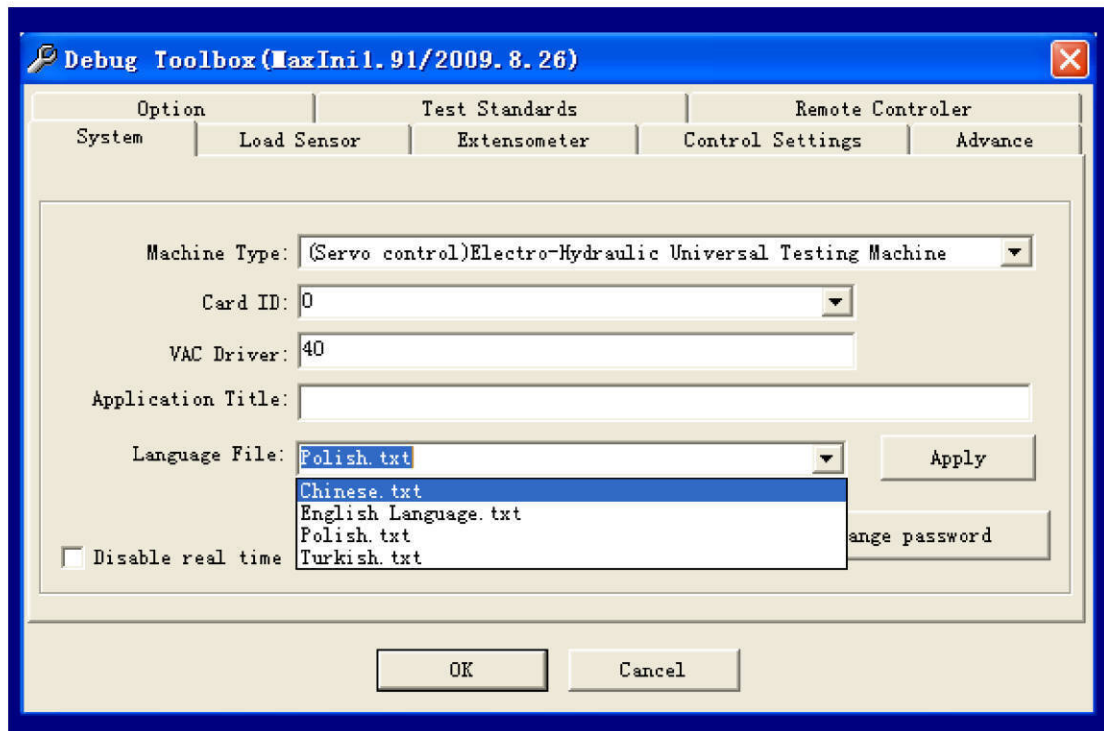
The deep-seated parameters of software are contained in Debug Toolbox

Multi-language function:

With the flexible language edited function, it can support multi-language such as English, Chinese etc. and you can translate the software language into the native language by yourself.
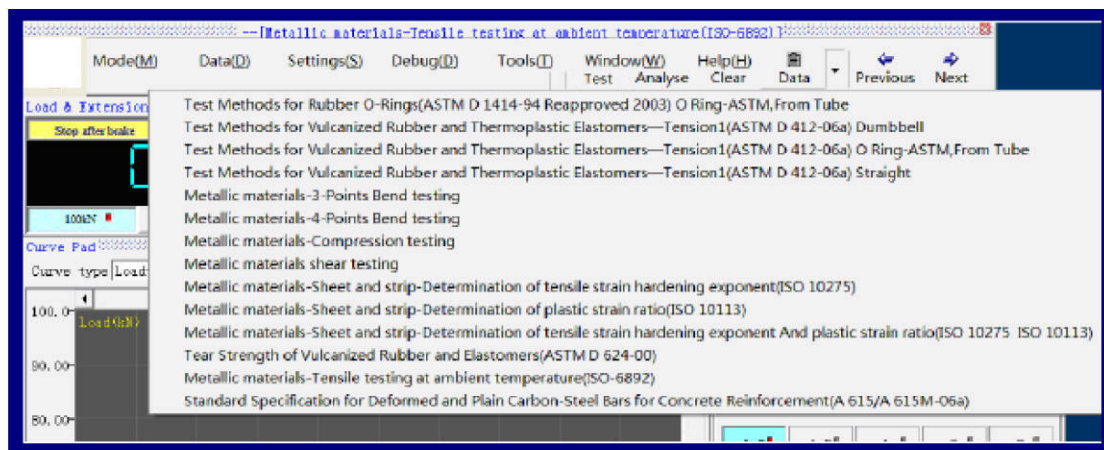
Software supports all kinds of popular testing standards i.e. ISO, ASTM, BS EN, DIN, JIS, GB etc.

Users can modify and add own testing standards and methods.

Test Standard Creater 3.0 (Standards amount = 70)

System(S)

- Modify Standard Caption and ID...
- Modify Standard Definition...
- Modify Standard Structure...
- Copy Current Standard for Creating New Standard...
- Save Current Standard as Tdf File...
- Import Form Tdf File...
- Delete Current Standard
- Find Standard...

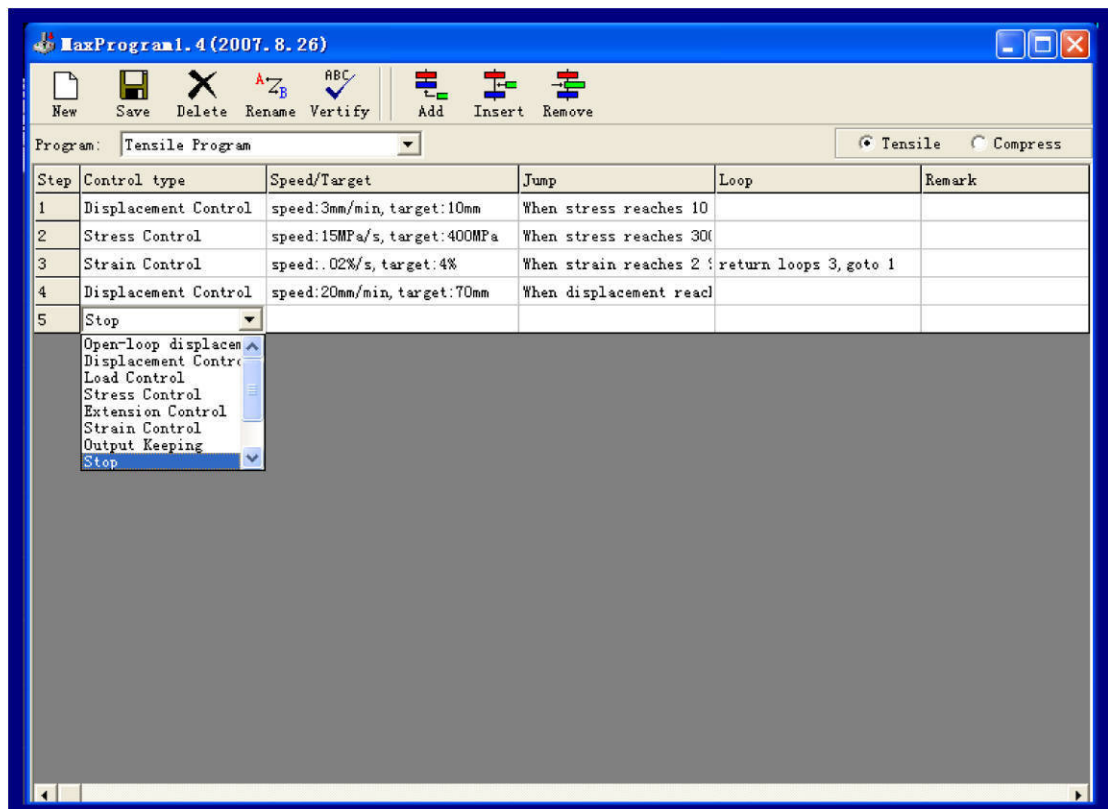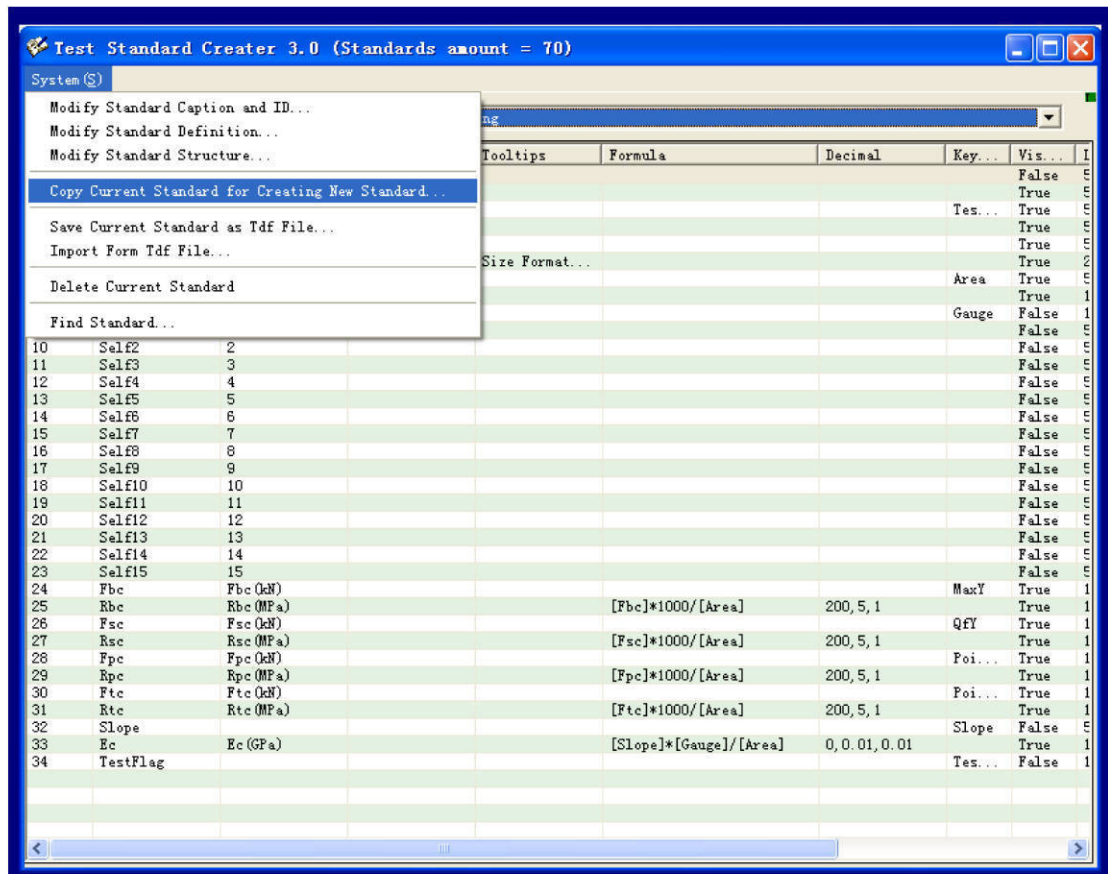|				Tooltips	Formula	Decimal	Key...	Vis...	I
								False	5
							Tes...	True	5
								True	5
								True	5
			Size Format...					True	2
							Area	True	5
								True	1
							Gauge	False	1
								False	5
10	Self2	2						False	5
11	Self3	3						False	5
12	Self4	4						False	5
13	Self5	5						False	5
14	Self6	6						False	5
15	Self7	7						False	5
16	Self8	8						False	5
17	Self9	9						False	5
18	Self10	10						False	5
19	Self11	11						False	5
20	Self12	12						False	5
21	Self13	13						False	5
22	Self14	14						False	5
23	Self15	15						False	5
24	Fbc	Fbc(kN)					MaxY	True	1
25	Rbc	Rbc(MPa)			[Fbc]*1000/[Area]	200,5,1		True	1
26	Fsc	Fsc(kN)					QfY	True	1
27	Rsc	Rsc(MPa)			[Fsc]*1000/[Area]	200,5,1		True	1
28	Fpc	Fpc(kN)					Poi...	True	1
29	Rpc	Rpc(MPa)			[Fpc]*1000/[Area]	200,5,1		True	1
30	Ftc	Ftc(kN)					Poi...	True	1
31	Rtc	Rtc(MPa)			[Ftc]*1000/[Area]	200,5,1		True	1
32	Slope						Slope	False	5
33	Ec	Ec(GPa)			[Slope]*[Gauge]/[Area]	0,0.01,0.01		True	1
34	TestFlag						Tes...	False	1

MaxProgram1.4(2007.8.26)

New Save Delete Rename Vertify   Add Insert Remove

Program: Tensile Program

○ Tensile ○ Compress

Step	Control type	Speed/Target	Jump	Loop	Remark
1	Displacement Control	speed:3mm/min, target:10mm	When stress reaches 10		
2	Stress Control	speed:15MPa/s, target:400MPa	When stress reaches 30(		
3	Strain Control	speed:.02%/s, target:4%	When strain reaches 2 (	return loops 3, goto 1	
4	Displacement Control	speed:20mm/min, target:70mm	When displacement reac		
5	Stop				

Open-loop displacem
Displacement Contro
Load Control
Stress Control
Extension Control
Strain Control
Output Keeping
Stop

MaxProgram Editor possesses of multiple full digital control modes, i.e Displacement control, Stress (Load) control, Strain (Deformation) control, Low cycle control. User can edit the most complex and logical procedure

by MaxProgram Editor. The combination of above functions can meet all kinds of routine test purpose.
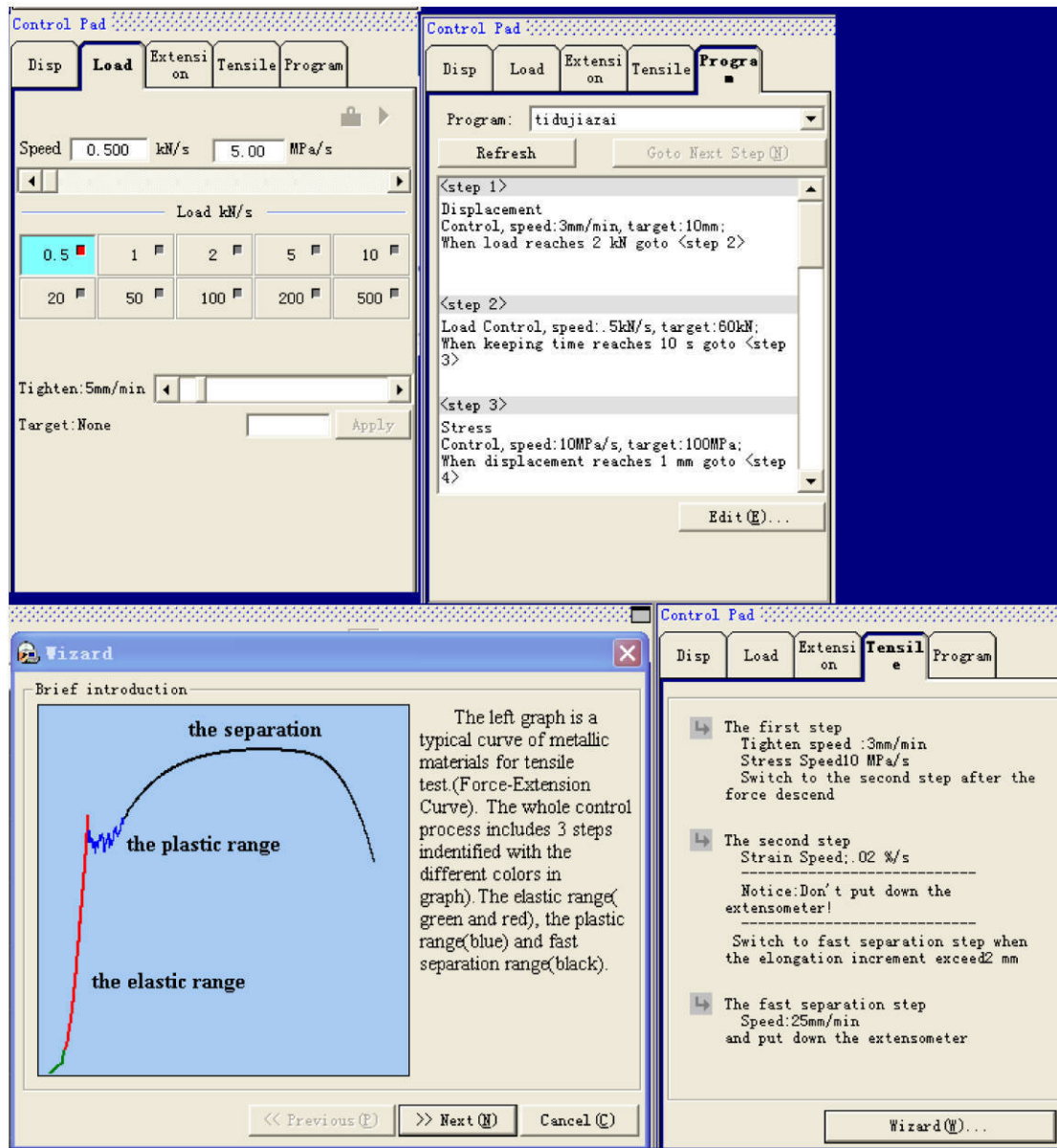

Through the Tensile Program Editor, user can setup test steps according to the requirements of standards.
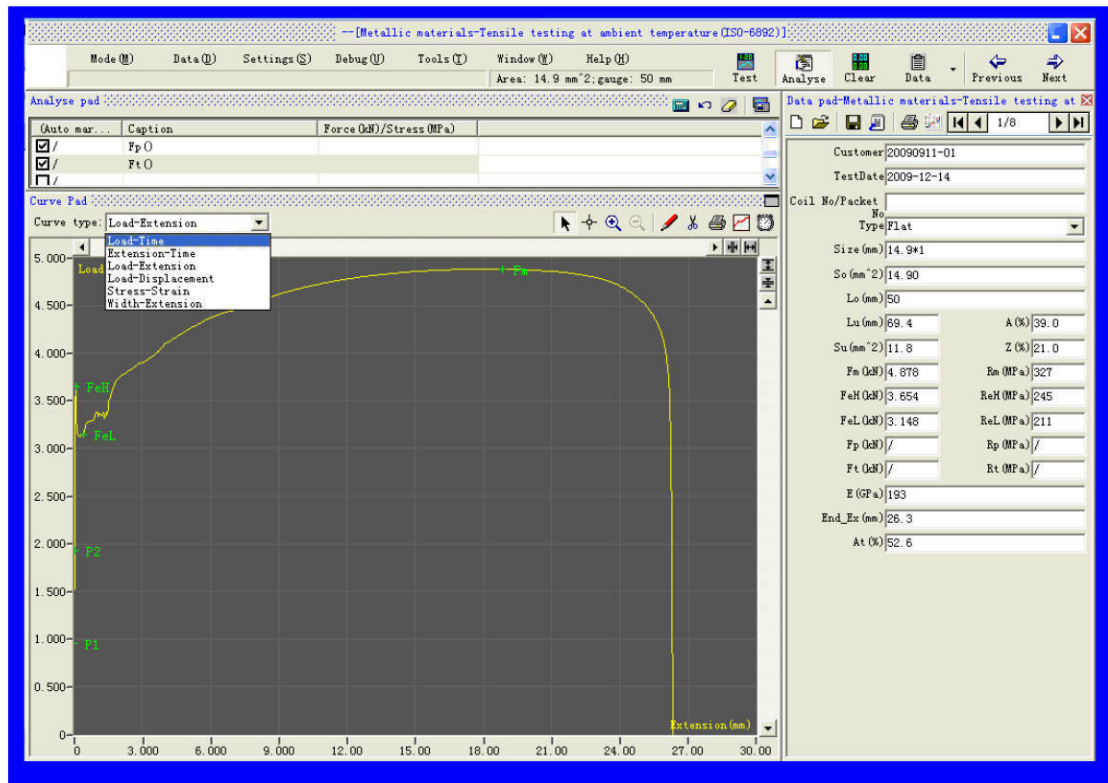
Multiple curves function in real time display including Load-Extension, Load-Displacement, Stress-Strain, Load-Time, Extension-Time, and Width-Extension.

Characteristic points such as Elastic Modulus, Yield points, Rp, Rm etc. can be marked on the curves, for a highlighted and visual observation.

Test result can be obtained automatically and also it can be got from the test curves manually.
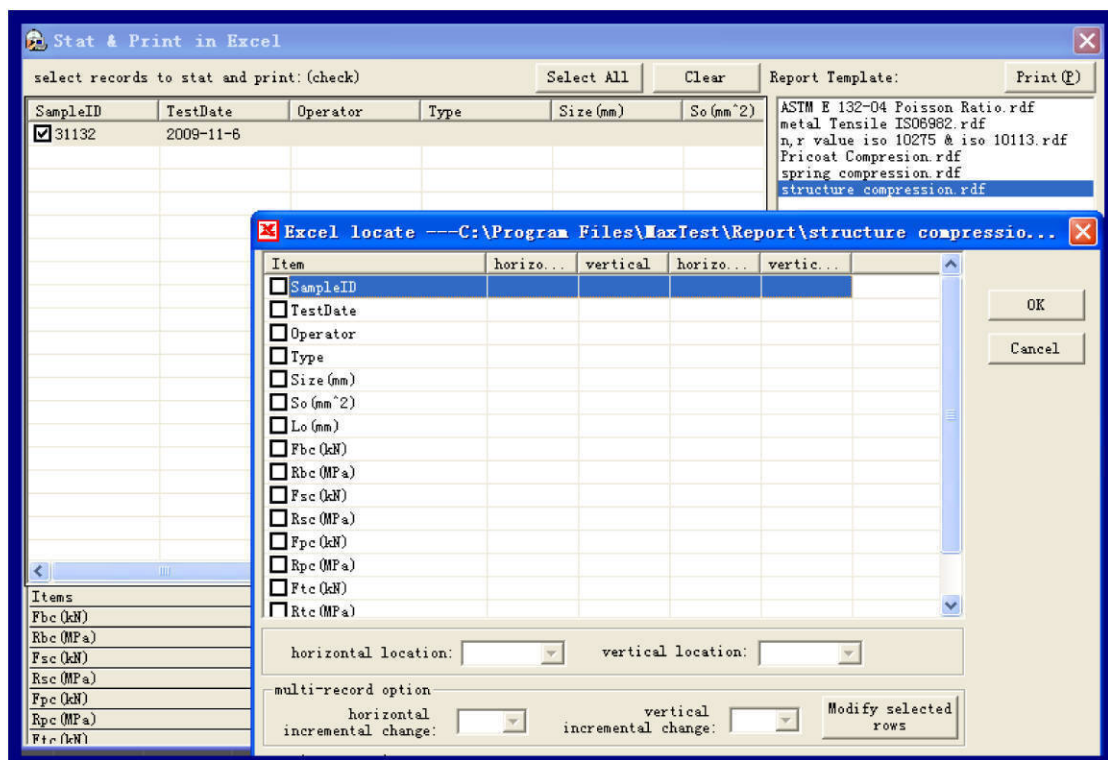
TE software contains all kinds of Report Templates. Customer can design various testing reports according to the requirements. Test result and curve can be printed in Excel or the auto-creating report template.
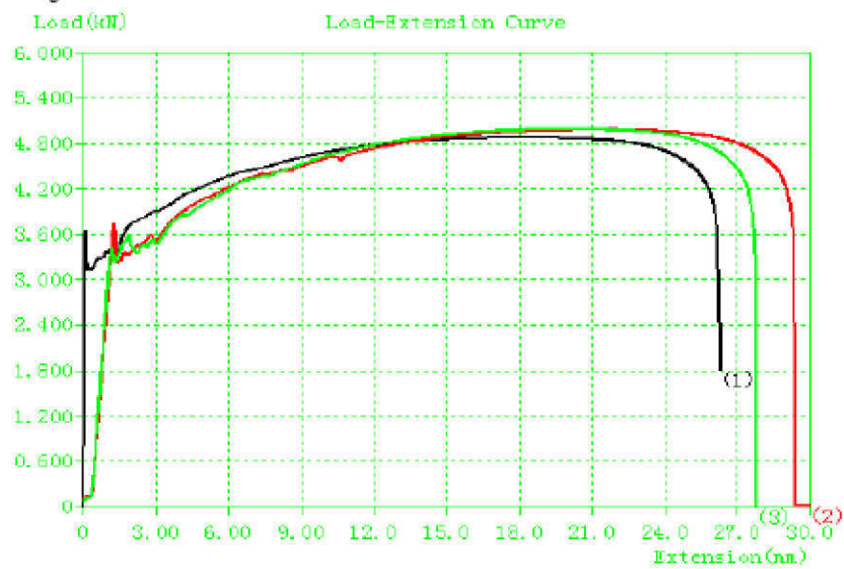
Metallic materials -- Tensile testing at ambient temperature
ISO 6892 : 1998

TestDate	2009-9-11			Operator	LW			
Temperature	20℃			Size(mm)	14.9*1			
Lo(mm)	50			So(mm^2)	14.9			

PrintID	SampleID	Rm(MPa)	ReH(Mpa)	ReL(MPa)	Rp(MPa)	E(GPa)	A(%)	Z(%)
1	QD01	327	245	210	233	193	39	21
2	QD02	334	251	223	234	198	42	23
3	QD03	335	240	229	228	205	38	27
4								
Max value		335	251	229	234	205	42	27
Min value		327	240	210	228	193	38	21
Average value		332	245.3333	220.6667	231.6667	198.6667	39.6667	23.667

Load(kN)   Load-Extension Curve

Extension(nm)

Print Date: 2009-12-8

Except the clip-on Extensometer, TE software supports Long Travel Extensometer, Full Automatic Extensometer, video Extensometer, laser Extensometer, and it can be added eight Extensometers at most.

TE software supports four load cells.