COMPUTER CONTROL SERVO UNIVERSAL TESTING MACHINE

HY-300KN-1000KN

Picture are for reference only, the standard machine is upper tensile

I. INTRODUCTION.

The domestic microcomputer-controlled electronic universal testing machine started in the early 1990s. In order to improve the technical level of the company's products, the company has successively introduced advanced foreign technology, which has brought the company's product technology to a new level.

III.Application field

This product is widely used in tensile, compressive, bending and shearing mechanical performance tests of metal and non-metal materials. With a wide range of accessories, it can also be used for the mechanical performance test of profiles and components. It also has a very wide range of application prospects in the field of material testing such as rope, belt, wire, rubber, and plastic with large sample deformation and fast testing speed. It is suitable for testing fields such as quality supervision, teaching and research, aerospace, steel metallurgy, automobiles, construction and building materials.

IV. According to the standard:

It meets the requirements of the national standard GB/T228.1-2010 "Metal Material Tensile Test Method at Room Temperature", GB/T7314-2005 "Metal Compression Test Method", and complies with the data processing of GB, ISO, ASTM, DIN and other standards. It can meet the requirements of users and the standards provided.

V.DETAILS

1. Host: The machine adopts a double-space door structure, the upper space is stretched, and the lower space is compressed and bent. The beam is steplessly raised and lowered. The transmission part adopts circular arc synchronous toothed belt, screw pair transmission, stable transmission and low noise. The specially designed synchronous toothed belt deceleration system and precision ball screw pair drive the moving beam of the testing machine to realize a backlash-free transmission.

2. Accessories:

Standard configuration: one set of wedge-shaped tension attachment and compression attachment.

3. Electrical measurement and control system:

(1) Adopt TECO AC servo system and servo motor, with stable and reliable performance, with over-current, over-voltage, over-speed, overload and other protection devices.

(2) It has protection functions such as overload, over current, over voltage, upper and lower displacement limits and emergency stop.

(3) The built-in controller ensures that the testing machine can achieve closed-loop control of parameters such as test force, sample deformation and beam displacement, and can achieve constant velocity test force, constant velocity displacement, constant velocity strain, constant velocity load cycle, Tests such as constant velocity deformation cycles. Smooth switching between various control modes.

(4) At the end of the test, you can manually or automatically return to the initial position of the test at high speed.

(5) Realize the real physical zero adjustment, gain adjustment, and automatic shift, zero adjustment, calibration and storage of test force measurement without any analog adjustment links, and the control circuit is highly integrated.

(6) The electrical control circuit refers to the international standard, conforms to the electrical standard of the national testing machine, and has strong anti-interference ability, which ensures the stability of the controller and the accuracy of the experimental data.

(7) It has a network interface, which can carry out data transmission, storage, printing records and network transmission and printing, and can be connected to the internal LAN or Internet network of the enterprise.

4. Description of the main functions of the software

The measurement and control software is used for microcomputer-controlled electronic universal testing machines to conduct various metal and non-metal (such as wood-based panels, etc.) tests, and complete various functions such as real-time measurement and display, real-time control and data processing, and result output in accordance with corresponding standards.

(1) Divided authority management. Operators of different levels have different operating authority, and the contents of operable menus are also different, which makes the operation simple, convenient and fast for ordinary operators, and effectively protects the system;

(2) Real-time measurement and display of test force, peak value, displacement, deformation and other signals; real-time acquisition and control under NT mode platforms such as Win2000 and WinXP; and accurate timing and high-speed sampling;

(3) Real-time screen display of various test curves such as load-deformation, load-displacement, etc., can be switched and observed at any time, and it is very convenient to zoom in and out of the curve;

(4) The computer storage, setting, loading and other functions of test parameters, zero adjustment, calibration and other operations are all carried out on the software, and each parameter can be stored and transferred easily, so that one host can be equipped with multiple sensors. Convenient switching, and there is no limit on the number;

(5) Support a variety of control methods, including open-loop constant velocity displacement and constant velocity force, constant velocity stress and other closed-loop control methods; and provide a standard reference curve when the advanced operator adjusts the closed-loop parameters, so that users can actually observe To the influence of each parameter on the closed-loop effect.

(6) An expert system for intelligent setting of test process control modes is provided to professional users with automatic program-controlled programmers. Users can flexibly combine multiple control methods and control speeds according to actual needs and compile control programs that suit their needs. The measurement and control software will automatically control the test process according to the user settings.

(7) Analyze data by means of human-computer interaction. The processing method meets the requirements of the widely used "GB/T 228-2002 Room Temperature Tensile Test Method for Metallic Materials", which can automatically calculate various performance parameters such as elastic modulus, yield strength, specified non-

proportional extension strength, and manual intervention in the analysis process. , Improve the accuracy of analysis; other data processing can also be performed according to the standards provided by the user.

(8) The test data is stored in text files to facilitate user inquiries, and use any general business reports and word processing software to reprocess the test data, and to facilitate the transmission of data online;

(9) It can record and save the data curve of the whole test process, and has a demonstration function to realize the test curve reproduction. It is also possible to superimpose and compare curves to facilitate comparative analysis;

(10) The test report can be printed in the format required by the user. Users can choose to report and output basic information, test results and test curve content by themselves to meet various needs;

(11) Digital zero adjustment and automatic calibration of test force and deformation are realized, which facilitates operation and improves the reliability of the machine. Various parameter system settings are stored in the form of files, which is easy to save and restore;

(12) It can be applied to various operating systems such as Win98, Win2000, WinXP. Test process control, beam moving speed change, parameter input and other operations can all be completed with keyboard and mouse, which is convenient and quick to use;

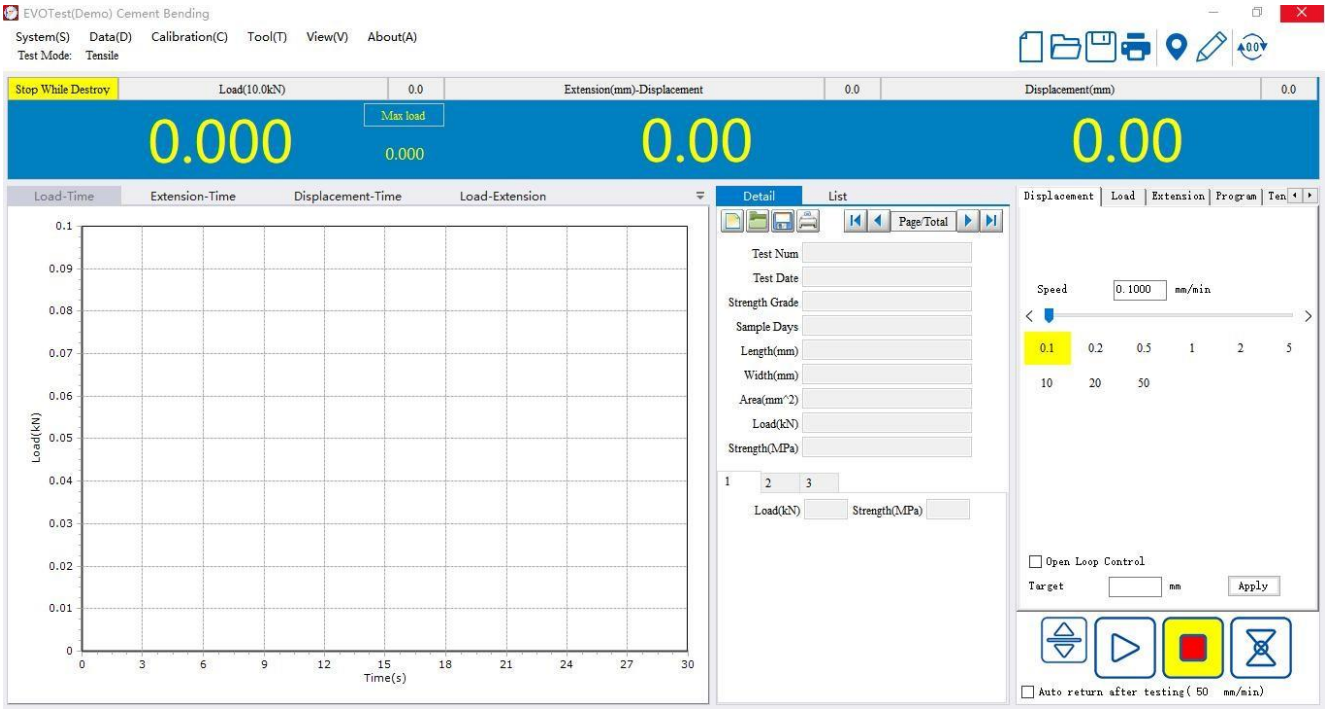
(13) It can automatically identify and support external jog control, making it convenient to clamp the sample;

(14) It has the function of automatic shutdown for overload protection, and can automatically determine whether the sample is broken and automatically shut down.

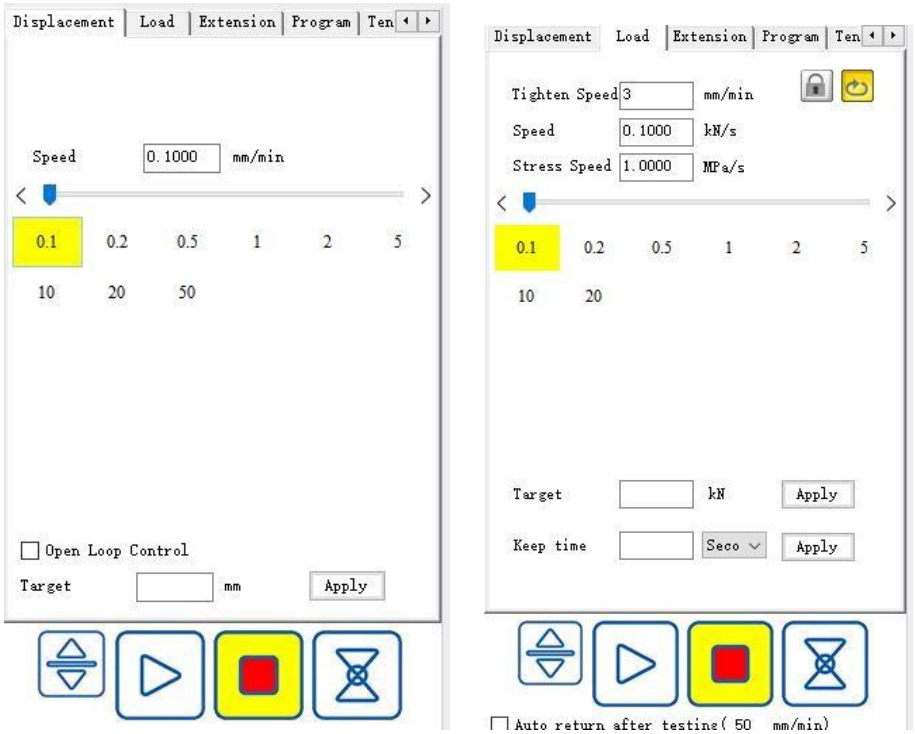
According to different user requirements, the above software functions may be increased or decreased or adjusted.

5. Software and software operation interface:

(1) The software can be in Windows98/2000/XP, and the user interface presents a Chinese/English window system consistent with the Windows style.



(2) Multiple control modes can be selected for automatic program control.



(3) Automatic program-controlled intelligent expert system. Up to 50 steps can be automatically programmed.

（4）Report editing

(5) There are many kinds of test methods, optional

（6）The software has three levels of management authority, which are logged in with their respective passwords, which further ensures the safe use of the software.

VI. Technical Parameters:

Model No.	HY-WDW-300D	HY-WDW-400D	HY-WDW-600D	HY-WDW-1000D
Max force(KN)	300	400	600	1000
Accuracy Class	0.5			
Test force measurement range	0.4%-100%			
Relative error of test force indication	＜±1%			
Test force resolution	1/300000 of the maximum test force			
Deformation measurement range	2%-100%			
Relative error of deformation	＜±0.5%			
Deformation resolution	Maximum deformation 1/300000			

Relative error of displacement	＜±0.5%			
Displacement resolution (mm)	0.001			
Speed range	0.01mm/min-500mm/min			
Tensile stroke (mm)	600 Stepless speed regulation			
Compression Stroke(mm)	600			
Test Width(mm)	600			
Grips for optional	Tensile, compression, bending, shearing, peeling, tearing, etc.			
Overall dimensions of the host (mm)	1120*900*2500	1120*900*2700	1200*900*2800	1200*900*3000
Servo motor power (kW)	3	3.5	4.5	5
Weight(kg)	1500	2000	2500	3800