ARMSTRONG / PRODUCT CATALOGUE

WAW-300E

Electro-Hydraulic Servo Universal Testing Machine

WAW-300E 300KN (30T) Computerized Electro-Hydraulic Servo Hydraulic Universal Testing Machine



Product description:

The machine (WAW-300E microcomputer-controlled electro-hydraulic servo-hydraulic universal testing machine) adopts a cylinder-mounted mainframe structure which is mainly used for the mechanical properties testing in stretching, compression, bending, etc. of metal materials, non-metal materials, product parts, components, structural parts, standard parts. The machines can also be used for material stretching, compression and bending tests this environment if the environmental device is added. For example: high temperature stretching, low temperature stretching, compression and other tests. It is applicable for iron and steel, metallurgy, building materials, quality inspection centers, water conservancy and hydropower, highway bridges, research institutes, colleges and universities mechanics and other factories and mines and testing and research institutions. Product manufacturing and inspection standards EN ISO 6982, EN ISO 7500-1, EN ISO 12630-1 and ASTM A370A. Applicable test method standard The test operation and data processing meet the requirements of GB/T228 "Metal Material Tensile Test Method", GB/T7314 "Metal Material Room Temperature Compression Test Method", GB/T232 "Metal Material Bending Test Method" and other standard requirements. Data processing methods that meet different standards can be configured according to customer requirements.

I. The main technical indicators

1 The host The lower cylinder, the stretching space is located above the host, and the compression and bending test space is located between the lower beam of the mainframe and the workbench. 2 Driving system The lifting of the middle beam adopts the motor which to drive the screw to rotate through the sprocket, and adjust the spatial position of the middle beam, so realize the adjustment of the stretching and compression space.

012-2201096 | Barry, Product Specialist
012-6280096 | Jackie, Marketing Manager
hungtatest@yahoo.com

HUNG TA INSTRUMENT
www.hungtainstrument.com.my
109, Taman A.S.T., Jalan Sungai Ujong,
70200 Seremban, Negeri Sembilan, Malaysia

3. Control system.

Hydraulic principle is shown in Figure 2, which the load-adapted oil inlet throttle speed control system

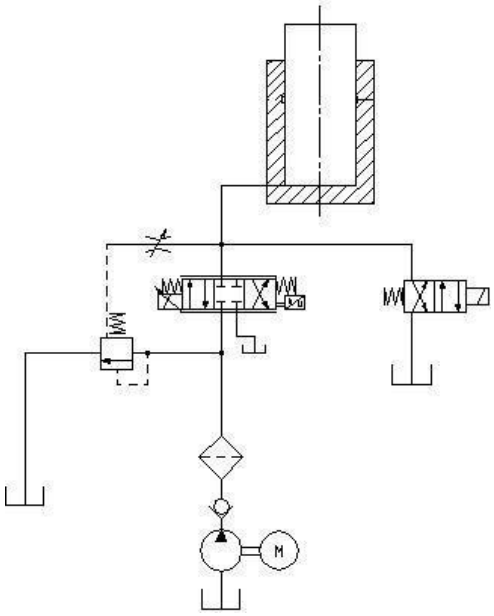


Figure 2 Hydraulic principle The hydraulic oil in the oil tank drives the oil pump into the oil passage through the motor, and flows through the check valve, the high pressure oil filter, the differential pressure valve group, the servo valve, and enters the oil cylinder at last. The computer sends a control signal to the proportional servo valve to control the opening and direction of the proportional servo valve, thereby controlling the flow into the cylinder to achieve constant speed test force, constant velocity displacement and the like.

4. Electrical measurement and control system:

(1) The core components of the servo control oil source are all imported original devices, (2) Protection functions such as overload, overcurrent, overvoltage, upper and lower displacement and emergency stop are attached. (3) The built-in controller based on PCI technology ensures that the test machine can realize closed- loop control of parameters such as test force, sample deformation and beam displacement, and can realize constant velocity test force, constant velocity displacement, constant velocity strain, etc. Fast load cycle, constant velocity deformation cycle and other tests. Smooth switching between various control modes can be satisfied (4) The test initial position can be returned manually or automatically return to original position.

(5) Automatic shiftin g, zero adjustment, calibration and saving of physical zero adjustment, gain adjustment and test force measurement without any analog adjustment link, and the control circuit is highly integrated. (6) The electrical control circuit refers to the international standard, and conforms to the national test machine electrical standard, as well as has a strong anti-interference ability, which ensures the stability of the controller and the accuracy of the experimental data. (7) A network transmission interface, which can carry out data transmission, storage, print recording and network transmission printing, and can be connected with the internal LAN or Internet network of the business.

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5. Description of main software features

The measurement and control software is used for microcomputer-controlled electro-hydraulic servo- hydraulic universal testing machine to carry out various metal and non-metal tests, and complete various functions such as real-time measurement and display, real-time control, data processing, and result output according to the corresponding standards. (1) Different levels of operators have different operating rights, and the operating menus and other contents are different, which makes the ordinary operator easy, convenient, fast, and effectively protects the system; (2) Real-time measurement and display of test force and peak, displacement, deformation and other signals; real-time acquisition and control under the platform; and accurate timing and high-speed sampling; (3) Real-time screen display various test curves such as load-deformation and load-displacement can be realized, and the observation can be switched at any time, and the enlargement and reduction of the curve is very convenient; (4) Computer storage, setting, loading and other functions with test parameters, zero adjustment, calibration, etc. are all performed from the software, and each parameter can be conveniently stored and transferred, so that when one host has multiple sensors and can be easily switched, and there is no limit to the number; (5) Support of variety of control methods, including open-loop constant velocity displacement and constant velocity force, constant velocity stress and other closed-loop control modes; and give a standard reference curve in the process of debugging the closed-loop parameters of advanced operators, so that the user can actually observe The effect of each parameter on the closed loop effect. (6) Expert system with test process control mode intelligent setting. And it could provide automatic program control programmer for professional users. Users can flexibly combine multiple control methods and control speeds according to the actual needs, and compile control programs that suit their needs. The measurement and control software automatically controls the test process automatically according to user settings.

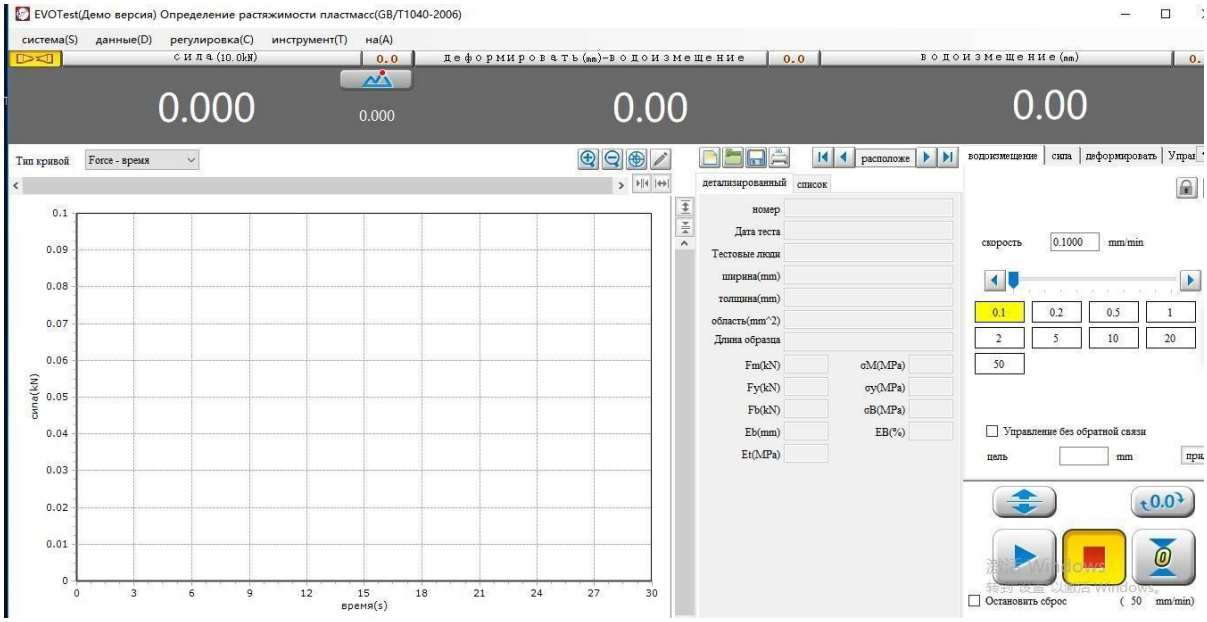
(7) Analyze data usin g human-computer interaction. The treatment method satisfies a wide range of standard requirements, and can automatically calculate various performance parameters such as elastic modulus, yield strength, and specified non-proportional extension strength. It can also manually intervene in the analysis process to improve the accuracy of the analysis; it can also be perform other data processing based on user-provided standards. (8) The test data is stored in a text file for user's inquiry, and the test data is reprocessed by any general business report and word processing software, and the data is conveniently transmitted on the network; (9) The data curve of the test process can be recorded and saved, and the curve superposition and contrast can be performed to facilitate comparative analysis; (10) The test report can be printed in the format required by the user. The user can choose to report the basic information of the output and the test results and the content of the test curve to meet various needs; (11) The digital zero adjustment and automatic calibration of the test force and deformation are realized, which facilitates the operation and improves the reliability of the machine. Various parameter system settings are stored in file format for easy storage and recovery; (12) The test process control, the change of the beam moving speed, the parameter input and other operations can all be completed by keyboard and mouse, and the use Win 10 or above is convenient and quick in Win 7 or os (13) The automatic shutdown function of overload protection, and can automatically judge the breakage of the sample and stop the work automatically . The above software functions may be increased or decreased or adjusted according to user requirements.

6. Software and software operation interface:

(1) And the user interface presents a English window system that is consistent with the Windows os. All test operations can be done with mouse input on a computer screen. Test machine main interface

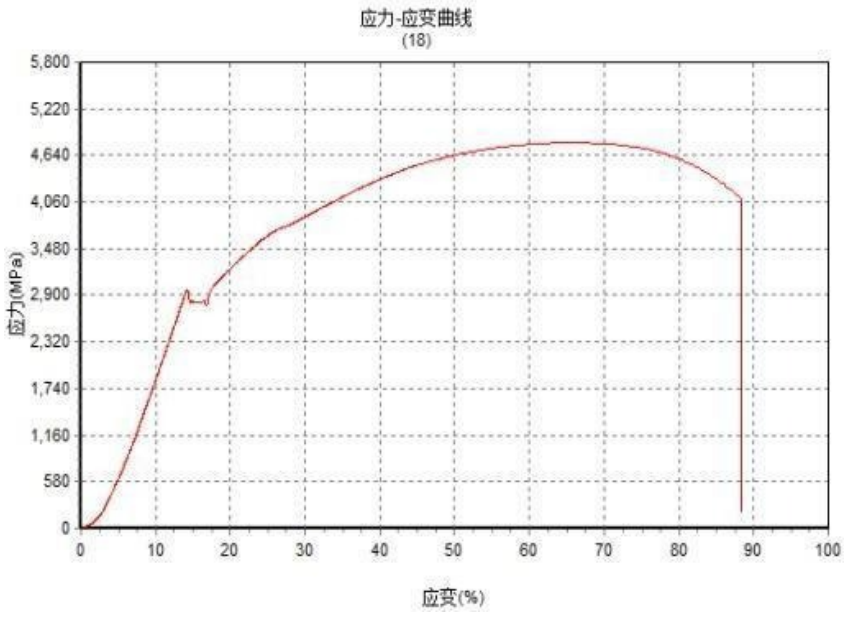
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7. Testing report:

Querying and searching management test data through test data files; Setting the content and format of the customized test report through reporting templates; the supporting for most test standards and test methods can be achieved through editing formulas and result projects; one or more loads After the test data file, the test report is generated according to the report template, and can be printed out; the Word and Excel report templates are supported, and can be edited freely;



Strain- strain curve Strain curve(□) 8 Security protection device (1) When the test force exceeds 2%-5% of the maximum test force, the overload protection will be Triggered and system unloading will begin. (2) When the piston rises to the upper limit position, the stroke is protected and the oil pump motor is stopped.

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III. The main performance technical indicators

Max test force (kN)	300
Test force indication relative error	1% of the indicated value
Test force measurement range	2% to 100% of the maximum test force
Constant velocity stress control range(N/mm2·S-1)	2~60
Constant velocity control range	0.00025/s~0.0025/s
Constant velocity displacement control range mm/min)	0.5~50
Clamping method	Hydraulic clamping
Flat specimen clamping thickness range	0-15mm
Flat specimen clamping width mm	70
Maximum tensile test space mm	550
Maximum compression test space mm	500
Control cabinet dimensions mm	1100×620×850
Mainframe dimensions mm	730×590×1900
Motor power kW	2.3
Host weight kg	2800
Column clearance (mm)	450
Compression plat size mm	Φ150
Protection screen	1 set
Max piston stroke mm	200
Piston maximum moving speed mm/min	About 80
Test Space adjustment speed mm/min	About 150

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9. Standard configuration

1	Host		1 set
	Servo control oil source		
4	Control cabinet		1 set
5	control system		1 set
6	Oil pressure sensor		1
7	Stretch encoder		1
8	Computer		1 set
9	Printer		1 set
10	Round sample jaw mm		1 set
11	Flat specimen jaw mm		1 set
12	Oil pump		
13	Servo valve		
	Technical documents	Instruction manual, packing list, certificate	
15	Bending fixtures	Optional	1 set

Configuration notes

Technical values, standards references, software functions and accessory information are reproduced from the supplied product catalogue. Confirm the applicable standards, current numerical values and supplied configuration with the quotation.

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