



Testing Solutions Material Testings



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BDW-50 Series Electronic Piling Type Force Standard Testing Machine

Category: Material Testing Machine, Research & Education Institutions, Metals, Creep, Fatigue



Summary:

The BDW-50 series hydraulic piling type force standard testing machine meets the automatic calibration requirements of the grade three force gauge.

It can automatically complete the sensitivity test, linearity test, creep test, fatigue test of the sensor.

Standard and Extended Range of Application

The BDW-50 Series Electronic Piling Type Force Standard Testing Machine uses the latest servo control technology, combined with intelligent PID control and modern fuzzy control algorithm.

Using high-precision amplifier and 24-bit high-precision A/D converter. The standard channel effective code 200,000.

Test the sensor automatically according to the requirements of the 'Weighing Sensor Verification Regulation' JJG391-2005, and automatically analyze and calculate the sensor test results. Such as: sensitivity, linearity, repeatability, etc.

Has automatic fixed-point detection and quasi-static detection functions.

Display process curve in real-time, such as: force value - time curve, the sensor detection curve and so on. The curves can be partially enlarged.

Using standard database to manage test data, and networking data interface is provided.

Using high-precision measurement system to collect standard sensor signals, so as to ensure the high precision of force value accuracy and high stability of the machine.

Technical Advantages and Features

- The BDW-50 Force Standard Testing Machine has the advantages of high control precision, high reliability, high detection efficiency, low noise and is able to work continuously for a long time.
- Test force measurement resolution is up to 1/200,000. The maximum effective code of measured channel is 500,000. Meet the test requirement of 1mV / V ~ 5mV / V sensor.
- The system pressure holding precision is up to over 3/100000. Loading speed is able to be set in range of: 0.03%-10%FS/s.
- Precision grade: $\leq 0.02\%$ (Related to the accuracy of the user's standard sensor).
- Pressure holding precision: $\leq 0.003\%$ FS. The pressure holding time span can be set freely.
- The measurement and control software is nice and neat, and easy to operate, can work in Windows98 / 2000 / XP operating systems.
- It is the ideal testing equipment for all sensor manufacturers and measurement institutes.

YLW-100 Slow Strain Rate Tension (SSRT) Stress Corrosion Testing Machine

Category: Material Testing Machine, Metals, Creep, Stress Corrosion, Tensile



Summary:

YLW-100 slow strain rate tension (SSRT) stress corrosion computer control material testing machine is mainly used to test and study the mechanical properties test of static persistent tensile, creep and stress corrosion of metallic materials.

The machine can be used in the characteristic tests of metal stress corrosion damage in a variety of media environments as NaOH, NO₃, H₂S, CL solution, methanol, N₂O₄, NH₃, wet air and water.

Standard and Extended Range of Application

The YLW-100 slow strain rate tension material testing machine can achieve a variety of control modes as constant rate of force control, constant rate of displacement control, displacement holding and programming users' own way to control.

Test results can be automatically saved after the test. Test results can be queried, printed and the data in test process can be exported.

The control system of the machine can be switched to display a variety of test curves: stress-strain curve, force-deformation curve, force-displacement curve, force-time curve, deformation-time curve, displacement-time curve, stress-strain curve. Have the function of test curves partial enlargement and multi-curve stack comparison.

Load, deformation, speed, time and test curve can be dynamically displayed in real-time during the loading process.

Advantages and Features

- Using servo motor as power source, driving precision ball screw to load, and using the independently developed electronic testing machine closed loop control system to full-automatically control the machine. has the advantages of simple structure, low noise, high control precision, simple operation and etc.
- With remote control box, it can achieve the fast / slow adjustment of the action head, flexible operation, free switching.
- It has the reliable and safe function of limiting protection at maximum working position, and overload, overcurrent protection.
- It has the intelligent, efficient and fast function of returning to the original position after the test. With a built-in strong test database, test data can be saved, queried and called at any time.
- It can work continuously for over 3 months without fault. Tests can be carried out on the basis of the original test after power off restoration.

Technical Overview

Testing Item	Specification
Maximum Force	100kN
Testing Force Resolution	1/200000
Relative Error of Indication	1%-100% within the testing span $\pm 1\%$
Relative Error of Testing Force Value Repeatity	$\leq 1\%$
Displacement Speed Range	10-6mm/min ~1mm/min
Maximum Stroke	500mm
Load Method	Electromotion
Power Voltage	$\sim 220V \pm 10\%$ 50Hz
Working Power	1kW

WDW-1/2/5 Electronic Computer Control Universal Testing Machine

Category: Material Testing Machine, Metals, Composites, Compression, Flexure, Tensile

Summary:

The WDW-1/2/5 series computer control electronic universal testing machine (single arm structure) is mainly used for testing the mechanical properties of various metals, non-metallic materials and composite materials in tension, compression and bending tests.



Standard and Extended Range of Application

With the precise automatic control and data acquisition system, our WDW-1/2/5 Electronic Computer Control Universal Testing Machine achieves the fully digital adjustment in the process of data collection and control.

In the tensile test, the universal testing machine measures the maximum bearing force, tensile strength, extended deformation and elongation rate of the test material.

It can achieve a variety of programming control modes as constant rate of force control, constant rate of stress control, constant rate of distortion control, constant rate of strain control, constant rate of process control, constant loading speed control, constant speed control on extension, constant speed control on displacement, low-cycle control and user programming control.

When the test is finished, the machine is returning to the original position, manual reset is not needed.

It has a strong testing database, all the data can be saved, searched and summoned at any time.

Advantages and Features

- The WDW-1/2/5 Electronic Universal Testing Machine is featured with remote control box, which can adjust the fast/slow mode of the beam, and can be flexibly switch in between the two modes.
- It can switch to display a variety of test curves: stress-strain curve, force-deformation curve, force-displacement curve, force-time curve, deformation-time curve, displacement-time curve, stress-strain curve. Have the function of test curves partial enlargement and multi-curve stack comparison.
- The above measurement parameters are automatically calculated by the computer according to test parameter conditions set initially, and therefore the corresponding test results are displayed. When the test is finished, the measurement parameters can be displayed and also be printed out when the printer is connected.
- It has reliable safety precaution of limiting protection at any working position, and protection for loading and circuit.

Technical Overview

Testing Item	Specification
Maximum Force	1kN/2kN/5kN
Testing Force Resolution	1/200000
Minimum Deformation Indication	0.01mm
Relative Error of Indication	1%-100% within the testing span $\pm 1\%$
Relative Error of Testing Force Value Repeatity	$\leq 1\%$
Relative Error of Testing Force Zero Point	$\pm 0.1\%$
Speed Range	0.005-500mm/min
Testing Space	800mm
Load Method	Electromotion
Power Voltage	$\sim 220V \pm 10\%$ 50Hz
Tester Overall Dimensions	650x500x1650mm
Tester Weight	150kg

MGW Series Electro-Hydraulic Servo Static Load Anchoring Testing Machine

Category: Infrastructure Projects, Material Testing Machine, Metals



Main Usages:

For detecting the steel strand anchor coefficient of railway, bridge, building, electric power and other infrastructure construction.

Applicable Standards:

Meet the requirements of GB/T14370-2007 prestress anchor, clamp and connector for steel strand.

Specifications:

5000kN, 6500kN, 10000kN

Standard and Extended Range of Application

Our MGW series servo static load anchoring testing machine uses hyper pressure digital servo valve group as the executive component. Its maximum control pressure is 60MPa.

With the self-developed EHC-3100M servo measurement and control system equipped, The anchoring testing machine has the force closed-loop and displacement closed-loop control function.

According to the test standard, the ultimate tensile force, the total strain, the anchoring efficiency coefficient and other parameters can be calculated automatically, and can print out the complete test report.

Advantages and Features

- The rack of the main anchoring testing machine is composed of left and right beams, four supporting columns and screw jacks. For the sake of safety, the frame of machine is equipped with protective net.
- The measuring element of MGW series electro-hydraulic servo static load anchoring testing machine is a high precision hollow load sensor, which has high precision and good long-term stability, so as to ensure the measurement accuracy of the testing machine.
- Experiment process data and curve dynamic display, test data editing, curve browsing, local zoom-in and other functions.

Technical Overview

Models & Specifications	MGW-5000	MGW-6500	MGW-10000
Maximum Force	5000kN	6500kN	10000kN
Accuracy Level	Level 1		
Range of Force Testing	(4%-100%)FS		
Testing Force Resolution	1/20000 of the maximum force. No gages in full testing range.		
Displacement Resolution	0.01mm		
Force Constant Rate Control Range	(0.05%-2.5%)FS		
Displacement Rate Control Range	(0.1-25)mm/min	(0.1-20)mm/min	(0.1-20)mm/min
Stretch Stroke	200mm		
Motor Power	6.0kW		9.0kW
Testing Machine Mainframe Overall Dimensions	3600×800×800mm		5100×900×900mm
Power Voltage	Three-phase AC 380V±10% 50Hz		

WSC-300 Steel Strand Stress Relaxation Computer Control Testing Machine

Category: Material Testing Machine, Metals, Tensile



Main Usages:

The testing machine is mainly used for the tensile stress relaxation mechanical properties tests of metal materials (such as steel wire, PC steel bar and wire) in room temperature.

Applicable Standards:

Meet the related requirements of tensile stress relaxation tests in room temperature from the standards of 'GB / T 10120-1996 metal stress relaxation test method' and 'ASTM E328-2008 materials and structural stress relaxation test method'.

Standard and Extended Range of Application

The WSC-300 computer control steel strand stress relaxation testing machine can achieve constant speed load control, load holding, constant speed displacement control, displacement holding, constant speed deformation control, deformation holding and other functions, with high control precision and good reliability.

It can automatically calculate the stress relaxation performance of the specimen (such as stress relaxation rate) and print out the complete test report.

Using The PID closed loop control strategy to achieve the constant speed loading, has the function of freely setting the loading rate 100~5000N/S. Load and displacement are digital calibrated.

It can calculate the stress relaxation property of the specimen for 1000 hours. And it has the function to Store test results and be able to review and traverse the test procedure.

Advantages and Features

- The machine uses imported servo motor as the power source, with force closed loop and displacement closed loop control function.
- Using high-precision amplifier and A / D converter. effective code ± 200000 , stepless variable speed, Grade One precision, measuring range 2%-100%FSm. Loading, load peak, loading speed are digital displayed in real time.
- Automatically adjust the coordinates: enter the test state, the system will automatically adjust the he size of coordinates and show the complete curve throughout the entire test process.
- With the residual test force or relaxation rate and time curve. Test parameters can be automatically stored, automatically called out and can also be reset. After the test is completed, data can be picked up on the test curve by mouse.

WEP Series Touch Screen Hydraulic Universal Testing Machine

Category: Material Testing Machine, Metals, Tensile Compression, Shear, Flexure

Main Usages:

The testing machine is suitable for tensile, compression, bending and shear tests of metallic materials.

Applicable Standards:

Meet the requirements of GB/T228.1-2010, ISO, ASTM and other related testing standard.

Specifications:

100kN, 300kN, 600kN, 1000kN



Standard and Extended Range of Application

The WEP Touch Screen Hydraulic Universal Testing Machine can automatically calculate the max force, tensile strength, yield strength, non-proportional extension strength, elastic modulus, elongation after breaking and other parameters. Can print out the complete test report.

Test curves can be displayed in real-time during the test process. The curvilinear coordinates can be chosen freely. Three different curves can be displayed in the same interface. Test curves can be partially zoomed in.

The machine can easily add or remove a test standard, and the control steps can be freely edited according to the test requirements.

Advantages and Features

- The measuring element of this universal testing machine is a high-precision spoke sensor, which has high precision and long-term stability, thus ensuring the precision of the test machine.
- The test machine adopts four columns, double space frame structure, with good rigidity and stability. Hydraulic automatic clamping, reliable and convenient.
- Spring buffer device is arranged in the beam, which can effectively eliminate the transmission gap between the screw and the nut. It plays a good buffer when test specimen is breaking.
- This universal testing machine is equipped with high toughness protective net to fence out the operator and the test space, which can effectively guarantee the safety of the operator.

Technical Overview

Models & Specifications	WEP-100B	WEP-300B	WEP-600B	WEP-1000B
Maximum Force	100kN	300kN	600kN	1000kN
Range of Force Testing	2-100kN	6-300kN	12-600kN	20-1000kN
Measuring Span	No gages in full testing range, equals to four gages for manual testing.			
Force Value Accuracy	≤±1%			
Force Resolution	1/100000FS			
Displacement Measuring Range	1%-100%FS			
Displacement Resolution	1/200000FS			
Displacement Value Accuracy	≤±1%			
Deformation Measuring Range	1%-100%FS			
Deformation Resolution	1/200000FS			
Deformation Value Accuracy	≤±1%			
Maximum Distance of Platens	600mm	600mm	700mm	700mm
Maximum Distance of Tensile Jaws	600mm	600mm	700mm	700mm
Flat Sample Clamping Width	≤60mm	≤60mm	≤70mm	≤80mm
Flat Sample Clamping Thickness	2-15mm	2-15mm	2-30mm	2-40mm
Round Sample Clamping Diameter	6-22mm	10-32mm	13-40mm	20-60mm
Distance of Support Rolls for Bending Tests	30-460mm	30-460mm	30-600mm	60-700mm
Motor Power	1.5+0.55kW	1.5+0.55kW	1.5+0.55kW	1.5+0.55kW
Testing Machine Mainframe Overall Dimensions	760×460×1965mm	760×460×1965mm	880×600×2150mm	1000×700×2350mm
Oil Source Control Closet Dimensions	1100×600×900mm			
Mainframe Weight	1700kg	1700kg	2500kg	3500kg

YDW Electronic Bending and Compressive Strength Testing Machine

Category: Material Testing Machine, Metals, Construction Materials, Asphalt and Rock, Flexure, Compression



Main Usages:

YDW Series Electronic Bending and Compressive Strength Testing Machine is suitable for the bending strength test of cement, firebrick and red brick, as well as the compressive strength test of light refractory brick and asphalt.

Applicable Standards:

The machine meets the requirements of GB/T17671-1999, GB/T3001-2007, JTG E20-2011 and other related testing standard.

Specifications:

10kN, 20kN, 50kN

Standard and Extended Range of Application

Using 7-inch touch-screen industrial computer as the man-machine operating platform, together with the control software in WIN CE operating system, is powerful and easy to operate.

Our YDW Series Electronic Bending and Compressive Strength material testing machine supports external standard keyboard and mouse to operate.

Support micro-printer or HP inkjet printer to print test reports, both are optional.

Use the up and down arrow keys to achieve fast / slow adjustment of the indenter, flexible operation, free to switch.

It has the intelligent, efficient and fast function of returning to the original position after the test.

Advantages and Features

- It uses the electric servo loading method of driving ball screw by stepper motor, has features as low noise, load stability and high reliability.
- This material testing machine can achieve a variety of control modes as constant rate of loading, load holding and constant rate of offloading control.
- It has the reliable and safe function of upper and lower limiting protection at maximum working position, and overload, overcurrent protection.
- With Ethernet communication interface, it can be connected with the computer through ethernet to communicate and control, or networking with other testing machines.

Technical Overview

Models & Specifications	YDW-10	YDW-20	YDW-50
Maximum Force	10kN	20kN	50kN
Range of Force Testing		(5%-100%)FS	
Testing Force Resolution		1/200000	
Force Value Accuracy		≤1%	
Loading Rate Range	(5-500)N/s	(10-1000)N/s	(25-2500)N/s
Testing Space	180x165mm	180x165mm	220x260mm
Maximum Stroke	40mm	40mm	100mm
Loading Method		Electromotion	
Power Input Voltage		~220V±10% 50Hz	
Working Power	80W	100W	200W

ZRP-2801 Full-automatic Asphalt Penetrometer Testing Machine

Category: Material Testing Machine, Infrastructure Projects, Asphalt and Rock



Summary:

Our independently developed ZRP-2801 full-automatic asphalt penetrometer testing machine is suitable for measuring the penetration of the road petroleum asphalt, the modified asphalt penetration and the evaporation residue of the liquid petroleum asphalt or emulsified asphalt.

Standard and Extended Range of Application

The ZRP-2801 full-automatic asphalt penetrometer testing machine can be widely used in food industry, transportation highway engineering and other industrial sectors.

The instrument uses the computer control technology, can automatically complete the penetration test, and LVDT is ensured by the computer calibration technology, the measurement is accurate and reliable.

The instrument can display the temperature value, the displacement value and the penetration value in real-time. the penetration - time curve is dynamically displayed in the test process.

The instrument has 4 standard USB interfaces, supports external mouse and standard keyboard.

With the built-in Ethernet interface, the RHP-2806 asphalt softening point testing machine can easily achieve networking data exchanging and communication.

Advantages and Features

- The ZRP-2801 asphalt penetrometer testing machine fully meets the requirements from the T0604-2011 'asphalt penetration test' in PRC industrial standard JTG E20-2011 'highway engineering asphalt and asphalt mixture test procedures'.
- With additional accessory parts, the testing machine can measure the penetration of paraffin, grease and other substances.
- The powerful penetration test system is composed of the independently developed EPC-70 touch-screen tablet and specialized testing software.
- The elevator structure of this instrument is smartly designed and easy to adjust.
- The instrument uses a 7-inch true color display, designed with user-friendly touch operation. Supports external HP inkjet printer, is able to print standard test report.

Technical Overview

Testing Item	Specification
Testing Range	(0~500) penetration
Resolution	0.1 penetration
Time Setting Range	(0~60)s, time error ≤ 0.1 s
Heater Power	200W
Standard Needle	50mm, 2.5g \pm 0.05g
Bracket Lifting Frame	Double lifting adjustable mechanism. Convenient for the needle point to the sample plane.
Working Power	AC (220 \pm 10%V), 50Hz
Tester Overall Dimensions	410mm \times 240mm \times 620mm

DTS-1200 Measuring and Controlling System for Electro-hydraulic Servo Pressure Testing Machine

Category: Measure & Control System, Construction Materials, Testing Machine Renovation, Compression



Main Usages:

Suitable for upgrading and reconstructing the hydraulic pressure testing machine to computer control full-automatic pressure testing machine.

Applicable Standards:

Meets the requirement of GB/T17671-1999. The mortar compressive test procedure meets the requirements of JGJ70-90 and other relevant national standards.

Standard Configuration:

- DTS-1000 LCD display digital electro-hydraulic measurement and control box.
- High precision pressure sensor.
- Digital servo valve.
- Pressure compensation apparatus (stable difference pressure reducing valve) .
- SuperTest6.1 measurement and control software.

Standard and Extended Range of Application

The DTS-1200 measure and control system for pressure material testing machine uses high-precision amplifier and A/D converter. The effective inner code of the system is $\pm 60,000$.

It can accomplish steplessly continuous measurement with Grade 1 precision. Can digital display load, load peak, loading speed and compressive strength in real time.

Uses PID closed-loop control strategy to implement constant speed loading. The speed can be configured within 1-10kN/s.

DTS-1000 measure and control box can conduct the tests separately from PC or work together with PC.

It uses computer to implement electronic measurement, automatically accomplish the compressive strength test and automatically calculate test results and print the reports.

Advantages and Features

- The DTS-1200 system for material testing machine uses high-precision digital servo valve, has the force closed-loop control function. It is available to achieve the constant load rate loading or constant stress rate loading.
- The loading curve can be displayed in real-time. Dual displays on two machines. Automatic interval timing and continuous test.
- There are two types of control models: automatic loading and manual loading.
- Test force overload protection is built-in.
- It is suitable to work with Windows 9, 2000 and XP operation systems. And it uses standard database to manage the test data.

EDC-3100 Measure and Control System for Computer Control Electronic Universal Testing Machine

Category: Measure & Control System, Construction Materials, Testing Machine Renovation



Main Usages:

Suitable for working together with the electronic universal testing machines from all other testing machine manufacturers, to compose the microcomputer control electronic universal testing machine.

It is also suitable for the detection organizations to deal with the automatization upgrading and reconstruction of their old electronic universal testing machines and upgrade to microcomputer control electronic universal testing machines.

System Composition:

The system is composed of the independently developed EDC-3100 servo measurement and control box and TestMaster3.0 testing and control software.

Advantages and Features

Our EDC-3100 system is able to implement the whole control process from data acquisition, PID computing and Ethernet communication operation to the output control in a short period of time, thus achieve the accurate closed-loop control for the testing machine.

The controller uses Cortex_M3 32-bit high-speed ARM chip as the master chip, has high computing speed and data processing capabilities.

It can implement load, displacement and deformation closed-loop control of the electronic universal testing machine, and can achieve smooth switching between the three control modes. It has the features of high control precision, strong adaptability, long-term stability and so on.

All three input channels use the separate 24-bit A/D converter for high-precision data sampling. The effective internal code is up to $\pm 200,000$.

This EDC-3100 system for Computer Control Electronic Universal Testing Machine has up to 15 linear compensation and correction function and greatly improve measurement range and measurement accuracy of the sensor.

The measurement unit of the system adopts high precision load sensor, rotary photoelectric encoder and electronic extensometer.

Technical Overview

- The EDC-3100 Electronic Universal Testing Machine System has three analog input channels: one for loading, one for electronic extensometer and one extension channel.
- It has three photoelectric encoder quadruple frequency counting input channels. One differential input channel can be connected with the photoelectric encoder signal of the servo motor for displacement measurement.
- Two TTL signal input channels can be connected with photoelectric encoders for large deformation measurement or two grating displacement sensors.
- Four switch input interfaces: can be connected to 4 limit switches to input signal.
- Four switch output interfaces: can be connected to 4 intermediate relays.
- One 0-10V analog signal output interface: can be connected to the servo motor drive or inverter.
- One 0-500kHz pulse frequency differential output interface: can be connected to the servo motor drive, used to control the speed of servo motor or stepper motor.
- One differential directional signal output interface: can be connected to the servo motor drive, used to control the servo motor steering.

Control Functions and Interfaces

The EDC-3100 system for Computer Control Electronic Universal Testing Machine uses the PID control strategy to achieve the load closed loop control , as well as achieving the functions of constant speed loading, load retention and constant speed offloading.

It uses the PID control strategy to implement the displacement closed loop control , as well as achieving the functions of constant speed displacement and displacement holding.

It uses the PID control strategy to implement the distortion closed loop control , as well as achieving the functions of constant speed distortion and deformation retaining.

One 100MHz Ethernet communication interface, achieve high-speed data communications with PC. Has the function of real-time data acquisition upload and real-time delivery of control instructions, so as to achieve the purpose of controlling the testing machine by PC in real-time.

Configuration List

Product Name	Specification	Amount
Servo Measure and Control Box	EDC-3100	1 pc
Load Sensor	0.1-100kN (Optional)	1 pc
Photoelectric Encoder	CHA-100BM-G05L (Optional)	1 pc
Electronic Extensometer	YYU-10/50 (Optional)	1 pc
Control Connecting Cable	EDC-3100	1 Set
Measure and Control Software	TestMaster3.0	1 Set

EHC-3100 System for Electro-Hydraulic Servo Universal Testing Machine

Category: Measure & Control System, Construction Materials, Testing Machine Renovation



System Composition:

The EHC-3100 System for Electro-Hydraulic Servo Universal Testing Machine is composed of the independently developed EHC-3100 electro-hydraulic servo measurement and control box, GS-82 digital servo valve group and TestMaster 3.0 testing and control software.

Main Usages:

It is suitable for working together with the hydraulic universal testing machines from testing machine manufacturers, to compose the electro-hydraulic servo universal testing machines.

It is also suitable for the detection organizations to deal with the automatization upgrading and reconstruction of their old hydraulic testing machines and upgrade them to electro-hydraulic servo universal testing machines.

Advantages and Features

The measurement unit of the EHC-3100 system adopts high precision pressure sensor, gaged displacement sensor and electronic extensometer.

Our EHC-3100 system is able to implement the whole control process from data acquisition, PID computing and Ethernet communication operation to the output control in a short period of time, thus achieve the accurate closed-loop control for the testing machine.

The controller uses Cortex_M3 32-bit high-speed ARM chip as the master chip, has high computing speed and data processing capabilities.

It can implement load, displacement and deformation closed-loop control of the universal testing machine, and can achieve smoothly switching between the three control modes. It has the features of high control precision, strong adaptability, reliable long-term stability and so on.

All three input channels use the separate 24-bit A/D converter for high-precision data sampling. The effective internal code is up to $\pm 200,000$.

This EHC-3100 measure and control system has up to 15 linear compensation and correction function and greatly improve measurement range and measurement accuracy of the sensor.

Technical Overview

- The EHC-3100 system has three analog input channels: One for loading, one for electronic extensometer and one extension channel.
- It also has three photoelectric encoder quadruple frequency counting input channels. One channel for guyed displacement sensor, two channels for photoelectric encoders or grating sensors.
- Four switch input interfaces: can be connected to 4 switches to input signal. And four switch output interfaces: can be connected to 4 intermediate relays.
- One digital servo valve interface: to connect GS-82 digital servo valve.
- One electromagnetic reversing valve interface: to connect DC24V rapid return oil electromagnetic reversing valve.
- One overload protection interface (normally closed contact): connect to the oil pump control circuit. Automatically stop oil pump when testing machine is overloaded.

Configuration List

Product Name	Specification	Amount
Electro-Hydraulic Servo Measure and Control Box	EHC-3100	1 pc
Pressure Sensor	30MPa	1 pc
Guyed Displacement Sensor	0-1000mm	1 pc
Electronic Extensometer	YYU-10/50 (Optional)	1 pc
Digital Servo Valve	GS-89	1 pc
Plate Type Reducing Valve	YB-160	1 pc
Hydraulic Manifold Block	DYWN-E (Optional)	1 pc
Control Connecting Cable	EHC-3100	1 Set
Measure and Control Software	TestMaster 3.0	1 Set

Control Functions and Interfaces

The EHC-3100 system uses the PID control strategy to achieve the load closed loop control , as well as achieving the functions of constant speed loading, load retention and constant speed offloading.

It also uses the PID control strategy to implement the displacement closed loop control , as well as achieving the functions of constant speed displacement and displacement holding.

It uses the PID control strategy to implement the distortion closed loop control , as well as achieving the functions of constant speed distortion and deformation retaining.

One 100MHz Ethernet communication interface, can achieve high-speed data communications with PC.

Has the function of real-time data acquisition upload and real-time delivery of control instructions, so as to achieve the purpose of controlling the testing machine by PC in real-time.

EHC-3100M System for Electro-Hydraulic Servo Anchoring Testing Machine

Category: Measure & Control System, Construction Materials, Testing Machine Renovation



System Composition:

EHC-3100M System for Electro-Hydraulic Servo Anchoring Testing Machine is composed of the independently developed EHC-3100M electro-hydraulic servo measurement and control box, GS-82 digital servo valve group and TestMaster 3.0M testing and control software.

Main Usages:

It is designed for working together with the hydraulic static anchoring testing machines from testing machine manufacturers, to compose the electro-hydraulic servo anchoring testing machines.

It is also suitable for the detection organizations to deal with the automatization upgrading and reconstruction of their old hydraulic static anchoring testing machines and upgrade them to electro-hydraulic servo anchoring testing machines.

Advantages and Features

The measurement unit of the EHC-3100M system adopts high precision hollow load sensor and guyed displacement sensor.

Our EHC-3100M system is able to implement the whole control process from data acquisition, PID computing and Ethernet communication operation to the output control in a short period of time, thus achieve the accurate closed-loop control for the testing machine.

The controller uses Cortex_M3 32-bit high-speed ARM chip as the master chip, has high computing speed and data processing capabilities.

It can implement load and displacement closed-loop control of the anchoring testing machine, and can achieve smoothly switching between the two control modes. It has the features of high control precision, strong adaptability, reliable long-term stability and so on.

All three input channels use the separate 24-bit A/D converter for high-precision data sampling. The effective internal code is up to $\pm 200,000$.

This EHC-3100M measure and control system has up to 15 linear compensation and correction function and greatly improve measurement range and measurement accuracy of the sensor.

Technical Overview

- The EHC-3100M system has three analog input channels: one for loading, two for extension channels.
- It also has three photoelectric encoder 4 frequency counting input channels. One channel for guyed displacement sensor, two for photoelectric encoders or grating displacement sensors.
- Four switch input interfaces: can be connected to 4 switches to input signal. And four switch output interfaces: can be connected to 4 intermediate relays.
- One digital servo valve interface: to connect GS-82 digital servo valve.
- One electromagnetic reversing valve interface: to connect DC24V rapid return oil electromagnetic reversing valve.
- One overload protection interface (normally closed contact): connect to the oil pump control circuit. Automatically stop oil pump when testing machine is overloaded.

Configuration List

Product Name	Specification	Amount
Electro-Hydraulic Servo Measure and Control Box	EHC-3100-M	1 pc
Hollow Load Sensor	5000kN (Optional)	1 pc
Guyed Displacement Sensor	0-1000mm	1 pc
Digital Servo Valve	GS-89	1 pc
Plate Type Reducing Valve	YB-160H	1 pc
Electromagnetic Reversing Valve	4WE6D/EG24-20-30 (Optional)	1 pc
High Pressure Safety Valve	63MPa (Optional)	1 pc
Stack Relief Valve	ZDB6VP/100 (Optional)	1 pc
Hydraulic Manifold Block	DYWN-E (Optional)	1 pc
Control Connecting Cable	EHC-3100	1 Set
Measure and Control Software	TestMaster 3.0M	1 Set

Control Functions and Interfaces

The EHC-3100M system uses the PID control strategy to achieve the load closed loop control, as well as achieving the functions of constant speed loading, load retention and constant speed offloading.

It also uses the PID control strategy to implement the displacement closed loop control, as well as achieving the functions of constant speed displacement and displacement holding.

One 100MHz Ethernet communication interface, achieve high-speed data communications with PC.

Has the function of real-time data acquisition upload and real-time delivery of control instructions, so as to achieve the purpose of controlling the anchoring testing machine by PC in real-time.

WEW-3100 System for Computer Display Universal Testing Machine

Category: Measure & Control System, Construction Materials, Testing Machine Renovation



System Composition:

The WEW-3100 System for Computer Display Universal Testing Machine is composed of the independently developed WEW-3100 measurement and control box and TestMaster 3.0P testing and control software.

Main Usages:

It is designed to work together with the hydraulic universal testing machines from testing machine manufacturers, to compose the computer display hydraulic universal testing machines.

It is also suitable for the detection organizations to deal with the automatization upgrading and reconstruction of their dial type or digital display hydraulic universal testing machines and upgrade them to computer display hydraulic universal testing machines.

Advantages and Features

The WEW-3100 system is able to implement data acquisition and Ethernet communication in a short period of time, thus achieve data acquisition and uploading.

It can implement the data acquisition and display of load, displacement and deformation for the universal testing machine. It has the features of high control precision, strong adaptability, reliable long-term stability and so on.

The measurement unit of the WEW-3100 system adopts high precision pressure sensor, gaged displacement sensor and electronic extensometer.

This WEW-3100 measure and control system has up to 15 linear compensation and correction function and greatly improve measurement range and measurement accuracy of the sensor.

Technical Overview

- The WEW-3100 system for universal testing machine has three analog input channels: One for loading, one for electronic extensometer and one extension channel.
- It also has three photoelectric encoder quadruple frequency counting input channels. One channel for guyed displacement sensor, two channels for photoelectric encoders or grating sensors.
- Four switch input interfaces: can be connected to 4 switches to input signal. And four switch output interfaces: can be connected to 4 intermediate relays.
- One overload protection interface (normally closed contact): connect to the oil pump control circuit. Automatically stop oil pump when testing machine is overloaded.

Configuration List

Product Name	Specification	Amount
Universal Machine Display Measure and Control Box	WEW-3100	1 pc
Pressure Sensor	30MPa	1 pc
Guyed Displacement Sensor	0-1000mm	1 pc
Electronic Extensometer	YYU-10/50 (Optional)	1 pc
Control Connecting Cable	WEW-3100	1 Set
Measure and Control Software	TestMaster 3.0P	1 Set

Control Functions and Interfaces

The WEW-3100 system has one 100MHz Ethernet communication interface, achieve high-speed data communications with PC.

It also has the function of real-time data acquisition upload and real-time delivery of control instructions, so as to achieve the purpose of controlling the testing machine by PC in real-time.

All three input channels use the separate 24-bit A/D converter for high-precision data sampling. The effective internal code is up to $\pm 200,000$.

The controller of the system working for universal testing machine uses Cortex_M3 32-bit high-speed ARM chip as the master chip, has high computing speed and data processing capabilities.

YJ-10 Smart Prestressed Duct Grouting System

Category: Infrastructure Projects, Measure & Control System, Building Constructions, Construction Materials



Summary:

YJ-10 smart prestressed duct grouting system is developed according to the latest construction specifications of PRC traffic department and completely meet the requirements of 'Construction Technology Specification for Highway Bridge and Culvert' (JTG/T F50-2011).

Advantages and Features

YJ-10 smart prestressed duct grouting system uses the electronic weighing method to measure various materials. Coming with the unique material mixing method, and meeting the requirements of the mobility degree under the specified water-binder ratio.

It also uses the advanced frequency conversion, as well as speed regulation and pressure compensation principles.

It is able to implement grouting pressure settings and pressure maintaining performance for beams and plates of various lengths, the filling degree of the duct grouting body is ensured.

Technical Overview

Testing Item	Specification
Pulping Speed	1440 rpm
Grouting Pressure	0-1.6 MPa
Measurement Accuracy	0.1%
Pulping Capacity	3m ³ /h
Slurry Storage Capacity	0.5m ³ /h
Installed Power	16 kW
Overall Dimensions	2.7×1.5×2.0 (m)

DM-203 Multi-Channel Dynamic-Static Strain Measuring Instrument

Category: Measuring Instruments, Infrastructure Projects, Construction Materials



Summary:

The DM-203 multi-channel dynamic-static strain measuring instrument for testing machine can be widely used in machinery manufacturing, civil engineering, bridge building, material mechanical tests, transportation and many other construction fields.

Advantages and Features

The DM-203 Multi-Channel Dynamic-Static Strain Measuring Instrument for testing machine can automatically measure the multi points dynamic and static strain stress values of large-scale structures, models and material stress tests quickly with high accuracy and reliability.

The independent A/D converter of the device is used to collect the data synchronously for each channel, so as to ensure the synchronization, accuracy and stability of data acquisition among the channels.

This DM-203 Instrument uses 24 bit $\Delta\Sigma$ high-precision A/D converter to acquire data.

The device can measure the physical quantities of the multi points dynamic and static force, pressure, torque and displacement.

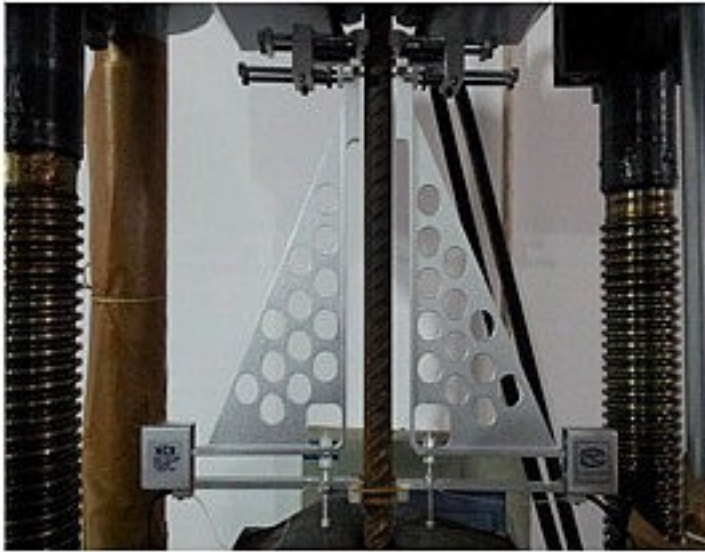
The device has the features of high precision data acquisition and high sampling speed. The electromagnetic compatibility test corresponds to the index A.

Technical Overview

Parameters	Specification	Parameters	Specification
Measure Points of Single Acquisition Box	20	System Accuracy	$\pm 3\mu\epsilon$
Maximum Controllable Measure Points of Single Acquisition Box	160	Time Drift	$< 3\mu V/\text{hour}$
Device Interfaces	RS232 serial port or Ethernet	Temperature Drift	$< 1\mu V/^{\circ}C$
Synchronization Method	Synchronous Clock Generator	Automatic Balance Range	$\pm 10000\mu\epsilon$
Extension Method	Parallel	Strain Gauge Sensitivity Coefficient	1.0 ~ 3.0, Auto-correcting
Communication Distance between Modules	10m or 1000m (Ethernet Time)	Applicable Resistance Strain Gauge Value	120 Ω
Maximum Sampling Frequency	100 Hz	Bridge Voltage	DC5V
A/D Resolution	24 bit	Electrical Source	AC220V
Sampling Frequency	25 Hz	Power	20W
Full Scale Value	$\pm 30000\mu\epsilon$, no gages in full testing range	Operating Environment	Temperature: $\leq 50^{\circ}C$, Relative Humidity: $\leq 80\%$
Overall Dimensions (L×W×H)	350×260×105mm	Instrument Weight	4.8kg

DS-302 Mechanical Residual Deformation Instrument of Reinforcement Bars

Category: Measuring Instruments, Infrastructure Projects, Construction Materials



Summary:

Calibration Instrument GWB-200B High precision extensometer calibrator (Measurement Span: 0~25mm; Resolution: 0.0002mm).

Applicable Standards: Meet requirement 'JGJ107-2010 Technical specification for steel bar mechanical connection'.

Applied Advantages

The DS-302 Mechanical Residual Deformation Instrument uses our self-developed DS-302 high precision deformation measurement instrument. The circuit part adopts high-precision A/D sampling chip. It can real-time display the actual deformation value from the two extensometers. The results are stable and reliable.

With the elastic connection (for example: spring and the rubber band cover) between the extensometers at two sides and the steel bar, specimen clamping is convenient and the instrument can have a long service life.

Two extensometer measurement range of this Mechanical Residual Deformation Instrument of Reinforcement Bars are selectable. Range 50/100/250mm. Span 10mm.

Technical Features

- The DS-302 Material Testing Residual Deformation Instrument is composed of two high precision electric extensometers. They have the consistent sensitivity and are symmetrical installed.
- The instrument can directly measure the average deformation on both sides of the sample. The measurement results are accurate.
- The material testing deformation measuring instrument can save and inquire the deformation value of the test according to the number.
- With a RS232 communication serial port, the current deformation value can be transmitted to the computer and displayed in real time.

Other Functions

Parameters & Items	Specification
Sample Steel Bar Diameter	φ5 ~ φ40mm
Display Resolution	0.001mm
Precision Grade	Grade 1
Digital Display Table Meanings: Average value: Deformation 1: Deformation 2:	The average value of deformation 1 and deformation 2. Display the deformation measurement value of first extensometer. Display the deformation measurement value of second extensometer.
Electric Extensometer	2 pcs
Deformation Measurement Device	1 pc
Operational Manual	1 pc
Instrument Package	1 pc

WES-07 Universal Testing Machine Smart Digital Display Dynamometer

Category: Measuring Instruments, Testing Machine Renovation, Metals



Instrument Composition:

The WES-07 smart digital display dynamometer is composed of high-precision pressure sensor, photoelectric encoder, high stability amplification system, high-precision A/D converter, digital display, keyboard input, print out device and other components.

Main Usages:

It is mainly used for measuring and displaying the force value of all kinds of universal testing machine. It also has a wide range of usage as reconstructing pointer type of universal testing machine.

Function Features

The data stored in this WES-07 Universal Testing Machine Digital Dynamometer can be maintained after power failure. The original data can be retrieved and used to print the report after the power recovered. It can communicate with the computer if the communication software is installed.

Connected to computer & display: After using the display software, the instrument can be connected with the computer. Force value, displacement and deformation can be displayed on the computer screen. And the force value - time, displacement - time, deformation - time and force value - deformation curves can be drawn on the connected computer.

The data in the instrument will be stored in the computer for future reference or centrally stored by the management center through the network, so as to achieve computerized management of quality supervision.

The maximum storage capacity of the instrument is 120 test units, number 01~120#. When you enter the 121st unit, the 1st unit is cleared. The data of 1st unit is cleared when the data of 121st unit is stored.

Overload protection: The Universal Testing Machine smart digital display dynamometer is equipped with three-phase solid state relay, can directly control the start and stop of the three-phase motor.

Applicable Specimen Section

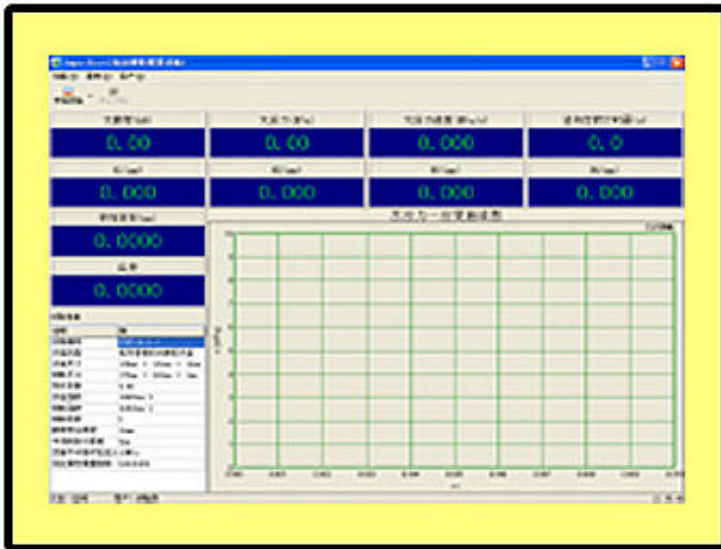
- For compression test of non-standard test specimens , no need to input area.
- For 100×100mm compressive test cube.
- For 150×150mm compressive test cube.
- For 200×200mm compressive test cube.
- For the compression test of irregular section specimens. Input area.
- For 150×150×550mm flexural test block.
- For 100×100×400mm flexural test block.
- For 40×40×160mm compressive test block.
- For 70.7×70.7mm compressive test cube.
- For non-standard specimens tensile test, no need to input area.
- For tensile test of specimens with circular section. Input diameter(mm).
- For tensile test of specimens with pipe section. Input outer diameter(mm) and inner diameter(mm).
- For tensile test of specimens with plate section. Input width(mm) and thickness(mm).
- For tensile test of specimens with irregular section. Input area.

Technical Configurations

Parameters	Specification
Rated Working Voltage	~220V±10%, 50Hz
Power Consumption	≤20W
Nonlinear repeatability error	≤±1%
Working temperature	0 ~ 40°C
Overall dimensions	360×140×220mm

TestEPD 4.0 Measure and Control Software for Testing Machine

Category: Testing Software, Construction Materials, Infrastructure Projects
 Compression, Fatigue, Shear,



Summary:

Our TestEPD 4.0 testing machine software is used to work together with high-performance electromagnetic proportional reversing valves to compose the independently developed EHC-5100 measuring and controlling system of computer control electro-hydraulic servo compression-shear testing machine.

Standard & Extended Application Range

This TestEPD 4.0 testing machine software can configure any number of value display windows, and display channels, units and decimal places can be configured.

The software has pre-programmed JT/T4-2004, JT 391-1999, JT3132.3-90, JT/T4-93 and other more test standards. It uses standard database to manage test data, and can provide networking data interface.

It serves ideally the compressive elasticity modulus test, shear elasticity modulus test, shear strength and binding property performance test, ultimate compressive strength test, friction coefficient test, allowable angle test, tub type vertical bearing capacity test, shear aging test, and also available to implement regular compressive tests as the cement compressive test, wall brick compressive test and building structure test.

Advantages and Features

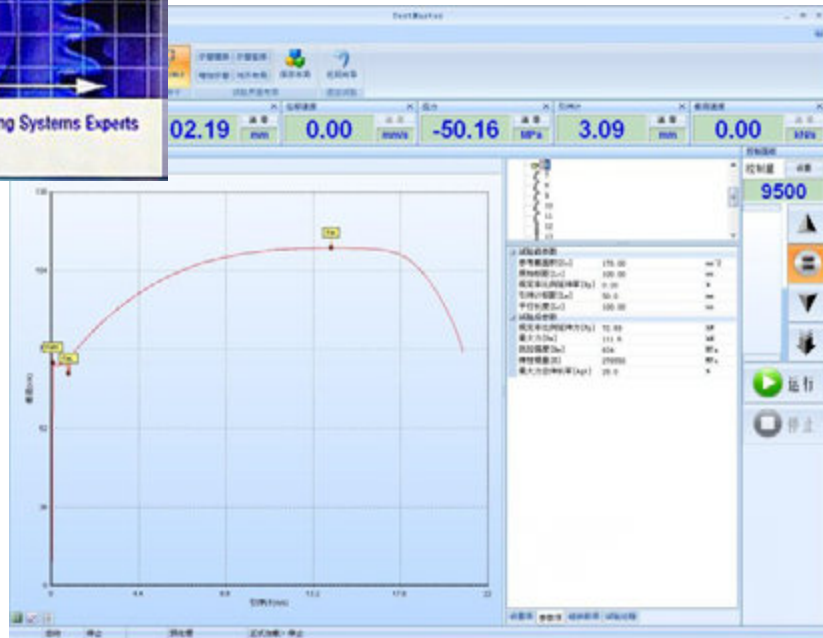
- The TestEPD 4.0 measure and control testing machine software can Display stress-time curve or stress-strain curve in real-time. Test curves can be partially magnified.
- The software has three levels of management authority. Debugger of the manufacturer, administrator and test staff.
- The test results data, such as compressive elasticity modulus or shear elasticity modulus can be automatically calculated and stored according to the test standard after the test is completed. Test results can be queried and printed.
- It uses wizard-style of operation, with nice and neat users' interface and simple operation.

TestMaster V3.0M Measure & Control Software for Testing Machine

Category: Testing Software, Tensile Test

Summary:

Our TestMaster V3.0M measure and control testing machine software is used to compose the EHC-3100M measuring and controlling system of electro-hydraulic servo anchoring testing machine together with the independently developed EHC-3100M electro-hydraulic servo measure and control box, GS-82 digital servo valve group.



- Using a new style of software, with nice and neat interface, powerful functions and easy to operate.

Standard & Extended Application Range

The TestMaster V3.0M measure and control testing machine software can configure any number of value display boxes. Display channels, units and decimal places can be configured, and optional arrange the popup display windows horizontally or vertically.

There are 1 to 3 test curve frames can be selected freely, and can switch among the layout of multiple curve frames. The curve frame coordinates can be arbitrarily selected. The test curve can be partially magnified, and can be saved as images.

The test results data, such as ultimate tension, total strain of ultimate tension and anchorage coefficient can be automatically calculated and stored after complete the test. The feature points can be displayed on the test curves.

The measure and control software has the function of test analysis, which can be used to analyze the data of the test results, and can be used in stack comparison of multiple test curves in a group.

It uses standard database to manage test data, and can provide networking data interface.

Advantages and Features

- The TestMaster V3.0M testing machine software uses the open test standard configuration mode. The standard configured software has pre-programmed GB/T14370-2007 'Prestressed anchors, fixtures and connectors for steel strands'.
- Users can also easily add, remove or modify any test standard. The control steps can be freely edited according to the test requirements.
- It can configure multiple force sensors and multiple deformation sensors, the user can switch between the sensors as needed.
- The software has three levels of management authority. Debugger of the manufacturer, administrator and test staff.
- Users can choose SingoReport, our independently developed reporting system to edit and print reports, can also use EXCEL to edit and print test reports.



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15th Floor, No. 6 Building, Xicheng Bosi Complex, No. 158 Zi Xuan Road, Sandun, Xihu District, Hangzhou, China 310030
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