

Mitech MDW-M Series of Micro Control Wood-based Universal Testing Machine

Overview

Mitech MDW-M series of micro control wood-based universal testing machine, through the single-chip automatic control motor driving screw movement, can do various of physical and chemical properties of the test for wood-based panels and decorative panels. With built-in controller, AC servo motor, automatic control and data acquisition system, stable performance, strong structure, high reliability, simple operation, high degree of automation, it widely used in the wood-based panels and decorative panels of the internal bond strength, surface bonding strength, tensile strength test, bending test, elastic modulus test, grip force test and plywood shear cut test. It is a necessary professional precision testing equipment for improve production efficiency and save production costs.

Technical Parameters

Technical parameters	MDW-M			
	MDW-M10	MDW-M20	MDW-M50	MDW-M100
Structural form	Gate type			
Maximum testing force (KN)	10	20	50	100
Testing machine grade	Level 1			
Operation mode	Monitor			
Force measuring range	2%-100% of the maximum testing force			
Relative error on indicated values of testing force	Better than $\pm 1\%$ of the indicated value			
Displacement accuracy	Resolution of 0.01mm			
Deformation accuracy	Better than $\pm 1\%$			
Speed governing range	0.01-500mm/min			
Effective test space	≥ 700 mm			
Effective test width	400mm			
Testing space adjusting mechanism	Stepper motor / servo motor, low noise timing belt drive			
Protection function	Overload protection, limit protection			
Power supply	220V			
Dimensions (mm)	700*580*1720		700*580*1850	

Weight	About 450kg	About 550kg
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Working Principle

The testing machine is a combination of testing machine technology and mechanical transmission technology, sensor technology, automatic control technology. It consists of drive system, control system, measurement system. The drive system is mainly used for the movement of the beam of the testing machine, and the speed of the beam can be controlled by changing the motor speed. The control system is operated by the console control testing machine, and the state of the testing machine and the test parameters can be obtained through the display screen. The measurement system utilizes sensors, signal amplifiers, photoelectric encoders, and data processing systems to perform force measurement, deformation measurement, beam displacement measurement. Drive system, control system, measurement system and other subsystems to coordinate with each other to complete the material pull, pressure, bending and other mechanical performance testing.

Features

- Widely used in the wood-based panels and decorative panels of the internal bond strength, surface bonding strength, tensile strength test, bending test, elastic modulus test, grip force test and plywood shear cut test;
- The speed of the beam during the test can be pre-set by the program, user-friendly;
- Beam and bottom panel through the two ball screw frame structure to ensure that the frame structure rigid;
- All-digital AC servo motor through the no noise synchronous toothed belt, high precision seamless ball screw drive to ensure its smooth load, no gap, high transmission efficiency;
- 5000-line optoelectronic encoder, the relative high accuracy of displacement;
- High precision and high stability of the tire tension and compression strain sensor, coupled with high-precision measurement and amplification system to ensure that the test force of high precision;
- Built-in controller to ensure that the test machine can be specimen deformation, test force and displacement of the closed-loop control;
- With a limit protection function, arrived at the limit after the automatic shutdown, to prevent the collision in the middle of the beam caused by overload or even damage to the sensor;
- Automatically according to the size of the load can be switched to the appropriate range to ensure the accuracy of measurement data;
- Zero adjustment, calibration, storage, etc. without any analog adjustment link, the control circuit is highly integrated;
- Sample process a high degree of automation, the system can achieve the accuracy of the automatic calibration;
- Test end, test data and test curve automatically saved for later retrieval analysis;
- Can be batch test, the same parameters of the sample only a test set;
- With a brand computer to control the software operating system, Chinese and English Windows operating platform, menu prompt, mouse operation, it has the characteristics of high speed, mild interface and easy operation. It can meet the test measurement needs of different materials;
- Consistent with GB, ISO, ASTM, DIN and other relevant domestic and foreign standards.

Scope of application

Widely used in the wood-based panels and decorative panels of the internal bond strength, surface bonding strength, tensile strength test, bending test, elastic modulus test, grip force test and plywood shear cut test.

Applications

- Wood-based panel manufacturing industry
- Artificial board processing and manufacturing
- Scientific research institutions of material analysis test
- Quality inspection departments quality testing links

Working Conditions

- Operation Temperature: Ambient temperature ~ 45 °C ;
- Relative humidity: 20%~80%;
- In an environment free from vibration, corrosive medium and strong magnetic field;
- Installed on a flat basis
- Power supply voltage fluctuation does not exceed 10% of rated voltage.

Configurations

	NO	Item	Quantity	Remarks
Standard Configuration	1	Testing machine host	1	Contains sensor, limit
	2	Control system	1	
	3	Attached tools	1	
	4	Power cable	2	
	5	Channel lines	1	
	6	Surface binding test attached tools	1	
	7	Internal bond strength test attached tools	1	
	8	Surface bonding strength attached tools	1	
	9	Hold the screw force test attached tools	1	
	10	Static bending strength and elastic modulus test attached tools	1	
	11	Attached files	1	
	12	Printer	1	
	13	Computer	1	With the host and monitor

Maintenance and care

- Before using this instrument, please read the instruction manual carefully, understand the operation steps and precautions, avoid the damage caused by improper operation or personal safety accident;
- Test machine is a large precision instruments, should pay attention to water, moisture. Exposed workstations, upper and lower beam parts and attached parts should be coated with anti-rust oil to prevent rust;
- If idle for a long time, at least once a week and move the upper and lower beams, so that beam position, silk mother often activities to prevent rust;
- After the experiment should be promptly cleaned up debris and other dirt, to prevent accidental damage to the instrument, to avoid shortening the life of the test machine;
- After the completion of the test, will be attached to a good, to prevent the loss of equipment for the next use;
- Electrical connection cable and equipment should be careful when connected, moderate efforts, remember not to swipe, hard pull.
- Don't disassemble the instrument without authorization, maintenance related matter, please contact MITECH after-sale service department with 4000600280.

