

Mitech MDW-S Digital Display Series Gate Type Electronic Universal

Testing Machine

Overview

Mitech MDW-S digital display series gate type electronic universal testing machine, through the single-chip automatic control motor driving screw movement, equipped with the corresponding auxiliary for metal, non-metallic and composite materials for pull, pressure, bending and other mechanical properties test. (The tensile test is carried out between the upper beam of the main body and the moving beam, and the compression and bending tests are carried out between the main plate and the moving beam.), it uses a built-in controller, AC servo motor, automatic control and data acquisition system, stable performance, strong structure, high reliability, simple operation, high degree of automation. Widely used in metal and non-metallic processing industry, quality inspection departments quality testing, scientific research and other areas of higher education institutions, is to improve production efficiency and save production costs necessary professional precision testing equipment.

Technical Parameters

Technical Parameters	MDW-S			
	MDW-S10	MDW-S20	MDW-S50	MDW-S100
Structural form	Gate type			
Maximum testing force (KN)	10	20	50	100
Testing machine grade	Level 1 (Level 0.5)			
Operation mode	Measuring and controlling instrument			
Force measuring range	2%-100% of the maximum testing force (0.4%-100%)			
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			
Stretch effective space	700mm (can be customized according to customer needs)			
Effective test width	≥ 400 mm (can be customized according to customer needs)			
Testing space adjusting mechanism	Stepper motor / servo motor, low noise timing belt drive			

Protection function	Overload protection, limit protection.	
Power supply	220V	
Clamp form	Suitable clamps will be configured according to the customer requirements. Special clamps can be customized for the customer.	
Dimensions (mm)	700*580*1720	700*580*1850
Total Weight	Approximately 450kg	Approximately 550kg

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 control system is mainly used for the movement of the beam of the testing machine. The speed of the beam can be controlled by changing the speed of the motor. The control system is operated by the console control test machine. The state of the test 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 metal and non-metallic processing industry, quality inspection departments of quality testing, colleges and universities in scientific research and other fields;
- The speed of the beam during the test can be pre-set by the program, user-friendly;
- Upper and lower beams and the 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;
- Auxiliaries are customized to meet the needs of various materials.
- 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;

- Use of LCD display, menu-type user interface, simple and intuitive, convenient and quick;
- Meet GB, ISO, ASTM, DIN and other relevant domestic and foreign standards.

Scope of application

Widely used in metal, non-metallic and composite materials, pull, pressure, bending and other mechanical properties test.

Applications

- Metal processing and manufacturing industry quality control links
- Non-metallic processing industry quality control links
- Experimental teaching experiment in colleges and universities
- Scientific research institutions of material analysis test
- Quality inspection departments quality testing links

Working conditions

- Operation Temperature: Ambient temperature ~ 45 °C
- Relative humidity: 20% to 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.

Configuration

	No.	Item	Quantity	Note
Standard Configuration	1	Testing machine host	1	Contains sensor, limit
	2	Control system	1	
	3	Random tools	1	
	4	Power cable	2	
	5	Channel line	1	
	6	Stretch aids		A set of fit,Jaws
	7	Compression aids	1	
	8	Random information	1	
Optional configuration	1	Auxiliary	1	Customized to customer requirements
	2	Printer	1	

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.

