

Mitech MDW Micro Control Series Gate Type Electronic Universal Testing Machine

Overview

Mitech MDW micro control series gate type electronic universal testing machine, through the computer control motor drive screw, equipped with the corresponding auxiliary for metal, non-metallic and composite materials for pull, pressure, bending and other mechanical properties test (Tensile test carried out between the upper beam of the main body and the moving beam. Compression and bending tests carried out between the table of the host and the moving beam). It's adopts the built-in controller, AC servo motor, by computer-aided means to achieve powerful function with stable performance, strong structure, high reliability, simple operation, high degree of automation. It's widely used in metal and non-metallic processing industry, quality inspection departments, scientific research and other areas of higher education institutions and it's a necessary professional precision testing equipment for improve production efficiency and save production costs.

Technical Parameters

Technical parameters	MDW							
	MDW-10	MDW-20	MDW-50	MDW-100	MDW-200	MDW-300	MDW-500	MDW-600
Structural form	Gate type							
Maximum testing force (KN)	10	20	50	100	200	300	500	600
Testing machine grade	Level 1 (Level 0.5)							
Operation mode	Microcomputer control (Chinese/English software operation)							
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 (or $\pm 0.5\%$ special selection)							
Error on deformation display	$\pm 1\%$ (or $\pm 0.5\%$)							
Minimum resolution on the testing force	0.01N							
Precision on beam displacement	$\pm 1\%$ ($\pm 0.5\%$)							
Deformation	Better than $\pm 1\%$ ($\pm 0.5\%$)							

accuracy				
Speed governing range	0.01-500mm/min		0.01-300mm/min (500mm/min)	
Testing travel	≥600mm (it can be customized According to the customer needs)			
Testing space adjusting mechanism	Stepping motor/servo motor, synchronization with drive			
Protection function	Overload protection, limit protection.			
Power supply	220V		380V	
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	1100*770*2600	1440*1100*2870
Weight (approximate)	450kg	550kg	2000kg	3000kg

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 metal and non-metallic processing industry, quality inspection departments, scientific research and other areas of higher education institutions;
- The movement speed of the beam during the test can be preset by the program or manually adjusted.
- The engine structure is formed by the upper beam, the middle beam, the lower beam and the bottom panel with two pairs of ball screw-rod and a vertical column. That ensured frame structure is rigid.
- Adopt all-digital AC motor drives the reducer and the synchronic gear belt and high-precision and seamless ball screw-rod that ensure its smooth load and high efficiency.
- The relative accuracy is high with 5000-line photoelectric encoder.
- The high-precision and high stability spoke strain sensor and high-precision measuring amplification system ensures the high-precision of the test force.
- Built-in controller to ensure that the test machine can be specimen deformation, test force and

displacement of the closed-loop control.

- The machine has a limit protection for auto-stop that can prevent the collision in the middle of the beam caused by overload or even damage the sensor;
- A variety of auxiliary equipment to meet the needs of a variety of materials testing;
- According to the size of the load can be automatically switched to the appropriate range to ensure the accuracy of measurement data;
- Zero, calibration, storage, etc without any analog adjustment link. The control circuit is highly integrated;
- The sample process is highly automated. The system is able to automatically achieve the calibration of standards of displayed values;
- After testing, the test data and the test curve are automatically saved for later retrieval;
- 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 metal, non-metallic and composite materials, pull, pressure, bending and other mechanical properties test.

Applications

- Metal processing manufacturing 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%~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.	Name	QTY.	Remarks
Standard Configuration	1	Main unit	1	Contains sensor, limit
	2	Control system	1	
	3	Attached tools	1	
	4	Power cable	1	
	5	Channel cable	1	

	6	Stretch aids	1	A set of fixtures, jaws
	7	Compression aids	1	
	8	Computer	1	Including host and monitor
	9	Printer	1	
	10	Attached files	1	
Optional Configuration	1	Auxiliary		Customized to customer requirements

Maintenance and care

- Read the manual carefully before using the instrument. Learn the operation steps and attentions; To avoid damage or personal safety accidents due to improper operation.
- 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;
- After a long idle time, at least once a week and move the upper and lower beams, so that the beam position, the mother often activities to prevent rust;
- After the testing should be promptly clean up debris and other dirt, to prevent accidental damage to the instrument, to avoid shortening the life of the test machine;
- After the test is completed, the auxiliary device is received to prevent the auxiliary device from being lost for the next use;
- Electrical connection, with the equipment should be careful when connected.
- Don't disassemble the instrument without authorization, maintenance related matters please contact MITECH after-sale service department, 4000600280

