

Servo Universal Tensile Testing Machine

Summary

Model: SR-106A

Mainly applicable to rubber, plastics, wire and cable, fiber optic cable, seat belts, belts, leather belt, waterproofing materials, composite materials, plastic profile steel, copper, profile, spring steel, bearing steel, stainless steel, and other high hardness steel), castings, steel plates, steel, non-ferrous metal wire tensile, compression, bending, shear, peel, tear, two-point extension (match) exten someter and other test.



Theory

- This machine is a kind of electric tensile tester which uses the motor to drive ball screw to move fixture. Place the sample between the upper and lower fixture, use a given speed to pull the upper fixture upward, and the upper load cell with sensor to check tensile strength and convert the strength into voltage sign and output to the display screen. And the strength value will be displayed automatically on the computer.
- The machine adopts mechatronics design, which is mainly composed of force sensor, transmitter, microprocessor, load driving mechanism, computer and color ink jet printer. It has a wide and accurate range of loading speed and force measurement. It has high accuracy and sensitivity to the measurement and control of load and displacement. Floor type, modeling and painting are fully considered modern industrial design, ergonomic relevant principles.

Test standards

Universal tensile testing machine can be suitable for so many test standards, here we just show some mainly used test standards, other standards, pls tell us the standards you need, then we check for you.

Mainly test standard :

ASTMD903, ASTM D412, GB/T16491, GB/T1040, GB/T8808, GB13022, GB/T 2790/2791/2792, CNS- 11888, JIS K6854, PSTC-7, ISO etc.

Metals :

- ASTM E8/E8M-13: "Standard Test Methods for Tension Testing of Metallic Materials" (2013)
- ISO 6892-1: "Metallic materials. Tensile testing. Method of test at ambient temperature" (2009)
- ISO 6892-2: "Metallic materials. Tensile testing. Method of test at elevated temperature" (2011)
- JIS Z2241 Method of tensile test for metallic materials

Composites :

ASTM D 3039/D 3039M: "Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials"

Flexible materials :

- ASTM D638 Standard Test Method for Tensile Properties of Plastics
- ASTM D828 Standard test method for tensile properties of paper and paperboard using constant-rate-of-elongation apparatus
- ASTM D882 Standard test method for tensile properties of thin plastic sheeting
- ISO 37 rubber, vulcanized or thermoplastic—determination of tensile stress–strain properties

Features :

1. Adopting windows platform, and all the parameter settings can be processed in the dialog box, and it operates easily.
2. Using a single-screen operation; do not need to switch the screen
3. With three languages in Simplified Chinese, Traditional Chinese and English, the software interface can be switched easily
4. The pattern of Test reports can be selfdesignated; test data can be displayed directly in the main screen.
5. Choosing translational, comparative mode at the same time to make a number of curve data comparison
6. With a variety of measurement units, Measure In Imperial & Metric are switchable;
7. With self-return & auto-correction function
8. With automatic magnification function, in order to achieve the most appropriate size of the graphics

Specifications

Items	Universal Tensile Testing Machine
Max. Capacity	5, 10, 20, 50, 100, 200Kg
Unit	G, KG, N, LB can be exchanged
Accurate Grade	0.5 grade / 1 grade
Display Device	PC controlled
Resolution	1/300,000
Effective Accuracy	±0.2%(0.5grade) or ±1%(1grade)
Max.width	250mm(or customize)
Max.Stroke	450mm(or customize)
Speed Range	0.05-500mm/min (adjustable)
Motor	Servo Motor + High Precise Ball Screw
Elongation Accuracy	0.001mm(rubber or soft plastic)/0.000001mm(metal or hard plastic or others)
Power	AC220V, 50/60HZ(custom-made)
Machine size	600*600*1760mm
Standard Accessories	Tensile clamp, Tool kit, Computer system, English software CD, User manual

Electrical measurement and control system

- 1) With protect function of overload, over current, over voltage, displacement limit, emergency stop etc.
- 2) The controller can control more load sensor, high integration, stable and reliable, easy to adjust
- 3) When finished testing, automatic stop
- 4) Control system with programmable amplifier A/D conversion, digital I/O, counting and pulse happen (PWM), and other functions in one
- 5) Mechanical zero setting, automatic force measurement, zero setting, calibration and save, highly integrated control circuit

Software and software interface

- 1) Based on Windows operation platform, the software adopting modulus design, with simple operation and powerful functions
- 2) The control panel has defined all the control parameters, data dealing method and report content also the form, different test can be set according to the control panel.
- 3) Program adopting open database structure, integrated the GB, ISO, ASTM, JIN, DIN testing methods and can customized according to special requirements
- 4) With internet interface, can transmit, save and print data. Can connect enterprise Internal LAN and Internet.
- 5) Can edit and set the report form freely, also can print out the testing data.
- 6)

2101(C) Manage Setting Zero View Help

0.000 kgf Force 0.000 mm Elong. 0.000 mm Stroke 0.000 kgf MaxForce

User Settings Force-Elong. Force-Time Elong.-Time Stress-Strain Multi-Graph TestResult

SpecimenSelect: Rubber2 Edit

Name	No.	Shape	Gaugelength (mm)	Area (mm ²)	Width (mm)	Thickness (mm)	Out_Dia (mm)	In_Dia (mm)
Rubber2	2	Rectangle	50.000	40.000	20.000	2.000	-	-

ProjectSelect: Sponge Edit

Stage	Direction	ControlType	ControlValue	Shift Condition	ControlValue	PauseTime	ControlPara	extProcess	CycleTimes	extProcess
1	Compress	FixSpeed	30.000mm/min	Force>=	0.510kgf	0.083min	100.00	Next		
2	Compress	FixSpeed	250.000mm/min	Elong.>=	75.000mm	0.000min	100.00	Next		

Sensor: Force 5000.0kg Elong. Stroke Rubber Extensometer Metals Extensometer SwitchValue: 25 mm

FilterCoe: 5 BreakCutPoint: 0 ReturnDecelerat: 20

When Force > 0.1 % of measuring range start Elong (5.000kg)

Auto return after test complete Auto save after test complete Pop-up a message When to limit Auto stop @ break Force Decay >=: 50 %

Break Judge start: 1 % of measuring range (50.000kg)

Closed loop Control Auto zero force before test Auto zero elong. Before test Auto zero stroke before test Pop up broken gaugelength input window at test end

Directions: Force Reverse No Reverse Absolute Stroke Reverse No Reverse Absolute Elong. Reverse No Reverse Absolute

Protection: SurpassForce 100 % of measuring range SurpassStroke 100000 mm SurpassElong 100000 mm

SampleRate: Higher High Middle Low Lower

control panel

manual snap

Stop Zero Back Test StopTest Pause TakeExten UpFindZero DownF Zero UpDistance DownDist. Distance (mm) 100 TestTime 00:00:00 Speed(mm/min) 100.000 ManualSnap (M1-M40) No. Force Elong. Time Snap Delete

2101(C) Manage Setting Zero View Help

0.00 gf Force 0.000 mm Elong. 0.000 mm Stroke 0.08 gf MaxForce

User Settings Force-Elong. Force-Time Elong.-Time Stress-Strain Force-Time Multi-Graph TestResult

No.	Width (mm)	MaxForce @ Peel interval (gf)	MinForce @ Peel int (gf)	AvgForce @ Peel inte (gf)	MaxIntebson @ Peel (MPa)	MinIntension @ Peel (MPa)	AvgIntension @ Pee (MPa)
1	25.400	36.56	3.53	19.32	0.014	0.001	0.007

Stop Zero Back Test StopTest Pause TakeExten UpFindZero DownF Zero UpDistance DownDist. Distance (mm) 100 TestTime 0:00:21 AM.8 Speed (mm/min) 500.000 ManualSnap (M1-M40) No. Force Elong. Time Snap Delete

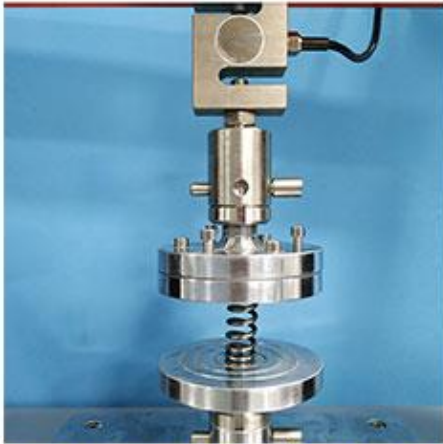
start New Microsoft Office ... 2101(C) 4:32 PM

Images

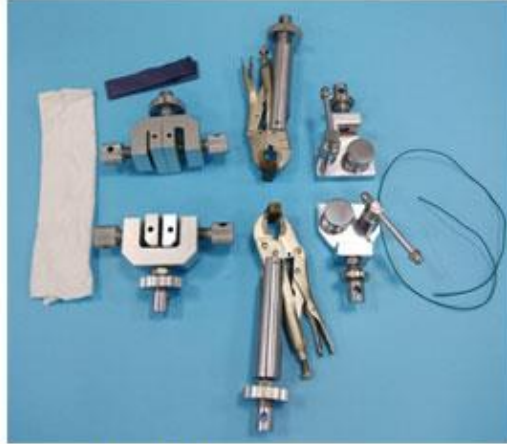


● **Frequently Used Tensile Clamp:**

Mainly used in wire elongation, plastic, rubber , metal, fabric, waterproof materials and so on. Here just show some example for you. According your test item, we will recommend you best suitable one.



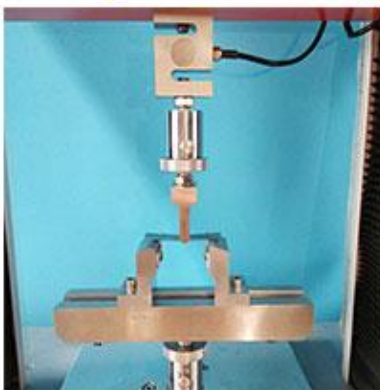
compress clamps



textile clamps



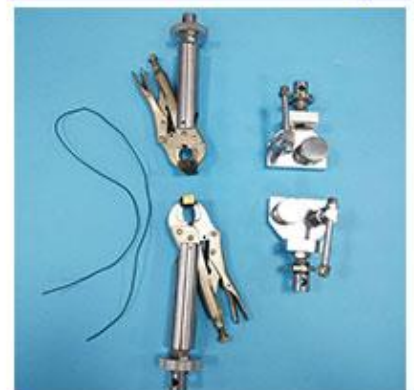
adhesive clamps



3PB test



plastic clamps



wire clamps

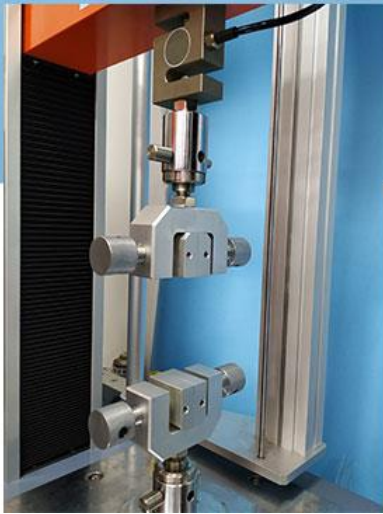


Mainly used in mobile glass or other glass products: 3 or 4 point bend test.

The following shows what we can test, here just show some mainly testing which we our customer send sample to us, if you have any special request, pls kindly share with us.



We have professional sample cutter and pneumatic cutter machine to get sample, but mainly used in plastic , rubber and fabric material.



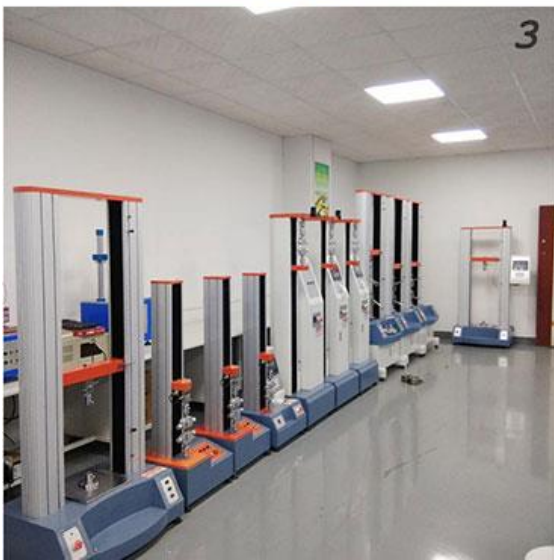
pneumatic sample cutter

Mainly sample cutter



For meeting different clients requirements and marketing needs, we design many different models .

Here Shows normally models which are clients need more. (Also accept customize.)



Additional Device : SUNRISE research and development professional extensometer (optional)



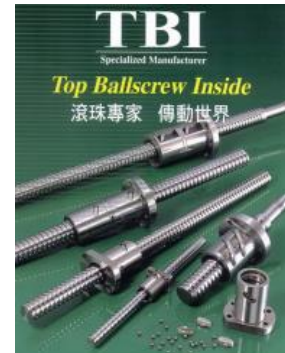
Rubber/soft plastic extensometer



Metal/hard plastic extensometer

Main Unit imagines

The drive system consist of servo control reduction motor, arc synchronous belt, ball screw, moving steadily, high working efficiency, low noise, no pollution.



Newest control board card, own better sampling rate, All input and output interfaces adopt high - speed optoelectronic isolation technology with strong anti-jamming capability.

Taiwan TBI ball screws, better monitor the accuracy, high accuracy, we promise 100% import



Japan Panasonic Servo-drive, ensure revolve smoothly and steadily

US TRANSCELL load sensor, Good stability, good quality and durability

GUANGDONG JMA protective cover, Good ductility, good elasticity, can be used for more than 10 years



Professional CNC processing technical, ensure best product precision and quality.

Cooperation Customer

Together create a better future

What we produce? (always accept customize)

1. Universal tensile testers
2. Hardness testers
3. Environmental chambers
4. Mobile/Laptop testers
5. Paper&package testers
6. Abrasion resistance testers
7. Insertion force tester
8. Color testers
9. Rubber/plastic testers
10. Fabric testers
11. Wire testers
12. Other testers



Professional packing

We have professional packaging teams and shipping forwarder to pack and deliver your products safely!

- ❖ Out packing: Standard export wooden case.
- ❖ Inner packing: With careful stretch film wrap products, hard wood board + strong bandage to fix corners.
- ❖ Checking teams: Specialized staff to inspect and classified your goods.



SUNRISE Universal Tensile Testing Machine

- ※ We have the following twelve styles of universal material testing machine, but we will also update according to the time of special requirements can be customized according to the requirements.
- ※ Our tension machine load from 2kg to 30T, please choose according to the characteristics of your products, if you have special requirements, you can contact our company at any time, we will provide you with appropriate quality products according to the specific parameter requirements.