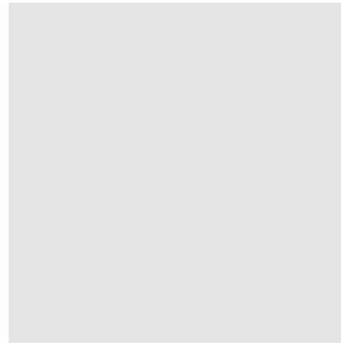
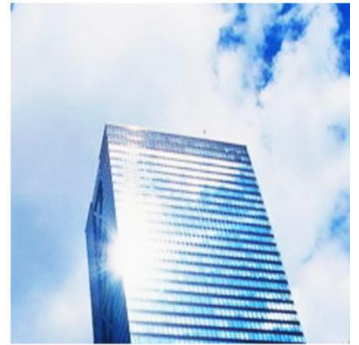
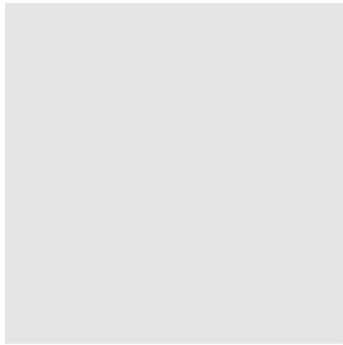


QUALITY | INNOVATION | COOPERATION | SERVICE



# Technical Specification

Lixian Instrument Scientific Co., Ltd.

# Product Introduction

## HZ-1004B Computer Servo Type Universal Testing Machine



### Equipment Summary

HZ-1004B Computer Servo Type Universal Testing Machine is a new material testing machine that combined with the electronic technology and mechanical transmission, it has accurate load speed, range of force measurement, Has high accuracy and sensitivity for the load, displacement measurement and control, it also can be tested the constant-velocity loading, constant- velocity displacement. This machine is simple to operate, especially suitable for controlling quality in production line, This series of machine is mainly applied to test the non-metallic and metallic materials which the load is less than 30ton.

### Main Function

Mainly applied to test the metallic and non-metallic materials in tension, compression, bending, shear, peel, tear or two-points extensions and others., such as rubber, plastic, wire and cable, optical fiber and cable, safe belt, leather belt composite materials, plastic profiles, waterproof membrane, steel, copper, profiles, spring steel, bearing steel, stainless steel (as well as other high-hardness steel), castings, plate, strip, non-ferrous metal wire

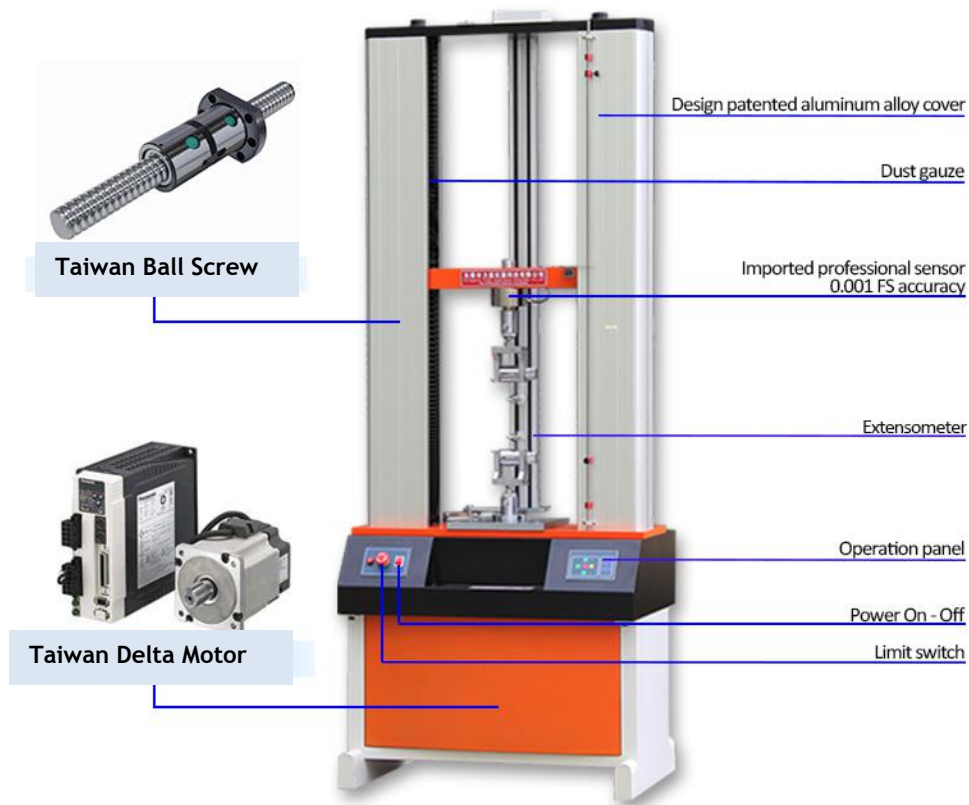
## Main Feature

Adopted photoelectric encoder to measure the displacement, the controller uses the embedded single-chip microcomputer structure with multi-function software, which combined with measurement, control, calculation and storage. It can automatic calculate the stress, rate of elongation (need to add with extensometers), tensile strength, elastic modulus, automated statistical results; automatically recorded the biggest point, breaking point, the designated point value or the rate of elongation; Using computer to display the dynamic curves in the testing process and process the data, After testing, it can re-analysis and editing the data by amplifying the curves through the graphics processing module, printing reports, product performance reached the international advanced level.

## Machine Structure Picture

Dimension: 620\*440\*2050mm (L x W x H)

Weight: Approximately 230KG



## Corresponding standard :

GB/T16491 、 GB/T1040 、 GB/T8808 、 GB/T2792 、 GB/T16825 、 GB/T17200 、 GB/T3923.1 、 GB/T20310、 GB/T3690、 GB/T529、 、 GB/T10654、 HG/T2580、 JC/T777、 QB/T2171、 HG/T2538、 CNS11888 、 JISK6854 、 PSTC-7 、 ISO37 、 AS1180.2 、 BSEN1979 、 BSENISO1421 、 BSENISO1798 、 BSENISO9163 、 DINENISO1798 、 GOST18299 、 DIN53357 、 ISO2285 、 ISO34-1、 ISO34-2、 BS903 、 BS5131 、 DINEN12803 、 DINEN12995 、 DIN53507-A 、 DIN53339 、 ASTM D3574 、 ASTM D6644 、 ASTM D5035、 ASTM D2061、 ASTM D1445、 ASTM D2290、 ASTM D412、 ASTM D3759/D3759M Etc.

### Technical parameter:

Model	HZ-1004B
Maximum Load	100N, 200N, 500N, 1KN, 2KN, 5KN(options)
Accurate Grade	0.5/1 grade
Effective Measuring Range	0.4%~100%(1 grade)
Measuring Accuracy	Display the value $\pm$ 1%
Tester Resolution	Max load 1/200000, constant the resolution
Load Sensor	Basic configuration: sensor(max load): one Extended configuration: can add more sensors
Effective Testing Width	280 mm
Effective Tensile Stroke	600mm (can be increased the height according to the customers' requirement)
Range of Testing Speed	0.5~500mm/min
Accuracy of Displacement Measurement	Tolerance: $\pm$ 1%/ tolerance: $\pm$ 0.2%
Deformation of Measured System  (according to the requirements)	Min span:10mm, Max range of deformation: 800mm Extended deformation: Min span: 25mm, 50mm, 100mm, range of deformation: 5mm, 10mm, 25mm
Accuracy of Measured Deformation	Tolerance : $\pm$ 1%
Safety	Electronic-limit protection
Testing Platform Moving Device	Fast /slow two speeds to control, can jog
Back to Function of Testing Platform	Manual or automatic operation, After the test, the moving iron return to initial position with the highest speed by manual or automatic operation
Overload Protection	Overload 10%, automatic protection
Fixture	A set of tensile fixture; Round :30mm; Flat:25mm thickness
Machine Size	620*440*2050mm(length*width*height)
Motor	AC servo motor and drive
Power Supply	220V, 1phase 50HZ
power	400W(depending on different demand of force, using different motor)
Weight	Approximately 230 Kg
Unit	Kg ,N,LB, TON can be exchanged

It is widely used in controlling the quality; Rubber & Plastics; metallurgical iron and steel; manufacturing machinery; electronic equipment; automobile production; textile fiber; wire and cable; packaging materials and foodstuffs; instrumentation; medical equipment; civilian nuclear energy; civil aviation; colleges and universities; research Laboratory; inspection arbitration, technical supervision departments; building materials, ceramic; Petroleum & Chemical; other industries.



### Software Features

The software description about Computer Servo Type Universal Testing Machine

- A. Function of standard modular: provide users with the necessary applications to the test, covering GB, ASTM, DIN, JIS, BS ... and other testing standard specification.
- B. Tested product information: provide users with the data to set about the products, one time to input and re-use permanently. For improving the accuracy, the data can be corrected by the formula automatically.
- C. Dual-Report Editor: provide users with the reported format that users choose (testing program add EXCEL reported format, Extend the previous single pattern of statements)
- D. The data's unit of length and force can be exchanged, unit of force is T, Kg, N, KN, g, lb, unit of length is mm, cm, inch.
- E. Auto-optimization of graphic scale, display the best measurement of graphics. It can test the moving exchange in graphics. It has the load - displacement, load - time, displacement - time, stress - strain load -2 points extending maps, and lots of graph compared.
- F. Test results can be output in EXCEL format.
- G. Testing result can be automatically preserved or manual preserved, after the test, it can automatically calculate the most strength, up and down yield strength, loop method, best method, non-proportional extended strength, tensile strength, compressive strength, tensile strength at any point, constant load extension, elastic modulus, rate of elongation, peel range of maximum force, minimum force, average force, total energy, bending modulus, x% load in break displacement, load X% in break displacement, and so on . the test data can be stored in any disk.
- H. Software has a capability that can output the before data.

The accessories about Computer Servo Type Universal Testing Machine

- A. warranted book within one-year and operating instructions.
- B. a group of fixture
- C. testing software for tensile machine.

D. a set of brand computer, color printer

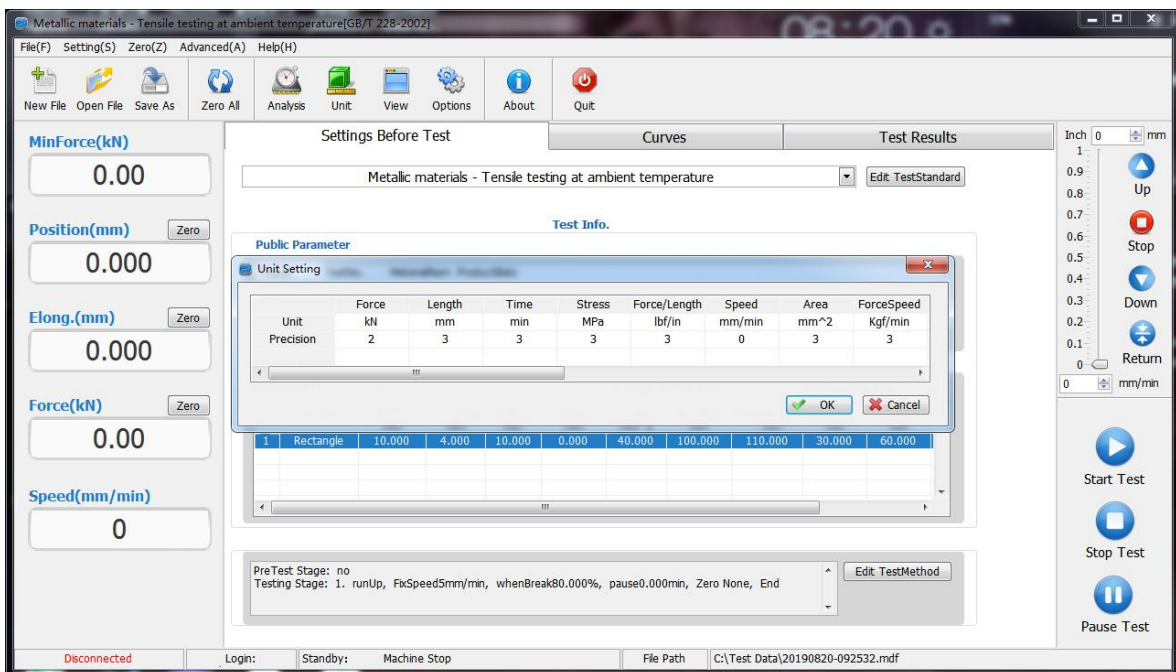
items can be tested in the Computer Servo Type Universal Testing Machine

Common items: ( display data and calculation )

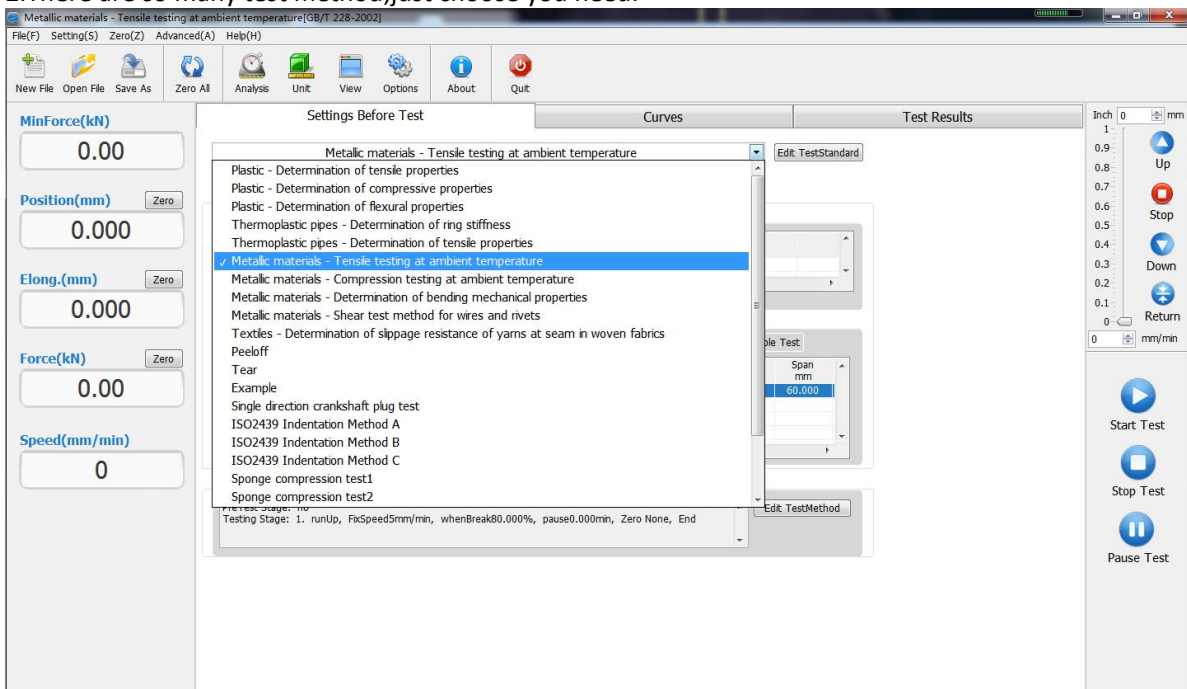
- Tension stress
- Tensile strength
- Derrick wagon crane
- Elongation at break
- Elongation
- Given stress elongation
- Givens stress force value
- Tear strength
- Force value at any point
- Elongation
- Out of power
- Adhesive force and take the calculated peak

## Computer servo control material testing machine software operation interface

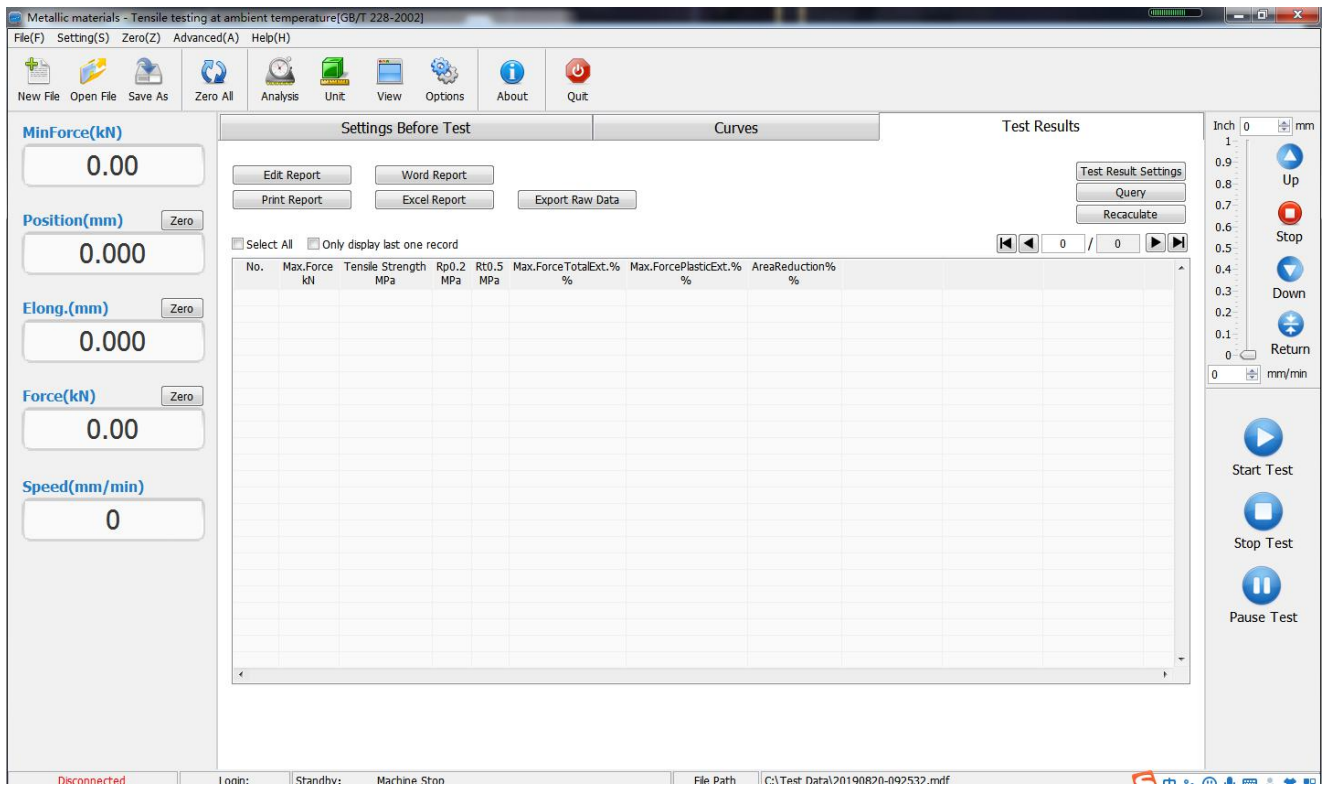
1. Choose you need units, setting ==> unit



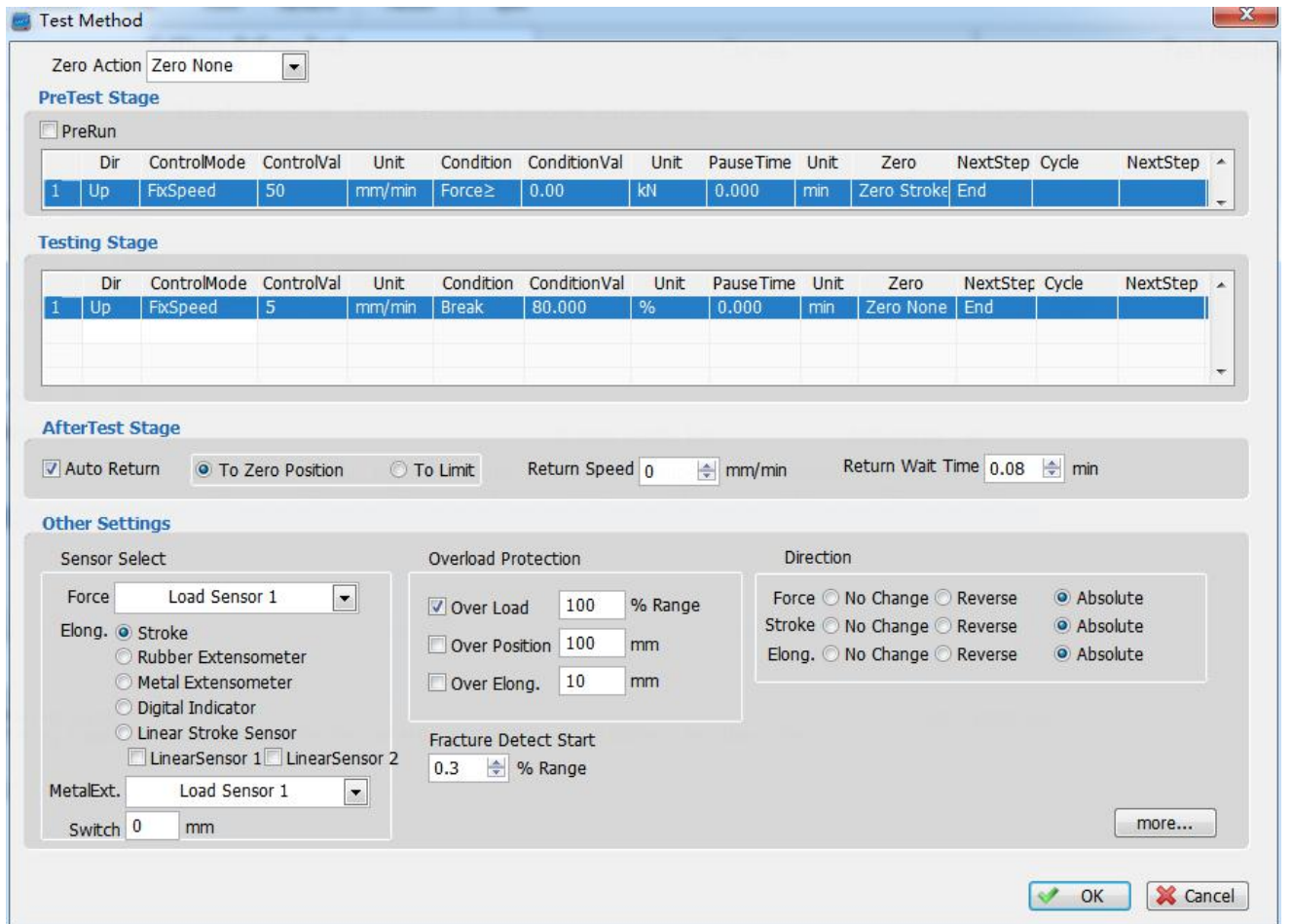
2. There are so many test method, just choose you need.



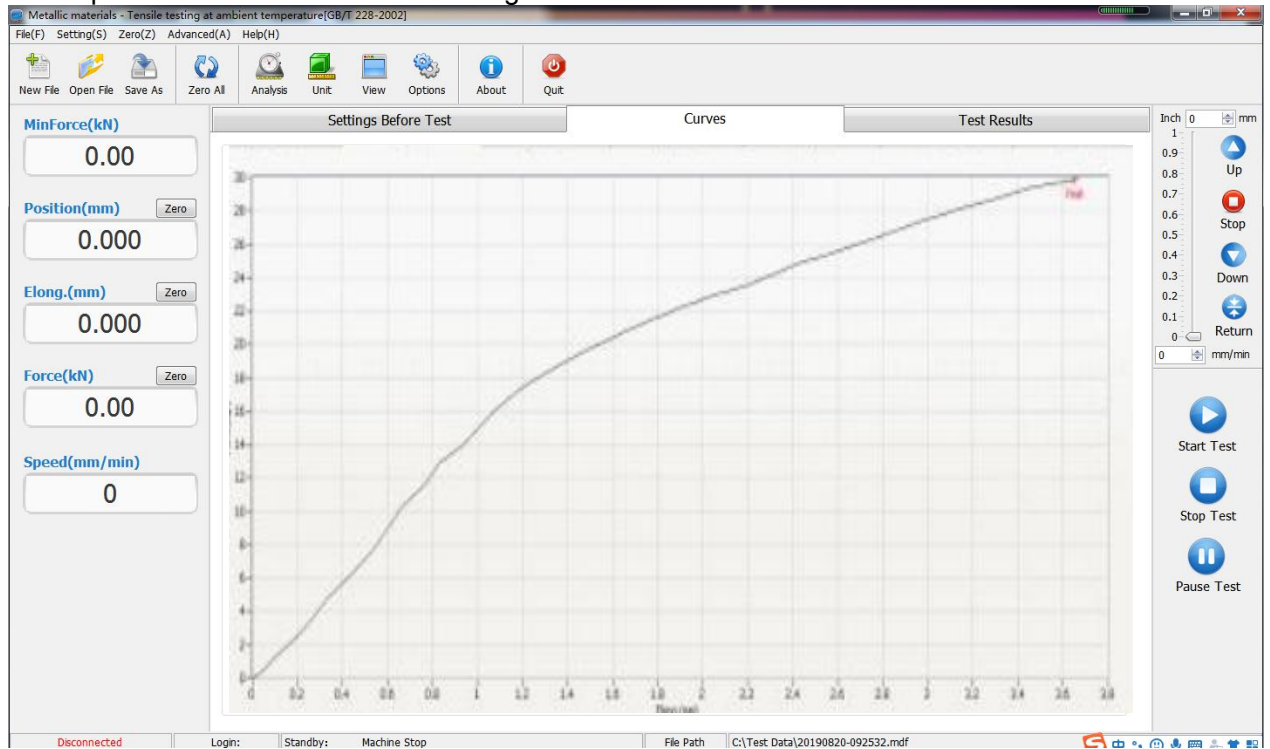
3. Connect computer and software online, choice what the test result you need



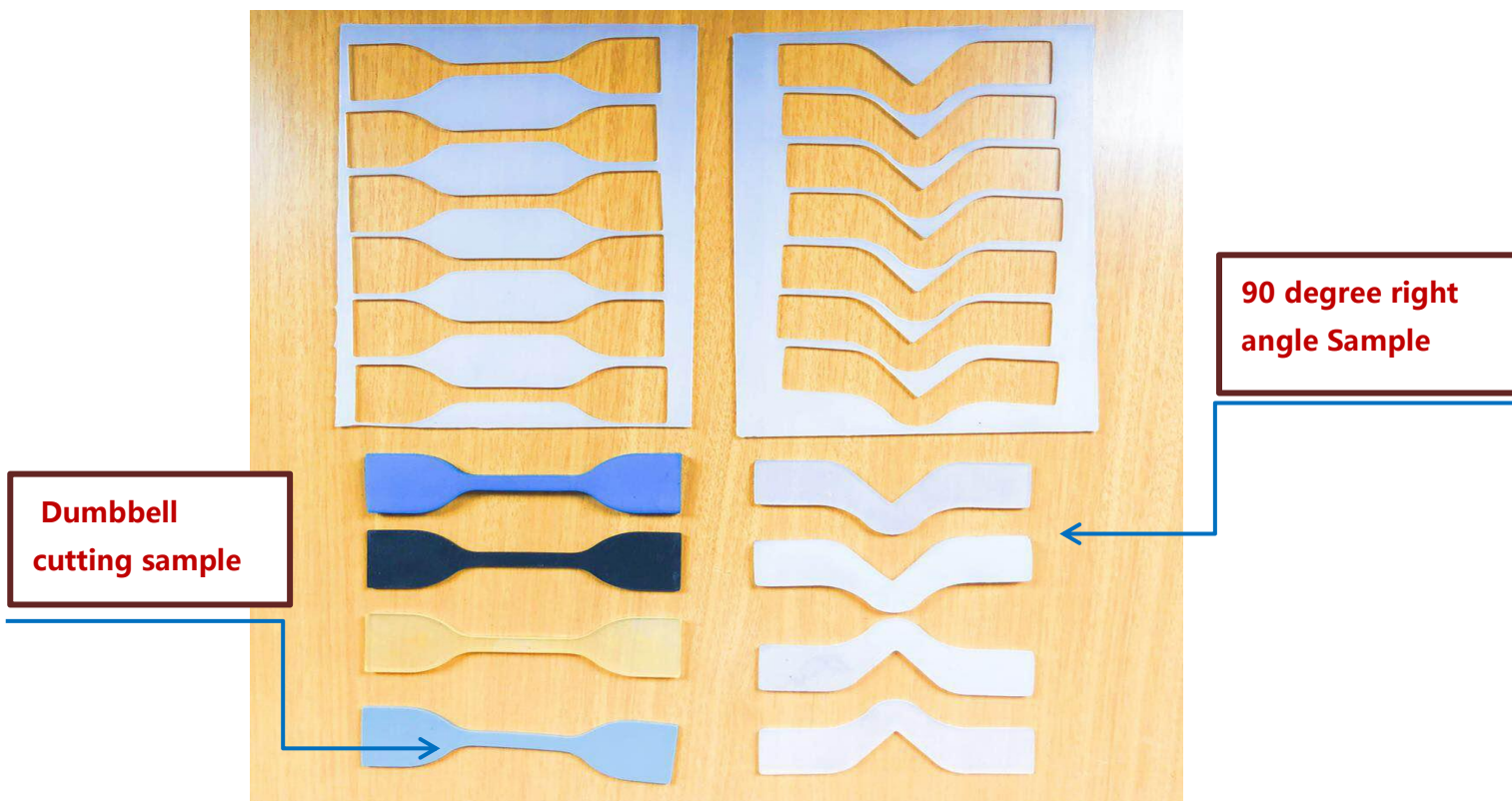
## 4. Edit test method



## 5. Computer servo control material testing machine test curve



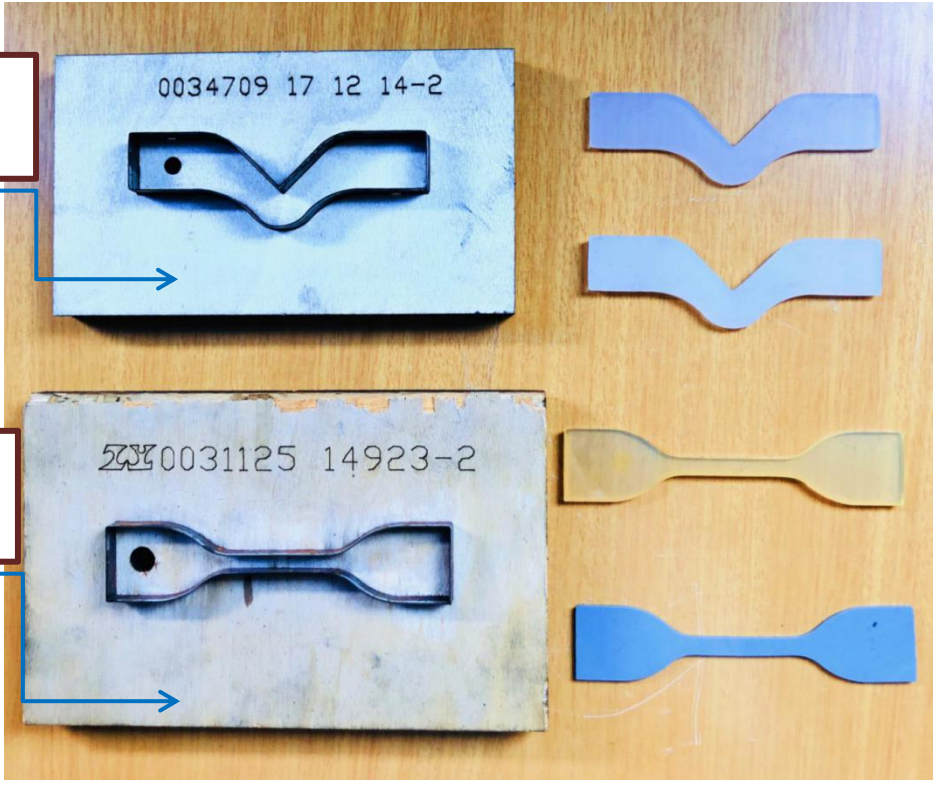
## Dumbbell and Right-Angle Tear Sample ( Optional )



Standard Cutter Display



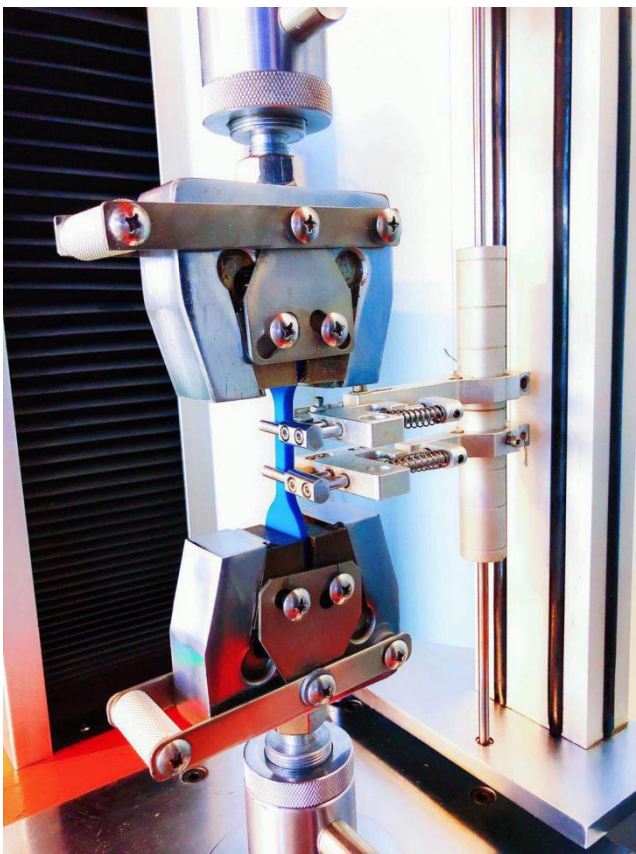
**90 degree right angle cutter**



**Dumbbell Cutter**

**Rubber Sample Fixture Display ( Optional )**

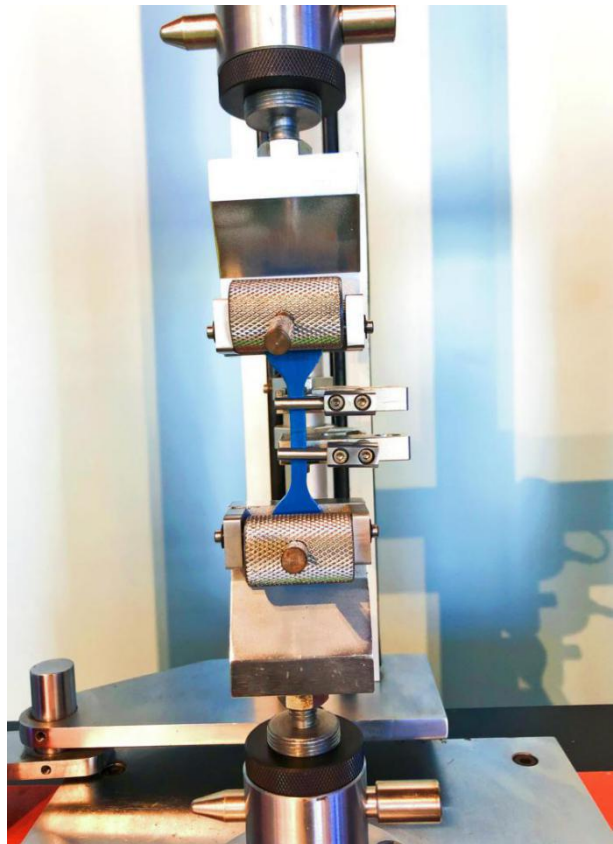
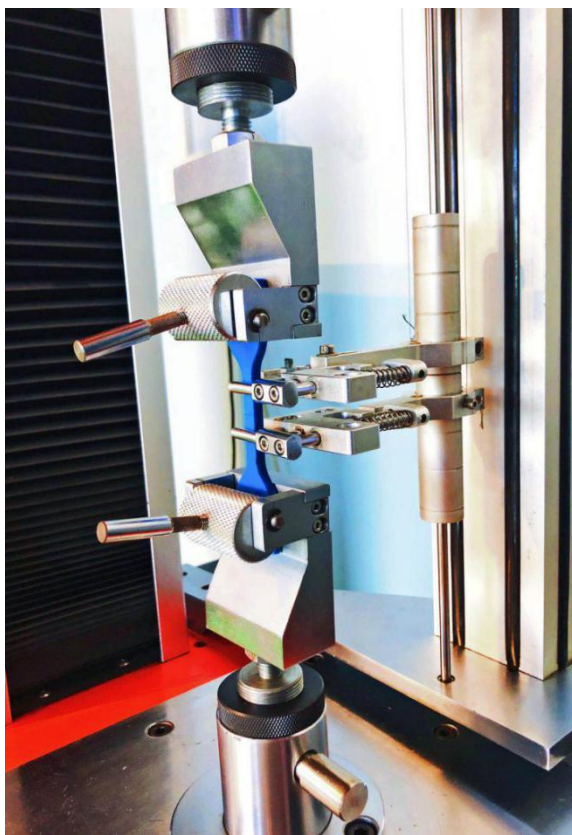
**1. Type E grip rubber+ extensometer**



**2. Plate grip rubber+extensometer**



**3. Rubber extensometer for eccentric wheel fixture**



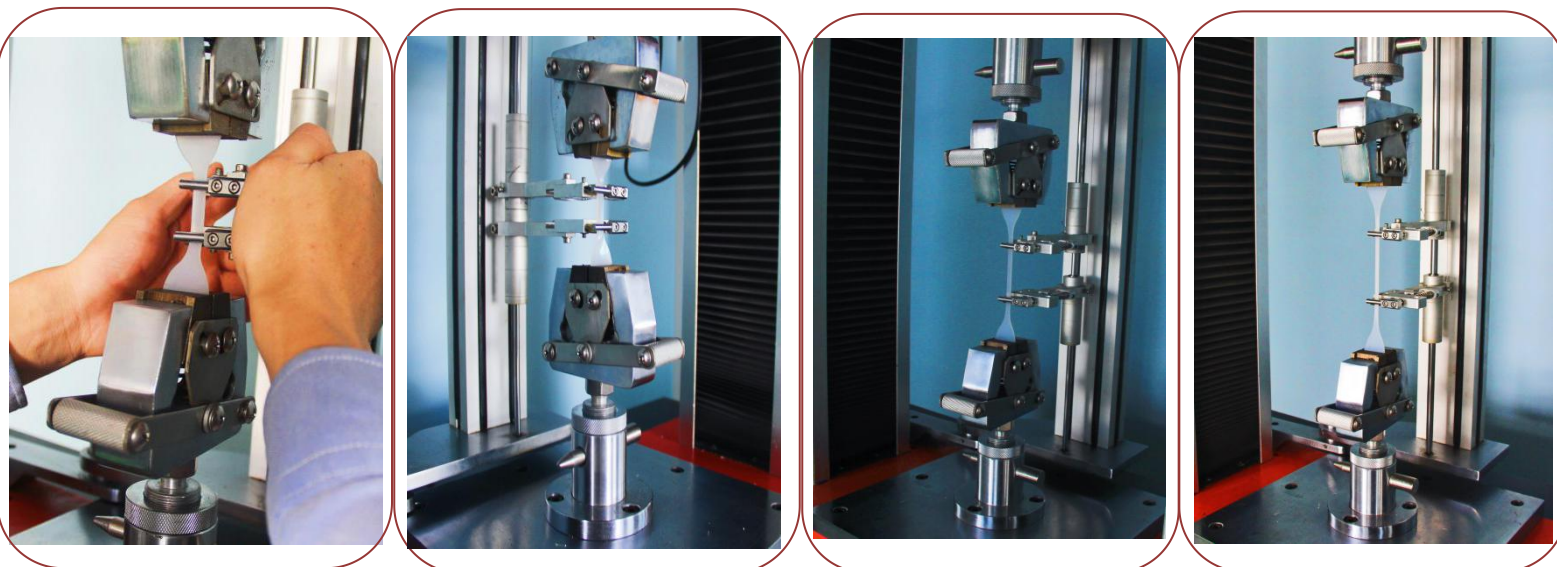
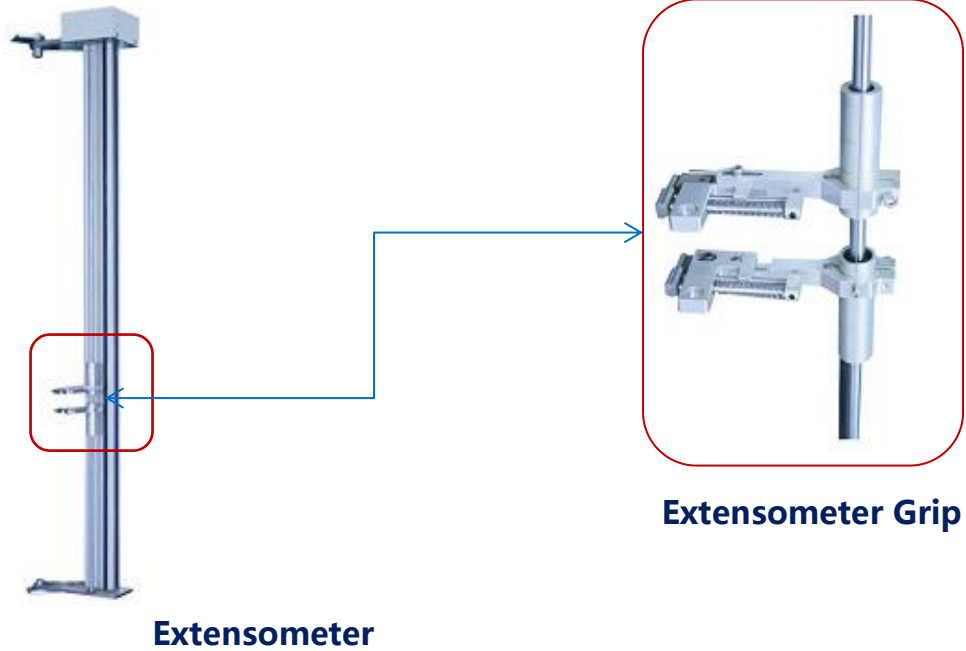
**4. Measuring device for large deformation of rubber two-point extension**

Note: the elongation at break is the percentage elongation at break of the specimen,

as follows:

拉断伸长率  $E_b$  按式(3)计算,以%表示:

$$E_b = \frac{100(L_b - L_0)}{L_0}$$



**Fix Sample**



**Start Testing**



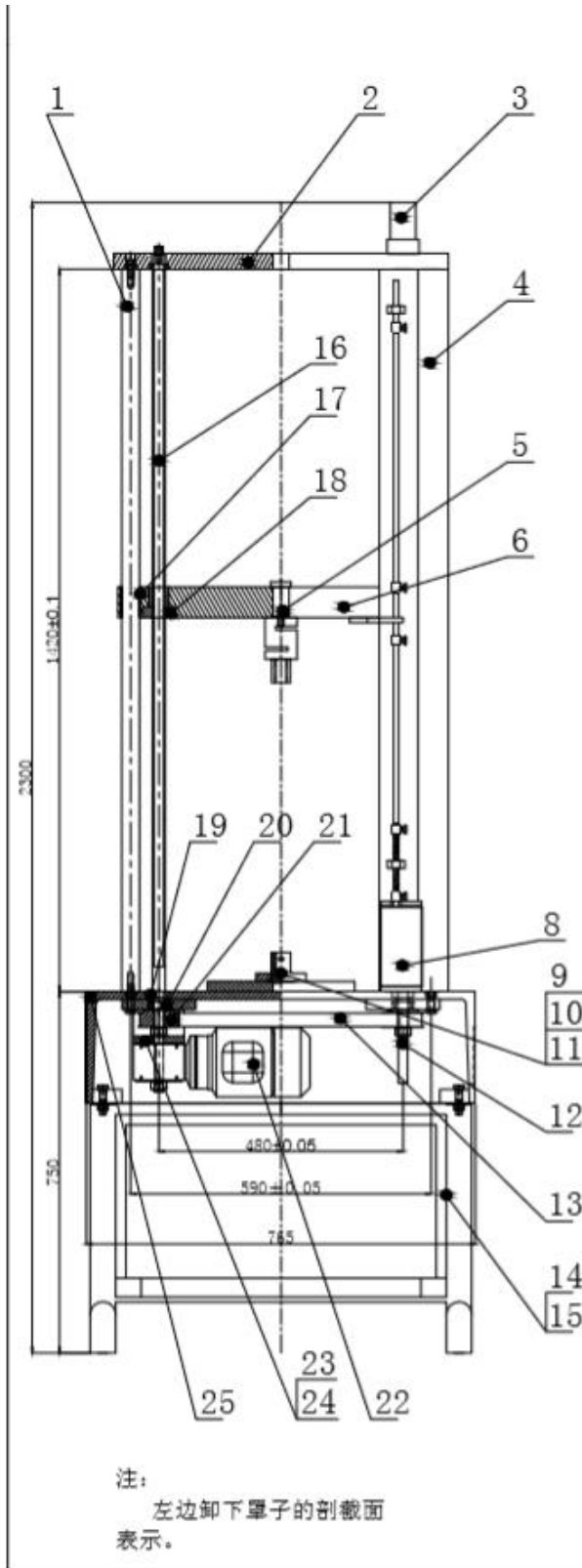
**Sample Tensile**



**Tensile to Break**

**Operation Steps**

Device 2D explosion



技术要求

- 1、 左边卸下罩子的剖视图表示。
- 2、 安装时，要导柱、丝杆要垂直，并且要在同一个面上。
- 3、 丝杆与同步带要紧配，转动时必须两根丝杆同时转动。
- 4、 中连板的轴承必须与导柱滑动良好。
- 5、 上接头与下接头要同一条轴线上

27					
26					
25	底座			1	
24	电机安装板			1	
23	电机安装支板			2	
22	涡轮减速器电机			1	
21	8M32齿同步带轮			2	
20	30204圆锥滚子轴承			2	
19	6204滚珠轴承			4	
18	螺母			2	
17	SF3539自润轴承			2	
16	左丝杆			1	
15	电器固定板			1	
14	支座与门			1	
13	1216-8M同步带			1	
12	右丝杆			1	
11	大压板			1	
10	下夹具圆盘			1	
9	下接头			1	
8	限位开关装置			1套	
7					
6	中连板			1	
5	上接头			1	
4	罩子组装			2	
3	编码器罩子			1套	
2	顶板			1	
1	导柱			2	
序号	名称	图号	材料	数量	备注

HZ-1003 电脑式拉力机机械原理图

审核	机种	HZ-1003B-S200KG拉力机		
	名称	机械原理图		
设计	材料		比例	
	数量	1	图号	000

**Standard Product configuration Checklist**

Main machine	1
Tensile Grip	1
Hexagon Spanner	1
HP computer	1
HP computer display	1
Key Board	1
Mouse	1
Operation Manual	1
Certificate	1