

UTM-SC

Single Column Electronic Universal Testing Machine



Contact us

Mikrosize Precision Instrument Co.,Ltd

A-4035 RuiFeng Business Expo, Wuhu City, China , 241000.

Web: www.mikrosize.com

Email: mikrosize@mikrosize.com



Features and Applications

Product Features

- Wide range of application, powerful, compact structure, easy to operate;
- High measurement accuracy;
- Adoption of high speed, low vibration and low noise motor drive;
- Multilingual switching;
- Flexible report viewing and printing capabilities;
- Auto-returning;
- Multiple curve modes (optional): e.g. Stress - Strain, Force - Displacement, Force - Time, Strength - Time, etc.
- Multiple test mode function: with tensile, flexural, compressive, folding, tearing, peeling, elongation and other test modes.
- Multiple protection devices.

Product Application

- Manufacturing: Mechanical performance testing of various types of components and raw materials produced to ensure product quality in line with design requirements.
- Materials R&D: Help researchers understand the mechanical properties of new materials and provide data support for material improvement and innovation.
- Scientific research institutions: In scientific research experiments, it is used to study the laws of mechanical behavior of substances and promote the development of related disciplines.



Instrument Appearance



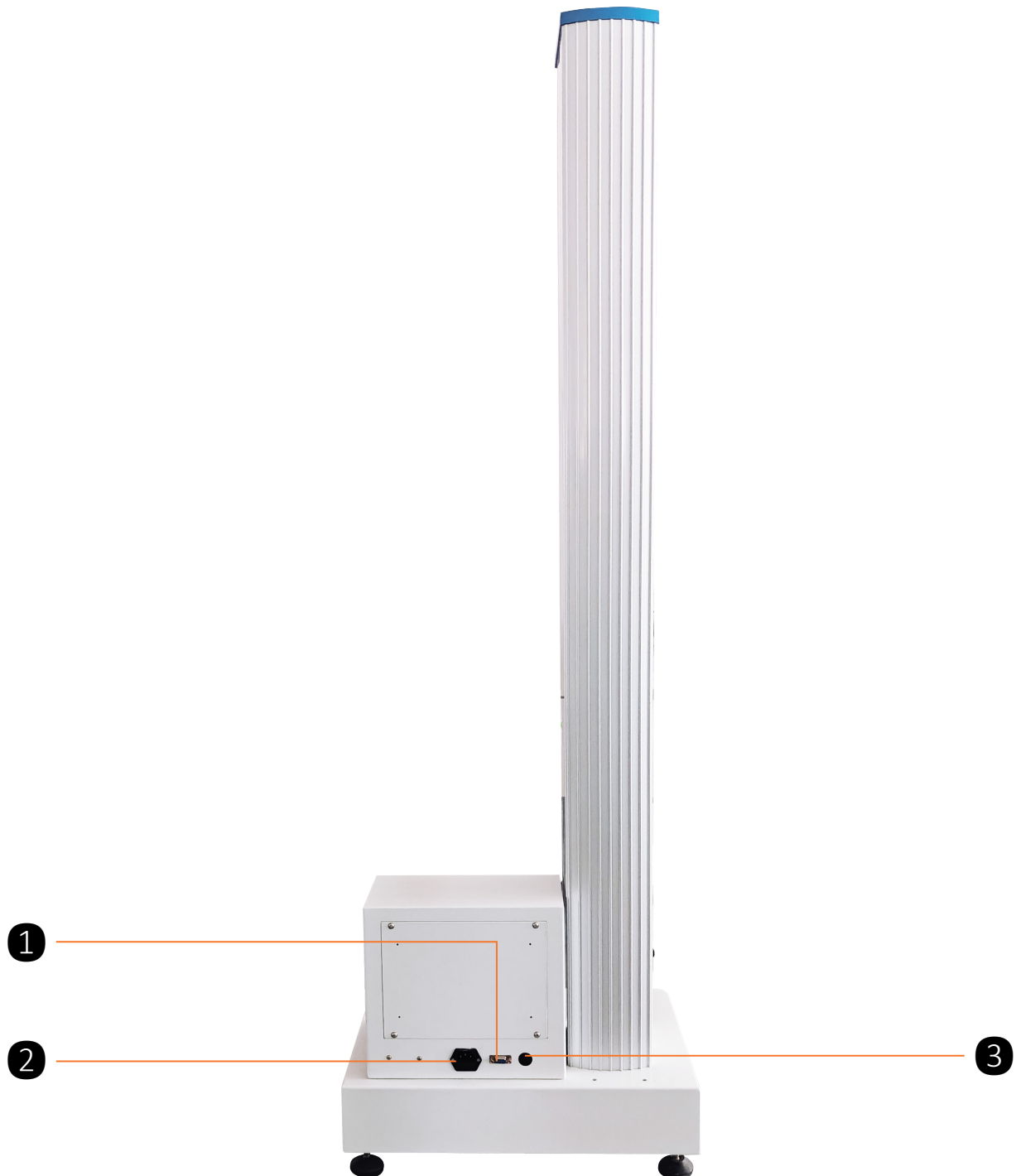
1.Limit Device

2.Load Cell

3.Emergency Stop Button

4.Leveling Feet

Instrument Appearance



1.Power Cord Socket

2.Socket For Computer Connection

3.Socket For The Extension Meter (Optional)

Product Details

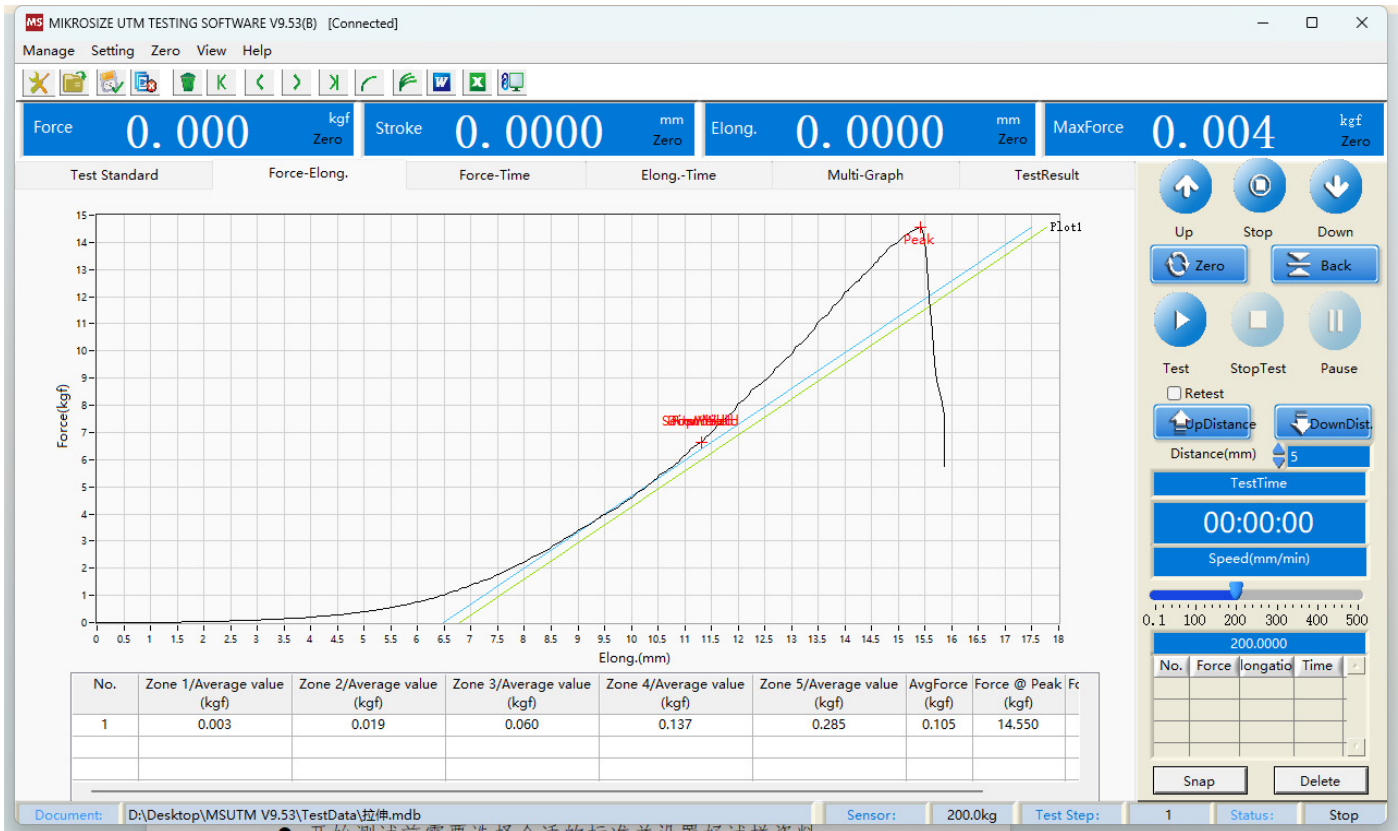
Detailed Display



- This equipment adopts high-precision force value sensor to ensure the accuracy of experimental data;
- The fixture can be quickly loaded and unloaded, loosen the fixture lock nut, pull out the fixture pin, you can remove the fixture, installation is installed in the reverse order;
- This equipment can be adapted to a variety of fixtures to meet the requirements of different experiments.

Operation Interface

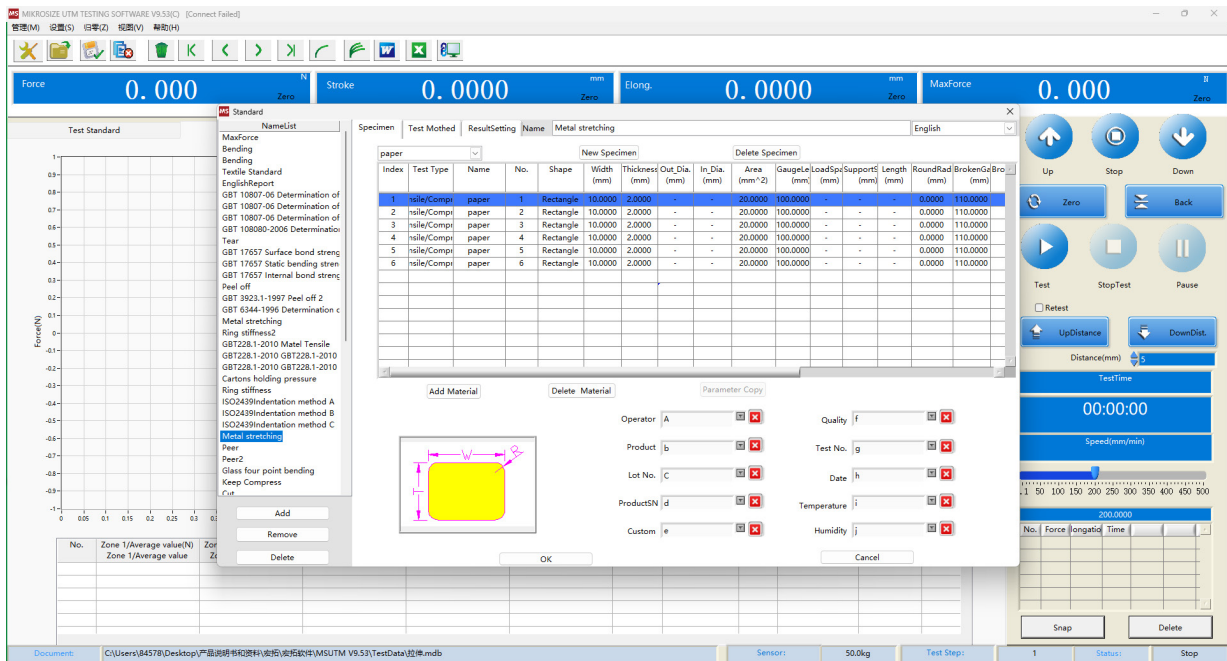
Software Interface



- In addition to the control buttons on the host, the main control mode of this device is software control.
- Through the right side of the screen buttons can control the host lifting and lowering as well as running and stopping, pointing speed, etc.; the upper display force, displacement, deformation, maximum force four project parameters, you can click on the name of the project to choose to display the project, such as stress, strain, elongation, speed, etc.

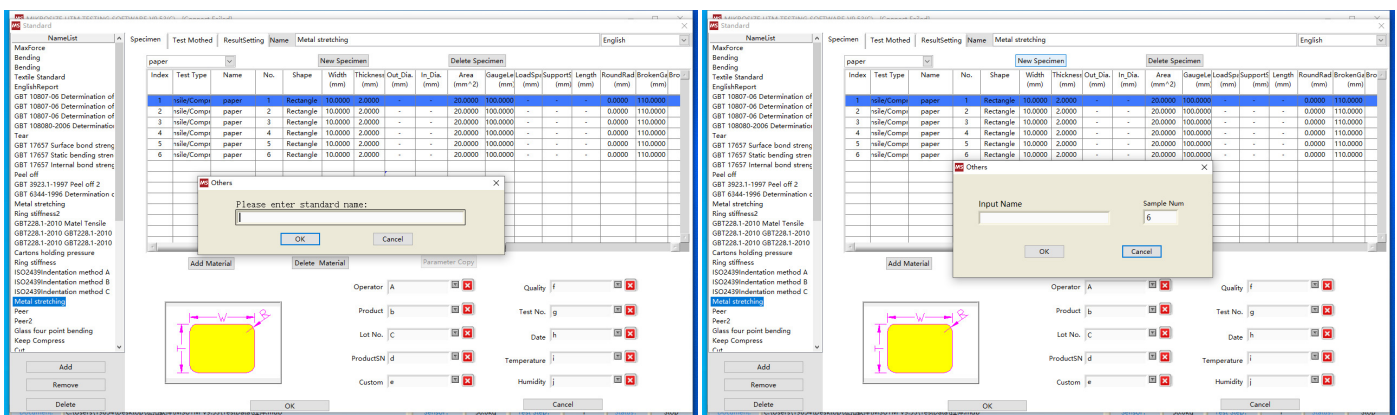
Operation Interface

Test Standard and Specimen Information



Test Standard

- Before starting the test, you have to select the appropriate standard and set up the specimen information, which is used to display and set up the test standard and the test specimen information, including its shape and size, as well as related auxiliary information, such as testers, specimen material, customer name and so on.



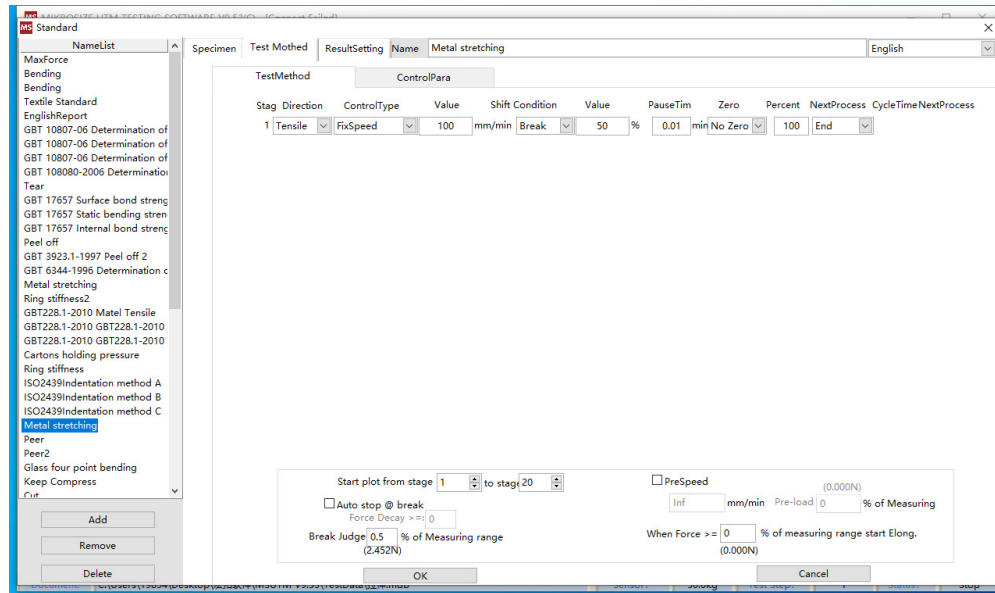
New Standard

New Specimen

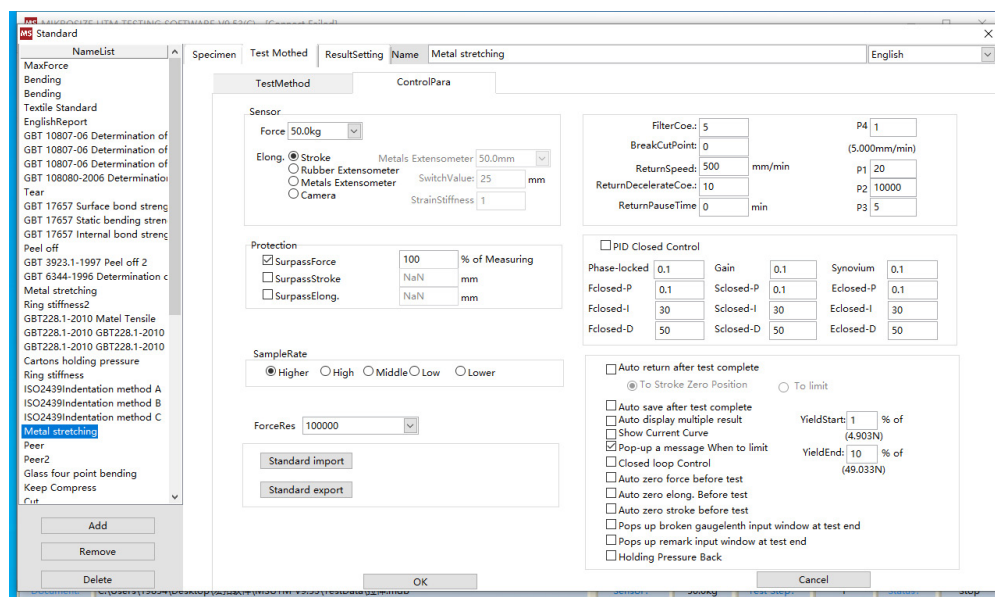
- The user can add new test standards and specimen information, or delete specimen information and test standards.

Operation Interface

Test Programs And Control Parameters



- Users can edit the test method in this interface, such as the test direction: tensile or compressive; mode switching conditions: break point or yield or deformation, force, strain and other parameters to reach the set value.



- It is mainly used to set the system parameters related to sensors and control, and generally does not need to be adjusted by the user.

[illegible]

- ## Interval Settings

Standard

NameList

Maxforce

Bending

Bending

Textile Standard

EnglishReport

GBT 10807-06 Determination of

GBT 10807-06 Determination of

GBT 10807-06 Determination of

GBT 10880-2006 Determination of

Tear

GBT 17657 Surface bond streng

GBT 17657 Static bending stre

GBT 17657 Internal bond streng

Peel off

GBT 3923.1-1997 Peel off 2

GBT 6344-1996 Determination c

Metal stretching

Ring stiffness

GBT228.1-2010 Matel Tensile

GBT228.1-2010 GBT228.1-2010

GBT228.1-2010 GBT228.1-2010

Cartons holding pressure

Ring stiffness

ISO2439Indention method A

ISO2439Indention method B

ISO2439Indention method C

Metal stretching

Peel

Peel2

Glass four point bending

Keep Compress

Cut

Specimen

Test Method

ResultSetting

Name

Metal stretching

English

Test Result

Interval Settings

Auto Snap Settings

Textile Settings

Label

Others

Interval Type:

☒ Elong.(mm)

☐ Time(min)

☐ Percentage of Max. Elong.

☐ ManualSnap

ManualZoneMode

☒ Discontinuity

☐ Continuity

Valley Peak Value Min.%

☒ Peel interval

☐ N

5

%

Peak Valley Value Min.diff

☒ Peel interval

☐ N

0.049033

%

	Interval 1	Interval 2	Interval 3	Interval 4	Interval 5	Interval 6	Interval 7	Interval 8	Interval 9	Peel interval
Start of elong.	0.0000	0.9910	2.0070	2.9970	3.9880	5.0040	5.9940	0.0000	0.0000	0.9910
End of elong.	0.9910	2.0070	2.9970	3.9880	5.0040	5.9940	7.0100	0.0000	0.0000	5.0040
Start of time	0.000	0.070	0.120	0.150	0.180	0.270	0.330	0.000	0.000	0.000
End of time	0.050	0.100	0.130	0.170	0.250	0.300	0.470	0.000	0.000	0.000
Start of % of Max. Elong.	0.000	0.000	0.000	0.000	0.000	0.000	33.300	0.000	0.000	0.000
End of % of Max. Elong.	0.000	0.000	0.000	0.000	0.000	0.000	66.700	0.000	0.000	0.000

Set manualSnap1 and manualSnap2 as peel interval

☐ Mark the 1st interval on the graph

☐ Mark the 2nd interval on the graph

☐ Mark the 3rd interval on the graph

☐ Mark the 4th interval on the graph

☐ Mark the 5th interval on the graph

☐ Mark the 6th interval on the graph

☐ Mark the peel interval on the graph

☐ Mark mean value of peel interval on the graph

☐ Mark the ISO377 interval on the graph

☐ Mark the GBT 3917.5-2009 interval

☐ Mark the ISO6133 interval on the graph

☐ Mark upper limit: 49.03325 N 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 29.41995 N

☐ Mark lower limit: 0 N 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm

☐ Mark the 7th interval on the graph

☐ Mark the 8th interval on the graph

☐ Mark the 9th interval on the graph

☐ Mark the 10th interval on the graph

☐ Mark the 11th interval on the graph

☐ Mark the 12th interval on the graph

☐ Mark the 13th interval on the graph

☐ Mark the 14th interval on the graph

☒ Mark Top N Valley

☒ Mark Least N Valley

☐ Starting from the 14th position

☐ Mark the ST-06 interval

Mark Peak Number 1

Mark Valley Number 2

☒ Mark Top N Valley

☒ Mark Least N Valley

☐ Starting from the 14th position

☐ Mark the ST-06 interval

Mark Peak Max Peak

Mark Min Peak

Mark Standard Value: 29.41995 N

Add

Remove

Delete

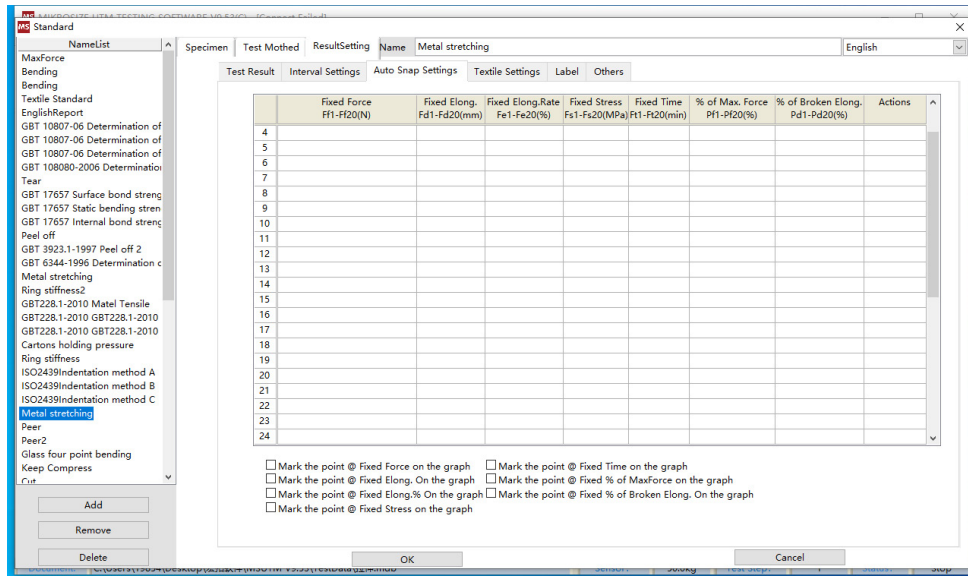
OK

Cancel

- Email:mikrosize@mikrosize.com

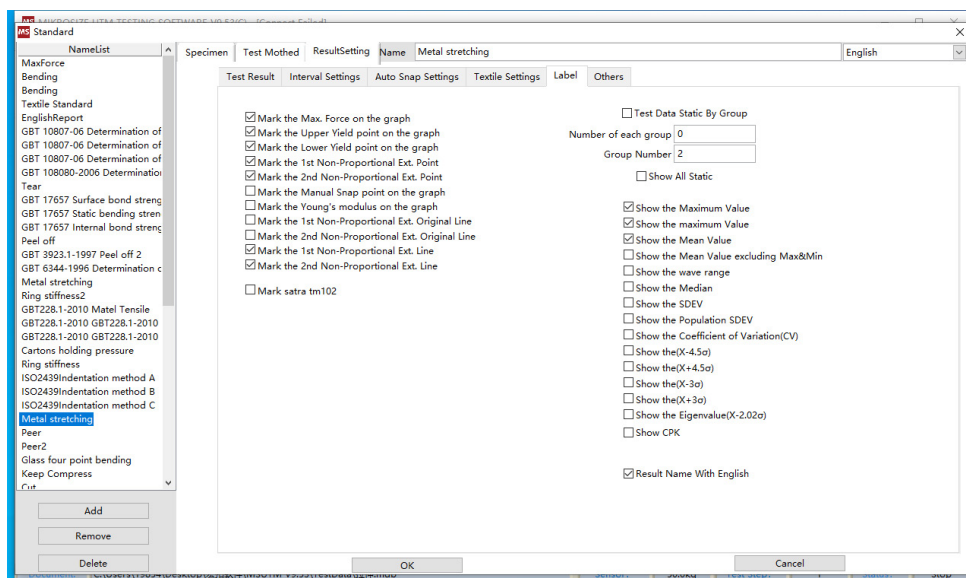
Operation Interface

Automatic Pickup Point Setting



- This software supports 7 modes of point taking: fixed force, fixed deformation, fixed elongation, fixed stress, fixed time, percentage of maximum force, and percentage of deformation at break, which can be set at the same time or individually.
- The software also supports taking points on the curve back and forth.

Marking



- The function of this screen is to set whether to mark various characteristic points on the curve, and whether to display the maximum value, average value, and other statistical values in the test results.

Operation Interface

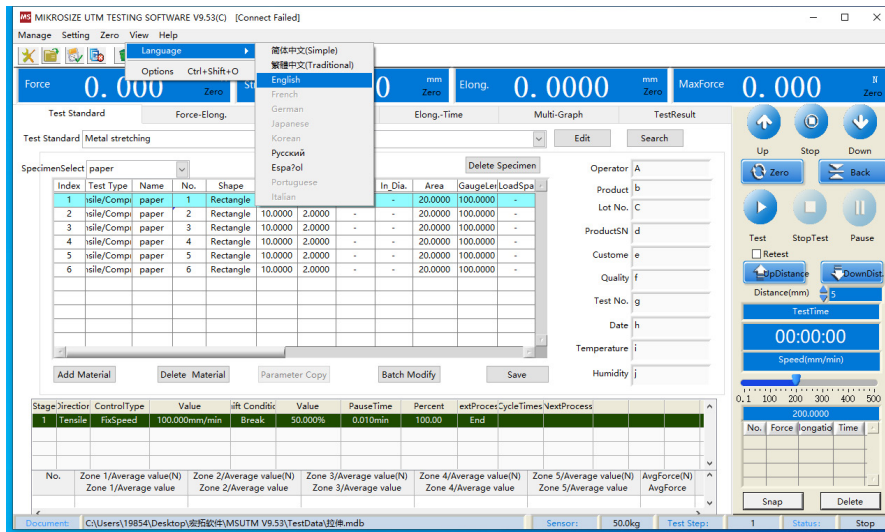
Others

The screenshot shows the 'Others' tab in the Mikrosize LTM Testing Software interface. The window title is 'MS Standard'. The 'Name' field is set to 'Metal stretching'. The 'Language' dropdown is set to 'English'. The 'Test Result' tab is selected, showing settings for 'the 1st Non-Proportional Ext. Point' and 'the 2nd Non-Proportional Ext. Point'. The 'Elasticity modulus' section has three radio buttons: 'Based on MaxForce' (selected), 'Based on GaugeLength', and 'Based on Bending Strain'. The 'Start Force of' is set to 20 % of Max. Force. The 'Diff % between Up and down Yield point' is set to 2 %. The 'Diff Value between Up and down Yield point' is set to 98.0665 N. The 'Back Elong. from MaxForce Point' is set to 0 mm. The 'Curve offsets' are set to 0 mm. The 'Automatically switches when start test' section has four radio buttons: 'No change' (selected), 'Force-Elong.', 'Force-Time', and 'Stress-Strain'. The 'Word Report Template' is set to 'Report.doc' and the 'Excel Report Template' is set to 'T1.xls'. The 'NumColumns' is set to 7 and the 'Serial format' is set to 1,2,3. The 'Graph to print select' section has four radio buttons: 'Force-Elong.' (selected), 'Stress-Strain', 'Elong.-Time', and 'Force-Time'. The 'Result Table Output To Report' and 'Test Graph Output To Report' are both checked. The 'Show Save Dialog When Output Report' is checked. The 'Result Table Index' is set to 2. The 'Plot' is set to 1 to 100. The 'OK' and 'Cancel' buttons are at the bottom right.

- This interface is mainly used to set the first and second prescribed non-proportional extension point interval and offset, elastic modulus elastic region interval, yield point start point and fall ratio parameters. There are also report related settings, such as report word template, report excel template, report output graphic selection, report whether to output test results table and graphic selection. Whether to automatically switch to the corresponding curve interface when testing.

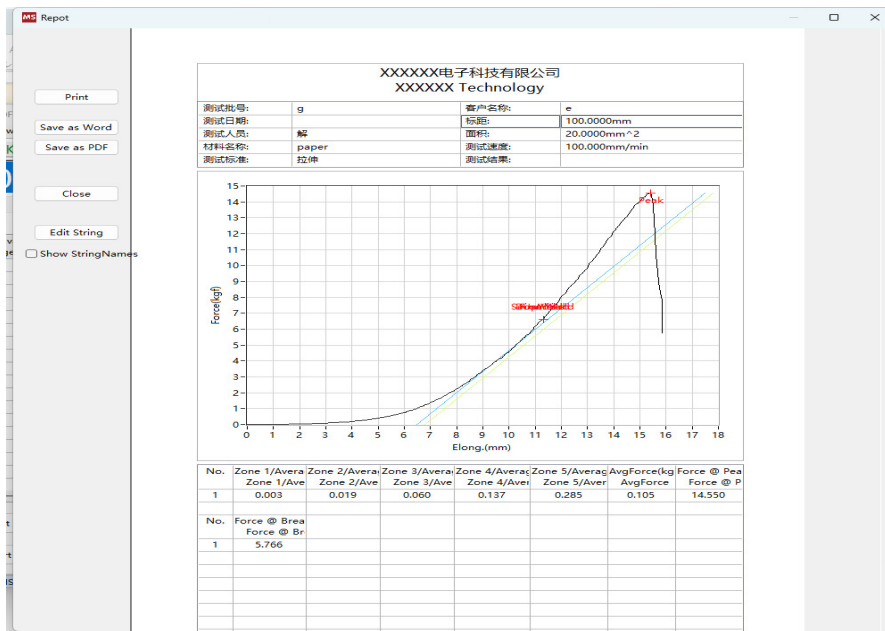
Operation Interface

Language Switching



- Regular edition software comes with Simplified Chinese, Traditional Chinese and English languages. The Premium version of the software comes with a choice of 10 languages.

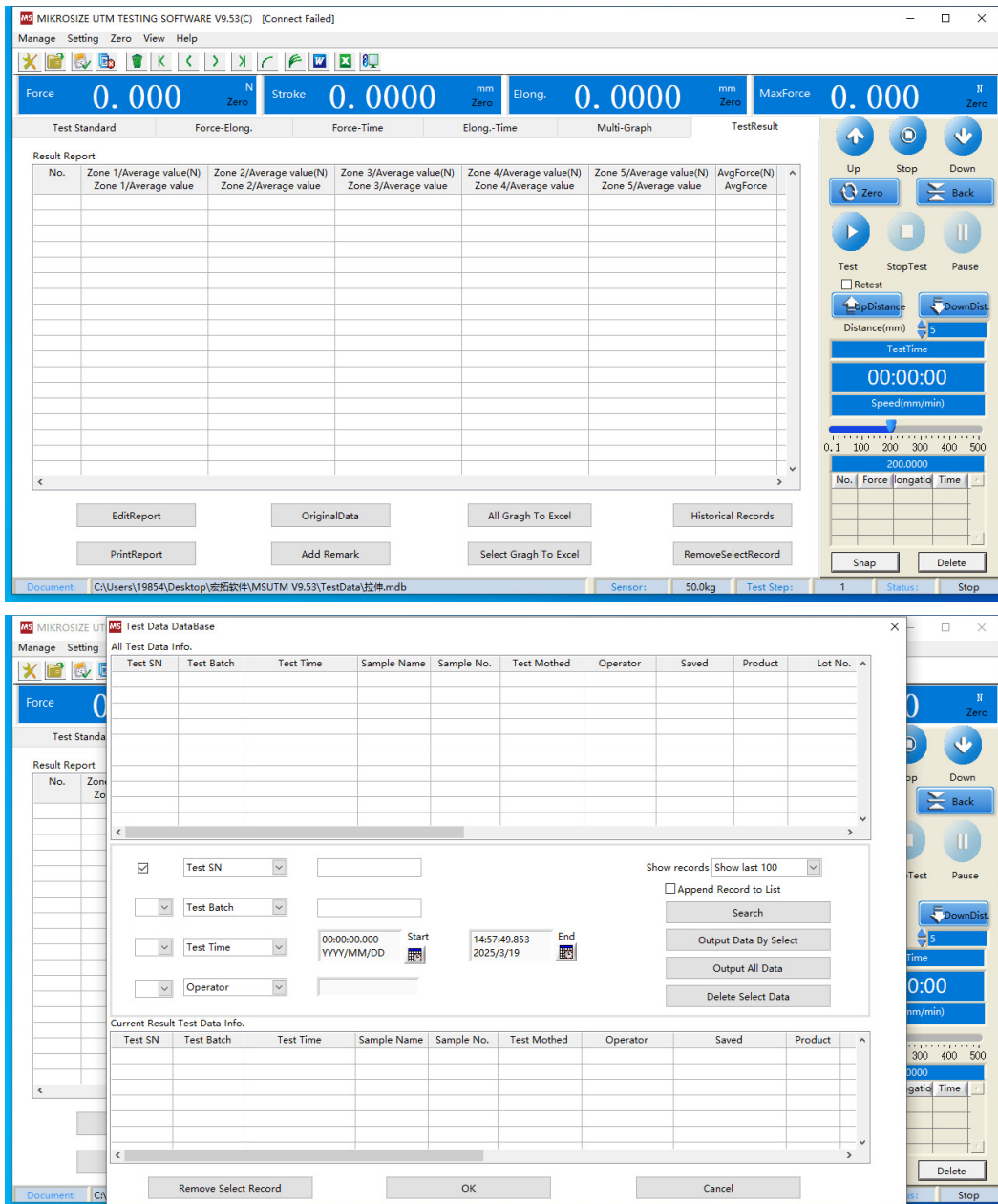
Report Editing



- This interface for the software comes with a simple results report, the user can edit the report, the output format has two kinds of PDF and Word. Users can also choose to output the report in the shortcut above the software, there are two kinds of Word and Excel.

Operation Interface

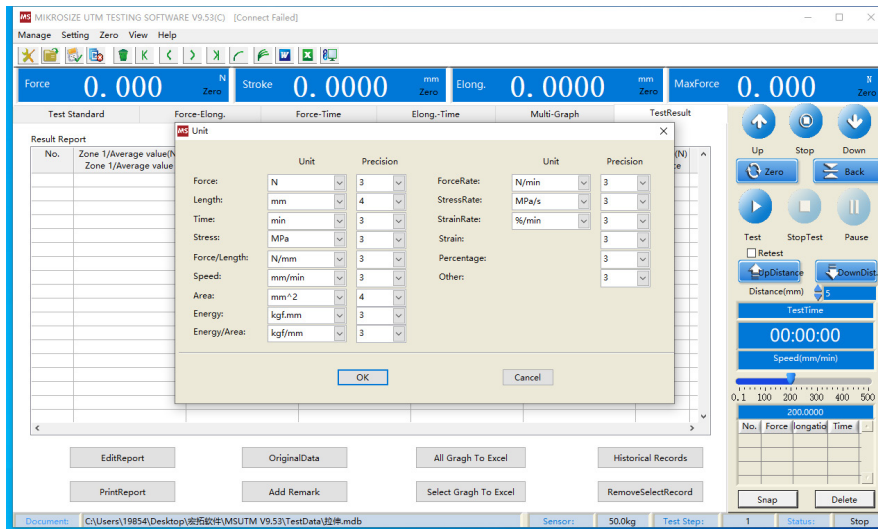
Data Viewing and Querying



- After the test is completed, the user can view the test data and results in this interface.
- In "All Test Data Information", it shows all the test data information saved in the file, which is convenient for customers to query and retrieve the data in the file; users can also query the corresponding test data according to the test time, number of times, batch, material, standard, etc., and can output the test results according to the query results;
- The "current output test data information" shows the test information corresponding to the current output result.

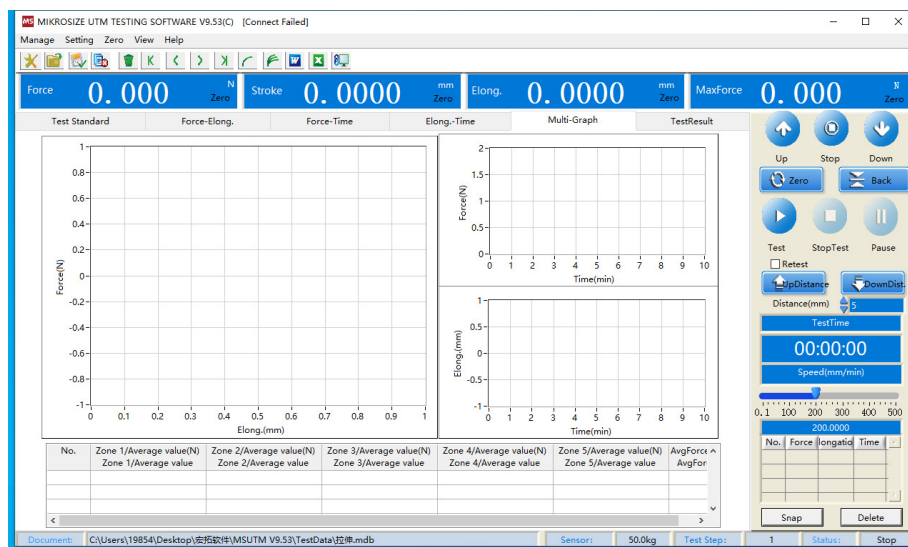
Operation Interface

Units



- There are many different units available for each parameter of this software.
- The user can select a unit from a drop-down list and choose a precision, which indicates the number of decimal places. The unit system determines the unit of the whole system, and all the realities and operations of the quantities are executed with this unit system.

Multi - Graph Mode



- This software supports multi-plot mode, users can simultaneously view the curve of the same 1 test of 3 different axes, to avoid switching back and forth, and convenient and intuitive.

Technical Specification

Model		UTM-SC						
Name		Single Column Electronic Universal Testing Machine						
Subdivision Model		UTM-SC-5	UTM-S C-10	UTM-S C-20	UTM-S C-50	UTM-SC-100	UTM-SC-200	UTM-SC-500
Capacity	KN	0.05	0.1	0.2	0.5	1	2	5
	KG	5	10	20	50	100	200	500
	lb	11	22	44	110	220	440	1102
Testing Class		Class 1 (can be change to Class 0.5)						
Force Accuracy		Within $\pm 1\%$ of the indicated value (can be change to 0.5%)						
Speed Accuracy		Within $\pm 1\%$ of the indicated value (can be change to 0.5%)						
Speed Range		0.01-500mm/min						
Displacement Accuracy		Within $\pm 1\%$ of the indicated value (can be change to 0.5%)						
Large Deformation Measuring Range		1000mm(optional)						
Large Deformation Resolution		Within $\pm 1\%$ of the indicated value (can be change to 0.5%)						
Measuring Height		Standard Model: 500mm Heightened Model: 1000mm						
Power Supply		220V.AC/50Hz; (Can be selected by country :110V.AC/60Hz)						
Weight		Net Weight: 65Kg						
Dimension		Standard: L*W*H:450mm*400mm*1190mm Heightened: L*W*H:450mm*400mm*1580mm						

Standard Delivery

Name	Qty	Photo
Mainframe Machine	1 pc	
Fixture	1 set	
Power Cord	1 set	/
Software	1 set	
Horizontal Adjustable Feet	4 set	/
Instruction Manual	1 set	
Product Certificate	1 set	
Product Warranty	1 set	

Optional Delivery

Name	Photo
Small Deformed Extensometers	
Large Deformation Extensometer	
Printer	
Computer	
Other Fixture	/