Mikrosize®

1305D Fully Automatic Insertion Extraction Force Plug 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

Product Feature &Application

Product Feature

• Working Principle:to insert the tested connector into the plug or socket on the testing machine, and define a plugging speed and testing times. Then, by applying a certain test force, insert and extract the connector until the predetermined test times or the connector is damaged. The machine records the insertion and extraction forces and displacements during the testing process, allowing for the evaluation and analysis of connector performance.
• English version of WINDOWS system software,Data can be stored including test specification, movement curve diagram, living curve diagram, checking report ... Etc.
• Test specification can be set and stored by computer. Select settings from drop-down menu or directly input data, including test category,movement direction , load measuring range、movement range ,origin position, origin detection, test speed ,total test times, pause time,waiting position and zero pressure times.
• Tie-in dynamic impedance test system, which can test dynamic impedance and draw the "load-route-impedance curve".
• Load cell overload protection function.
• Display load – movement curve and the living curve at the same time.
• Automatic loading zero point detection, and set the origin detection load value.
• Curve sampling comparison function.
• Load display unit like N, LB, GF, KGF can be switched freely.
• Load Cell optional 2kgf, 5kgf, 20kgf, 50kgf, 200kgf, 500kgf(made in Taiwan).
• Steel structure and servo motor .After a long time test, the machine will also keep accuracy.
• Machine will automatically stop if the test data exceeds the set value in the living test).
• Test function: maximum load value, peak value, valley value, load-route value, insertion point resistance, load or route resistance value.
• Integrated micro-ohm test mode. No need to buy another micro-ohm tester, can measure milliohms resistance value.
• The title of report can be modified at any time and converted to the EXCEL editor.
• The title and LOGO of graph report and text report can be designated by customer.
• Software can be modified according to the customer's requirement.
• The microcontroller adopts a highly integrated control system, with small size and full functionality.
• At a speed of 300mm/min, the walking position is accurate without drift, and at a speed of 600mm/min, it is also within the range of 0.002mm.
• The microcontroller comes with a contact resistance function and does not require an external impedance device. It detects the force and stroke of the conduction point while testing the force and stroke.
• Bidirectional hold function: cycle up or down to hold the setting time.
• All lines adopt plug-in and modular structures, making after-sales service convenient.
• Easy to operate and learn, with compression, retention force testing, and fracture breaking functions.

Product Application

• Suitable for testing the insertion and extraction forces of various connectors.which is typically used for product quality control and improvement in industries such as electronics and machinery to ensure the reliability and durability of connectors.
• Test items:Single-arch of connectors,whole row of connectors,using life of connectors,the holding power test of connector's single Pin with plastic,Connector recede from the pin test,Normal Force test of Connector,All kinds of compression, tensile and breaking strength test;Terminal resistance load test,The terminal or connector impedance test
• This plug testing machine is widely used in industries such as electronic components, aerospace, automotive industry, building materials, medical equipment, household appliances, toys, plastic products, etc. It is mainly used to test the insertion and extraction force, tensile force, compression force, bending force, tear strength, and other properties of products such as cables, plugs, headphones, USB, HDMI, SD cards, interfaces, switch buttons, etc. These test data can help manufacturers improve product design, quality and reliability, and ensure that products comply with relevant standards and specifications.

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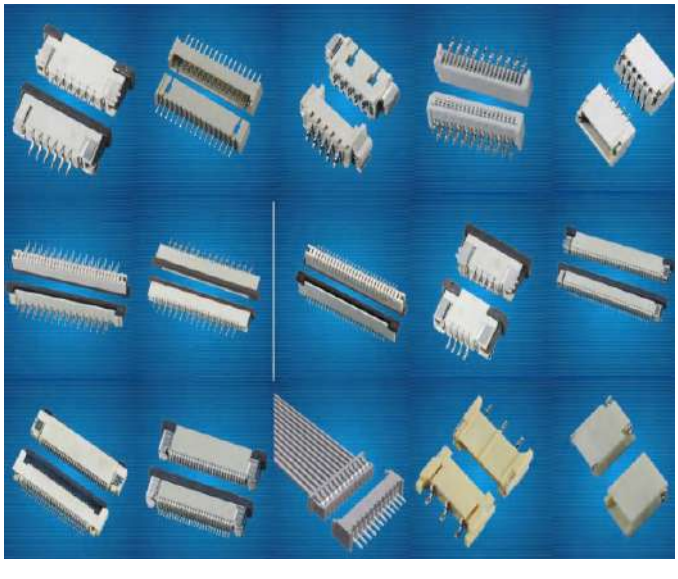
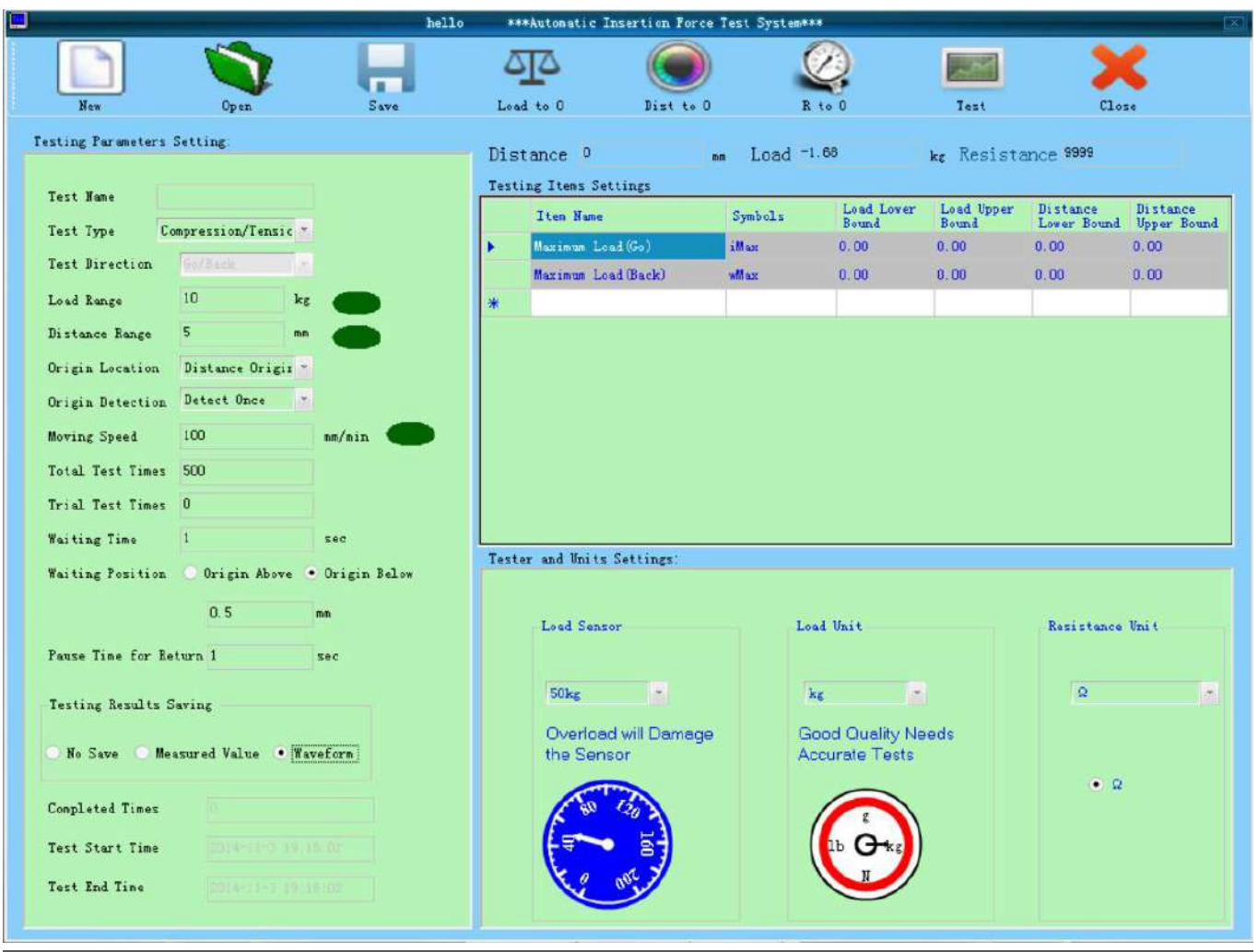
Tested Products Example

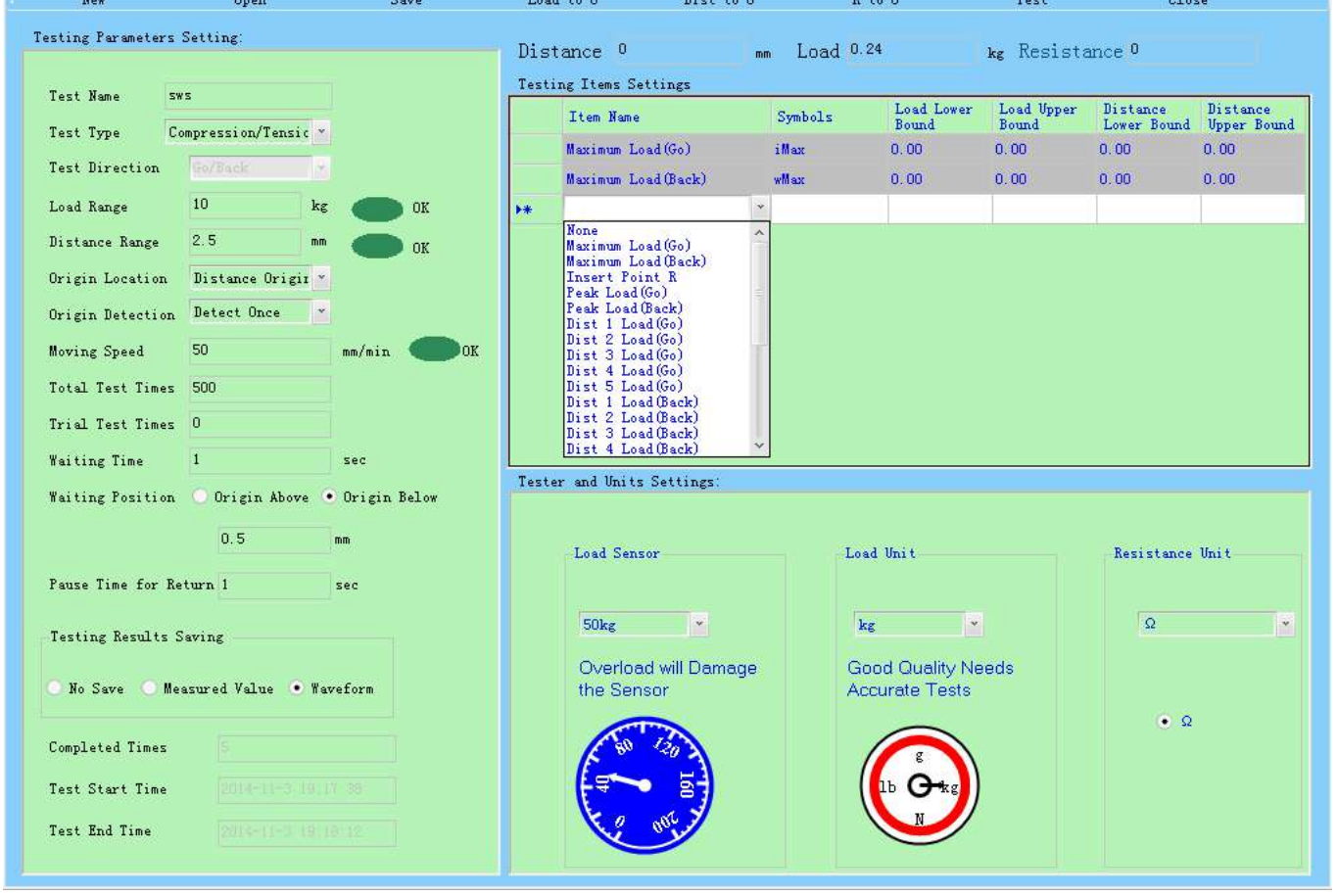


User Friendly

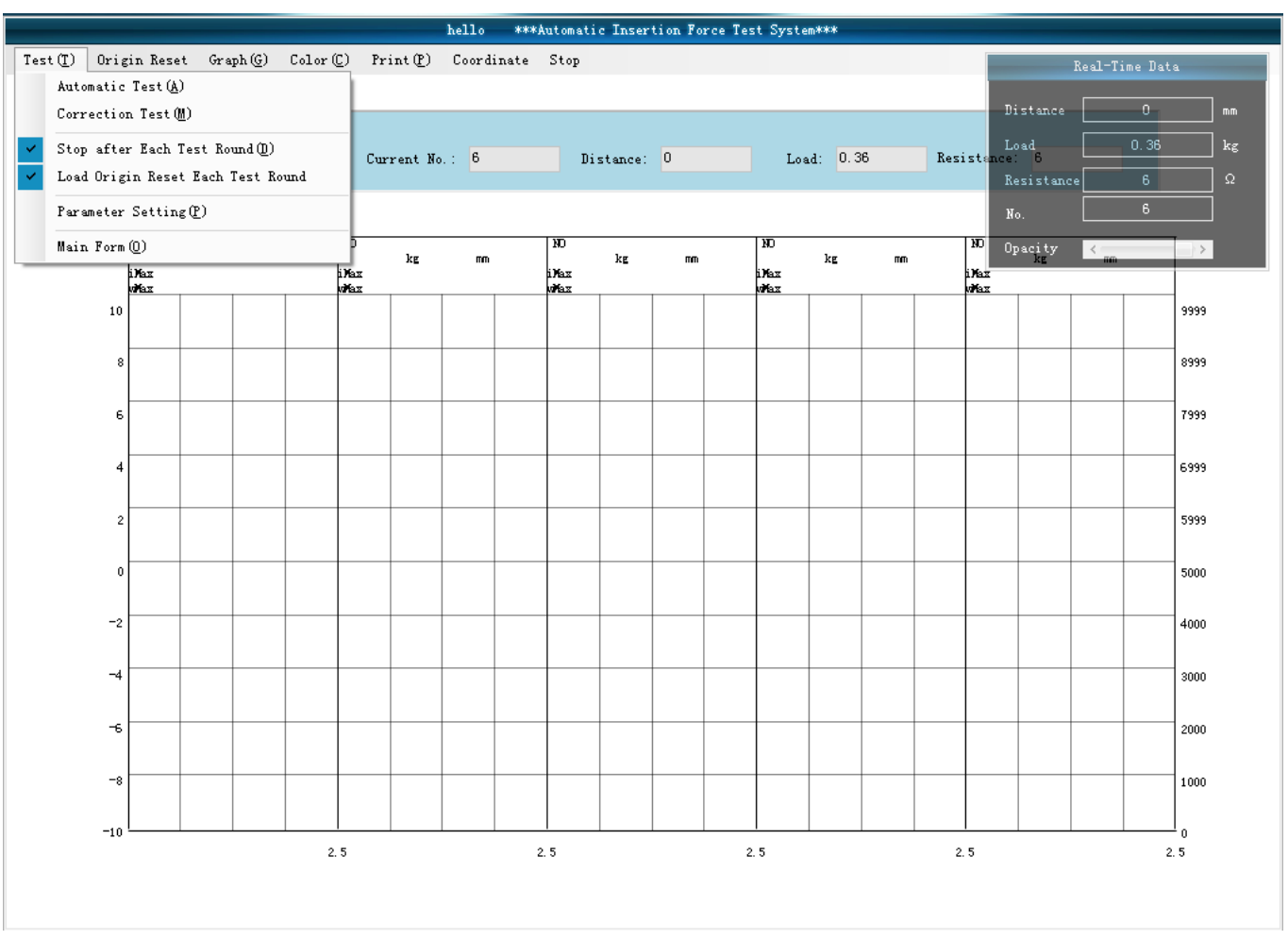
Testing Software



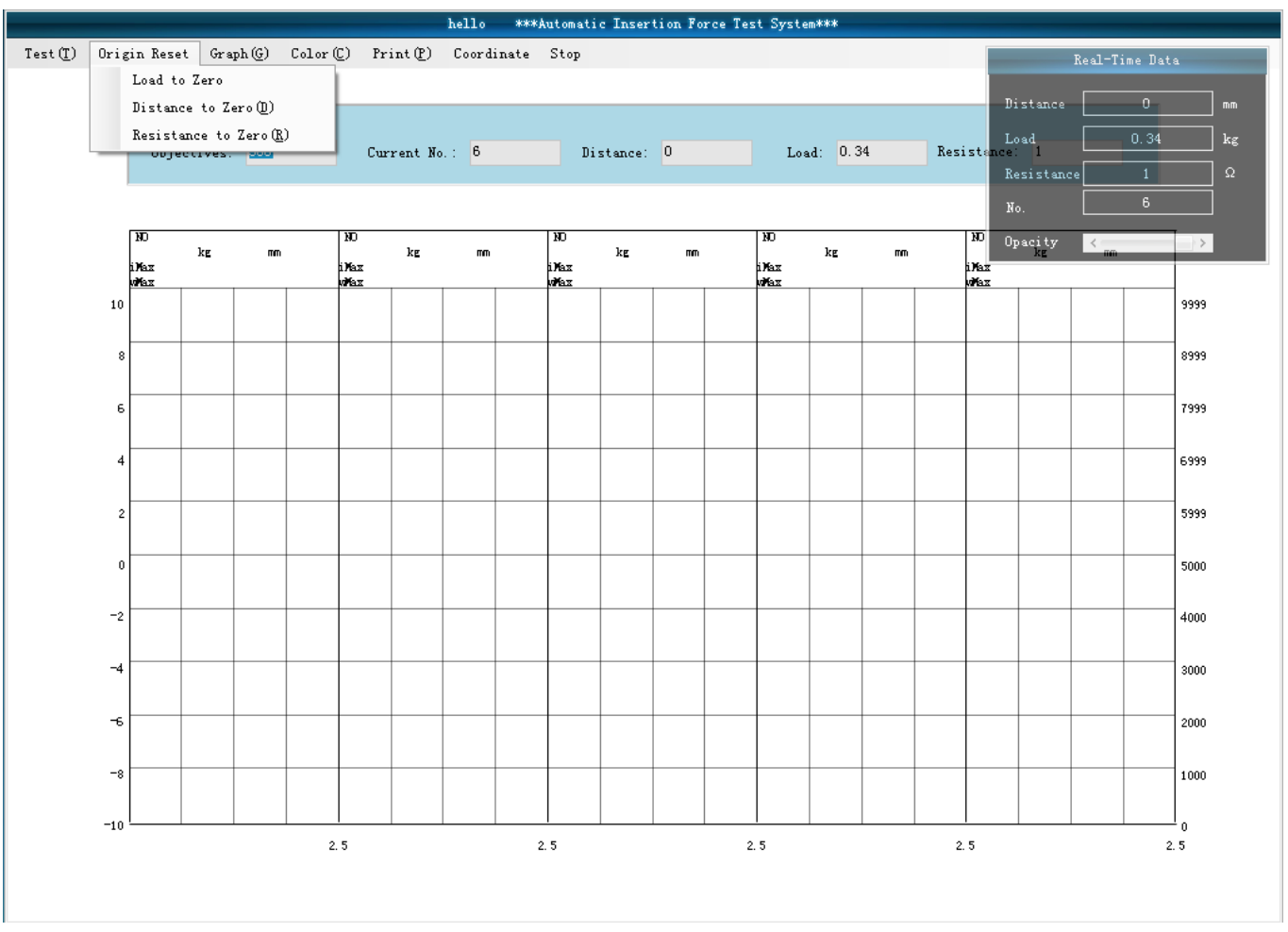
Main Interface of Software



Main Interface of Software

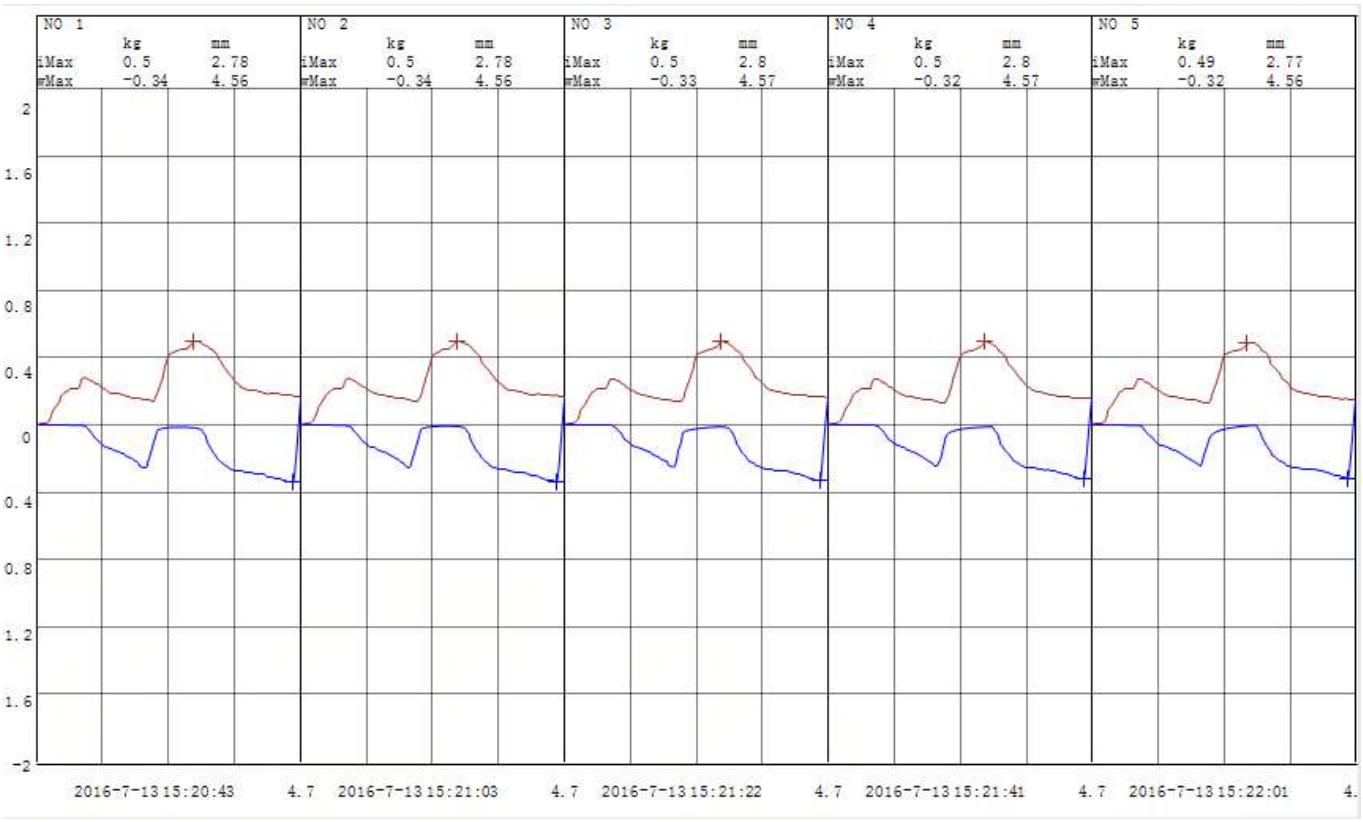


Testing Interface of Software



Testing Interface of Software

Test Report Output



Curve diagram of force-movement

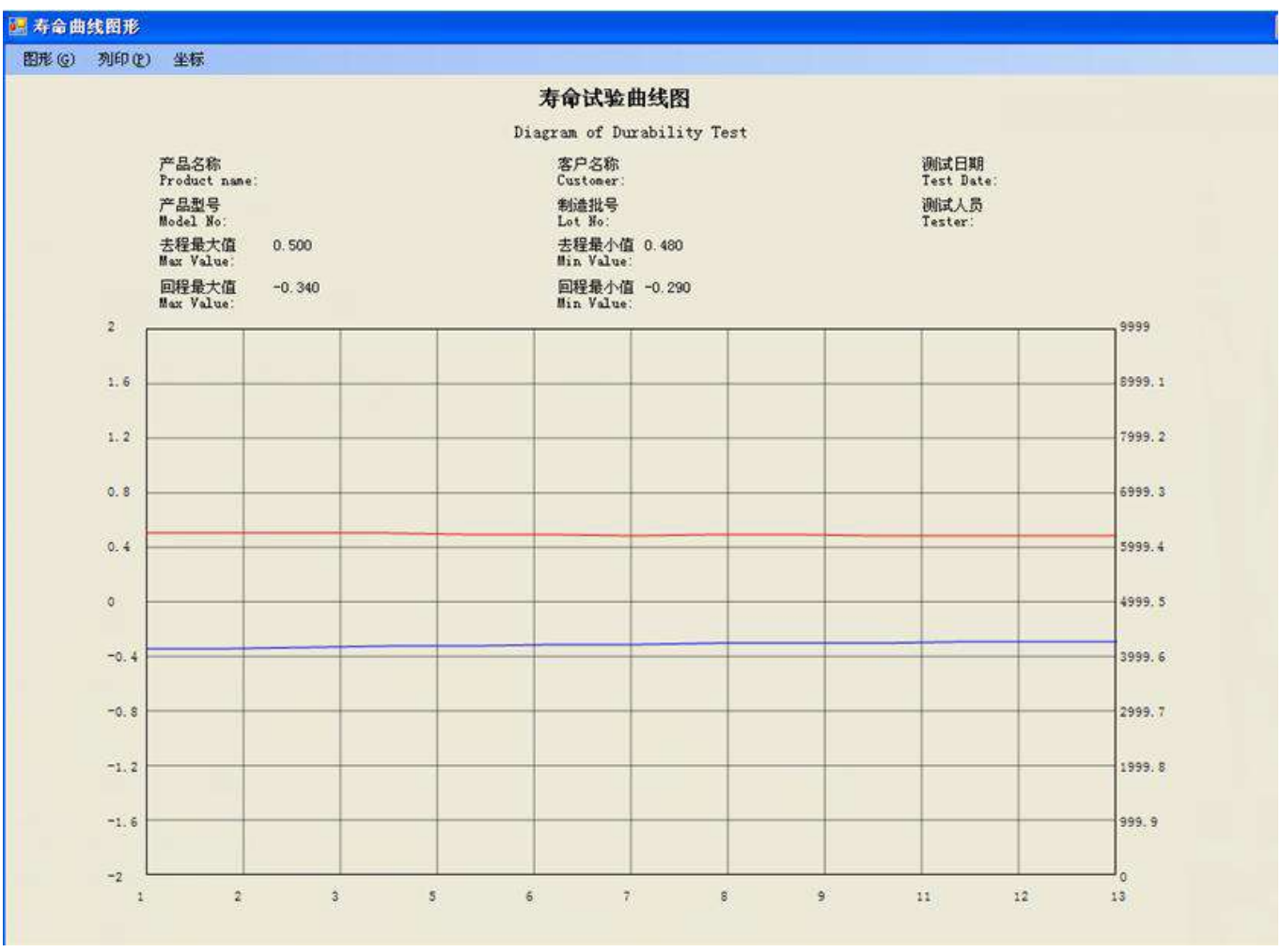
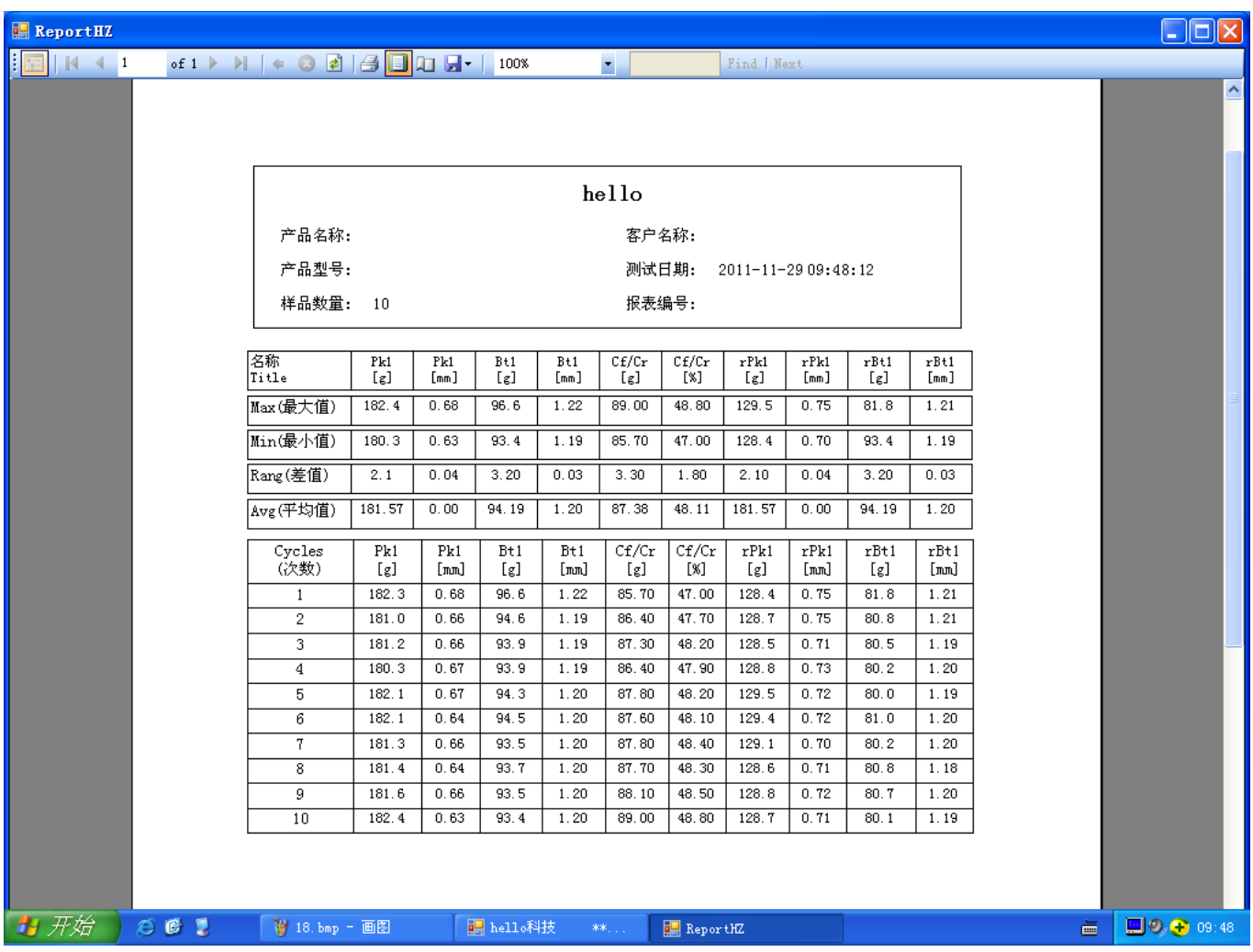


Diagram of Durability Test



名称 Title	Pk1 [g]	Pk1 [mm]	Bt1 [g]	Bt1 [mm]	Cf/Cr [g]	Cf/Cr [%]	rPk1 [g]	rPk1 [mm]	rBt1 [g]	rBt1 [mm]
Max(最大值)	182.4	0.68	96.6	1.22	89.00	48.80	129.5	0.75	81.8	1.21
Min(最小值)	180.3	0.63	93.4	1.19	85.70	47.00	128.4	0.70	93.4	1.19
Rang(差值)	2.1	0.04	3.20	0.03	3.30	1.80	2.10	0.04	3.20	0.03
Avg(平均值)	181.57	0.00	94.19	1.20	87.38	48.11	181.57	0.00	94.19	1.20

Cycles (次数)	Pk1 [g]	Pk1 [mm]	Bt1 [g]	Bt1 [mm]	Cf/Cr [g]	Cf/Cr [%]	rPk1 [g]	rPk1 [mm]	rBt1 [g]	rBt1 [mm]
1	182.3	0.68	96.6	1.22	85.70	47.00	128.4	0.75	81.8	1.21
2	181.0	0.66	94.6	1.19	86.40	47.70	128.7	0.75	80.8	1.21
3	181.2	0.66	93.9	1.19	87.30	48.20	128.5	0.71	80.5	1.19
4	180.3	0.67	93.9	1.19	86.40	47.90	128.8	0.73	80.2	1.20
5	182.1	0.67	94.3	1.20	87.80	48.20	129.5	0.72	80.0	1.19
6	182.1	0.64	94.5	1.20	87.60	48.10	129.4	0.72	81.0	1.20
7	181.3	0.66	93.5	1.20	87.80	48.40	129.1	0.70	80.2	1.20
8	181.4	0.64	93.7	1.20	87.70	48.30	128.6	0.71	80.8	1.18
9	181.6	0.66	93.5	1.20	88.10	48.50	128.8	0.72	80.7	1.20
10	182.4	0.63	93.4	1.20	89.00	48.80	128.7	0.71	80.1	1.19

Test Report

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Technical Specification

Maximum Loading	Optional 100kg、50kg、20kg、10kg、5kg
Test Height	150mm
Minimum Adjusting Movement	0.01mm
Load Cell Accuracy	0.02%
Test Speed	0～300mm/min
X/Y-axis Movement Range	0～75mm
Transmission Structure:	Ball screw
Driving Motor	Servo motor (Panasonic made in Japan)
Machine Dimension	400mm*300mm*1050mm （W*D*H）
Net Weight	65Kg
Power Source	AC220V

Packing List

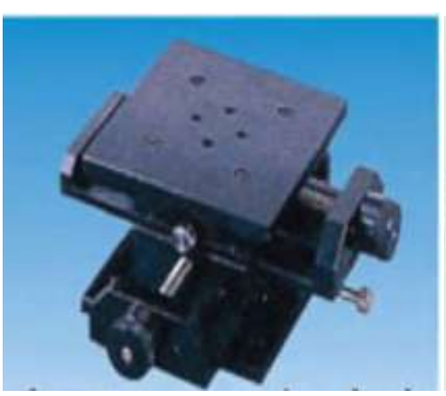
Items	Name	Qty
1	Machine Mainframe	1
2	Computer	1
3	19inch Computer Monitor	1
4	USB Mouse, keyboard	Each1
5	Resistance Test Connecting wire and Clamp Nozzle	1
6	Test Software	1
7	Load Cell (TECSIS made in Germany)	1
8	Multifunctional fixture	3
9	X-Y Movement Stage	1
10	Full row connector fixture	2
11	Single Hole Centering Clamp	1
12	Single hole fixture	1
13	Single PIN holding force fixture	1
14	Impedance testing System	1
15	Power Line	3
16	Data Line	3

Full row connector fixture

Multifunctional fixture

Single hole fixture

Single Hole Centering Clamp



X-Y Movement Stage

Single PIN holding force fixture