

MS-1305D

Fully Automatic Insertion Extraction Force Plug Testing Machine



Contact us

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Features and 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.

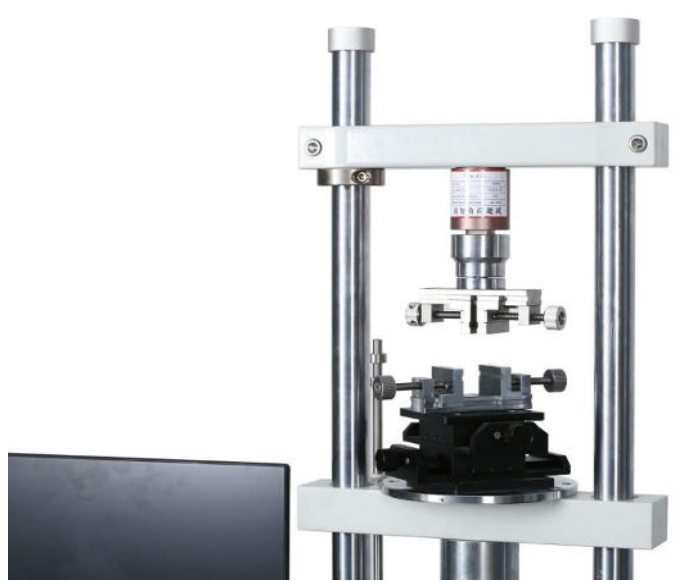
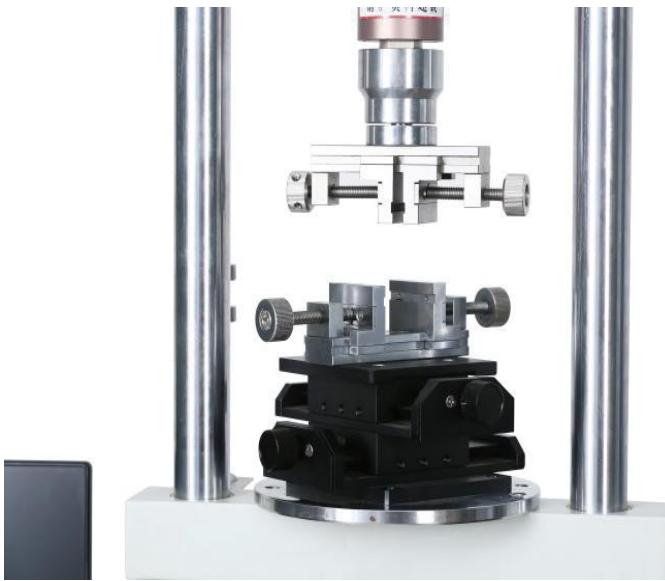
Features and Application

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.



Product Details



Tested Products Example



Software Interface

Main Interface of Software

hello ***Automatic Insertion Force Test System***

New Open Save Load to 0 Dist to 0 R to 0 Test Close

Testing Parameters Setting:

Test Name:

Test Type:

Test Direction:

Load Range: kg

Distance Range: mm

Origin Location:

Origin Detection:

Moving Speed: mm/min

Total Test Times:

Trial Test Times:

Waiting Time: sec

Waiting Position: Origin Above Origin Below

Pause Time for Return 1: mm

Testing Results Saving:

No Save Measured Value Waveform

Completed Times:

Test Start Time:

Test End Time:

Distance 0 mm Load -1.68 kg Resistance 9999

Testing Items Settings

Item Name	Symbols	Load Lower Bound	Load Upper Bound	Distance Lower Bound	Distance Upper Bound
Maximum Load(Go)	iMax	0.00	0.00	0.00	0.00
Maximum Load(Back)	wMax	0.00	0.00	0.00	0.00

Tester and Units Settings:

Load Sensor:

Load Unit:

Resistance Unit:

Overload will Damage the Sensor

Good Quality Needs Accurate Tests

Ω

hello ***Automatic Insertion Force Test System***

New Open Save Load to 0 Dist to 0 R to 0 Test Close

Testing Parameters Setting:

Test Name:

Test Type:

Test Direction:

Load Range: kg OK

Distance Range: mm OK

Origin Location:

Origin Detection:

Moving Speed: mm/min OK

Total Test Times:

Trial Test Times:

Waiting Time: sec

Waiting Position: Origin Above Origin Below

Pause Time for Return 1: mm

Testing Results Saving:

No Save Measured Value Waveform

Completed Times:

Test Start Time:

Test End Time:

Distance 0 mm Load 0.24 kg Resistance 0

Testing Items Settings

Item Name	Symbols	Load Lower Bound	Load Upper Bound	Distance Lower Bound	Distance Upper Bound
Maximum Load(Go)	iMax	0.00	0.00	0.00	0.00
Maximum Load(Back)	wMax	0.00	0.00	0.00	0.00

None
Maximum Load(Go)
Maximum Load(Back)
Insert Point R
Peak Load(Go)
Peak Load(Back)
Dist 1 Load(Go)
Dist 2 Load(Go)
Dist 3 Load(Go)
Dist 4 Load(Go)
Dist 5 Load(Go)
Dist 1 Load(Back)
Dist 2 Load(Back)
Dist 3 Load(Back)
Dist 4 Load(Back)

Tester and Units Settings:

Load Sensor:

Load Unit:

Resistance Unit:

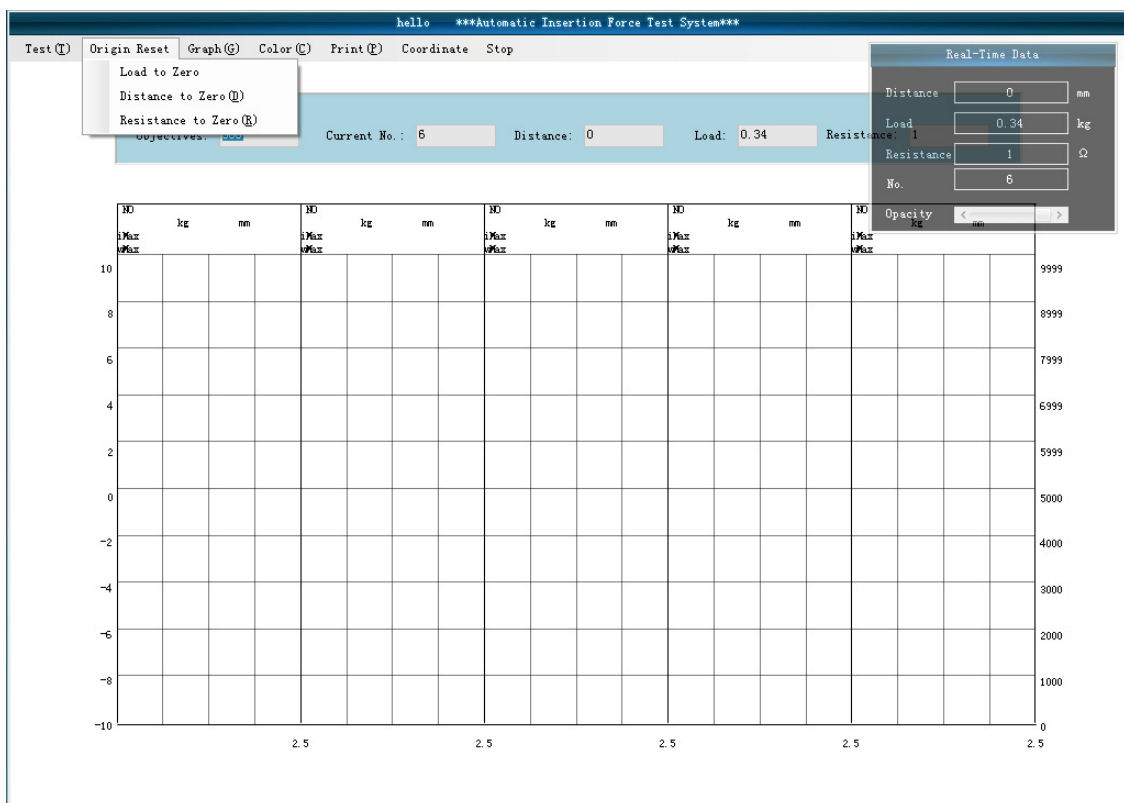
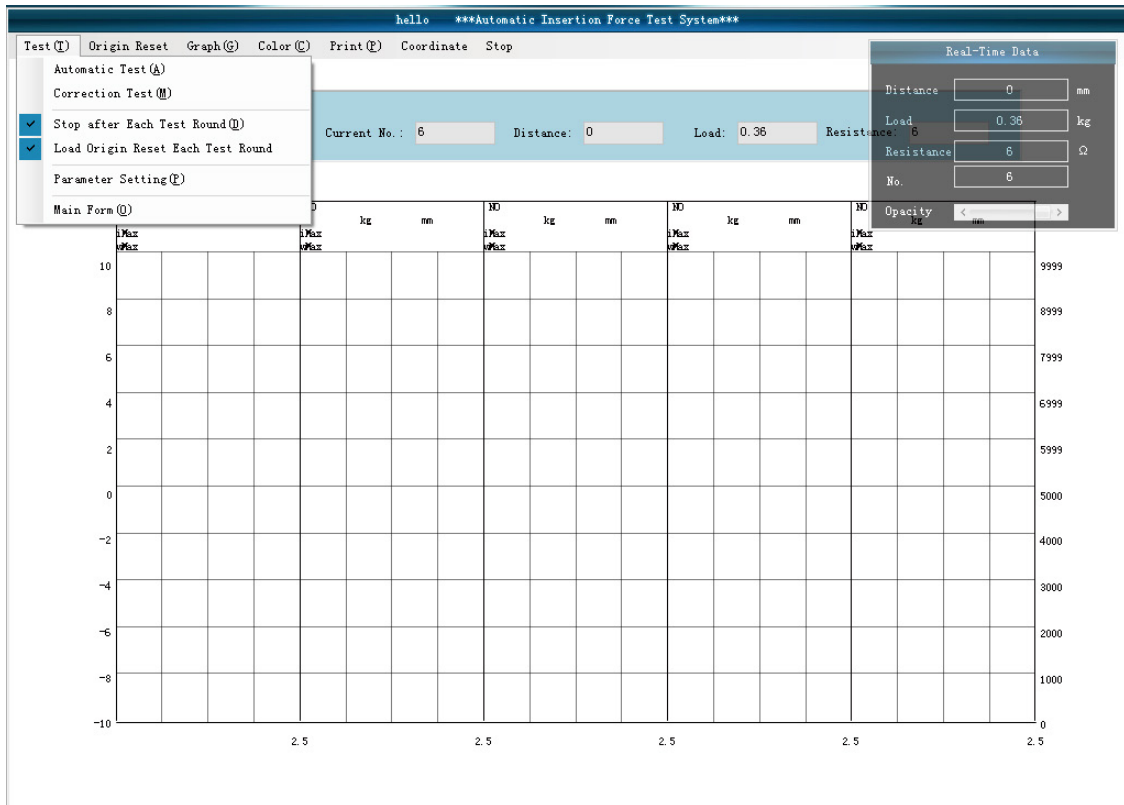
Overload will Damage the Sensor

Good Quality Needs Accurate Tests

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Software Interface

Testing Interface of Software



Software Interface

Curve Diagram of Force-movement

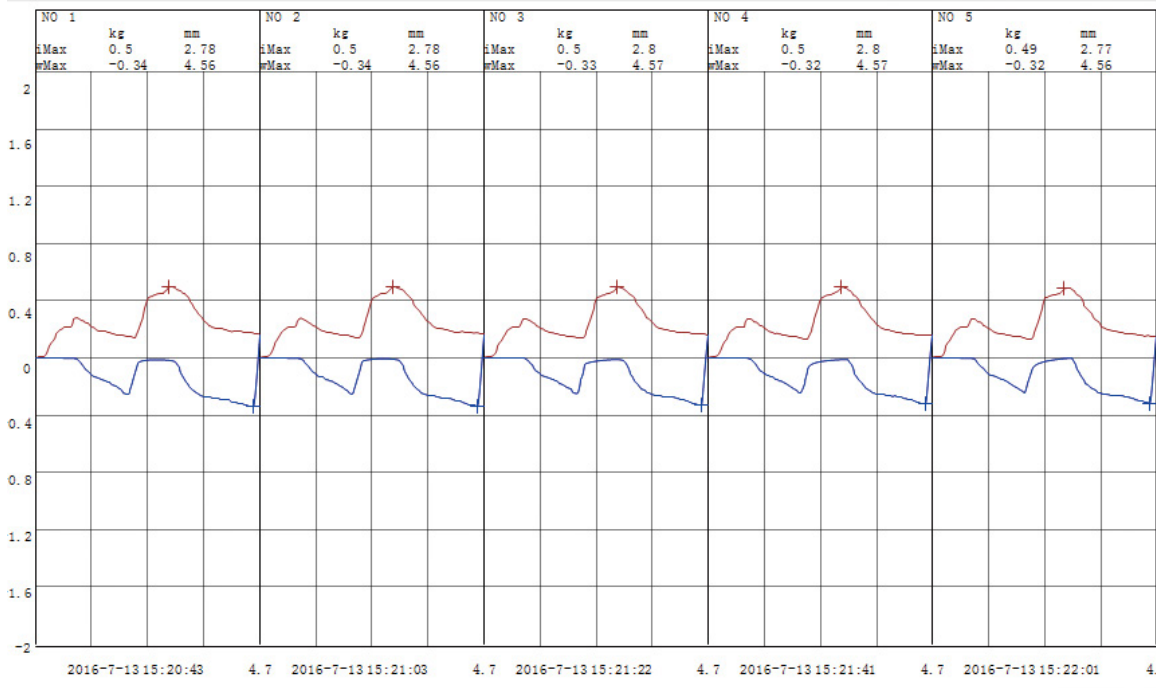
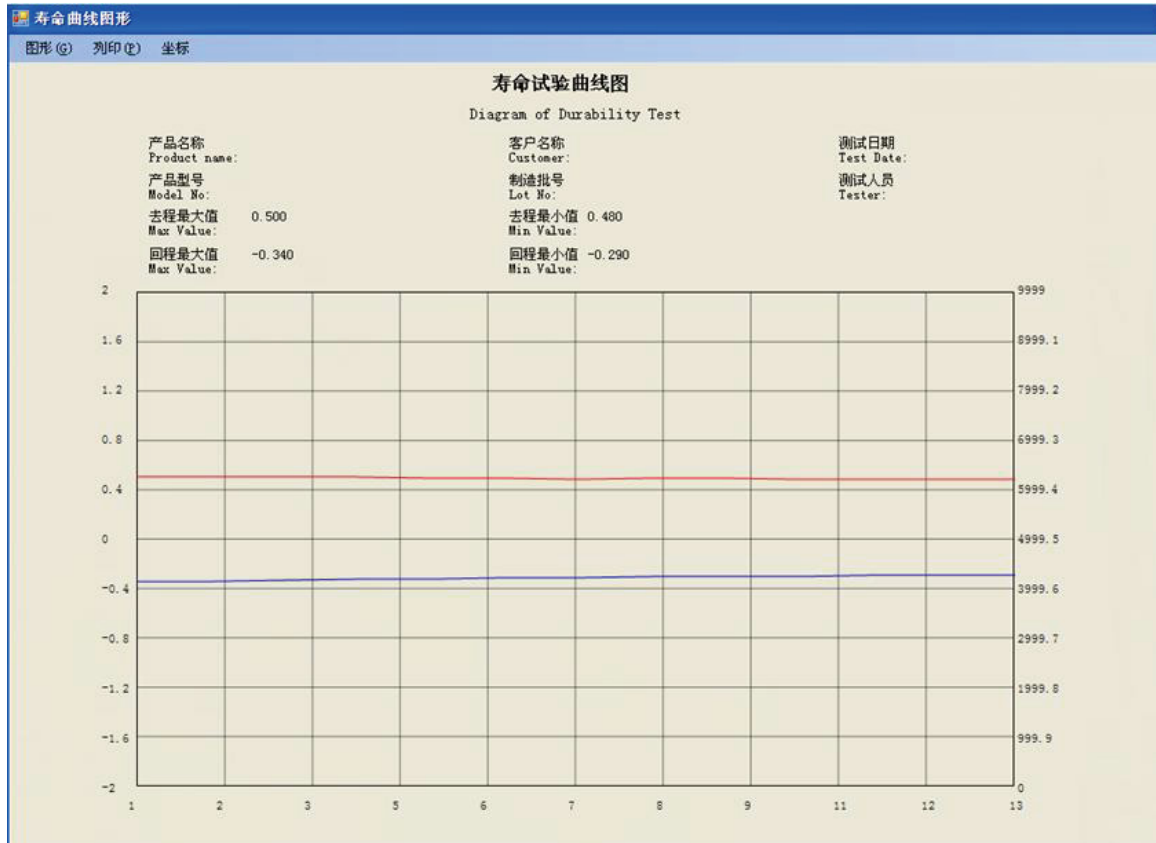


Diagram of Durability Test



Software Interface

Test Report

The screenshot shows the ReportHZ software window. The main content area displays a report for a file named 'hello'. The report includes a header section with the following information:

产品名称: 客户名称:
 产品型号: 测试日期: 2011-11-29 09:48:12
 样品数量: 10 报表编号:

Below the header, there are two summary tables and one detailed data table.

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

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

Standard Delivery

Name	Qty
Main Unit	1pc
Computer	1pc
19 Inch Computer Monitor	1pc
USB Mouse, Keyboard	each 1pc
Resistance Test Connecting wire and Clamp Nozzle	1pc
Test Software	1pc
Load Cell (TECSIS made in Germany)	1pc
Multifunctional fixture	3pcs
X-Y Movement Stage	1pc
Full row connector fixture	2pcs
Single Hole Centering Clamp	1pc
Single hole fixture	1pc
Single Pin Holding Force Fixture	1pc
Impedance testing System	1pc
Power Line	3pcs
Data Line	3pcs