



海达（国际）仪器有限公司

HAIDA INTERNATIONAL EQUIPMENT CO., LTD.

Operate manual

Digital Fabric Thickness Meter

**** Thanks for using our product and please carefully read this manual before using*

Preface

Thanks you for buying our products; our company will provide you high quality and good service in time. Please read this user carefully and pay attention to the note before using this tester, for the safety of the user and the integrity of the goods. This tester include our detail design principle, based standard, structure, operation specification, revise, maintenance, may malfunction, and electrical diagram method, etc. The standards of this user are just for reference, if you have any objection please review related standards or material.

Special statement:

- This operating manual can't be basis as serve as any request to our company.
- The interpretation of this manual in our company.



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Attention of security

1、 Security marks

There are some safety precaution and important notes when using the equipment, in order to prevent accidents and dangerous from happening, please make sure to operate the machine by following the below description of danger, warning and notes.



Danger:

It shows that the operator would be harmed without following the instruction!



Warning:

It shows that the machine would be damaged without following the instruction!



Attention:



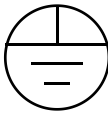
It shows that it may affect the test result and quality.



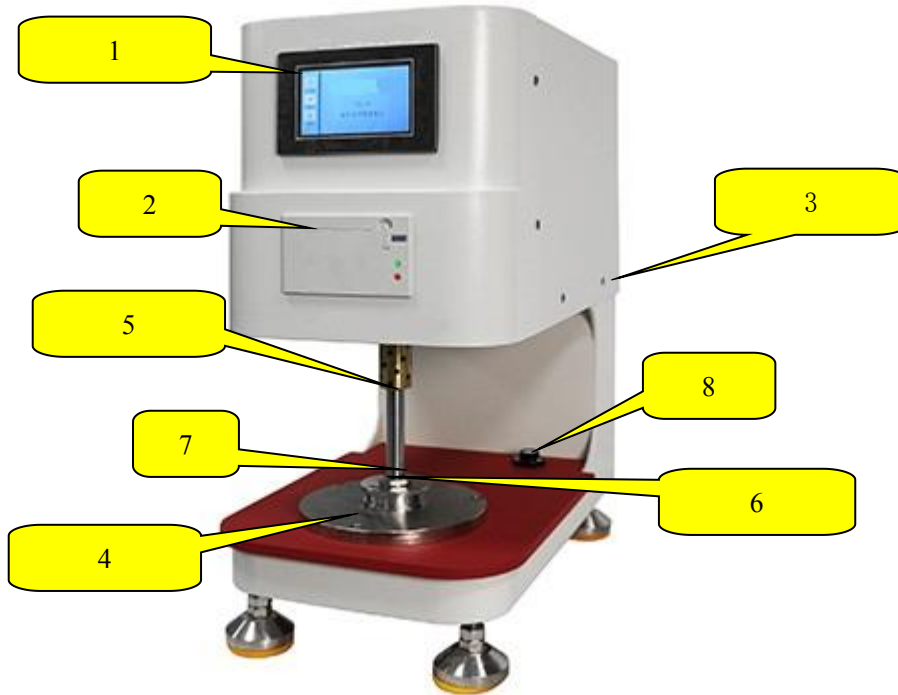
Note:

It shows that there is auxiliary statement in the operation.

2、 In this instrument, the following signs show attention and warning

	Warning sign	This mark indicates the need to reference manual.
	Dangerous voltage symbol	This mark indicates danger high voltage.
	Earth protection mark	This show the ground terminal of the instrument mark.

一、 Overview



1. Operation display 2. Built-in printer 3. Rear power switch and socket 4. Test platform
 5. Weight extension rod 6. Presser foot locking ring 7. Presser foot 8. Horizontal bubble

二、 Introduction

2.1 This instrument is mainly used for the measurement of the thickness of different materials such as various types of textiles, textile products, non-woven fabrics, etc., and can also be used for the measurement of the thickness of other uniform thin materials.

2.2 ISO3616,ASTMD1777

三、 The main technical indicators of the instrument

1. The range of test thickness: 0.01mm~25.00mm
2. Minimum division value: 0.01mm;
3. Presser foot diameter: $\Phi 11.28\text{mm}$ $\Phi 50.48\text{mm}$ $\Phi 56.42\text{mm}$ $\Phi 112.84\text{mm}$
Area: 100mm², 2000mm², 2500mm², 10000mm²
4. Weights: 5cNx1, 10cNx2, 50cNx2, 100cNx1, 200cNx2, 500cNx2;
5. Weight time: 1-99s can be set;
6. Direct calculation and display of test pressure;
7. Test method: single and continuous can be set;
8. Color touch screen control, simple and clear operation;
9. Power supply: AC220V 50Hz 100W;
10. Instrument size: 250×450×460mm (L×W×H)
11. Instrument weight: 30Kg

四、 The structure and principle of the instrument

4.1 The schematic diagram of the instrument structure:

4.1.1 This instrument adopts the form of electric lifting, lever counterweight balance, direct pressure, automatic timing, dial indicator reading. It can be carried out under general laboratory environmental conditions.

4.1.2 The thickness of the fabric can be measured continuously or once, and the weighting time is set to the time weighting to avoid human error in manual measurement.

4.1.3 The 6 kinds of weights of this instrument are 5cN, 10cN, 50cN, 100cN, 200cN, 500cN. The pressure can be set to enter the instrument to calculate the test pressure;

4.1.4 The guides and other transmissions of the presser foot use bearings; The presser foot is connected to the measuring rod with a swingable screw and has a positioning reference, which can ensure that the parallelism after replacing the presser foot is within 0.2%; The distance between the center of the presser foot and the side of the column is large, which can meet the requirements of thickness measurement on large fabrics without additional cutting and sampling.

4.1.5 The space around the test platform of this instrument is large, and it is not necessary to cut the sample when measuring.

4.1.6 The instrument uses a color touch screen to control the display. The operation test only needs one key to complete, and the data can be automatically read to query and print the test data.

4.2 Working principle:

The sample is placed on the test platform, parallel to the presser foot of the platform, and the specified pressure is applied to the specified area of the sample. After a specified time, the vertical distance between the two plates is measured and read, which is the measured value of the sample thickness.

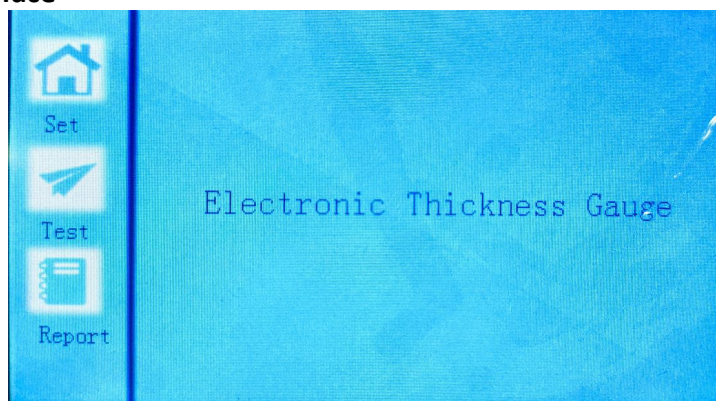
五、 Installation and operation process

5.1 Instrument installation

Place the spirit level on the test platform and adjust the instrument feet to make the platform level. Insert the power cord into the power socket 3 behind the instrument, turn on the power switch, and the instrument displays.

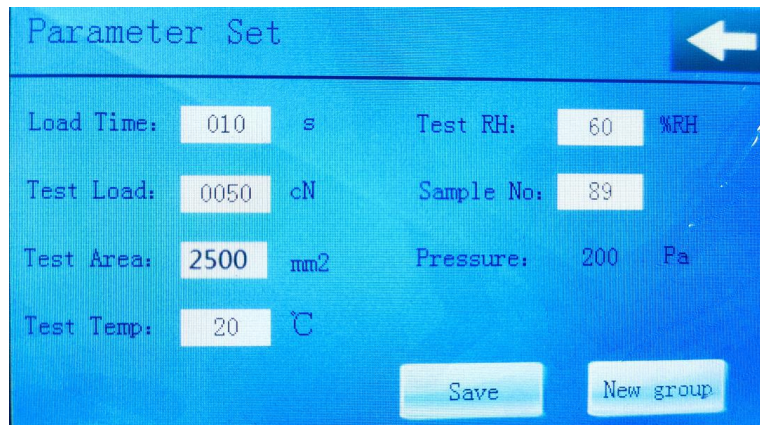
5.2 Operation interface

5.2.1 Main interface




After the instrument is turned on, it enters the display interface, which displays the instrument name, model and function interface. Click Set, Test, Report to enter the corresponding interface.

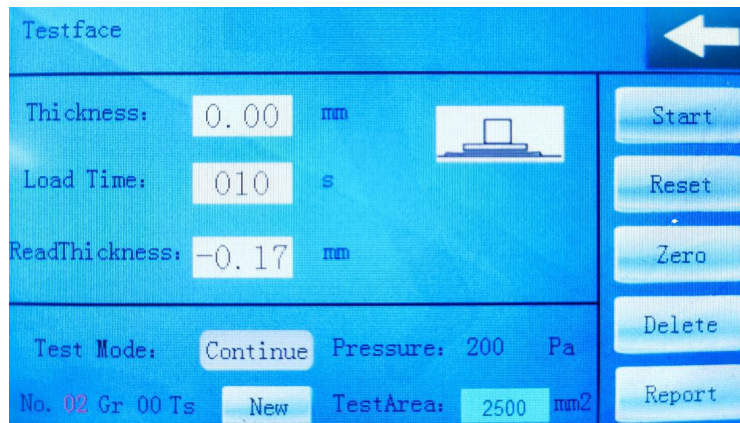
5.2.2 Instrument operation process




Enter the parameter setting interface, click the number in the white box to pop up the keyboard, you can set the parameter.

After setting the parameters, click  to return to the main interface without saving the set parameters. Click Save to automatically enter the test to save the parameters of the current group. Click the new group to save the set parameters in the new group. Enter the new group to test the current group parameters unchanged.

5.2.3 Test interface



Click  on the same setting interface to return to the main interface. The thickness is the thickness display of the current instrument. The weighting time is measured during the test. The thickness read after the weight is passed is the test result.

The 'test mode' can be clicked once and continuously switched. The single test stops once, and the continuous test is continued once, without the need to click to start.

The test 'pressure' is shown by calculation of test weight and test area. Create a new group for the test data, a maximum of 30 groups, each group can be done 50 times, and then do not display the memory needs to delete the data. You can complete a single test or multiple consecutive tests at startup.

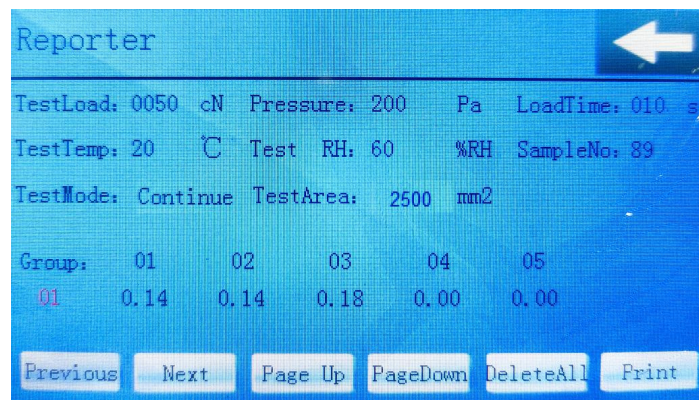
'Zero' is to clear the thickness value, which can be cleared when the tester presser foot is placed on the test platform.

'Delete' is to delete the current test result.

'Report' enters the inquiry print report, click the report on the main interface to enter the print inquiry report.

'Reset' the presser foot to the test platform, and press the foot to the lowest point of the test platform.

5.2.4 Query and print report



Enter the query to print the report, display the first group, 1-5 test data, click the 'Next', you can query the next group of data, the 'previous' group can also query the previous group of data, only 1-30 groups.

On the 'Page Down', the next 5 data of the reorganization can be queried, only the test data can not be received, and the next page can be up to 50 data. Similarly, the 'page Up' can only query 1-5 data.

'Delete All' and all test data are deleted. To avoid accidental deletion of all data, you need to confirm the deletion of test data again.

'Print' and print the data of the current query group Print the parameters and data of the current group and the average value and CV value of the data.

六、 Notes and maintenance of the instrument

6.1 Notes on the instrument

The instrument should be installed on a stable workbench, without obvious vibration and corrosive media around.

There should be no abnormal noise and vibration when the instrument is working. Electrical devices such as buttons and toggle switches should be sensitive, safe and reliable; the whole machine should be well grounded.

6.2 Maintenance of the instrument

The instrument has a simple and reliable structure and is simple and convenient to maintain. In addition to preventing dust and the like from entering the instrument during daily use, it is only necessary to pay attention to cleaning work. The transmission part of the instrument adopts dust-proof enclosed bearings. In order to ensure its flexible operation, it is lubricated with watch oil. If necessary, a small amount of watch oil can be added. If it is found that the movement is sluggish, please disassemble and clean it before installing and adjusting to ensure the test accuracy.

七、 Calibration of the instrument

1. This instrument is a precision measuring instrument, so it needs to be calibrated regularly, and it can be determined as half a year or a year according to the test working time.

2. For thickness verification, use a standard block gauge to ensure that the accuracy of the dial indicator is within 0.01 mm. The gap of the guide part of the measuring rod shaft should be less than 0.05mm (check with feeler gauge). When checking the balance position and sensitivity of the presser foot, you can add 10cN weight to the presser foot to lower the presser foot to the reference plate. When the weight is not placed, when the presser foot is raised and then placed, the presser foot cannot be lowered to The base plate is still moving significantly.

Check the weight of the weight and the presser foot to ensure that the error is less than \pm

1g per piece.

八、 Troubleshooting

8.1 The instrument does not respond when clicking and printing

Reason: There is no printing paper, you need to replace the printing paper, pull out a board button on the upper right of the printer, put the paper into the printer and put it back again, then press the print button; the printing paper is the consumables. Add to.

8.2 The printed report is blurred and unclear

Reason: It is possible that the side of the paper is turned upside down.

8.3 The height of the instrument is abnormal during operation, such as a negative value

Reason: The error operation was cleared during the operation of the instrument, and the presser foot needs to be lowered to the empty test platform to clear again. If it still cannot be reset, it may be that the power supply of the instrument is disturbed. Turn off the power again, and then turn on the power again after 30 seconds to clear.

8.4 The screen shows that the memory is full. Please create a new group or delete the test data.

Reason: There are too many test data in this group, and the maximum number of test data is 50, or the test data is greater than 30 groups. Print the current group data or delete the reorganized data. The delete key only deletes the current data. When the query prints the report, all are deleted. You can test it in the test interface.

8.5 Continuous test stopped and no test

Reason: The data is full, you need to delete the existing data.

九、 Maintenance of equipment

- 9.1 Always keep the equipment and control system clean and hygienic.
- 9.2 Prevent high temperature, excessive humidity, dust, corrosive media, water, etc. from entering the machine or control system.
- 9.3 Regular inspections to maintain the integrity of parts and components.
- 9.4 Perform the calibration of the instrument regularly to ensure the accuracy of the measured value of the instrument.
- 9.5 The company shall not be responsible for any losses caused by the unauthorized modification of the machine during the use of the machine.
- 9.6 Our company shall not be responsible for any consequences caused by not following the instructions and requirements of the manual.

十、 QUALITY ASSURANCE

i 、 Quality assurance items

The guarantee period is one year (consumer goods and travel cost are not included)

ii 、 the main quality warranty maintenance certificate

- 1. please keep this guarantee letter, if you lost it, please connect with us in a month.
- 2. If this guarantee letter has been altered or it has no our stamp, it is useless.

iii 、 The following conditions need to pay reasonably even in the assurance period:

- 1. Natural reasons
- 2. Operating mistakes
- 3. Voltage is not fit for our operation instruction
- 4. Repack it without our guides
- 5. Damaged for borrowing to others
- 6. Damaged for authorized machine modification
- 7. Damaged for authorized calibration

8. Authorized transshipment mistake
9. Serve for long distance area

iv、 **Attentions**

1. Where the original in Dongguan, Shenzhen installation of our products, if the product moved to outside Dongguan, Shenzhen-area use, whether or not within the effective warranty period, the transportation and travel expenses of the service personnel should be paid by the client.
2. All customers outside of Guangdong province, whether or not in the warranty period, the service of transportation and travel expenses paid by the customer.
3. The apparatus try not to be used in the following situations:
 - 3.1、 Vibration, rocking the occasion.。
 - 3.2、 Direct sunlight.
 - 3.3、 Hot, dusty, damp places.
 - 3.4、 To ensure safe, AC supply of the machine should be well grounded.
 - 3.5、 Do not use strong solvents (such as: benzene, nitro oil) washing machine.
 - 3.6、 Do not inject water and debris into the machine, prevent damage to electrical components and electrical shock.
- 3.7、 Instrument displays the disassembly and debugging can only be measured by the State Department approved the units and the company, other people not allowed to overhaul.

十一、Notes

Any omissions in this instruction and any add instructions owe to the updated of the products write here.

This user is for your operating reference, the notes in it are very useful, please keep it.

Our company innovates and improves product at any time, the enumeration of the book, diagrams and specifications, almost to the book release of the aircraft type shall prevail.

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