

MTM-A200

TABLET HARDNESS TESTER OPERATION MANUAL



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EN -- Please scan the QR code or visit the website for operation manual.

IT --- Scansiona il codice QR oppure visita il sito web per il manuale d'uso.

CZ -- Pro návod prosím naskenujte QR kód nebo navštivte webovou stránku.

ES -- Por favor, escanee el código QR o visite la página web para ver el manual de instrucciones.

FR -- Veuillez scanner le QR Code ou visiter notre site web pour accéder aux manuels d'utilisation.

DE -- Bitte scannen Sie den QR-Code oder besuchen Sie die Website für die Bedienungsanleitung.

PT -- Para aceder ao manual de instruções, por favor, faça a leitura do código QR ou visite o nosso site.

MN-MTM-A200-E

V0

OVERVIEW

Tablet hardness testing plays a vital role in its research and development, production process and final product, and is widely used in pharmaceutical factories, drug testing institutes and related scientific research units. MTM-A200 Tablet Hardness Tester can automatically record and statistically measure the maximum, minimum and average values of the tested tablets during the testing process.

1. Main features

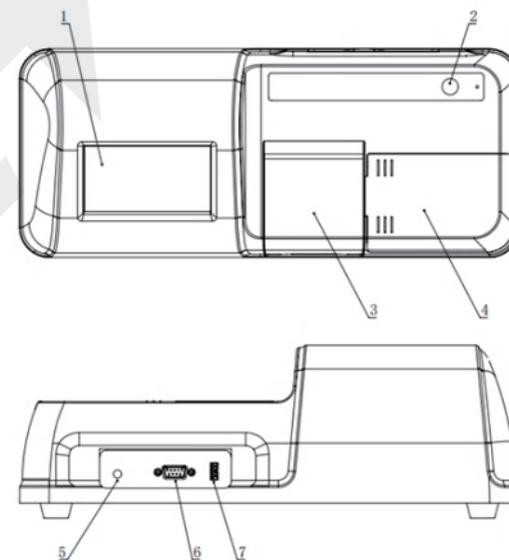
- Print or USB output of the test report through the device interface.
- Touch human-machine interface, easy to operate.
- Chinese and English dual-language operating interface can meet the needs of more users.
- Multiple tests can be performed in a single or consecutive session.
- Visual window above the test chamber for clear observation of each test.
- The metering calibration port can be opened easily and quickly.
- DC 12V working voltage, using the global universal voltage adapter, convenient and reliable.
- Built-in high-precision sensor ensures measurement accuracy.

2. Specification

Range of hardness	10~200N
Resolution of hardness	0.01N
Accuracy of hardness	± (1.5%+1 digit)
Unit of hardness	N, kg, kgf, kp
Loading rate	20mm/min
Power supply	AC (100~240)V, 50/60Hz
Dimension (LxWxH)	375x155x128mm
	5.9kg

3. Product schematic

This machine adopts horizontal structure, precision screw drive system to drag the load chuck, effectively improve the displacement accuracy. The whole machine consists of force sensor, special fixture, embedded controller, micro printer and LCD touch screen.



1. Touch Screen	5. Power Outlet
2. Power Switch	6. RS232
3. Hardness Testing Chamber	7. USB
4. Hardness Calibration Position	

4. Installation and commissioning

Carefully open each part, make sure that the packaging is intact for later transport and storage, check each part for any damage during transport, if possible damages are found inside or outside after checking, immediately notify us of these damages and place the instrument in a reliable place.

5. Pre-installation precautions

- **Temperature:** The ambient temperature should be kept between 15 °C -30°C, avoid large temperature difference and keep away from heat generating objects.
- **Humidity:** Relative humidity should be within 10-75 per cent.
- **Environment:** The environment should be free of dust, fumes and corrosive gases, and the instrument should not be operated in an environment where there is a risk of explosion.
- **Exposure to sunlight:** avoid direct sunlight.
- **Vibration:** The instrument should be placed in a less vibrating, stable place.
- **Voltage and frequency:** Check that the mains voltage and frequency are within the calibrated range of the instrument.
- **Keep the instrument level.**

6. Installation and printer connection

1. Plug in the power supply



2. Connection with printer

- **Compatible micro printer.**
- **External connection:** serial port (RS232).
- **Feed width:** 57mm.
- **Effective print width:** 48mm.
- **24 characters/line or 40 characters/line.**



7. Operating Instructions

1. Switch on the computer

- **After connecting the power supply the instrument enters the standby state, press the power switch to switch on.**
- **The instrument starts to reset after switching on.**

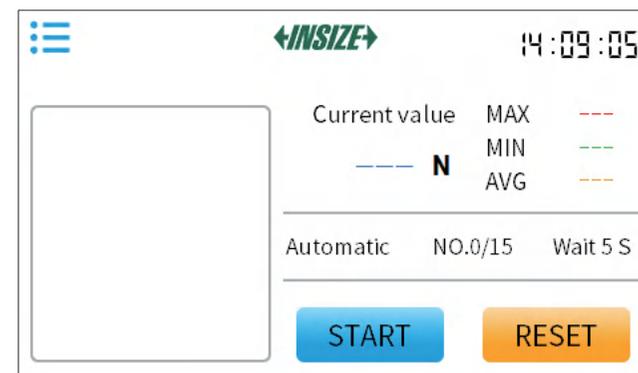


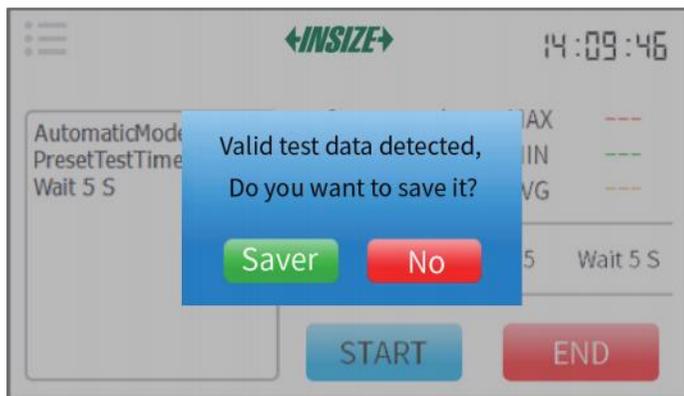
2. Login system

- **Switch on the computer and enter the login screen (below).**



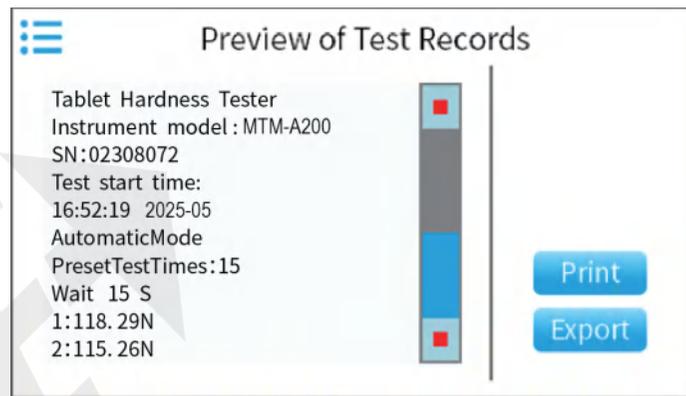
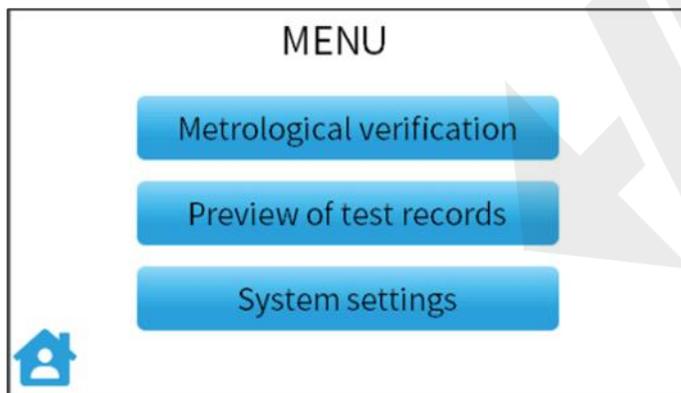
- **System interface (below).**





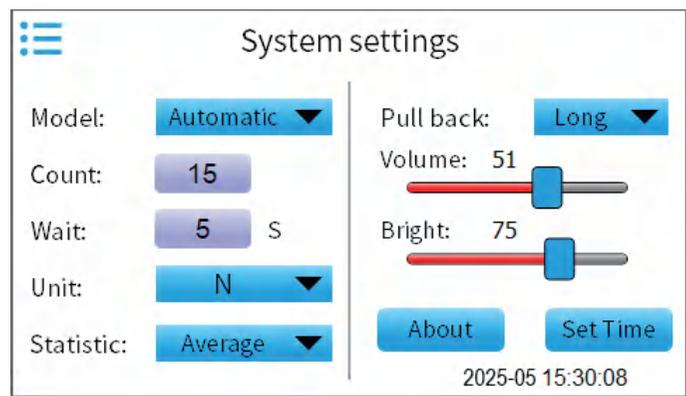
Description:
 Start: Open test.
 Suspension: Immediate pause in the test.
 The end: End this test, if there is a test record will prompt whether to save or not.
 Reset: Instrument reset.

■ Test record view (below).



Description:
 The system can save the most recent test record.
 Test records can be printed or output via USB.

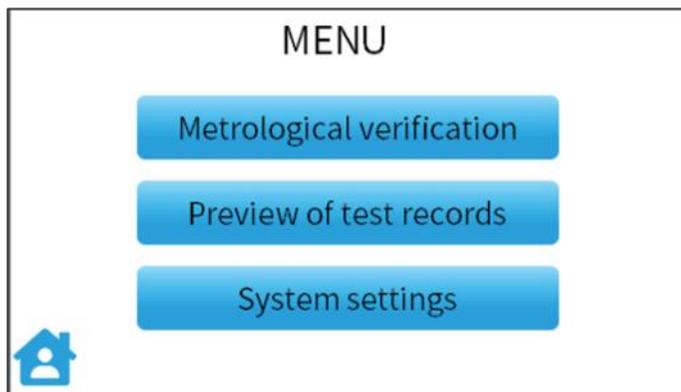
■ System settings (below).



Description:
 Test mode: single/automatic operation.
 Number of tests: Number of tests in automatic operation mode.
 Waiting time: length of each test interval in automatic operation mode.

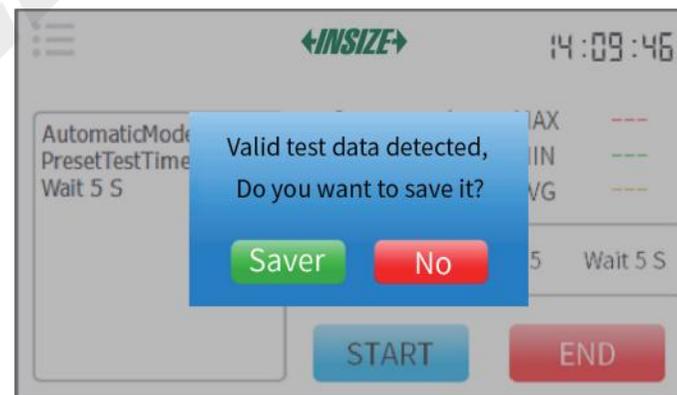
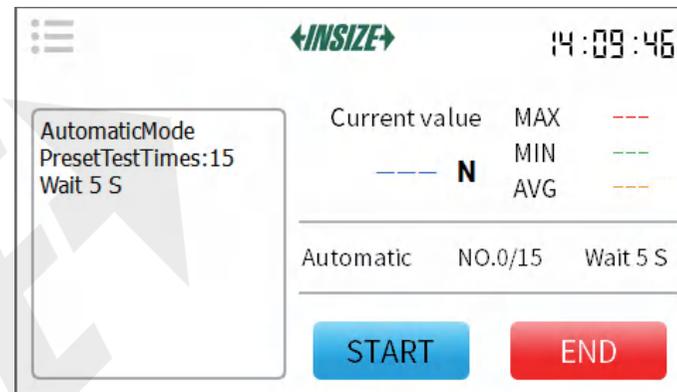
Unit: N/kg/kgf/kp.
Data statistics: average/median.

■ Set the system time (below).



Description:
Enter the settings screen through system settings.
A password (Password: 000000) is required to change the system time.

■ Method of use(below).



Start testing:

- ① Open the detection bin .
- ② Put in the tablets .
- ③ Press the [Start] key to start the test.
- ④ Clean the debris on the active and passive platens with a cleaning brush after the completion of the current test (otherwise the accuracy of the next test will be affected).
- ⑤ Put in the tablets again.
- ⑥ Repeat ②, ③, ④ and ⑤ until the end of the test.

Test record keeping and printing:

Press the end button to end this test, and the test record can be printed or output via USB.

8. Calibration

■ Tool (below).

1. Weights (M1 class and above weights).



10kg

2. Weight tray.



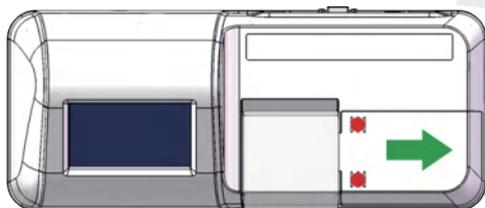
3. Sensor mount.



■ Calibration method.

Procedure

1. Open the metrology calibration window.

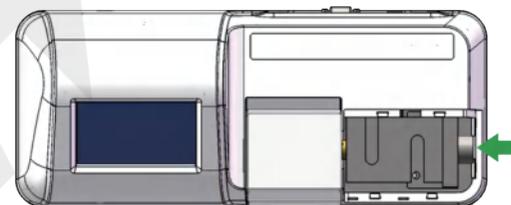


Procedure

Press down on the non-slip strip on the front of the metering window cover.

Slide the metering window cover to the right.

2. Remove the sensor.



Procedure

Use a tool to remove the sensor's retaining screw.

3. Fixed sensor and weight tray.



Description:

Use the transducer to secure the seat weights and tray.

4. Open the metrology calibration window and press read.



5. Press to clear (the value displayed on the screen is 0.00kg).
6. Place the weights on the weight tray.
7. Observe the values displayed on the screen.



8. After the calibration, when installing the passive platen, please parallel with the active platen and keep a clearance of about 0.5mm.

9.Maintenance

When using this instrument, it should be placed flat on the horizontal working table, and check whether the working environment and power supply voltage meet the requirements of technical parameters.

Before using this instrument, please read this instruction manual carefully to fully understand the operation and precautions of this instrument.

Non-professional maintenance personnel, please do not disassem-

ble this instrument by yourself.

Before each start-up, make sure that the active and passive platens in the test chamber are clean and free of foreign objects.

When the instrument is in operation, no foreign objects other than tablets should be placed between the active and passive platens.

Clean the debris out of the test compartment after use.

The machine test is not recommended for non-brittle tablets.

When the instrument is not used for a long period of time, it must be completely disconnected from the power supply.

Contact the manufacturer in case of malfunction.

10.Safety tips

The following symbols and conventions are used in this manual:

The pinch prevention icon, which refers to the presence of a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



Cue icons refer to matters to be noted and emphasised:

