



Model: AR971

Digital Moisture Mter Instruction Manual



1、 Introduction:

Thank you for purchasing our products. This unit is a delicate one, which can be used to measure the containing water of most wood, bamboo, paper etc. Please read this manual carefully before using it.

2、 Feature:

- 2.1 Large LCD display
- 2.2 Wood type Select function.
- 2.3 Measuring range : according to different tree type to select different mode as following:
Type 1: 2%~40% Type 2: 2%~50%
Type 3: 2%~60% Type 4: 2%~70%
- 2.4 Resolution: 0.5%
- 2.5 High accuracy and fast reaction.
- 2.6 Data hold function
- 2.7 Display with signs and units for easy reading.
- 2.8 Low battery indication function
- 2.9 Temperature active compensation function
- 2.10 Auto power shut off in 10 minites without any operation
- 2.11 Power supply: One 9-volt alkaline or carbon zinc battery
- 2.12 Product size: 150×54×27mm
- 2.13 Product weight: 126g (including battery)
- 2.14 Operation condition:
0℃~40℃ (32℉~104℉) / 0~70%RH

3、 Diagram description:

- ① Protect cover
- ② Test Probe
- ③ Tree type selction button
- ④ Power ON/OFF / Data
- ⑤ LCD Display
- ⑥ Battery cover
- ⑦ Pretect cover for probe




4、 Operation Instruction:

- 4.1 Take away the protect cover.
- 4.2 Press “φH” button to turn on the unit. The LCD shows “0.0%” and the measuring start sign “SCAN”

- 4.3 Press the MODE button to choose the related tree type among 1,2,3,4 shown on the LCD. Each number stands for a tree type. See details in the table Tree type list. If the measuring tree type is unknown, it is suggested to choose the default tree type 3.
- 4.4 Insert the probe of the instrument 5mm into the materials to be measured. The moisture content of the material will be displayed on the LCD.
- 4.5 Press the φ/H button once can hold the reading, the indicator HOLD will be showed on the LCD. Press the φ/H button again, the holding will be cancelled. (Note: When you press the φ/H button to hold the reading, make sure the press shall not be more than 2 seconds.)
- 4.6 When the measurement has been done, press the φ/H button more than 2 seconds to turn off the unit. Then install the protect cover. The measurement is finished.

5、 Notes:

- 5.1 Because of auto-correct enviromental temperature function, please put the meter in the same testing condition as testing object more than 20 minutes to adjust the difference of temperature.
- 5.2 The test probe are very sharp. Make sure the child can't touch to avoid the injury.
- 5.3 Do not point the probe to human or animal to avoid the injury when use it.
- 5.4 The instrument is high resistance and well insulator. keep it day and clean so as to insure the accuracy of measurement when store and use it.
- 5.5 It is necessary to replace a new battery when the power is not sufficient. The indicator  will display on the LCD.
- 5.6 If the unit will not be used for a long time, take out the batteries to prevent battery leakage.

6、 Frequently asked question(FAQ)

- 6.1 what is Wood Moisture Content Rate(WMCR)?
In our country, the rate of water weight contained in the wood to the weight of ab solute dried wood is defined as WMCR. The WMCR varies with the different tree and different part of a tree, for example the red pine's WMCR at the core is 70% and 200% at the edge, the same tree from different region also makes the WMCR different.

6.2 What WMCR is suitable for deep process?

Under certain environment for a long time, the WMCR comes to a steady value which is referred to as balance WMCR under the environment. When the WMCR is above the value, the wood gives off the moisture and contracts, if less than the value, it will take in the moisture and inflate. High WMCR of the wood may result in loose glue connection and distortion after process. Different regions and different purposes require different WMCR of the wood. The natural balance WMCR of the wood is between 7% to 18% which has become the check point in wood products manufacturing. Additionally, you can measure the WMCR of given standard wood, then compare it with the WMCR of the wood to be tested.

6.3 What is balance WMCR?

Under a given air condition, the final WMCR or steady WMCR is referred to as balance WMCR (steady water content state). The year average WMCR of our country is shown as table 1.

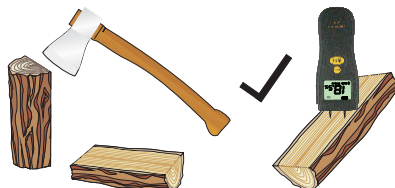
6.4 How many methods are there to measure the WMCR?

There are drying method, electrical method, carbonization method, titration method and humidity method for measuring the WMCR. Drying method and electrical method are normally adopted in production process. The drying method that calculating the weights of a wood before and after being absolutely dried has high precision but takes considerable long time and is complicated, it is usually adopted in laboratory, while the electric method based on some electric properties of a given wood that varying with the water content in the wood is being adopted to measure the WMCR in mass production, this method has lower precision compared with the drying method, but still be able to meet the normal production process requirements.

6.5 How to measure the WMCR of a wood exactly with the unit?

As shown below, follow the following rules to measure on a newly cut wood or the latest texture:

- ① Cut the wood in direction vertical to the horizontal texture of the wood.



- ② Do not measure with the skin of the tree.



- ③ Do not measure along the round texture side.



- ④ Do not measure along the straight texture.



6.6 Why are there different results measured by different manufacturers or different type of moisture meters?

The electrical properties of a given wood varies with the trees, temperatures and regions, and most products can not set every modified value for each tree, only one certain tree and temperature can be used as modification ground, this is the reason that different results come out.

6.7 Will low battery affect the measurement result?

When the battery power is less than 70%~80%, the measurement result becomes decrease. For example, at normal voltage the measured reading is 14%, but when the battery power is less than 70% the measured reading might show 11% or even less on measuring the same wood. So once the low battery indication displayed on the LCD, please replace a new battery to ensure the accuracy of measurement.

Different modes for different trees:

Trees	Measuring range of tree	Trees	Measuring range of tree
Rhodesia teakwood	1	Balsa	3
white red bean tree	1	Sandalwood	3
Brazilian walnut	1	Elm	3
Walnut	2	Yunnan gmelina	3
Keruing	2	Hemlock	3
Poplar	2	Keruing	3
Teakwood	2	Oak	3
Fir	3	Chinese red pine	4
Douglas	3	Chile pine	4
Lauan	3	White pine	4
Manchurian	3	Larch	4
White fir	3	Apitong plywood	4
Maple	3	Birch	4
Manchurian Ash	3	Basswood	4



Specific Declarations:

- a. We reserve the rights of the update and amendment of the product design and the manual which are subject to change without further notification.
- b. Dispose of battery should in accordance with local laws and regulations.

