Instruction & Operation Manual

Moisture Balance
Model: AMA110L

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1. INTRODUCTION

Thank you for selecting the Analab Moisture analyzer.
This Instruction Manual will guide you in the installation, accessories, troubleshooting, after sales service information and general maintenance of the Moisture analyzer.

Please do not put the weight over the weighing capacity, it will be damaging the weighing sensor.
Please read this Manual thoroughly before starting the operations. If you need any clarifications, feel free to contact us.

Analab Moisture analyzers are ideal for laboratory and general-purpose weighing. The Moisture analyzer s can also be used for some advanced weighing functions.

2. SAFTEY PRECAUTIONS

Please read before Using the moisture analyzer.

a. Use this Moisture analyser with proper care and according to manual. Improper operation may result in personal injury and also can damage the equipment.

b. User proper AC power supply with good earthing.
c. Please make sure the power cord should not interfere with people's action.

d. Do not use the instrument under the hazardous, wet or unstable environment.
e. Unplug the power before cleaning the analyser.

f. Please keep enough space around the instrument and keep minimum 1 meter space above Moisture analyser top.
g. User protective equipment during a special experiment for personal safety.
h. Please do not change the instrument's components and any other parts by yourself. Maintenance of this equipment should only perform by the factory authorized professional.

Note: Moisture analyzer uses halogen heating lamp.

i. Do not put the flammable materials around the instrument.
j. Do not touch the lamp when it on working.

k. Take full care and details when testing the dangerous samples. Investigate samples characteristic before testing.

l. While Testing the flammable and explosive materials will produce flammable gases or vapours, so need to lower the temperature in a dry environment. In case of fire or explosion.
m. While testing the Toxic and corrosive substance Keep the samples proper-ventilated environment.

3. PACKING LIST

Sr. No.	Description	Qty	Packed √ | X
01	Moisture Analyzer Main Unit	01	
02	Wind Cover	01	
03	The sample pan holder	01	
04	Tray handle	01	
05	Power cord	01	
06	Aluminum sample pan (1set= 50 pcs)	01	
07	100g standard weight	01	
08	Operational & Instruction Manual	01	
09	Calibration test certificate (without traceability documents)	01	
10	Warranty Card	01	
Optional Items (If ordered)			
11	IQ/OQ/PQ/DQ Documents	01	

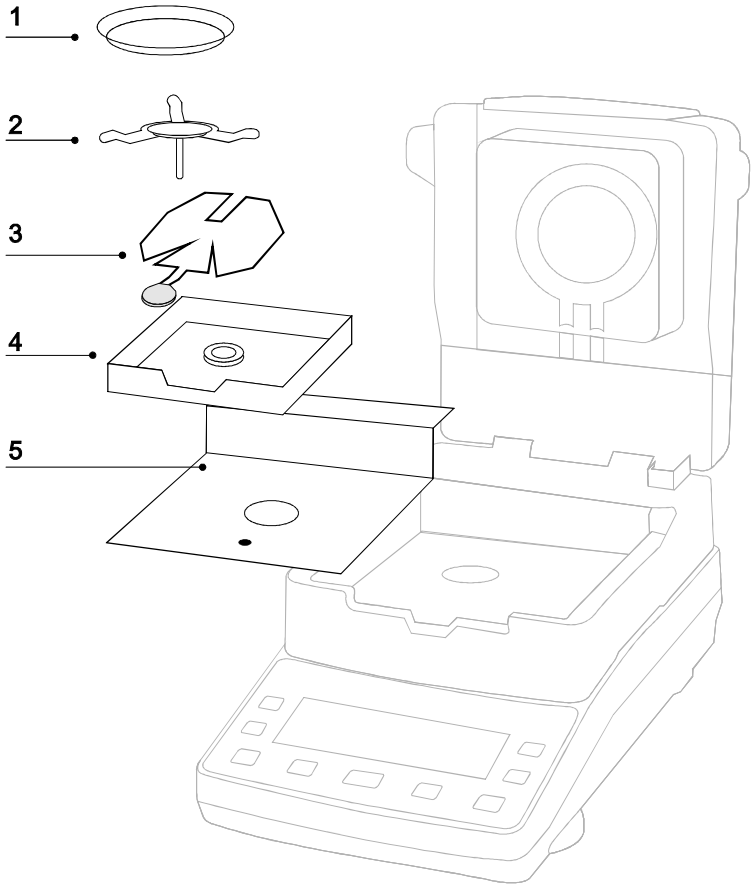
Serial No.: _____ Packed By: _____

4. TECHNICAL SPECIFICATIONS

- Moisture analyzer capacity : 110 Gram
- Resolution : 0.001 g
- Repeatability : ± 1mg
- Pan size : Φ 90
- Temperature Range : 40°C ~ 199°C
- Heating Source : Halogen Lamp
- Time Setting : 1 ~ 99 minutes
- Display : Graphic Display
- Analysis Data Storage : 15 Data
- Power Supply : 220 V, 50 Hz

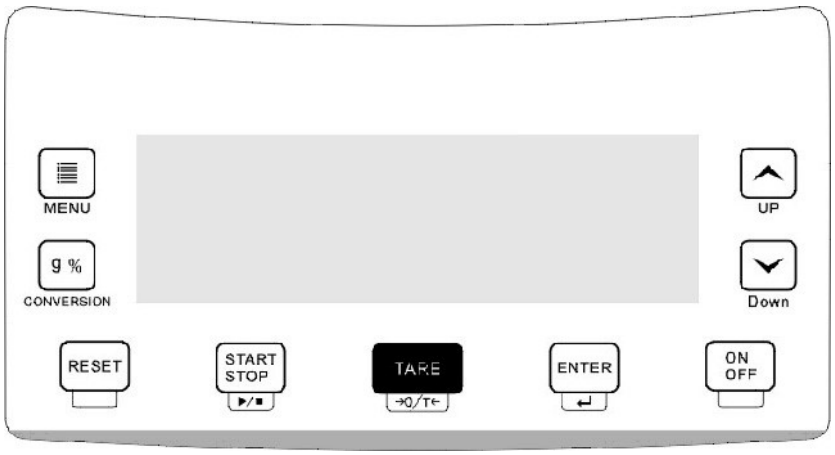
5. Moisture analyzer Assembly drawing

Assembly drawing will help users to install the Moisture analyzer properly.



1. Aluminum scale pan
2. The triangle scale frame
3. Scale pan brackets
4. Wind cover
5. Stainless steel plate

6. KEYPAD DESCRIPTION



- **ON/OFF** : Internal DC Power on / off
- **START / STOP** **:** To Start / Stop test
  (Same key will be used to pause the test, after completing 30 seconds of running test)
- **TARE** **:** To zeroing Moisture analyzer weight and to come out from setting menu.
- **MENU** **:** To Enter in settings.
- **CONVERSION** **:** For measurement results switching.
- **ENTER** **:** Confirm the current setting and go to next menu
- **RESET** **:** Short Press - Return to the weighing mode
  Long Press - To calibrate the Moisture analyzer
- **DOWN** **:** To scroll down and to turn off back light
- **UP** : To Scroll UP and to turn on back light

7. DISPLAY ICON DESCRIPTION

- **1** Test Status
- **2** Test Mode – Standard/Fast/Soft
- **3** Stop test mode – Automatic/Manual/Timing
- **4** Set Time and actual test time
- **5** The current temperature or Set temperature
- **6** The percentage of dry weight (%) / Moisture(%m) /the weight(mg)

8. ICON DESCRIPTION

Standard test mode

Rapid test mode

Gentle test mode

Automatic

Manual stop mode

Stop mode with timing

Test Status

9. MOISTURE ANALYZER LOCATION

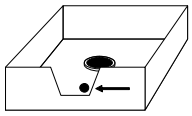
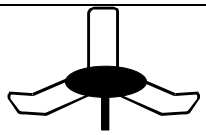
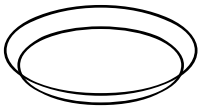
Table should be anti-vibration

Temperature stable, dry, without strong variations

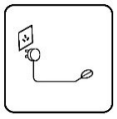
good ventilation without strong without strong Magnetic fi

- Avoid extremes temperature.
- Avoid direct sunlight or air conditioning vents.
- Use an anti-vibration table for Moisture analyzer to avoid vibration.
- Use stabilized power supply with good earthing (below 3 Volts AC between Neutral and Earth point)
- Avoid installing Moisture analyzer where heavy electrical machines are working like welding equipment or heavy motors.
- Do not place it near vibrating machinery.
- Maintain humidity. Avoid high humidity which might cause condensation.
- Avoid direct contact with water. Do not spray or immerse the Moisture analyzer s in water.
- Avoid air movement from fans or at the time of opening doors also do not place near open windows or air-conditioning vents.
- Keep the Moisture analyzer clean. Do not keep any material or weight on your Moisture analyzers when they are not in use.

10. MOISTURE ANALYZER ASSEMBLING AND LEVELLING

		
Place the wind cover, in aligned holes.	Place the sample pan holder, rotate until positioning.	Put the aluminum sample pan on the bracket.

Level Moisture analyzer using two adjustable feet in front of the instrument and adjust bubble level – should come in the center.



Connect the instrument with power

Warm up for more than 30 minutes to get stable and accurate readings.

11. OPERATION PROCEDURE

11.1. Sample Analysis

11.1.1. Test standard moisture sample like DST (Di sodium Tartrate) having approx. 15.66% with factory set parameters.
11.1.2. Put empty sample pan on the holder (see section 9).
11.1.3. Press the “TARE” to zeroing sample pan weight.
11.1.4. Put the sample in the pan (Sample weight should be more than 1g, in range of 3-5g).
11.1.5. Close the heating cover, press the "Start / Stop" button to start the test. At this point, halogen lamps lights, fans turn on, test symbol in the upper left corner on display will start flashing. The current temperature and test time and sample result will scroll on display.
11.1.6. At the End of the test, the halogen lamp will shut off, and Moisture analyzer give buzzer alarm.
11.1.7. Sample moisture result with test time and current temperature will display.
11.1.8. Press the "Reset" button, the instrument returns to weighing mode.

Note: Don't touch the sample plate, the temperature is too high.

11.2. Analysis Method Setting

11.2.1. The instrument can store a total of 16 (0-9 and A-F) methods where user can set different test method between “Standard”,” Fast” and “Soft”, Stop mode between “Auto” and “Manual”, Time and test end time parameters.
11.2.2. In weighing mode, press the "Settings" key to enter the parameter setting mode, then select method (the method number is flashing). Press "down" or "up" key to select the desired method number, the 0 is the factory set method. Users can set parameters in 1-9 and A-F.
11.2.3. Select method number between 1-9 and A-F and press ENTER key, and enter the required parameter in test mode, stop mode, and time mode. Press the "TARE" key, to save parameters in the selected method.

11.3. Description of Test Modes

Press the “MENU” key and then ENTER key till test mode icons start flashing. Select test mode with "UP" or "Down" key. Press “ENTER" confirm test mode.

11.3.1. Standard Test Mode

This mode factory set mode and suitable for most of the samples. Users can set temperature and auto stop to end test automatically.

11.3.2. Fast (Rapid) Test Mode

This mode is suitable for samples with higher content. Users can set the test temperature which will increase rapidly and if it exceeds the set temperature, lamp will shut till set temperature achieved and maintain. The test will end automatically.

11.3.3. Soft (Gentle) Test Mode

This mode is suitable for low content; temperature will increase slowly hence analysis time will increase. Users must select sample testing time.

11.4. Description of Stop Modes

Press the “MENU” key and then ENTER key till stop mode icons start flashing. Select required mode with "UP" or "Down" key. Press “ENTER" to confirm stop mode.

11.4.1. Automatic Stop mode

In this mode, a test sample with specified time given and set time is achieved or when sample weight loss is less than 2 mg, Moisture analyzer will stop the test automatically. Auto stop will take effect after the test starts.

11.4.2. Manual Stop mode

Users must stop the test manually once the reading is stable with "Start/Stop" key.

11.4.3. Timing Stop mode

The stop time set by the user, sample test will continue up to set stop time.

11.5. Test Temperature Setting

After setting stop parameters, the instrument will allow user to set analysis temperature.

The instrument temperature range is from 0 to 199 °C. Press the "MENU" to enter the parameter setting mode, then press the "ENTER" key until the 120°C flashing， Press "UP “or "Down" keys to set required temperature. Set temperature will updates

Press "ENTER" to go to the time setting.

11.6. Test Time Setting

Select timing stop mode (10.4.3) to set the stop time.
Press the "MENU" to enter the parameter setting mode, then press “ENTER" key until the 00:00 flashing， Press "UP" or "Down" to set test time and press "ENTER"

To set Test cycle select Just Soft test mode.

11.7. Water Analysis Method

a. Take water as a sample.
b. Press the "MENU" to enter the parameter setting mode, choose the Standard mode and (

),where temperature is set to 120°C and Press "ENTER" go to weighing mode.
c. Put dry paper on the pan, and press "Tare" to make reading zero.
d. Place water drops on paper up to display shows 3g.
e. Wait till the weight display gets stable.
f. Press" START / STOP " to begin test.
g. Once the paper becomes completely dry, the heating stops automatically.
h. Display shows m% reading to 100%

Weighing error or sample weight deficiency can lead to deviation in the result.

11.8. Weight Calibration

11.8.1. Use Certified Calibration weight standards for proper weight calibration.
11.8.2. Keep pressing "Reset" key till display shows “-cal-”
11.8.3. When display flashes “100.000”, put on the calibration weight of 100 grams,
11.8.4. Display shows "= = = = = =",
11.8.5. Wait till the display shows “100.000”.
11.8.6. Remove the weight, display shows "= = = = = = "again,
11.8.7. Wait till the display shows "0.000 ", which is the end of the calibration.

Always Remember

- To Warm-up the Moisture analyzer for 30 minutes when performing weight calibration.
- Keep 5 second interval between switch on Moisture analyzer.
- Do not leave the weight on the pan before covering the heater, otherwise the halogen lamp will damage.

12. Guarantee

This Moisture analyzer is guaranteed for a period of 12 calendar months from the date of installation OR 18 calendar months from the date of delivery (whichever is earlier) against defects in material or workmanship other than valves, semiconductor, electrodes, batteries, PVC & Polycarbonate material etc. During the guarantee period, our liability is limited to the repair or replacement at our option of the instrument or parts thereof found to be defective.

13. Service After Sales

The utmost care is taken in the design, manufacture, and inspection of all ANALAB instruments to ensure trouble-free service for long periods. However, in case of unsatisfactory performance of any our instruments please contact our distributor for your area through whom the instrument was purchased under intimation to us.