Hanchen MX-328

Hanchen Analytical Balance MX-328 User Manual

Model: MX-328 | Brand: Hanchen

1. Introduction

This manual provides comprehensive instructions for the Hanchen Analytical Balance MX-328, a precise electronic scale designed for accurate weighing in laboratory, pharmacy, jewelry store, and chemical plant environments. It features a 220g capacity with 0.1mg readability, an integrated special alloy weight sensor, and a built-in software temperature compensation system for stable and reliable measurements. The balance also includes an LCD display, a glass windshield, and multiple unit conversion options.

Figure 1: Hanchen Analytical Balance MX-328 in a laboratory setting.

2. Setup

Proper setup is crucial for the accurate operation of your analytical balance. Follow these steps to prepare the device for use:

1. **Unpacking:** Carefully remove the balance and all accessories from the packaging. Inspect for any damage.
2. **Placement:** Place the balance on a stable, level surface free from vibrations, drafts, and direct sunlight. Ensure the surface is clean and dry.
3. **Assembly of Weighing Pan:** Assemble the weighing pan components as shown in the diagram or video. Ensure they are placed in the correct order to avoid errors. Incorrect assembly may result in an "L" error message.
4. **Power Connection:** Connect the power adapter to the balance and then to a suitable power outlet.
5. **Leveling:** Use the adjustable feet at the base of the balance to level the unit. Refer to the built-in level indicator (bubble level) to ensure the balance is perfectly horizontal.

Figure 2: Internal view highlighting the integrated special alloy weight sensor and temperature compensation system.

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Video 1: Product Display - Bench-top Friendly. This video demonstrates the physical components and bench-top placement of the analytical balance.

3. Operating Instructions

3.1 Control Panel Overview

Familiarize yourself with the control panel buttons and their functions:

Figure 3: Control Panel Introduction, showing the layout of buttons and the LCD display.

- **ON/OFF:** Powers the balance on or off.
- **TARE:** Zeros the display, useful for subtracting the weight of containers.
- **CAL:** Initiates the calibration process.
- **CF:** Function button, often used in conjunction with MENU.
- **MENU:** Accesses the balance's settings and unit conversion options.
- **F:** Function button, often used for navigation or selection within menus.

3.2 Basic Weighing Procedure

1. **Power On:** Press the ON/OFF button. Allow the balance to warm up and stabilize, typically displaying "0.0000g".
2. **Tare (if needed):** If using a container, place it on the weighing pan and press the TARE button to zero the display.
3. **Place Item:** Carefully place the item to be weighed on the center of the weighing pan. Close the glass windshield to minimize air currents.
4. **Read Measurement:** The stable weight will be displayed on the LCD. The balance provides clear and precise results in less than 5 seconds.

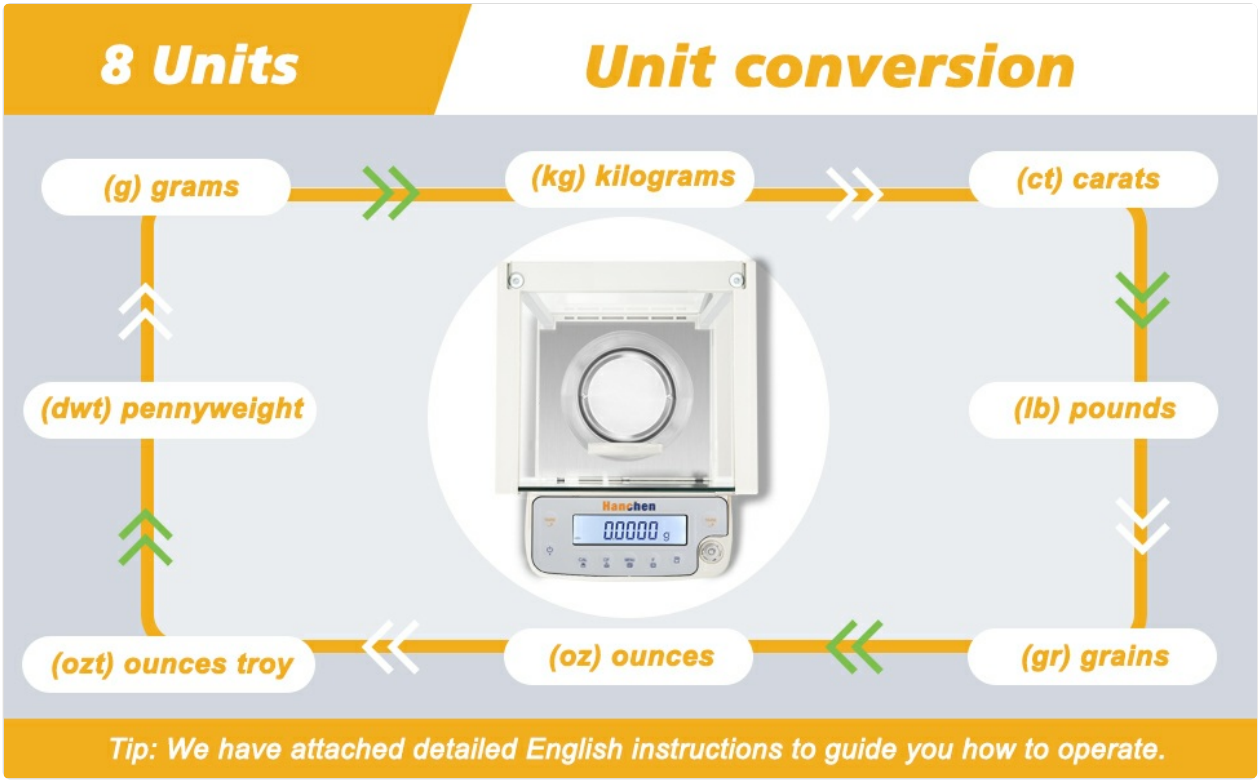

Figure 4: Fast Weighing & LCD Display, illustrating the clear digital readout.

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Video 2: Weigh Items - Quick and Accurate. This video demonstrates the process of weighing items on the balance.

3.3 Weighing Methods

The balance supports two primary weighing methods:

- **On the Weighing Pan:** For most standard samples, place them directly on the stainless steel weighing pan inside the glass windshield.
- **Hanging on the Hook:** For specific applications, you can install a hook at the bottom of the electronic scale and hang the object to be weighed.

Figure 5: Two Weighing Methods, illustrating both pan weighing and hook weighing options.

3.4 Unit Conversion

The balance supports conversion between 8 different units:

- grams (g)
- kilograms (kg)
- carats (ct)
- pounds (lb)
- grains (gr)
- ounces (oz)
- ounces troy (ozt)
- pennyweight (dwt)

To change units, press the MENU button and navigate through the options using the function buttons (e.g., 'F' or 'CF') to select your desired unit.

Figure 6: 8 Units Convertible, showing the various measurement units supported by the balance.

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Video 3: Unit Conversion - 8 Units. This video demonstrates how to convert between the different weighing units.

3.5 Calibration

Regular calibration ensures the accuracy of your balance. Follow these steps for precise calibration:

1. Place the balance on a stable table and press ON/OFF.
2. If the display does not show "0.0000g", press TARE to zero it.
3. After it displays "0.0000g", press CAL. The display will show "PLEASE WAIT".
4. Once stable, the display will indicate the required calibration weight (e.g., "200g").
5. Carefully place the specified calibration weight on the center of the weighing pan, then close the draft shield.
6. The balance will automatically complete the calibration. Remove the weight when prompted or when the process is complete.

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Video 4: Calibration Tips - Precise and Stable. This video provides a step-by-step guide for calibrating the analytical balance.

3.6 Data Communication (RS-232 Interface)

The balance is equipped with an RS-232 interface for connecting to a computer, allowing for convenient data analysis and management. A USB port is also available for connectivity.

Figure 7: RS232 Interface for Convenient Data-handling, showing the balance connected to a computer.

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Video 5: Connect to PC - Data Communication. This video briefly shows the connection ports for PC communication.

4. Maintenance

To ensure the longevity and accuracy of your Hanchen Analytical Balance, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the weighing pan and the exterior of the balance with a soft, damp cloth. Avoid abrasive cleaners or solvents. Ensure no liquids enter the internal components.
- **Glass Windshield Care:** Keep the glass windshield clean and free of smudges to maintain visibility and prevent interference with measurements. Handle with care to avoid breakage.
- **Environmental Stability:** Always operate the balance in a stable environment, away from strong air currents, vibrations, and significant temperature fluctuations. The built-in temperature compensation system helps, but extreme conditions should be avoided.
- **Storage:** When not in use for extended periods, disconnect the power and store the balance in a clean, dry, and stable environment.

5. Troubleshooting

If you encounter issues with your analytical balance, refer to the following common problems and solutions:

- **Fluctuating Readings:**
  - Ensure the balance is on a stable, vibration-free surface.
  - Close the glass windshield completely to eliminate air currents.
  - Check for nearby equipment that might cause vibrations or electromagnetic interference.
  - Allow sufficient warm-up time after powering on.

- **"L" Error Message:**
  - This error typically indicates incorrect assembly of the weighing pan components. Disassemble and reassemble the pan, ensuring all parts are in the correct order and seated properly.
- **Balance Not Powering On:**
  - Check the power cable connection to both the balance and the power outlet.
  - Verify that the power outlet is functional.
- **Inaccurate Readings:**
  - Perform a calibration using a known, accurate calibration weight.
  - Ensure the balance is level.
  - Check for any debris on or under the weighing pan.

6. Specifications

Feature	Specification
Brand	Hanchen
Model Number	MX-328
Display Type	LCD
Weight Limit	220 Grams (0.1mg readability)
Readout Accuracy	±0.1mg
Weigh Scale Type	Analytical Balance
Measurement Type	grams/mg (8 units convertible)
Material	Plastic (housing), Stainless Steel (pan)
Reaction Time	Less than 5 seconds
Interface	RS-232, USB
Power Supply	AC 110-240V
Working Temperature	59°F ~ 95°F (15°C ~ 35°C)

7. Warranty and Support

Hanchen provides a **ONE YEAR warranty** for this analytical balance, covering manufacturing defects and malfunctions under normal use. For technical support, warranty claims, or any questions regarding the operation of your balance, please contact Hanchen customer service.

Our team is committed to providing continuous customer service and support. We value customer feedback for product improvement.

For further assistance, please refer to the contact information provided with your product packaging or visit the official Hanchen website.