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› Sartorius Cubis II Semi-Micro Balance MCA125S-2S00-I User Manual

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Sartorius Cubis II Semi-Micro Balance MCA125S-2S00-I User Manual

Model: MCA125S-2S00-I

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation, setup, and maintenance of your Sartorius Cubis II Semi-Micro Balance, model MCA125S-2S00-I. This high-performance laboratory balance is designed for precise weighing applications requiring a 0.01 mg division and a maximum load of 120g. It features a modular design, an MCA Interface, and an integrated Draft Shield I to ensure accurate and repeatable results in R&D and analytical laboratories.



Figure 1: Sartorius Cubis II Semi-Micro Balance MCA125S-2S00-I with Draft Shield I. This image shows the complete balance unit, including the weighing pan and the protective draft shield.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the balance:

- Read this entire manual before operating the balance.
- Operate the balance only in a stable, level environment free from vibrations, drafts, and extreme temperature fluctuations.
- Ensure the power supply matches the balance's requirements (100-240V).
- Do not expose the balance to corrosive chemicals or excessive moisture.
- Only use Sartorius-approved accessories and spare parts.
- Disconnect the power cable before cleaning or performing any maintenance.
- Do not attempt to open or repair the balance yourself. Refer servicing to qualified personnel.

3. UNPACKING AND INITIAL INSPECTION

Carefully unpack all components and check for any visible damage. Retain the original packaging for future transport or storage.

1. Open the shipping carton and remove the balance unit and accessories.
2. Verify that all components listed in the packing list are present.
3. Inspect the balance for any signs of damage incurred during shipping. If damage is found, contact your supplier immediately.

4. SETUP

4.1 Placement

Place the balance on a sturdy, level, and vibration-free surface. Avoid locations near air conditioning vents, open windows, or direct sunlight, which can cause temperature fluctuations and affect weighing accuracy.

4.2 Draft Shield Assembly

The Cubis II MCA125S-2S00-I comes with Draft Shield I. Assemble the draft shield components according to the diagrams provided in the separate assembly guide (if applicable) or by carefully following the intuitive design. Ensure all glass panels are securely seated to prevent air currents from affecting measurements.



Figure 2: Illustrative image of the balance with Draft Shield I. This image highlights the transparent draft shield enclosure, crucial for protecting the weighing pan from air currents.

4.3 Leveling the Balance

The balance must be perfectly level for accurate measurements. Use the leveling feet located at the base of the balance and the integrated spirit level (bubble level) to adjust until the bubble is centered.

1. Locate the spirit level, usually at the front or side of the balance.
2. Adjust the two rear leveling feet until the bubble is centered in the spirit level.
3. Adjust the front leveling foot (if present) to fine-tune the level.

4.4 Power Connection

Connect the power adapter to the balance and then plug it into a suitable electrical outlet (100-240V AC). Allow the balance to warm up for at least 30 minutes after connecting power before performing any measurements to ensure optimal stability.

5. OPERATING INSTRUCTIONS

5.1 Turning On/Off

Press the **ON/OFF** button (often indicated by a circle with a vertical line) to power on the balance. To turn off, press and hold the same button until the display shuts down.

5.2 Basic Weighing Procedure

1. Ensure the weighing pan is clean and empty.
2. Close the draft shield doors.
3. Press the **TARE** or **ZERO** button to set the display to zero.
4. Carefully place the item to be weighed onto the center of the weighing pan.
5. Close the draft shield doors.
6. Wait for the stability indicator (usually a circle or asterisk) to appear on the display, indicating a stable reading.
7. Read the weight displayed in milligrams (mg).
8. Remove the item from the weighing pan.

5.3 Using the Tare Function

The tare function allows you to weigh the net weight of a substance by subtracting the weight of its container.

1. Place the empty container on the weighing pan.
2. Close the draft shield doors.
3. Press the **TARE** button. The display will show zero.
4. Add the substance to be weighed into the container.
5. Close the draft shield doors and wait for a stable reading. The displayed value is the net weight of the substance.

5.4 MCA Interface

The MCA Interface provides advanced control and data management capabilities. Refer to the separate MCA Interface user guide for detailed instructions on navigating menus, configuring settings, and connecting to external devices or software. This interface allows for customization of weighing applications, data logging, and compliance features.

6. CALIBRATION

Regular calibration is crucial for maintaining the accuracy of your balance. The Cubis II balance may feature internal calibration (isoCAL) or require external calibration using certified weights.

6.1 Internal Calibration (isoCAL)

If your balance is equipped with isoCAL, it will perform automatic internal calibration at set intervals or when temperature changes occur. You can also initiate it manually via the menu. Consult the MCA Interface user guide for specific steps.

6.2 External Calibration

For external calibration, you will need certified calibration weights appropriate for the balance's capacity and readability. The procedure typically involves:

1. Accessing the calibration menu on the MCA Interface.
2. Following the on-screen prompts to place and remove the specified calibration weights.
3. Confirming the calibration process.

Always use certified weights and ensure they are clean and handled with gloves to avoid contamination.

7. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your balance.

7.1 Cleaning

- **Always disconnect the balance from the power supply before cleaning.**
- Use a soft, lint-free cloth dampened with a mild cleaning agent (e.g., isopropyl alcohol or a mild soap solution) to clean the exterior surfaces.
- Remove the weighing pan and draft shield components for separate cleaning. Wash them with mild detergent and rinse thoroughly. Ensure they are completely dry before reassembling.
- Do not use abrasive cleaners, strong solvents, or immerse the balance in water.
- Avoid spraying cleaning agents directly onto the balance; apply them to the cloth first.

7.2 Environmental Conditions

Maintain a stable environment. Avoid rapid temperature changes, high humidity, and strong air currents. Store the balance in a clean, dry place when not in use.

8. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, contact Sartorius customer support.

Problem	Possible Cause	Solution
Unstable readings	Drafts, vibrations, unstable surface, temperature fluctuations, dirty weighing pan.	Ensure draft shield is closed. Relocate balance to a stable, vibration-free area. Check leveling. Allow balance to acclimatize. Clean weighing pan.
Balance does not turn on	No power supply, faulty power cable/adaptor.	Check power cable connection. Verify power outlet. Try a different power adapter if available.
Inaccurate readings	Not calibrated, incorrect leveling, temperature drift, overloading.	Perform calibration. Re-level the balance. Allow warm-up time. Do not exceed 120g max load.
Display error message	Internal fault, overload, communication error.	Refer to the MCA Interface user guide for specific error codes. Turn off and restart the balance. If persistent, contact support.

9. SPECIFICATIONS

Key technical specifications for the Sartorius Cubis II Semi-Micro Balance MCA125S-2S00-I:

- **Model:** MCA125S-2S00-I
- **Brand:** Sartorius
- **Maximum Load (Maxload):** 120g
- **Readout Accuracy (Division):** 0.01 mg

- **Interface:** MCA Interface
- **Draft Shield:** Draft Shield I
- **Power Supply:** 100-240V
- **Included Components:** Balance
- **Form Factor:** Mini

10. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official Sartorius website. In case of technical issues, service requirements, or questions not covered in this manual, please contact your local Sartorius representative or authorized service center. Provide your model number (MCA125S-2S00-I) and serial number when requesting support.

Sartorius Contact Information: Please refer to www.sartorius.com/en/global-contacts for regional contact details.

