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Maccx CEN-001

Maccx Lab PRP Benchtop Centrifuge Machine User Manual

Model: CEN-001

1. Introduction

This user manual provides essential information for the safe and efficient operation of the Maccx CEN-001 Lab PRP Benchtop Centrifuge Machine. Please read this manual thoroughly before operating the device to ensure proper usage, optimal performance, and longevity of the instrument. This centrifuge is designed for the separation of samples in various laboratory applications, including the cosmetic industry and research laboratories.



Figure 1: Maccx CEN-001 Benchtop Centrifuge Machine with included accessories.

2. Product Overview

The Maccx CEN-001 centrifuge is a low-speed benchtop model engineered for precise sample separation. It features a robust design with user-friendly controls and integrated safety mechanisms.

Key Features:

- **Speed Range:** 300-5000 RPM, with 10 RPM increments.
- **Max RCF:** Up to 2600×g, with 10×g increments.
- **Speed Accuracy:** ±20 RPM.
- **Timer Range:** 0-99 minutes / continuous operation.

- **Rotor Capacity:** Accommodates 6 tubes (1.5-5mL/7mL/10mL/15mL) using included adapters.
- **Low Noise Level:** ≤52 dB during operation.
- **Safety Features:** Built-in over-speed detector, automatic internal diagnosis, door interlock, and automatic lid-lock release after running.
- **User-Defined Programs:** Two user-defined programs (P1/P2) for quick recall of settings.
- **Display:** LCD digital display for intuitive adjustment and monitoring of time and speed (RPM or G-force).
- **Braking:** Two levels of braking for flexible deceleration.



Figure 2: Overview of the centrifuge's key features and benefits.



Figure 3: Detailed specifications including capacity, speed, and RCF.

3. Packing List

Upon unpacking, please verify that all items listed below are present and undamaged. If any items are missing or damaged, contact Maccx Scientific customer support immediately.



Figure 4: Visual representation of the centrifuge and its components included in the package.

Item No.	Description	Quantity
1	Low speed centrifuge	1 PC
2	Power adapter plug	1 PC
3	Rotor	1 PC
4	Spanner	1 PC
5	A5P17 (5mL adapter for 13×17mm tubes)	6 PCS
6	A2P17 (1.5/2mL adapter for 11×43mm tubes)	6 PCS

4. Setup

1. **Unpacking:** Carefully remove the centrifuge and all accessories from the packaging. Retain the original packaging for future transport or storage.
2. **Placement:** Place the centrifuge on a stable, level, and vibration-free surface. Ensure there is adequate clearance around the unit for ventilation and safe operation. Avoid placing it near heat sources or in direct sunlight.
3. **Power Connection:** Connect the power adapter plug to the centrifuge and then plug it into a suitable electrical outlet (100-240V, 50/60Hz).
4. **Rotor Installation:** Ensure the rotor is securely placed on the motor shaft. Use the provided spanner if necessary to tighten the rotor nut.
5. **Adapter Installation:** Insert the appropriate tube adapters (A5P17 or A2P17) into the rotor holes based on the size of your centrifuge tubes.

5. Operating Instructions

Follow these steps for safe and effective operation of your Maccx centrifuge.

5.1 Control Panel Overview

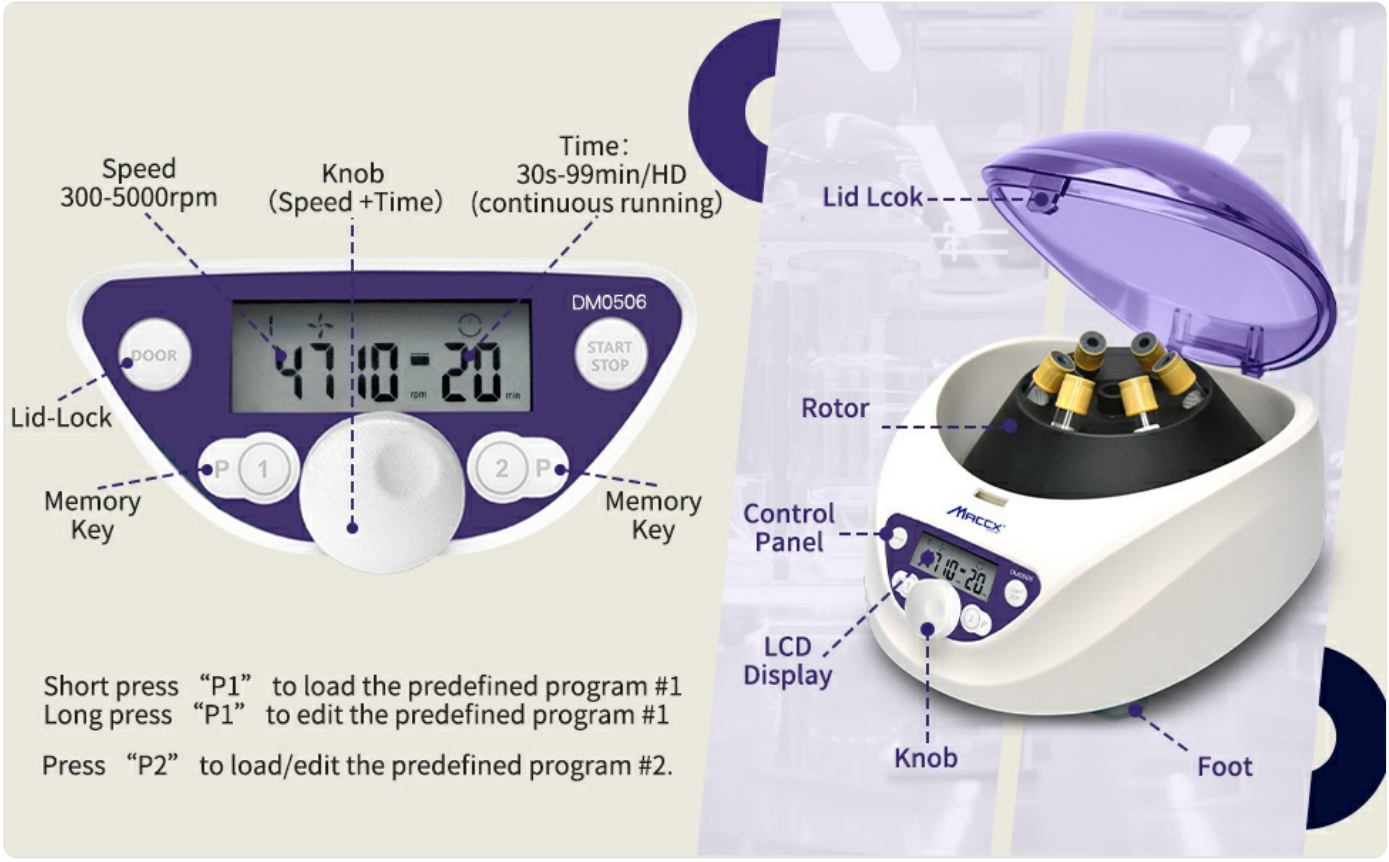


Figure 5: Detailed view of the control panel and its functions.

- **LCD Display:** Shows current speed (RPM or RCF) and remaining time.
- **Knob:** Used to adjust speed and time settings. Press to confirm selection.

- **P1/P2 Buttons (Memory Keys):** Short press to load predefined programs. Long press to edit and save programs.
- **DOOR Button:** Manually opens the lid when the centrifuge is stopped and unlocked.
- **Start/Stop Button:** Initiates or halts the centrifugation process.

5.2 Loading Samples

1. Ensure the centrifuge lid is open.
2. Place the centrifuge tubes into the rotor. It is critical that the amount of samples in each tube is equal to maintain balance.
3. Always place tubes symmetrically in the rotor to prevent imbalance and excessive vibration during operation. For example, if using two tubes, place them opposite each other. If using three, place them in an equilateral triangle pattern.

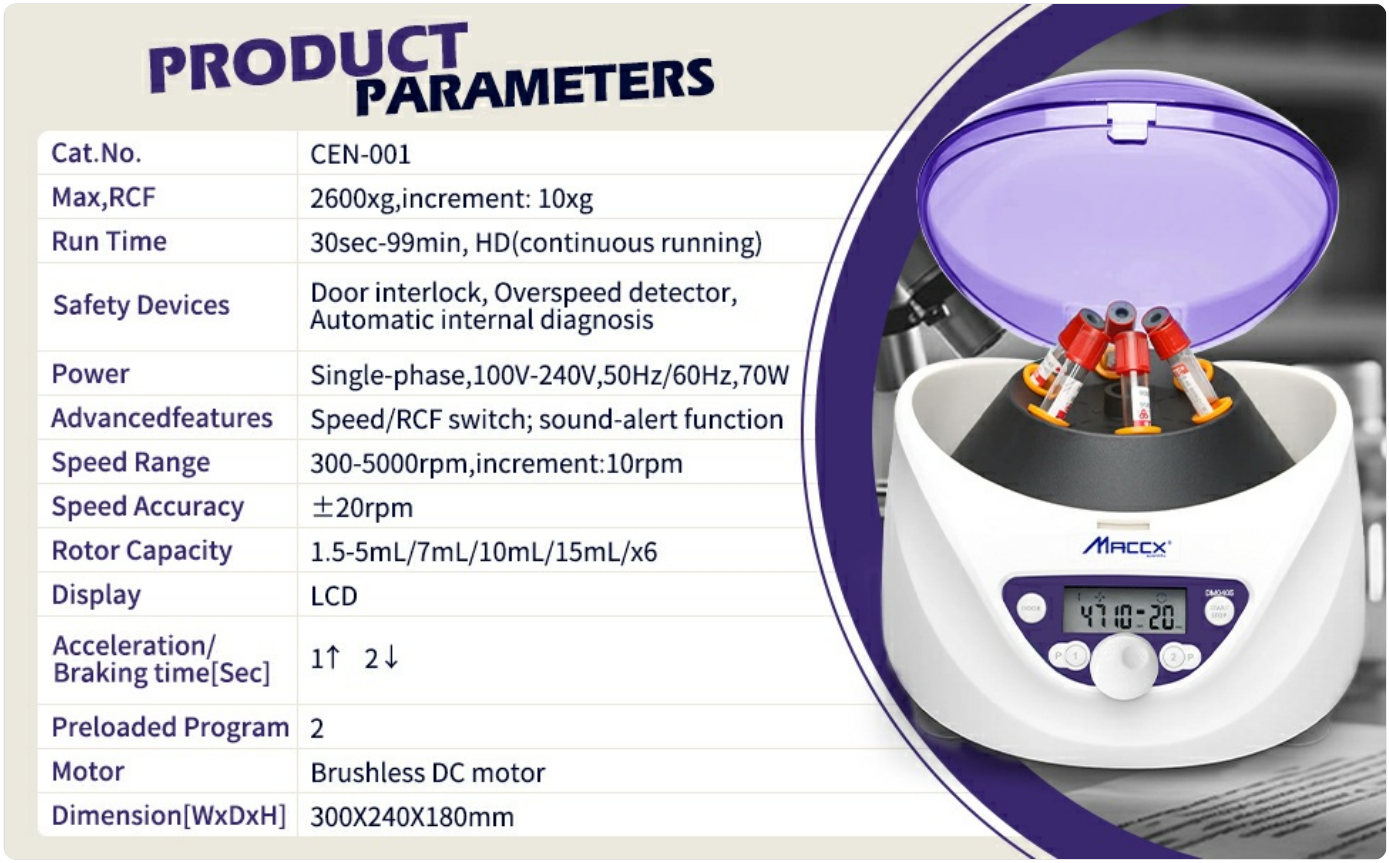


Figure 6: Correct and incorrect sample placement for balanced centrifugation.

Important Note: It is recommended not to exceed 80% of the maximum capacity of the centrifuge tube.

5.3 Setting Parameters and Starting Operation

1. Close the centrifuge lid firmly. The lid will automatically lock.
2. Turn the knob to adjust the desired speed (RPM or RCF) and time. Press the knob to switch between speed and time settings.
3. Alternatively, use the P1 or P2 buttons to load a previously saved program. Short press to load, long press to save/edit.
4. Press the **Start/Stop** button to begin the centrifugation process. The display will show the current speed and remaining time.
5. During operation, the lid remains locked for safety.

5.4 Stopping Operation

1. The centrifuge will automatically stop when the set time expires.
2. To stop operation manually, press the **Start/Stop** button.
3. Once the rotor has come to a complete stop, the lid will automatically unlock and beep. You can then open the lid and retrieve your samples.

6. Maintenance

Regular maintenance ensures the longevity and accurate performance of your centrifuge.

- **Cleaning:** After each use, especially if samples leak, clean the rotor and the interior of the centrifuge with a neutral absorbent solution. Avoid using strong acids, alkalis, or corrosive agents.
- **Sterilization:** The rotor can be cleaned and wiped with a neutral absorbent solution. Do not disinfect with UV light as this may make the material brittle and affect its lifespan.
- **Exterior Cleaning:** Wipe the exterior surfaces with a soft, damp cloth. Do not use abrasive cleaners.
- **Storage:** When not in use for extended periods, store the centrifuge in a clean, dry, and dust-free environment.

7. Troubleshooting

This section addresses common issues you might encounter with your centrifuge.

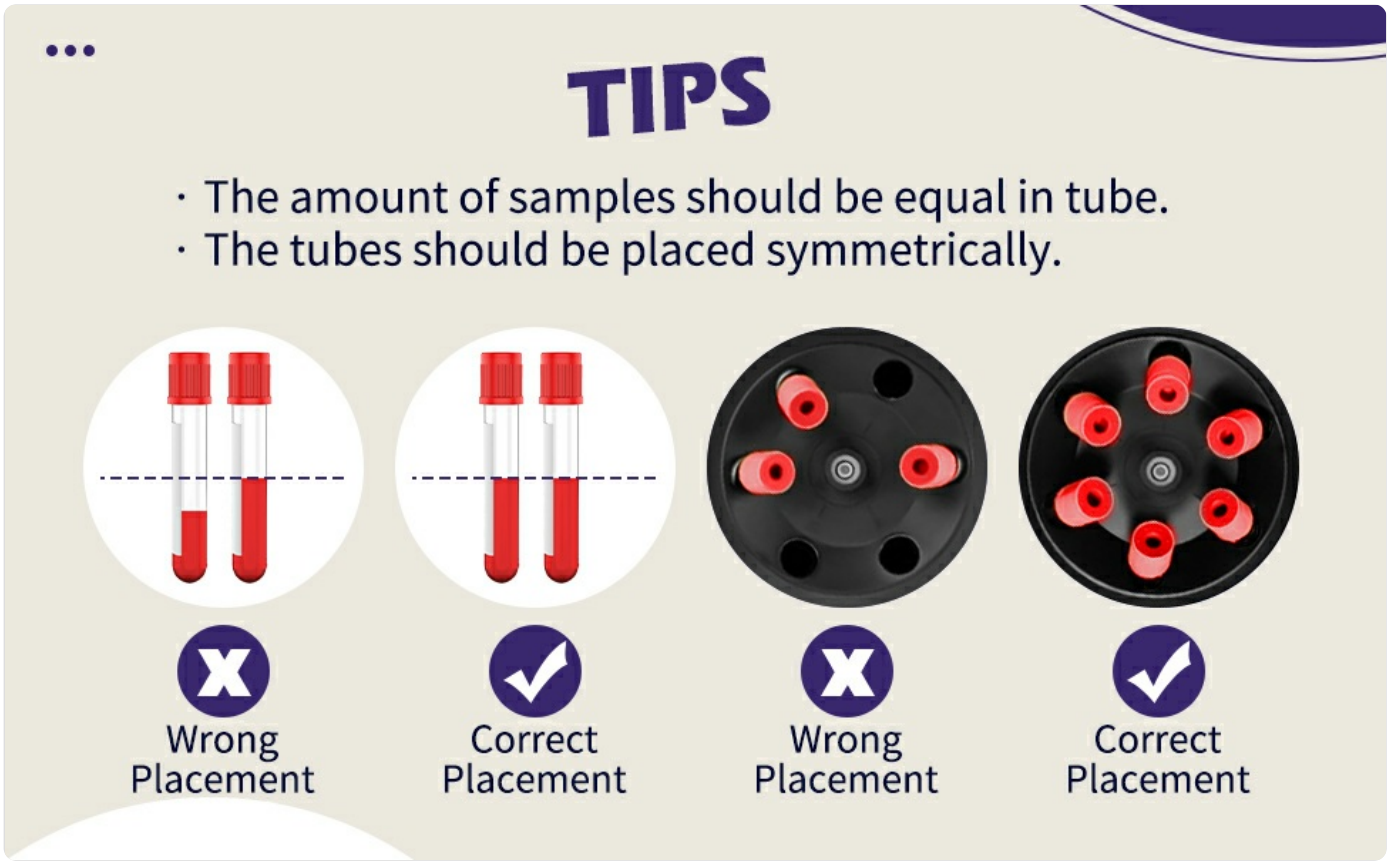


Figure 7: Common questions and answers regarding centrifuge operation and maintenance.

7.1 Abnormal Vibrations During Centrifugation

If you experience abnormal vibrations, please check the following:

- **Sample Balance:** Ensure that the samples are placed symmetrically in the rotor and that the amount of sample in each tube is equal.
- **Rotor Installation:** Verify that the rotor is correctly and securely installed on the motor shaft.
- **Surface Stability:** Confirm that the centrifuge is placed on a stable and level surface.

If these steps do not resolve the problem, please contact Maccx Scientific customer support.

7.2 Lid Not Opening

The lid is designed to remain locked during operation and will only release once the rotor has completely stopped. If the lid does not open after the rotor stops, ensure the unit is powered on and wait a few moments. If the issue persists, contact customer support.

8. Specifications

Detailed technical specifications for the Maccx CEN-001 centrifuge.



Figure 8: Comprehensive product parameters table.

Parameter	Value
Model Number	CEN-001
Speed Range	300-5000 RPM (increment: 10 RPM)
Max. RCF	2600×g (increment: 10×g)
Speed Accuracy	±20 RPM
Timer Range	30 sec - 99 min / Continuous
Rotor Capacity	6 tubes (1.5-5mL/7mL/10mL/15mL)
Noise Level	≤52 dB
Motor	Brushless DC motor

Parameter	Value
Power	100-240V, 50/60Hz, 70W
Dimensions (WxDxH)	300 x 240 x 180 mm
Weight	Approx. 13.85 Pounds (6.28 kg)
Safety Devices	Door interlock, Overspeed detector, Automatic internal diagnosis

9. Warranty and Support

Maccx Scientific is committed to providing high-quality products and excellent customer service.

9.1 Warranty Information

The Maccx CEN-001 centrifuge machine adheres to international safety standards with CE, cTUVus, and FCC markings. Maccx Scientific provides a **one-year limited warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use.

9.2 Customer Support

For any questions, technical assistance, or warranty claims, please contact Maccx Scientific customer support. Provide your product model number (CEN-001) and purchase details when contacting support to expedite assistance.



Figure 9: Maccx Scientific After-Sales Service commitment.

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