



High-speed mini centrifuge, MC10K

Read this user manual carefully before using the equipment and follow all operating and safety instructions provided here!



user manual

English

User manual

EN

MC10K Mini centrifuge

Introduction

Users must read this manual carefully, follow the instructions and procedures, and be aware of all precautions before using this equipment.

Enquiries and technical support

Regular maintenance is required to ensure that the equipment operates safely and efficiently. If a problem occurs, do not attempt to repair the equipment yourself. For assistance, contact your distributor or Labbox via:

www.labbox.com

Please provide Customer Service with the following information:

- Equipment serial number (on the rear panel or underneath the unit)
- Description of the problem
- Your contact details

Warranty

This equipment is warranted against defects in materials and workmanship under normal use for 24 months from the invoice date. The warranty applies only to the original purchaser. It does not cover any product or parts damaged as a result of incorrect installation, incorrect connections, misuse, accidents or abnormal operating conditions.

For warranty claims, please contact your supplier.

Caution: do not use the rotor if it has been damaged by corrosion and/or fatigue.

1. General information

1.1 Intended use

The MC10K microcentrifuge is designed for quick spins, sample microfiltration, cell separation and other routine laboratory procedures compatible with its capacity, speed and rotor type.

Do not use the equipment for applications, vessels or substances outside the conditions described in this manual.

1.2 Key features

- Maximum speed of 10,000 rpm.
- OLED display for viewing and setting speed and time.
- DC motor for smooth, quiet operation.
- Robust rotor with a push-fit locking system.
- Wide-range power supply; speed remains stable despite voltage fluctuations.
- Compatible with 0.5 / 1.5 / 2.0 mL microtubes, 0.2 mL PCR tubes and 8-tube PCR strips.
- Start/stop functions and two braking modes: gentle and immediate.
- Compact design, weighing approximately 1.5 kg.

2. Safety

2.1 General instructions

- Use the equipment only on a solid, level, stable and dry surface.
- Before each use, check the rotor for corrosion, cracks, deformation or other damage.
- Always load tubes symmetrically and ensure they are balanced.
- Do not use vessels that are damaged, improperly sealed or incompatible with the rotor.
- Avoid spills inside the chamber. If a spill occurs, disconnect the equipment before cleaning and dry the chamber thoroughly.
- Keep your hands away from the rotor until it has come to a complete stop.
- Do not modify the equipment or use accessories other than those intended for it.

WARNING Do not attempt to open the lid while the rotor is spinning. Stop the cycle and wait until the rotor has come to a complete stop before removing samples.

2.2 Environmental and electrical conditions

- Operating ambient temperature: 5 °C to 35 °C.
- Avoid direct sunlight and localised exposure to temperatures above 30 °C.
- Maintain a minimum clearance of 10 cm from other objects to ensure adequate ventilation.
- Keep the equipment away from heat sources, water, other liquids and chemicals.
- Use only a power supply compatible with 100–240 V AC, 50/60 Hz.

3. Equipment description

The MC10K is a benchtop microcentrifuge with a hinged lid, combination rotor and front controls comprising an OLED display and adjustment knob.



Figure 1. General view of the equipment with the lid open.

3.1 Main components

Parameter	Specification
Hinged lid	Closes the centrifugation chamber.
Lid release button	Releases the lid when the rotor has stopped.
Combination rotor	Holds compatible microtubes and PCR tubes or strips.
OLED display / central control	Displays parameters and allows the cycle to be started or stopped.
Speed and Time selectors	Switch the active parameter between speed and time.
Adjustment knob	Changes the value of the selected parameter.
Main power switch	Located at the rear of the equipment.

3.2 Package contents

- MC10K main unit × 1
- Plastic rotor × 1
- Supplied adaptors × 2
- Power adaptor × 1
- 2 mm hex key × 1

CHECK When unpacking, check that all components are present and free from visible damage. Do not operate damaged equipment.

4. Technical specifications

Parameter	Specification
Model	MC10K
Product code	MCEN-10K-001
Speed range	2,000–10,000 rpm; 1,000 rpm increments
Maximum RCF	6,708 × g for 1.5/2.0 mL microtubes; 6,596–7,490 × g for 8-tube PCR strips
Rotor capacity	12 × 0.5/1.5/2.0 mL; 4 × 8-tube PCR strips (0.2 mL); up to 44 × 0.2 mL PCR tubes
Timer	10 s–20 min; 10 s increments
Display	OLED
Acceleration / deceleration	1 acceleration level / 2 deceleration modes
Motor	DC motor
Power supply	100–240 V AC, 50/60 Hz
Power	40 W
Noise level	≤ 58 dB
Dimensions (D × W × H)	210 × 180 × 130 mm
Weight	1.5 kg
Ambient temperature	5–35 °C

5. Installation and commissioning

1. Carefully remove the equipment and accessories from the packaging.
2. Place the microcentrifuge on a solid, level, stable and dry laboratory bench.
3. Leave at least 10 cm of clearance around the equipment for ventilation.
4. Check that the area is protected from direct sunlight, heat, water, liquids and chemicals.
5. Confirm that the ambient temperature is between 5 °C and 35 °C.
6. Connect the power adaptor to a socket that meets the electrical specifications.

CAUTION Do not connect or use the equipment if the cable, adaptor, housing, lid or rotor is damaged.

6. Rotor installation and inspection



Figure 2. Supplied combination rotor.

1. Switch off and disconnect the microcentrifuge.
2. Check that the chamber is clean and dry.
3. Inspect the rotor and ensure there are no signs of corrosion, cracks or damage.
4. Position the rotor correctly on the motor base or shaft.
5. Press the rotor onto the shaft until it is firmly secured.
6. Handle and load the rotor with both hands.

WARNING Do not use a damaged or improperly secured rotor. Incorrect installation may cause vibration, spills or damage to the equipment.

7. Operating procedure

7.1 Preparation and balancing

Tubes must contain equivalent volumes and be placed in opposite positions or arranged symmetrically around the centre of the rotor.



Figure 3. Examples of balanced (✓) and unbalanced (✗) loading.

WARNING Never centrifuge an unbalanced load. If abnormal vibration occurs, stop the equipment immediately and rebalance the samples.

7.2 Setting speed and time

1. Connect the power supply and turn on the switch at the rear. The OLED display will light up.
2. Press the lid release button, lift the lid and load the pre-balanced samples without spilling any liquid.
3. Press the lid down until it is securely closed.
4. Touch Speed/Time on either side of the display to select the parameter to adjust.
5. Turn the knob to set the speed between 2,000 and 10,000 rpm, in 1,000 rpm increments.
6. Set the time between 10 seconds and 20 minutes, in 10-second increments.
7. Press the central control on the display to start centrifugation.
8. To stop the cycle, press the central control again. Wait until the rotor has come to a complete stop.
9. Open the lid, remove the tubes, turn off the main power switch and disconnect the equipment if it is no longer required.

7.3 Stopping and opening the lid

Opening the lid activates the automatic motor stop. This is an additional safety feature and must not be used as the normal method of stopping the equipment. Stop the cycle using the central control and wait until the rotor has come to a complete stop before opening the lid. The equipment supports gentle braking and immediate stopping. Select the mode appropriate for the sample when this option is available in the equipment settings.

8. Cleaning, inspection and maintenance

- Switch off the equipment, disconnect it from the mains and wait until it has stopped completely before any cleaning or inspection.
- Keep the centrifugation chamber clean and completely dry.
- Wipe up spills immediately with a soft cloth suitable for the spilled material; prevent liquid from entering the equipment.
- Inspect the rotor before each use. Do not use it if it shows corrosion, cracks, deformation or damage.
- Do not immerse the main unit or pour liquids directly onto it.

- Do not carry out internal repairs or modifications. In the event of a fault, take the equipment out of service and contact qualified technical personnel.

NOTE Before applying a cleaning or decontamination product, check that it is compatible with the samples processed and with the materials of the rotor and housing.

10. Basic troubleshooting

Parameter	Specification
The display does not light up	Check the adaptor, mains socket, connection to the equipment and rear power switch.
The equipment does not start the cycle	Check that the lid is securely closed, the time and speed have been set, and the rotor is correctly installed.
Abnormal vibration or noise	Stop the cycle immediately. Check the balance, tube positioning, and the condition and securing of the rotor.
A sample has been spilled	Switch off, disconnect and wait until the equipment has stopped completely. Remove the tubes, then clean and dry the chamber before using the equipment again.
The lid has opened while the rotor is spinning	The automatic stop should stop the motor. Do not touch the rotor; wait until it has stopped completely and take the equipment out of service if the lid latch is not working correctly.

SERVICE If the problem persists, do not dismantle the equipment. Disconnect it and request technical assistance, stating the model.

11. Electromagnetic compatibility

The equipment has been tested as a Class A digital device in accordance with Part 15 of the FCC Rules. These limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

The equipment generates, uses and may radiate radio frequency energy. If it is not installed and used in accordance with this manual, it may cause harmful interference to radio communications. Operation in a residential area may cause interference, which the user will be required to correct.

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

Nota importante para los aparatos electrónicos vendidos en España

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De conformidad con la Directiva 2012/19/UE, los usuarios de la Unión Europea de aparatos eléctricos y electrónicos, tienen la posibilidad de devolver sus RAEE para su eliminación al distribuidor o fabricante del equipo después de la compra de uno nuevo. La eliminación ilegal de aparatos eléctricos y electrónicos es castigada con multa administrativa.

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En réponse à la réglementation, Labbox remplit ses obligations relatives à la fin de vie des équipements électriques de laboratoire qu'il met sur le marché en finançant la filière de recyclage de ecosystem dédiée aux DEEE Pro qui les reprend gratuitement (plus d'informations sur www.ecosystem.eco).

L'élimination illégale d'appareils électriques et électroniques est punie d'amende administrative.

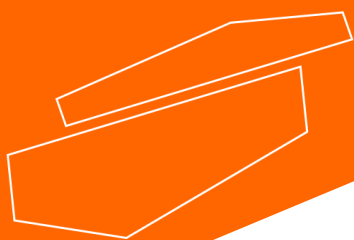
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