CM1385

Mini Centrifuge

USER & TECHNICAL MANUAL

For Molecular Biology, Biochemistry, and General Laboratory Use

Parameter	Specification
Document Type	User & Technical Manual
Product Model	CM1385
Product Name	Mini Centrifuge
Speed	Fixed
Tube Types	Microtubes, PCR strips
Certification	CE
UPC	00850084643316
Warranty	1 Year

READ THIS MANUAL COMPLETELY BEFORE OPERATING THE INSTRUMENT.

Keep this manual accessible to all operators at all times.

Table of Contents

1. Safety Information

This section contains critical safety information that must be read and understood before operating the CM1385 Mini Centrifuge. Failure to observe these instructions may result in personal injury, equipment damage, or hazardous conditions.

1.1 Symbol Definitions

WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or equipment damage.
NOTE	Provides additional information to clarify a procedure or highlight important operational details.

1.2 General Safety Warnings

WARNING

! Do not operate this centrifuge with the lid open or unsecured. At operating speed, centrifugal forces can eject rotor contents and cause serious injury.

WARNING

! Always balance the rotor before operation. Place tubes of equal weight in opposing positions. Unbalanced loads create excessive vibration that can damage the instrument and cause personal injury.

CAUTION

! Do not use cracked, chipped, or deformed tubes. Inspect all tubes before each use. Broken tubes may cause aerosol contamination or dangerous imbalance.

CAUTION

! Place the instrument on a flat, stable surface. The compact form factor means the CM1385 is sensitive to surface irregularities. Vibration on an unstable surface may cause the unit to move during operation.

1.3 Electrical Safety

- Connect only to a properly grounded AC outlet with the correct voltage for your region.
- Inspect the power cord before each use. Do not operate with a frayed or damaged cord.
- Disconnect the power cord before cleaning or performing any maintenance.

- Keep all liquids away from the power inlet and vents.
- Do not operate the instrument in the presence of flammable or explosive gases.

1.4 Rotor and Sample Safety

- Use only rotors and accessories designed and approved for the CM1385.
- Inspect the rotor before each use. Do not operate with a cracked or corroded rotor.
- When handling biohazardous or infectious samples, follow your institution's biosafety protocols and wear appropriate PPE.
- Use sealed tubes or safety caps when centrifuging infectious or hazardous materials.
- Allow the rotor to come to a complete stop before opening the lid. Never attempt to manually stop or slow the rotor.

1.5 Environmental Conditions

- Operate only indoors in a climate-controlled environment.
- Operating temperature: 15 to 35 degrees C; Relative humidity: 20 to 80% (non-condensing).
- Maintain a minimum clearance of 20 cm around all sides of the instrument for ventilation.
- Do not block ventilation slots on the underside or sides of the instrument.

2. Product Overview

2.1 Intended Use

The CM1385 Mini Centrifuge is a compact, fixed-speed benchtop centrifuge intended for routine spin-down operations in molecular biology, biochemistry, and general laboratory settings. Common applications include:

- Quick spin-down of microtubes and PCR strip contents
- Sample clarification and brief pelleting
- Reagent collection from tube walls and caps
- Preparation of samples for PCR, gel electrophoresis, and other assays
- General low-speed centrifugation in shared lab environments

2.2 Product Description

The CM1385 is a fixed-speed mini centrifuge with an ultra-compact footprint, designed for benchtops where space is at a premium. Its simple push-button operation and fixed-speed design ensure consistent, repeatable results without the need for speed programming. The instrument is compatible with standard microtubes and PCR strips, and is suitable for a wide range of routine lab tasks.

2.3 Components and Accessories

Parameter	Specification
Centrifuge unit	1x CM1385 main instrument
Rotor	Fixed-speed rotor, pre-installed
Rotor lid	Safety lid, pre-installed
PCR strip adapter	For use with PCR strips (if included)
Power cord	Regional power cord
User manual	This document

2.4 Technical Specifications

ROTOR & PERFORMANCE	
Speed	Fixed (see instrument label)
Rotor type	Fixed angle
Tube compatibility	Standard microtubes

Adapter compatibility	PCR strips (with adapter)
PHYSICAL	
Form factor	Benchtop, ultra-compact
Operating surface	Flat, stable benchtop
ELECTRICAL	
Power supply	Per regional specification
COMPLIANCE	
Certification	CE
Country of origin	China
Warranty	1 year
UPC	00850084643316

3. Installation and Setup

3.1 Site Requirements

Parameter	Specification
Surface type	Flat, stable, vibration-free benchtop
Clearance	20 cm on all sides and above
Operating temp.	15–35 degrees C
Humidity	20–80% RH (non-condensing)
Power supply	Per regional specification (see instrument label)

> **CAUTION**
> Due to its compact size, the CM1385 can vibrate more noticeably on soft or uneven surfaces. Always use a hard, flat bench. Do not place on foam mats, cloth surfaces, or on top of other instruments.

3.2 Unpacking

1. Inspect the shipping carton for damage before opening. Document any damage and contact your supplier if required.
2. Remove the instrument and all accessories from the carton.
3. Verify all components against the packing list (Section 2.3).
4. Remove all protective packaging materials and tape.
5. Inspect the instrument for any visible shipping damage. Do not operate if damage is found.
6. Retain the original packaging for future transport or storage.

3.3 Rotor Inspection

The rotor is pre-installed at the factory. Before first use:

7. Open the instrument lid.
8. Visually inspect the rotor for cracks, corrosion, or deformation.
9. Verify the rotor is securely seated on the drive shaft.
10. Check the rotor lid for any damage.
11. Do not operate if any damage is found. Contact your supplier for replacement.

3.4 Electrical Connection

12. Ensure the instrument is switched off before connecting power.
13. Connect the appropriate power cord to the instrument and to a grounded outlet.
14. Verify the outlet voltage matches the instrument rating (see label on instrument base).

4. Operation

4.1 Controls Overview

The CM1385 is designed for simple push-button operation. The following controls are available:

Parameter	Specification
Lid	Open to load samples; close and secure before starting
Power switch	Turns the instrument on and off
Start button	Press and hold to begin a run; release to stop (momentary operation)

> **NOTE**
> The CM1385 operates in momentary mode on most configurations: the rotor spins while the START button is held, and decelerates when the button is released. Refer to your specific instrument label for exact operation mode.

4.2 Loading Samples

> **WARNING**
> Always balance the rotor before starting. Load tubes in symmetrically opposing positions. If an odd number of tubes is required, use a balance tube filled with water to the same volume as the sample tubes.

15. Select the appropriate rotor insert or adapter for your tube type (see Section 4.3).
16. Load tubes in balanced, opposing pairs.
17. Ensure all tubes are fully and securely seated in the rotor.
18. Verify tube caps or lids are tightly closed.
19. Close the rotor lid and ensure it is secure.
20. Close the instrument lid.

4.3 Tube and Adapter Compatibility

Parameter	Specification
Standard microtubes (1.5 / 2.0 mL)	No adapter required; seat directly in rotor
0.5 mL microtubes	Use adapter if provided; check rotor insert markings
PCR strips (0.2 mL)	Use PCR strip adapter; ensure all positions are balanced

CAUTION

! Do not operate the rotor with empty adapter positions unless the rotor is designed for partial loading. Always fill empty positions with balance tubes of equal mass.

4.4 Running the Centrifuge

21. Confirm the lid is closed.
22. Switch the instrument on using the power switch.
23. Press and hold the START button to begin the run.
24. Hold the button for the duration of the spin. The rotor will accelerate to operating speed.
25. Release the START button to end the run.
26. The rotor will decelerate automatically to a full stop.
27. Wait until the rotor is completely stationary before opening the lid.

4.5 Stopping the Run

To stop the centrifuge at any time:

28. Release the START button. The rotor will decelerate to a stop.
29. In an emergency, switch off the power switch on the instrument.
30. Do not attempt to open the lid while the rotor is still spinning.
31. Do not attempt to manually stop or slow the rotor by any means.

4.6 Unloading Samples

32. Confirm the rotor is completely stopped.
33. Open the instrument lid.
34. Remove the rotor lid.
35. Carefully remove tubes from the rotor, noting any breakage or leakage.
36. If tube breakage is found, refer to Section 7.3.

5. Maintenance and Cleaning

5.1 Routine Maintenance Schedule

DAILY / BEFORE EACH USE	
Inspect rotor and lid for damage	Before each use
Check tubes for cracks or defects	Before each use
Verify lid closes and secures properly	Before each use
WEEKLY	
Wipe exterior with damp cloth	Weekly or as needed
Inspect power cord for damage	Weekly
Check rotor for corrosion or wear	Weekly
MONTHLY	
Clean rotor bowl with mild disinfectant	Monthly
Check ventilation slots for blockage	Monthly
Inspect all adapters for wear or cracking	Monthly

5.2 Cleaning the Instrument

> **CAUTION**
> ! Always disconnect the power cord before cleaning. Do not allow liquid to enter the instrument through ventilation slots, the lid gap, or the underside. Do not use abrasive cleaners or organic solvents.

Exterior Surfaces

37. Disconnect power.
38. Dampen a lint-free cloth with mild detergent solution or 70% isopropyl alcohol.
39. Wipe all exterior surfaces.
40. Dry with a clean, dry cloth.
41. Allow to dry fully before reconnecting power.

Rotor Bowl and Rotor

42. Remove the rotor lid and rotor (see Section 5.3).
43. Wipe the rotor bowl with 70% isopropyl alcohol or 10% bleach solution.
44. Clean the rotor with the same solution; do not submerge.
45. Rinse with distilled water and dry thoroughly before reassembling.

5.3 Rotor Removal and Reinstallation

Removal

46. Ensure the instrument is powered off and the rotor is stationary.
47. Remove the rotor lid by lifting straight up.
48. Lift the rotor straight up and off the drive shaft.
49. Place the rotor on a clean, stable surface for inspection or cleaning.

Reinstallation

50. Align the rotor with the drive shaft, matching any key or flat.
51. Lower the rotor onto the shaft until fully and firmly seated.
52. Reattach the rotor lid.
53. Confirm the rotor spins freely by hand (instrument off) with no wobble or resistance.

6. Troubleshooting

6.1 Troubleshooting Guide

Symptom	Possible Cause	Corrective Action
Instrument does not power on	Power cord not connected or outlet has no power	Check cord connection; test outlet with another device
Excessive vibration	Unbalanced load; loose or damaged rotor; surface instability	Rebalance tubes; ensure rotor is seated; use firm flat surface
Rotor does not reach speed	Overloaded rotor; motor issue	Reduce tube count or volume; contact service if issue persists
Unusual noise during operation	Tube or adapter loose; foreign object in bowl; damaged rotor	Stop run immediately; inspect rotor, lid, and bowl; remove debris; do not restart until issue is resolved
Lid will not close or latch	Rotor lid not seated; obstruction in lid path	Ensure rotor lid is fully seated; inspect lid gasket and latch
Tubes leak or break during run	Cracked or overfilled tubes; incorrect adapter; imbalanced load	Inspect tubes before use; fill to no more than 3/4 capacity; use correct adapter; rebalance load
Instrument overheats / stops mid-run	Insufficient ventilation; ambient temperature too high; motor overload	Ensure 20 cm clearance around unit; reduce ambient temp; allow 15-min cooldown before restarting

If a problem persists after following corrective action, do not attempt to service the instrument internally. Contact your authorized distributor or service representative.

7. Safety Procedures

7.1 Handling Biohazardous Samples

When centrifuging biohazardous or potentially infectious materials, observe the following in addition to your institution's standard biosafety procedures:

- Wear appropriate PPE: gloves, eye protection, and lab coat at minimum.
- Use sealed tubes with secure caps or O-ring stoppers.
- Inspect all tubes for defects before loading.
- After the run, open the lid slowly. If working with high-risk pathogens, open in a biosafety cabinet.
- Decontaminate the rotor and bowl immediately if leakage is detected.

7.2 Emergency Stop Procedure

54. Release the START button immediately to stop the run.
55. If the rotor does not decelerate normally, switch off the power switch on the instrument.
56. Do not open the lid until the rotor has come to a complete stop.
57. In the event of smoke or burning smell, unplug the power cord immediately. Do not restart. Contact service.

7.3 Decontamination After Tube Breakage

> **WARNING**
>
> ! If tube breakage is suspected during a run, do not open the lid for at least 10 minutes after the rotor stops. This allows aerosols to settle. Wear full PPE including a fitted respirator if infectious materials were involved.

58. Allow the centrifuge to stop completely.
59. Put on full PPE: gloves, eye protection, lab coat, and respirator if applicable.
60. Open the lid carefully in a fume hood or biosafety cabinet if available.
61. Remove the rotor lid and place in a disinfectant tray.
62. Remove intact tubes carefully; do not touch broken glass with bare hands.
63. Use forceps to remove broken tube fragments; place in a puncture-resistant sharps container.
64. Absorb liquid spills with disposable towels; dispose of as biohazardous waste.
65. Wipe all surfaces with 10% bleach solution or appropriate disinfectant. Allow 10 minutes contact time.
66. Rinse with distilled water and dry thoroughly.
67. Discard all disposable PPE and cleaning materials per institutional policy.
68. Document the incident per your institution's incident reporting procedures.

8. Warranty and Compliance

8.1 Warranty Terms

This product is warranted against defects in materials and workmanship for one (1) year from the date of original purchase. The warranty covers:

- Manufacturing defects and material failures under normal use.
- Electrical and mechanical component failures under normal operating conditions.

The warranty does not cover:

- Damage from accident, misuse, abuse, neglect, or unauthorized modification.
- Operation outside the specifications in this manual.
- Consumable items including tubes, adapters, and rotors subject to normal wear.
- Damage from use of non-approved accessories or parts.

8.2 CE Conformity

The CM1385 Mini Centrifuge has been designed and manufactured in conformity with applicable CE directives and standards. The CE mark indicates compliance with the relevant European Union requirements.

Parameter	Specification
Product name	CM1385 Mini Centrifuge
CE certification	Yes
Country of manufacture	China
UPC	00850084643316

8.3 Disposal

This instrument contains electrical and electronic components and must be disposed of in accordance with applicable local WEEE (Waste Electrical and Electronic Equipment) regulations at the end of its service life. Do not dispose of in municipal solid waste. Contact your local waste authority or equipment supplier for guidance.

8.4 Contact Information

For technical support, warranty claims, or spare parts, contact your authorized distributor. Please have the following available when contacting support:

- Product model: CM1385
- Serial number (see label on instrument base)
- Description of the issue
- Proof of purchase date for warranty claims

Appendix A: Quick Reference

A.1 Pre-Run Checklist

- Instrument on flat, stable surface with 20 cm clearance all sides
- Power connected and switched on
- Rotor inspected — no cracks or corrosion
- Tubes inspected — no cracks, chips, or deformation
- Load balanced — equal tubes in opposing positions
- Rotor lid secured
- Instrument lid closed
- Press and hold START

A.2 Compatible Tube Summary

TUBE TYPE	
1.5 mL microtubes	No adapter required
2.0 mL microtubes	No adapter required
0.5 mL microtubes	Use adapter if provided
PCR strips (0.2 mL)	Use PCR strip adapter

Appendix B: Glossary

Parameter	Specification
Fixed-speed centrifuge	A centrifuge that operates at one preset speed, with no user adjustment available.
Spin-down	A brief, low-speed centrifuge run used to collect liquid or particles at the bottom of a tube.
Pelleting	Centrifugation that results in a compact mass (pellet) of settled particles at the tube bottom.
PCR strip	A row of small connected tubes (typically 8 x 0.2 mL) used in polymerase chain reaction (PCR) assays.
Microtube	A small laboratory tube, typically 0.5, 1.5, or 2.0 mL, used for sample storage and processing.
Rotor balance	The condition in which all rotor positions carry loads of equal mass, preventing vibration during a run.
WEEE	Waste Electrical and Electronic Equipment; EU directive governing proper disposal of electronic products.