
Mini Centrifuge

Instruction Manual

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BIO-RAD

Bio-Rad Technical Support

The Bio-Rad Technical Support in the U.S. is open Monday through Friday, 5:00 AM to 5:00 PM, Pacific time.

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1-800-268-0213 (Canada)

Email: support@bio-rad.com (U.S./Canada only)

For technical assistance outside the U.S. and Canada, contact your local technical support office or click the Contact Us link at **www.bio-rad.com**.

Legal Notices

Bio-Rad reserves the right to modify its products and services at any time. This instruction manual is subject to change without notice.

Although prepared to ensure accuracy, Bio-Rad assumes no liability for errors, or for any damages resulting from the application or use of this information.

Safety Warnings



Warning! symbol in this manual warns you about potential sources of injury or harm, including risk of electrical shock.

WEEE Disposal Requirements



The Mini Centrifuge contains electrical or electronic materials.

It should not be disposed of as unsorted waste and must be collected separately, according to European Union Directive 2012/19/EU on waste and electronic equipment — WEEE Directive.

Before disposal, contact your local Bio-Rad representative for country specific instructions.

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1. Specifications and Environmental Conditions

Dimensions	5.9 x 5.9 x 4.6 in/15 x 15 x 11.6 cm
Weight	2.65 lb/1.2 kg
Electrical	AC 100 — 240 V, 50/60 Hz 0.35 A
Unit input	24 VDC 1A
Maximum speed/RCF	6,000 RPM/2,000 x g
Indoor use only	
Altitude	up to 2,000 m
Temperature	5 to 40°C
Maximum relative humidity	80% for temperature up to 30°C decreasing linearly to 50% relative humidity at 40°C
Pollution degree	2

2. General Information

The Bio-Rad Mini Centrifuge is supplied with two rotors, one for micro tubes and one for PCR strip tubes. The eight place rotor is designed to centrifuge up to eight individual 1.5/2.0 ml plastic micro centrifuge tubes. It will also accept 0.5/0.6 ml, 0.4/0.25 ml and 0.2 ml tubes with the adapters supplied with the unit. The PCR strip tube rotor is designed to centrifuge four 8 x 0.2 ml tube strips. It will also accept up to 32 individual 0.2 ml tubes. Both rotors are designed for applications requiring relatively low g-forces, such as microfiltration, cell separation, and quick spin-downs from the walls of tubes.

A full line of microcentrifuges and PCR tubes are available from Bio-Rad. Visit bio-rad.com, call 1-800-4BIORAD, or speak with your sales representative.

If the centrifuge is used in a manner not specified herein, the protection provided by the centrifuge may be impaired.

3. Safety Precautions

NEVER use the centrifuge in any manner not specified in these instructions.

NEVER operate the centrifuge without a rotor properly attached to the shaft.

NEVER fill tubes while they are in the rotor. Liquid spillage may harm unit.

NEVER put hands in the rotor area unless the rotor is completely stopped.

NEVER move the centrifuge while the rotor is spinning.

NEVER use solvents or flammables near this or other electrical equipment.

NEVER centrifuge flammable, explosive or corrosive materials.

NEVER centrifuge hazardous materials outside of a hood or proper containment facility.

 **NEVER** try to continue operating the centrifuge if the centrifuge stops working prematurely. Stop the centrifuge immediately by turning off the main power switch on the back side of the centrifuge. Wait one minute before turning on the main power switch to operate the centrifuge again.

NEVER attempt to repair or remove the outer case of the Mini Centrifuge or other accessories. If you open this instrument, you put yourself at risk for harm to body or equipment from electrical shock.

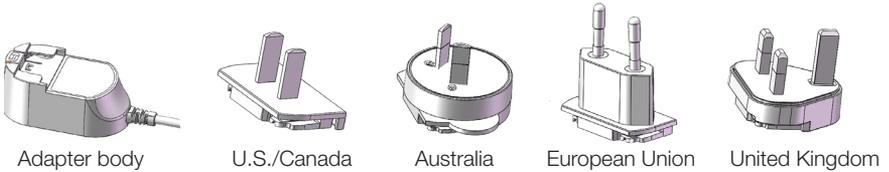
ALWAYS load the rotor symmetrically. Counterbalance each tube with another tube. No individual tube should weight more than 3.0 g.

ALWAYS locate the centrifuge within easy access to an electrical outlet.

ALWAYS use only plastic micro centrifuge tubes designed to withstand centrifugal forces of at least 2,000 x g.

4. Installation

1. Make sure to always install the centrifuge on stable flat surfaces only.
2. Place the centrifuge near the electrical outlet.
3. Select the appropriate regional plug and push the plug firmly into the adapter body.



5. Operation

Before operating the centrifuge, be sure that the power switch on the back of the unit is in the "on" position. To begin a run, close the lid of the centrifuge. No other controls are required.

■ Fast stop

Press down and release the tab on the front of the lid. This will release the lid lock, allowing the lid to open and the rotor to come to a braked stop.

■ Gradual stop

Put the power switch in the "off" position. This will cut the power to the motor, and the rotor to come to a gradual stop.



CAUTION: Do not attempt to open the lid or remove samples until the unit has come to a complete stop. Once the rotor has come to a full stop, the lid can be manually lifted to the full open position and samples may be removed from the rotor.

Safe operation of the centrifuge requires that the rotor be loaded in a balanced fashion. Failure to load the rotor properly presents a hazardous condition and may damage the centrifuge. Individual tubes, strip tubes, and/or adapters must always be loaded symmetrically to ensure proper balance. Never run the centrifuge with only one tube or one strip tube in place.

6. Equipment Maintenance

The centrifuge should be cleaned periodically. Ensure that the unit is not plugged in. Use a damp cloth and a mild, noncorrosive detergent (pH < 8). Do not immerse the centrifuge in liquid or pour liquids over it. Excessive amounts of liquid should be avoided. Liquid should not come into contact with the motor. After cleaning, ensure all parts are dried thoroughly before attempting to operate the unit.

Should a spill of infectious materials occur within the rotor or rotor chamber, the unit should be disinfected. This should be performed by qualified personnel with proper protective equipment.

7. Rotors

The centrifuge is supplied with two interchangeable quick-release rotors. No tools are required to exchange the rotors or attach them to the motor shaft. The rotors can be easily exchanged with one hand by way of the quick release system. Remove the rotors i by placing your thumb on top of the motor shaft and lifting up with two fingers under the rotor. Place the other rotor into position on the motor shaft and snap in.



8 place tube rotor



4 place strip rotor

8. Cleaning

Before using any cleaning or decontamination methods except those recommended herein, check with technical support (1-800-4-BIORAD) that the proposed method will not damage the equipment. To clean the centrifuge, use a damp cloth and a mild, noncorrosive detergent (pH < 8). After cleaning, ensure all parts are dried thoroughly before attempting to operate the unit. Do not immerse the centrifuge in liquid or pour liquids over it.

9. Service

Should you have a question about the operation of the Mini Centrifuge or if service is required, contact Bio-Rad technical support at 1-800-4-BIORAD. Do not send in a unit for service without first calling to obtain a repair authorization number. Should the unit require return for service, it should be properly packed to avoid damage. Any damage resulting from improper packaging shall be the responsibility of the user.

10. Limited Warranty

Bio-Rad Laboratories (Bio-Rad) warrants that this product will be free from defects in material and workmanship for a period of one (1) year from date of purchase. This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in the supplied instruction manual.

Should this product require service, contact Bio-Rad Technical Support at 1-800-4-BIORAD to receive a return authorization number and shipping instructions. Products received without proper authorization will be returned. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, and padded to avoid damage. Bio-Rad will not be responsible for damage incurred by improper packaging.

This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces, or other causes not arising from defects in original material or workmanship. This warranty does not cover motor brushes, fuses, light bulbs, batteries, or damage to paint or finish. Claims for transit damage should be filed with the transportation carrier.

ALL WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO 12 MONTHS FROM THE ORIGINAL DATE OF PURCHASE.

BIO-RAD'S SOLE OBLIGATION UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT, AT BIO-RAD'S DISCRETION, OF A DEFECTIVE PRODUCT. BIO-RAD IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE, COMMERCIAL LOSS, OR ANY OTHER DAMAGES RESULTING FROM THE USE OF THIS PRODUCT.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

No individual may accept for, or on behalf of, Bio-Rad any other obligation of liability, or extend the period of this warranty.

For your reference, make a note of the model and serial number, date of purchase, and supplier here.

Model No. _____ Serial No. _____

Date Purchased _____

Supplier _____

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