

Tube Roller Instruction Manual

Catalog Numbers
1660711, 1660721, and 1660722

For technical support, call your local Bio-Rad office
or, in the U.S., call
1-800-4BIORAD
(1-800-424-6723)



1.0 GENERAL SPECIFICATIONS

The Bio-Rad Tube Roller is designed to be safe at least when operated under the following conditions:

Electrical requirements:

115 V model	115 V \pm 10%, 50/60 Hz, 0.03 A
230 V model	230 V \pm 10%, 50/60 Hz, 0.015 A
Speed 115 V/230 V model	24 rpm/20 rpm
Motion	Rotating and rocking at 20°, 45°, or 60° angles
Dimensions W x L x H	8.4 in X 4 in X 5 in (21.3 cm x 10.2 cm x 12.6 cm)
Included accessories' capacity	Rotisserie for up to 36 x 1.5/2.0 ml microtubes Rotisserie for up to 10 x 15 ml conical tubes (or 10 x 15–16 mm diameter tubes) and 12 x 5/7 ml (12–13 mm diameter) test tubes
Weight	1.75 lbs (0.8 kg)
Operating Conditions	5°C to 40°C, up to 85% RH, noncondensing; Indoor use only
Operating Altitude	Up to 6,500 ft (2,000 m)
Pollution Rating	Pollution Degree 2

2.0 INSTALLATION OF THE ROTATOR

2.1 UNPACKING

Before starting installation, carefully examine the rotator.

- Open the box and carefully remove the padding. Check that the rotator has not been visibly damaged during transportation. Keep the packing material until you are sure the rotator works properly.
- Carefully lift the device out of the box.
- Be sure that the following information is included on the serial label located on the bottom of the unit: Serial number, Product number, Electrical rating.
- Check that the power cord plug has a pin configuration that matches a wall socket conforming to the local standard.

Should any damage have occurred during transportation, contact the carrier immediately. The carrier is responsible for shipping damage.

2.2 POWERING THE ROTATOR

Place the rotator on a horizontal, level, stable surface. Connect the plug end of the cord to a grounded wall socket. Avoid lines on which powerful electric motors, refrigerators, and similar devices are connected. Connect the other end to the device. Use the ON/OFF switch to control power to the rotator.



**Use caution when plugging into a grounded wall socket.
Do not touch the plug with wet hands.
Do not unplug by pulling on the cord.**

3.0 INSTRUCTIONS FOR USE



Fig. 1

Loading the rotisserie (Figure 1). The rotisserie supplied with the unit is designed to hold standard 1.5 ml or 2.0 ml microcentrifuge tubes or 10 x 15 ml conical tubes and 12 x 5 ml/7ml test tubes. Each rotisserie consists of a rotisserie plate with bar keys for placement into the apparatus and a two-piece rotisserie rod with a bar key on either end. Install the rotisserie rod by screwing the two elements together

through the hole in the center of the rotisserie plate. Insert the tubes into the tube holders. Mount the rotisserie in the apparatus in either the vertical position, using the rotisserie rod, or the horizontal position, using the bar keys on the plate. The side of the rotisserie opposite the driving mechanism is flexible to allow inserting the rotisserie without tools. Insert the bar key on the rotisserie rod or the plate into the drive mechanism. The other end of the rotisserie is suspended in the bushing located on the opposite side of the unit. Be sure to distribute tubes evenly across the rotisserie carrier to achieve smooth rotating motion.

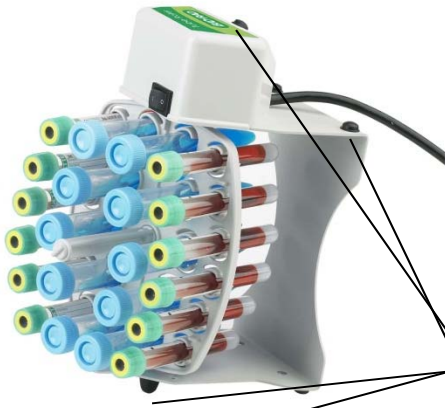


Fig. 2

Creating a tumbling motion (Figure 2). Load the tubes and mount the rotisserie so the tubes are held in a vertical position, then rest the unit on its end, making sure that it is supported by the black side legs. The unit can be rested on either end, but setting the unit on the end with the power switch will create a more vigorous tumbling motion than when it is rested on the opposite end.

Figure 2 - Legs supporting the rotator when set to create tumbling motion



Fig.

Mixing plates (Figure 3). Any of the rotisseries can be used for mixing in microplates. Remove the rotisserie rod if it is installed. Seal microplates completely to avoid leakage. Make sure the microplate lines up with the locking dimples. Fasten the plate (or plates) with rubber bands or small bungee cords (not supplied with the unit). A maximum of two deep-well plates can be mixed at a time. When rocking, it is possible to shake just one plate. For all other types of motion, two plates should be placed on the rotisserie for proper balance.

4.0 ROUTINE MAINTENANCE/CLEANING

- No routine maintenance or lubrication is required
- Keeping the rotator clean will help maintain it in proper working order

4.1 CLEANING

The outside housing can be cleaned with a soft, damp cloth when needed.

Do not use any aggressive or abrasive cleaners (acetone, polish, etc.) This may permanently damage the rotator finish.



Before cleaning the rotator, always unplug the power cord from the wall socket.



Do not use the rotator near water sources. Be sure that water doesn't get on the device, especially during cleaning procedures.

- Do not expose the rotator to aggressive vapors (e.g. organic solvents)
- Hazardous samples should be mixed only in appropriate containment vessels

NOTE: Misuse or unauthorized modifications of the device voids the warranty. If the equipment is used in a manner not specified by the manufacturer, the safety features of the rotator may be impaired.



Do not mix flammable or explosive samples.

5.0 TROUBLESHOOTING GUIDE/SERVICE

Disconnect the rotator from the main power source immediately if there is any sign of malfunction and contact Bio-Rad Laboratories at 1-800-4BIORAD (1-800-424-6723).

Problem

Rotator does not start

Solution

Check the power connection

Make sure the rotisserie is properly inserted into the drive mechanism

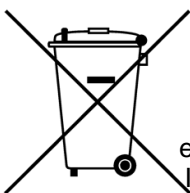
6.0 APPENDIX

6.1 SYMBOLS AND CONVENTIONS

The following chart is an illustrated glossary of the symbols that may be used in this manual or on the product.

	The electrical warning indicates the presence of a potential hazard which could result in electrical shock.
	CAUTION This symbol refers you to important operating and maintenance (servicing) instructions within the product Instruction Manual. Failure to heed this information may present a risk of damage or injury to persons or equipment.
	This symbol identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.

EQUIPMENT DISPOSAL



This equipment is marked with the crossed out wheeled bin symbol to indicate that this equipment must not be disposed of with unsorted waste.

Instead it's your responsibility to correctly dispose of your equipment at lifecycle-end by handing it over to an authorized facility for separate collection and recycling. It's also your responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect from health hazards the persons involved in the disposal and recycling of the equipment.

For more information about where you can drop off your waste equipment, please contact your local dealer from whom you originally purchased this equipment.

By doing so, you will help to conserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.

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