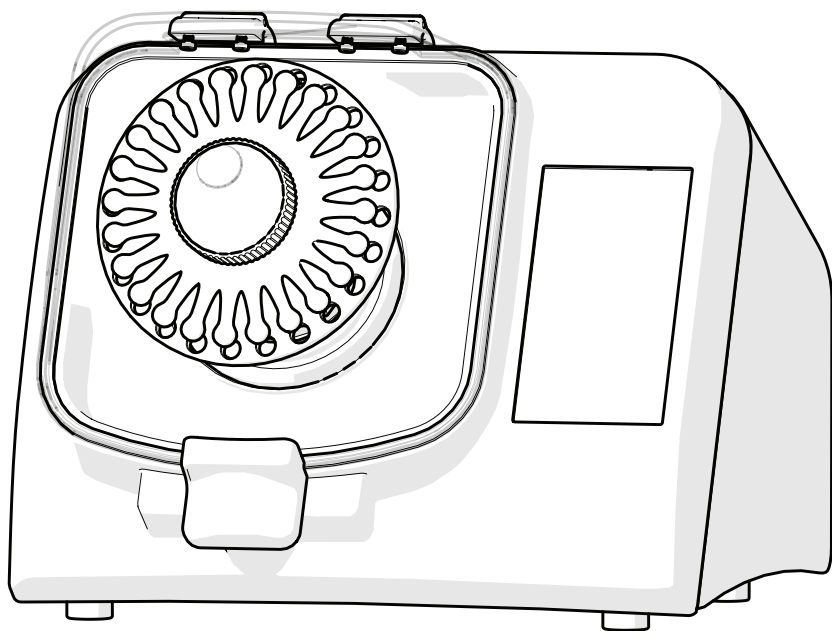


Bead Ruptor 24™

Bead Mill Homogenizer

User Manual



Data herein has been verified and validated. It is believed adequate for the intended use of the instrument. If the instrument or procedures are used for purposes over and above the capabilities specified herein, confirmation of the validity and suitability should be obtained; otherwise OMNI International does not guarantee results and assumes no obligation or liability. This publication is not a license to operate under, or a recommendation to infringe upon, any process patents.

This product is warranted to be free from defects in material and workmanship for a period of ONE YEAR from the date of delivery. OMNI International will repair or replace and return free of charge any part which is returned to its factory within said period, transportation prepaid by user, and which is found upon inspection to have been defective in materials or workmanship. This warranty does not include normal wear from use; it does not apply to any instrument or parts which have been altered by anyone other than an employee of OMNI International nor to any instrument which has been damaged through accident, negligence, failure to follow operating instructions, the use of electric currents or circuits other than those specified on the plate affixed to the instrument, misuse, or abuse. OMNI International reserves the right to change, alter, modify, or improve any of its instruments without any obligation whatever to make corresponding changes to any instrument previously sold or shipped.

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This product has been engineered for safety; however, basic safety precautions and common sense must always be demonstrated when using any electrical product.

- DO NOT attempt to modify any part of this product.
- DO NOT allow the machine to be submerged in any liquid.
- DO NOT use in any setting other than an indoor laboratory.
- DO NOT plug power cord into an incorrect outlet or subject it to an incorrect voltage.
- Use this product only for its intended purpose.
- DO NOT use attachments not recommended by the manufacturer.
- DO NOT operate the product if it is damaged in any way.
- Keep this product away from heated surfaces.
- DO NOT modify the plug or cord that is provided. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.
- DO NOT operate the product with the safety ground disconnected.

WARNING: Damaged or worn power cords should be repaired or replaced immediately by a qualified electrician.

WARNING: Improper connection of the equipment can result in a risk of electric shock.

WARNING: Do not run the Bead Ruptor 24™ Bead Mill without a tube carriage installed.

For research use only. Not for use in diagnostic procedures.



WEEE Compliance Statement Valid for customers in EU countries

We are committed to being a good corporate citizen. As part of that commitment, we strive to maintain an environmentally conscious manufacturing operation. The European Union (EU) has enacted a directive on product recycling (Waste Electrical and Electronic Equipment, WEEE). Products falling under the scope of the WEEE Directive are identified with a crossed over "wheele bin" symbol on the product label, as indicated. To forward a product for recycling or proper disposal, return them to OMNI International. Before forwarding a product for recycling or disposal, it should be emptied of all liquid and cleaned from harmful residues. When returning a product to OMNI International, this should be done in accordance with the material return procedures supplied separately by OMNI International.

Do not dispose of as unsorted municipal waste.

See the OMNI International website (www.omni-inc.com) for more information.

Site Requirements

The unit must be placed on a solid work surface. The work surface also requires a 15 amp circuit and only two units can be placed on this circuit at one time.

Weight and Dimensions

The total mass of the shipping crate including the system is 145 lbs. (65.8 kg). Use suitable lifting equipment when moving the shipping crate. The system is supplied in a wooden crate.

Crate dimensions: L:25" (63.5 cm), W:22" (55.8 cm), H: 21.5" (54.6 cm).

The work surface or bench must be able to support the weight of the system, i.e. 65 lbs. (29 kg).

The dimensions of the system are: with lid closed: L:15" (38.1 cm), W:17" (43.2 cm), H: 13" (33.0 cm)

with lid open: L:15" (38.1 cm), W:17" (43.2 cm), H: 24.3" (61.6 cm).

Operating Environment

4°C to 40°C / 39°F to 104°F, Humidity: 5% to 95% RH

Ambient Air

The system must be located in an area where the ambient air is clean. No emission of solid particles or smoke in the air by adjacent equipment is allowed. The level of dust should be comparable to that of normal laboratory spaces.

Electrical Supply

19-070 120V, 50-60Hz, 10A max.

19-070 230V, 50-60Hz, 10A max.

Connect only to a properly grounded outlet.

External Fire Protection

External fire protection should be installed according to local regulations for equipment operating unattended.



WARNING: The Bead Mill unit weighs 65 lbs. (29 kg)!

Improper handling of the unit can result in injury!

Always perform a Team Lift, when raising, lowering, or transporting the unit. Team members working together to move the unit should follow the Lifting and Lowering guidelines provided below:

When Lifting from the Ground-Level:

- Position your body as close to the unit as possible.
- Bend your knees and squat down while keeping your torso upright.
- Using both hands, grab and support the unit from underneath and use your legs to slowly lift the unit up, while keeping your back straight.

When Lowering to the Ground-Level:

- Position your body as close to the unit as possible.
- Using both hands, grab and support the unit from underneath.
- While keeping your back straight, carefully lift the unit up and clear it away from the resting surface.
- Bend your knees and squat down with the unit while keeping your torso upright.
- Slowly position the unit onto the ground, while being careful not to pinch your fingers underneath.

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Trademarks

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Proper Equipment Operation

To reduce the risk of electric shock, do not remove the cover. No user serviceable parts are inside. Refer to qualified service personnel if help is required.

Use this product only in the manner described in this manual. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

FCC

This device complies with part 15 of the FCC (United States Federal Communications Commission) Rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

CE












This device complies with all CE rules and requirements.

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

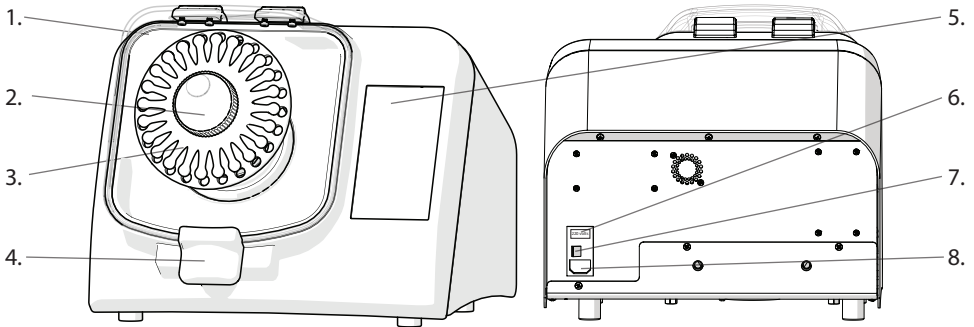
Specifications

Input Voltage	19-070 120V, 50-60Hz / 19-070 230V, 50-60Hz +/-10%
Input Current	10A max
Power Connector	IEC 60320 C13
Fuse	6x30 mm / 10A max
Fan	40x10 mm 5Vdc / 140mA
Overvoltage Category	II
Pollution Degree	2
Altitude	Up to 2000 m
For Indoor Use Only	

Table of Symbols

Symbol	Description	Symbol	Description
	Caution. Refer to the User documentation. (ISO 7000-0434B)		On (power). (IEC 60417-5007)
	Hazardous voltage; risk of electric shock. (IEC 60417-6042)		Off (power). (IEC 60417-5008)
	Fuse. (IEC 60417-5016)		CE compliance mark.
	Alternating current. (IEC 60417-5032)		Consult Instructions for Use. (ISO 7000-1641)
	KC Certification Mark		WEEE symbol (EN50419:2005).
	UK Conformity Assessed mark		

Overview

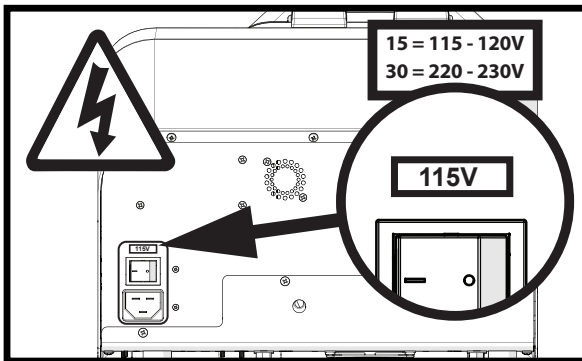


- | | |
|------------------|--------------------|
| 1. Lid | 5. Touch Screen |
| 2. Drive Hub | 6. 120V/230V Fuse |
| 3. Tube Carriage | 7. ON/Off Switch |
| 4. Lid Latch | 8. Power Cord Port |

The Bead Ruptor 24™ Bead Mill consists of the following:

Description	Quantity
Bead Ruptor 24™ Bead Mill Assembly	1
2 mL Finger Plate	1
Power Cord, US, EU, UK, AU	1 Each
Spare Fuse	1
User Manual	1

Voltage



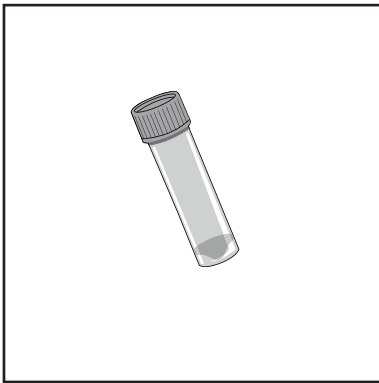
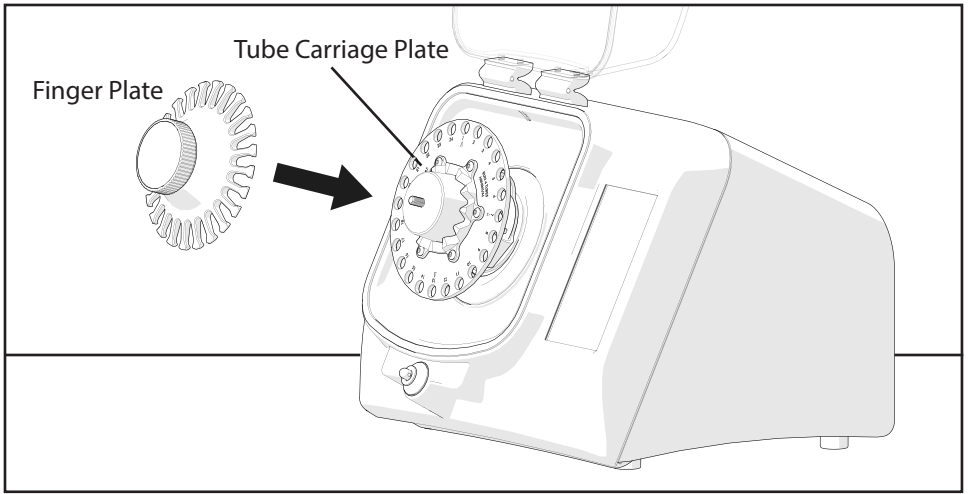
- Remove Warning stickers from the back of the unit and check that the voltage matches the voltage delivered by your electric power supply.

CAUTION: DO NOT connect the unit to the main power supply until correct voltage is selected.

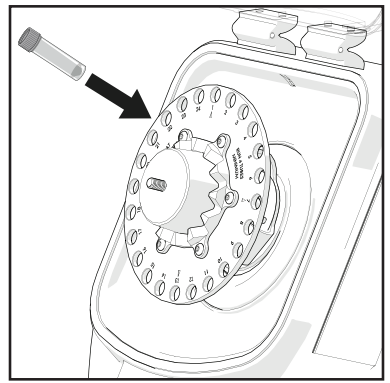
- Plug the unit into power supply using the supplied power cord.

CAUTION: If the voltage supplied to the unit is higher than what is indicated on the voltage switch, the electronics can be irreversibly damaged, voiding the warranty.

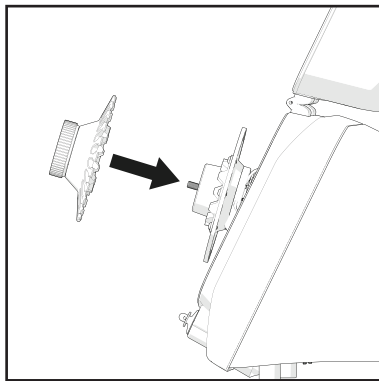
Loading Sample Tubes



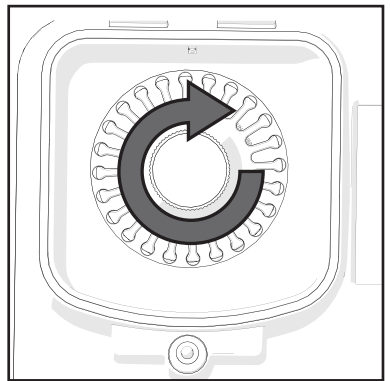
1. Fill tubes with material to be homogenized.



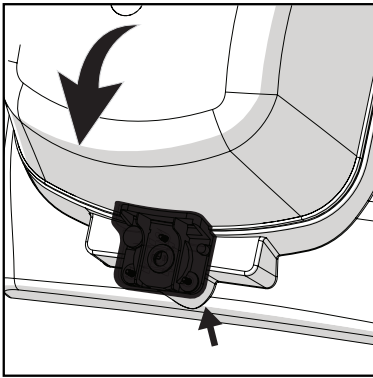
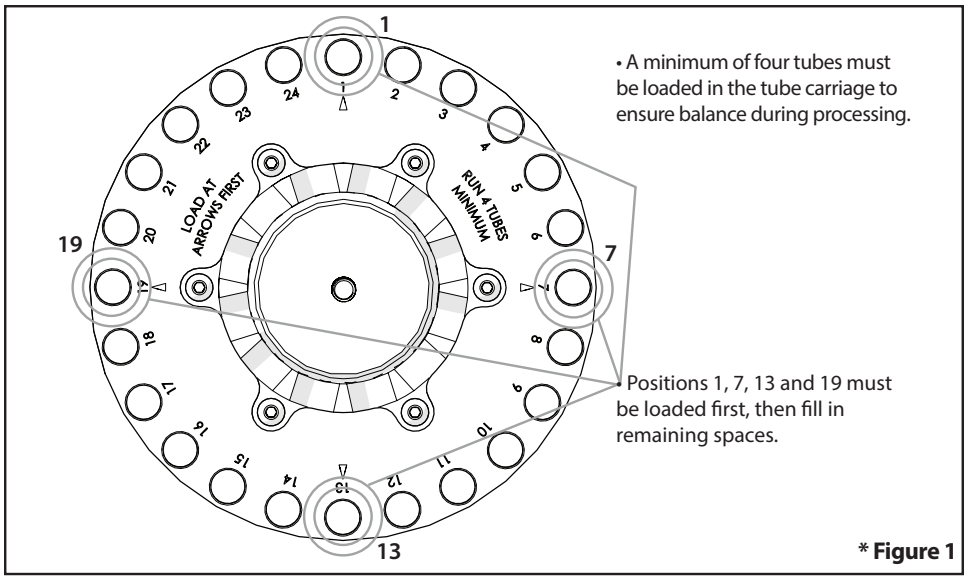
2. Load Tubes into the Tube Carriage Plate. * See Figure 1



3. Place the Finger Plate on to the Tube Carriage Plate.

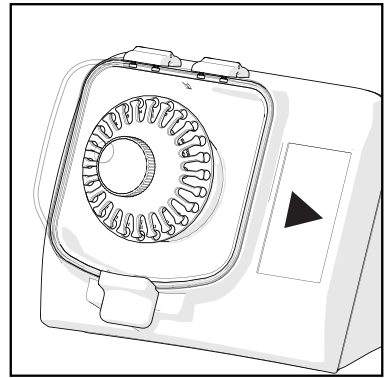


4. Turn handle clockwise until tight.



5. Close the lid until the locking handle clicks into place.

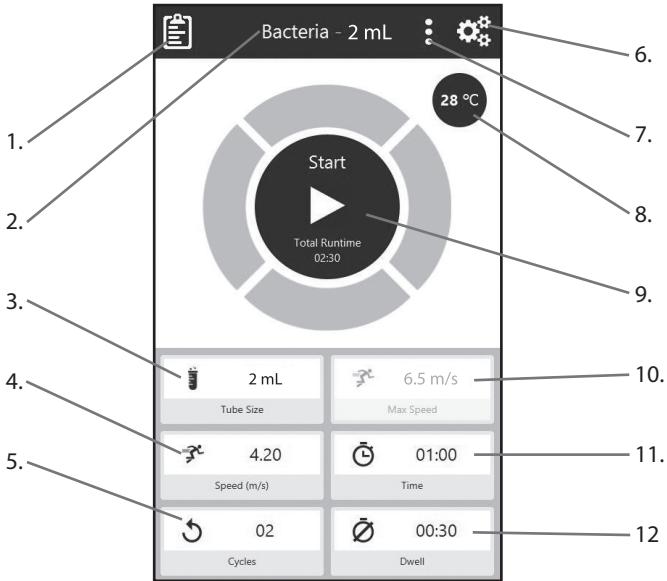
CAUTION: The unit will not run without the lid fully closed.



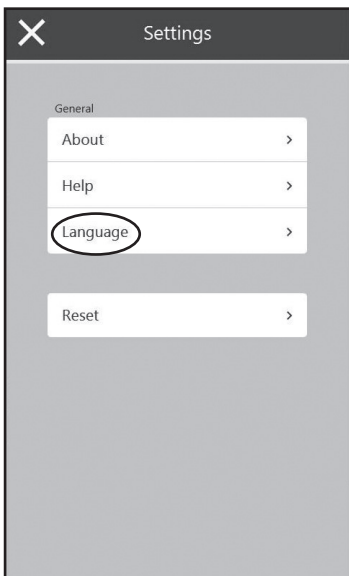
6. Begin processing cycle.

General Operation

Overview

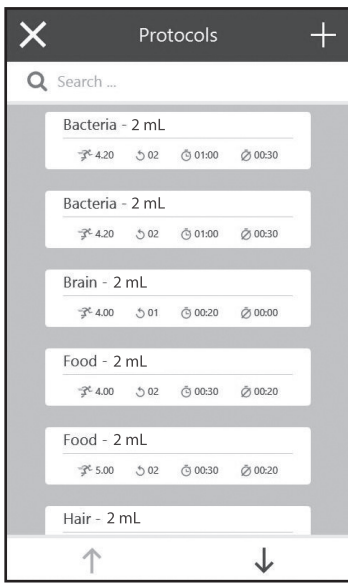


1. Protocols
2. Program Name
3. Tube Setting
4. Speed Setting
5. Cycles
6. Settings
7. Edit Menu
8. Processing Chamber Temperature
9. Run / Pause
10. Tube Speed Limit
11. Time Setting
12. Time interval or Dwell between cycles



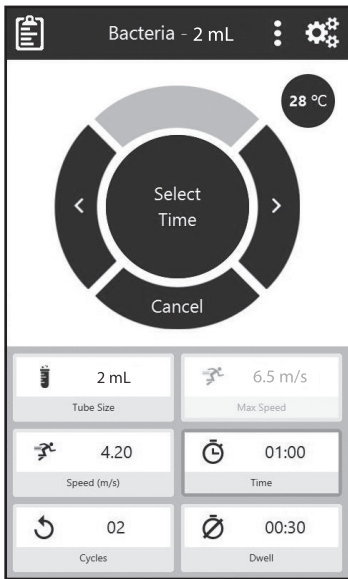
Language Setting

- Select Settings
- Select Language
 - Choose from English, French, German, Italian, or Spanish



Programming Mode

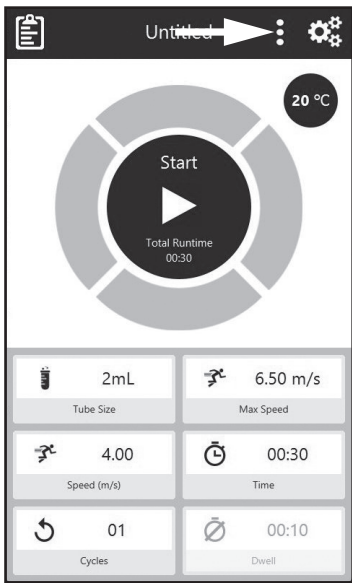
- Select Protocols
 - Use search to find existing protocols
- or
- Press + to create new program



Manual Programming

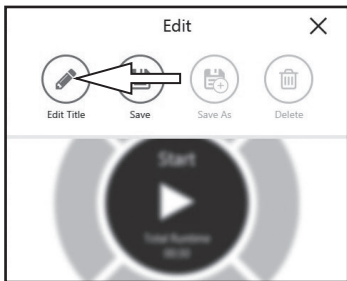
- Select Run Variable
- < > To adjust variable
- Ok to Save

	Parameter	Operating Range
S	Speed / Energy	From 0.8 m/s to 6.5 m/s
T	Time	From 0:01 to 9:59 in increments of 1 second
C	Number of Cycles	1 to 10
D	Dwell/ Pause between Runs	0:00 to 9:59

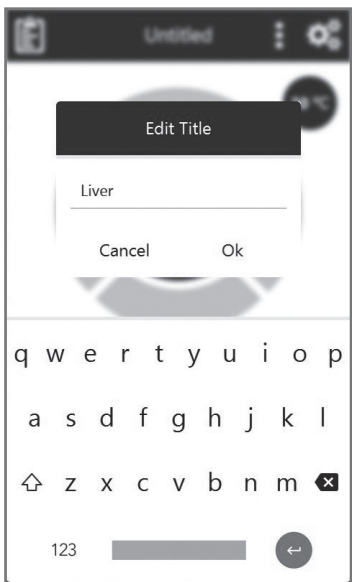


Save Program

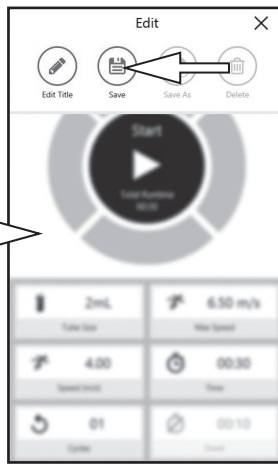
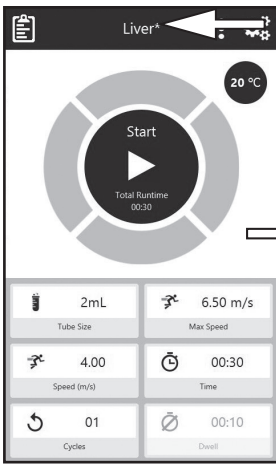
1. Select the Options Menu.



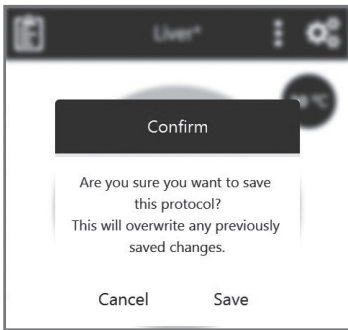
2. Select Edit Title



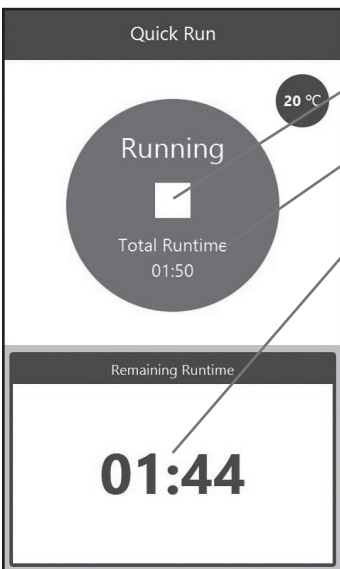
3. Add new protocol title and select Ok.



4. An asterisk next to the title indicates that the protocol has not been saved. Open the Options Menu and select Save.



5. In the Confirm Window, select Save.



Run Time

Stop run button

Total Run time

Run Time indicator

Troubleshooting

Error	Cause	Possible Solution
Unclosed Lid	The lid is not latched properly	1. Check that nothing prevents the lid from closing. 2. Press lid and ensure the handle is locked properly.
	Detection system is faulty	1. Turn off the unit. 2. Contact technical assistance.
Fan not working	No Power	1. Check main voltage 2. Check that the voltage of the unit matches that being delivered by the main power supply. 3. Make sure that the unit is plugged in properly. 4. Check and replace fuses if blown.
	Faulty Fan	1. Turn off the unit. 2. Contact technical support.
Display screen shows incomplete or unusual characters	CPU needs to be reset	1. Turn off the unit. 2. Wait 10 seconds. 3. Turn the unit back on.
No display on the screen	No Power	1. Check main voltage. 2. Check that the voltage of the unit matches that being delivered by the main power supply. 3. Make sure the unit is plugged in properly. 4. Check and replace fuses if blown.
	Faulty display screen	1. Turn off the unit. 2. Contact technical support.
One or several tubes are not sealed tightly	The cap is not properly sealed or the tube is faulty	If dangerous or potentially dangerous sample is contained in the tube, apply the proper decontamination procedure.
Unit powers on with a loud "BANG"	Motor control device damaged due to incorrect voltage selection	Return unit to OMNI International for replacement of motor control device.
Unit powers on but motor does not turn	Incorrect voltage selected	Power off the unit and select appropriate voltage. If problem persists, contact OMNI International for assistance.
Tube leakage	Speed is too high High temperature or pressure inside tubes	Reduce processing time or speed

DO NOT: attempt to service the Bead Ruptor 24™ Bead Mill in a manner other than those discussed in this manual. For any issue that is unsuccessfully corrected using this guide, please contact your authorized dealer or call :
OMNI International, a PerkinElmer company at 1-800-776-4431.



OMNI
International
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935 Cobb Place Blvd.
Kennesaw, GA 30144
800.776.4431 • 770.421.0058
www.omni-inc.com

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