

– – Mini-BeadBeater 96 – –

115 volt Model Number – 1001

230 volt Model Number – 1001EUR



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Table of Contents

Safety.....	3
Product Introduction.....	4
Specifications.....	5
Warranty	5
Getting Started.....	6
Unpacking	6
Set Up	7
Operation	8
Controls.....	8
Loading Vials.....	10
Processing	12
Maintenance	13
Cleaning.....	13
Accessories and Parts	14



Safety



CAUTION or **WARNING** indicator describes safety infractions that are capable of causing injury or damage to the equipment.



CAUTION: *The Mini-BeadBeater 96 is a laboratory beadmill designed for homogenizing microbial cells and plant and animal tissues. Do not modify or use this product in a manner other than it was intended. To do so may cause personal injury or damage to the unit and will void the manufacturer's warranty.*



Product Introduction

The Mini-BeadBeater 96 disrupts microbial cells and plant and animal tissue by violently agitating up to forty-five 2 ml screw-cap microvials or a 96 place deep-well microplate containing small ceramic or steel beads and disruption buffer. Even resistant samples like spores or fibrous tissue are completely homogenized in 2- 3 minutes in 0.1 to 1 ml of extraction medium. The high-speed mill can also be used to dry-grind friable or hard frozen samples.



Mini-BeadBeater 96



Specifications

Controls:	Programmable digital timer, 1 second to 5 minute runtime. Digital speed control, variable from 1400-2400 rpm.
Power:	115 volt, 50/60 Hz, 20 amps or 230 volt, 50/60Hz, 10 amps
Stroke:	1.25 inches (3.175 cm)
Weight:	125 pounds (57 kg)
Dimensions:	16 x 24 x 18 inches (41 x 61 x 46 cm)
Operating Temperature:	10°C to 35°C

Note: *The Mini-BeadBeater 96 is for research use only. Not certified or intended for use in medical diagnosis or treatment.*

Warranty

BioSpec Products, Inc. warrants this product against defects in materials and workmanship for two years from the original date of purchase from BioSpec. During that warranty period the product will be repaired or replaced, at the option and expense of BioSpec Products. This warranty does not apply in the cases of abuse, mishandling, or unauthorized repair. Always operate the product in the manner that it was intended.

See www.biospec.com/terms/ for additional Terms and Policies.



Getting Started

Unpacking



CAUTION: *The Mini-BeadBeater 96 is a heavy instrument. Two people are required for unpacking.*

Using a flat-blade screwdriver, unfold the metal tabs that secure the top and sides of the crate together. Once unfolded, the top and sides of the crate can be removed from the bottom portion.

The Mini-BeadBeater 96 is bolted to a wooden shipping brace for transportation. This brace is screwed to the bottom of the crate. Using a Philips screwdriver remove the screws that secure the wooden shipping brace to the bottom of the crate. Transfer the Mini-BeadBeater 96, still attached to the wooden shipping brace, to a table or bench. Tip the Mini-BeadBeater 96 backwards so that it rests on the side with the power inlet and the wooden brace faces you. Remove the four, ½ inch hex head bolts on the bottom of the wooden shipping brace to release the brace. Finally, with your helper, move your Mini-BeadBeater 96 to your lab bench.



CAUTION: *Do not remove the four bolts in the center of the rubber feet of the Mini-BeadBeater 96. Do not turn the Mini-BeadBeater 96 upside down.*



Mini-BeadBeater 96 User's Manual

Set Up

Locate the Mini-BeadBeater 96 near an appropriate electrical outlet. With the rocker switch in the off position, connect the power cord to the appliance outlet on the back of the unit. Now plug the power cord into the electrical outlet. Avoid using extension cords.



WARNING: *The Mini-BeadBeater 96 is available in 115 and 230 volt versions. To prevent damage to your Mini-BeadBeater- 96, only plug your unit in to an outlet that provides a compatible voltage. The Mini-BeadBeater 96 is not designed for use inside a cold room.*



Operation

Controls

Our variable RPM controller allows greater operational flexibility of your Mini-BeadBeater 96.

This controller offers timing cycles from 0 to 5 minutes, and includes digital RPM control from 1400 to 2400 rpm. The controller also provides presets that allow for up to three time/speed combinations to be stored for easy retrieval.



Figure 1

When power is applied to the controller it reads the last time and RPM values used and displays the time. Pressing the **[Start/Stop]** button will run another timing cycle for the preset speed to the motor controller. During the timing cycle the LED above the display flashes and the display changes back and forth from the countdown time and the programmed RPM. Pressing **[Start/Stop]** during the



timing cycle stops the machine, shows the time, and blinks the LED display to show that it is paused. Pressing **[Start/Stop]** again continues the timing cycle. When paused, pressing and holding the **[Start/Stop]** button for 2 seconds will cause the controller to reset to the beginning of the cycle and it emits a double chirp.

Editing Time & Speed

The controller always operates from the current time and RPM value in memory. To edit the time and RPM values press both the **[▲]** and **[▼]** buttons and the display shows Edit. Release the buttons and the controller displays the current time with the last digit highlighted

- Pressing the **[▲]** or the **[▼]** button will increase or decrease that digit's value.
- Pressing the **◀[A]** button moves the highlight to the next digit to the left, if you are on the leftmost digit it will wrap around to the rightmost digit.
- Pressing the **[C]▶** button moves the highlight to the next digit to the right, if you are on the rightmost digit it will wrap around to the leftmost digit.
- Once the time value is set properly press the **[Start/Stop]SET** button to edit the RPM value.

The RPM value is displayed with only the 100's value highlighted; the left and right arrows are not used when adjusting the RPM value. Use the **[▲]** or the **[▼]** buttons to change the RPM value, increasing the RPM value past the range limits will wrap around to the lowest value and vice versa. Once the RPM value is set, pressing the **[Start/Stop]SET** button to save both RPM and time values.

With the time and RPM values set, simply press the **[Start/Stop]** to start the machine.



Using the Presets

The controller always operates from the current time and RPM value in memory. The **[A]**, **[B]**, and **[C]** preset buttons can be used to save and recall these values for usage in the future.

Recalling the saved time and RPM values is easy, simply touch one of the preset buttons and the controller reads the saved values for that button, displays the time for one second, then the RPM for one second, then returns to displaying the time. The controller is now ready to run a timing cycle by simply touching the **[Start/Stop]** button.

Saving a time and RPM value is also a simple process. Edit the current time and speed per the previous section, then press and hold the preset button for two seconds until the controller chirps twice. The current time and RPM values are now saved to that preset.

Loading Vials

1. Open the black plastic Safety Lid to access the vial rack holder.
2. Loosen the White Wingnuts and Black Knobs and slide the Front Plate forward to allow room to insert the vial rack or microplate.
3. Load sample vials into the vial rack. When using the microvial rack, insert a minimum of four microvials (vials may be empty if processing less than four samples) into the four corners of the rack. Distribute additional tubes symmetrically. *(Disregard this step if using a microplate.)*



CAUTION: Always load a minimum of 4 vials into each corner of the vial rack. Failure to do so may result in damage to the instrument.



Mini-BeadBeater 96 User's Manual

4. Place the rack of microvials or the microplate (if using 1 ml deep well microplates you can stack two at a time) into the rack holder, top side toward you.
5. Screw down the Black Knobs until the Front Plate is in contact with the microvial caps or the top of the microplate(s). Tighten the Black Knobs and White Wingnuts firmly, but do not over tighten. The vial rack or microplate should now be held firmly in position.
6. Finally, close the Safety Lid. The Mini-BeadBeater 96 will not operate unless the Safety Lid is in the closed position.

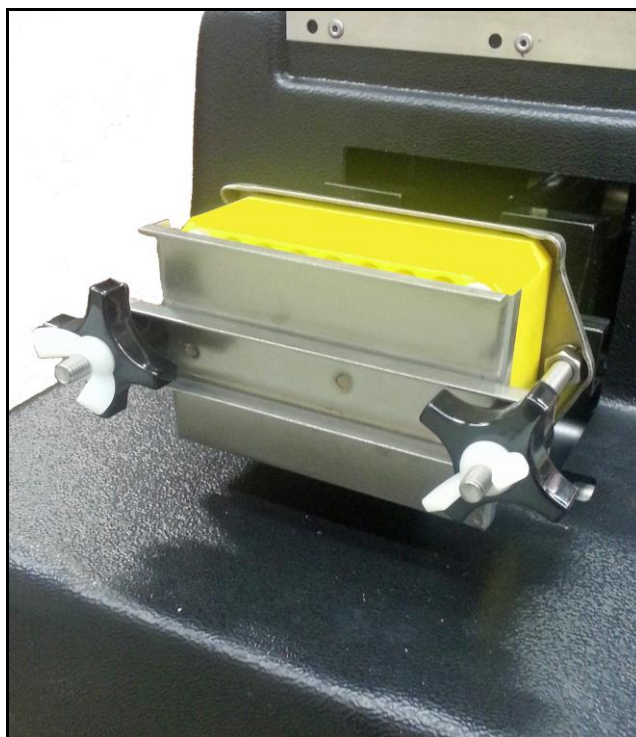


Figure 2



Processing

With your sample loaded into the Mini-BeadBeater 96, you are now ready to process your samples.

1. Turn on both power switches. One located on back of machine and one above the controller in the front.
2. Set your desired time - typically 2-3 minutes.
3. Select your appropriate RPM - almost always maximum, 2400 RPM.
4. Press the **[START/STOP]** button to begin operation.

The controller will count down to the end of the cycle. At the end of the run, the controller will beep and reset itself to the beginning of the cycle.

Note: *Guidelines on bead selection and the proper filling of the vials with beads, extraction media, and sample are available at our web site:*
www.biospec.com



Maintenance

The Mini-BeadBeater-96 requires no scheduled maintenance or lubrication. All bearings are lubricated and sealed at the factory. A periodic visual inspection of the rack holder for wear to the knobs, wingnuts, and/or screws is recommended. These items are simple to replace and are available from BioSpec.

These replacement parts are available under the Parts and Accessories section at www.biospec.com.

Cleaning

The Mini-BeadBeater 96 should be cleaned immediately if sample solutions or reagents are spilled on or in the unit. Use a cloth or paper towel moistened with water or a general cleaning solution.



CAUTION: *If infectious agents are used in the unit, spills should be cleaned immediately following appropriate decontamination procedures. Contaminated units should be kept in an appropriate biosafety facility and maintained by personnel trained in handling contaminated equipment.*



Accessories and Parts

Item Number	Description	Image
1001HR	Vial Holder Repair Kit	
1001K	Replacement Knobs, 2 pkg	
1001W	Replacement Wingnuts, 2 pkg	
702VH45	2.0 ml Vial Rack	
504VH12	7 ml Vial Rack	



Accessories and Parts

Item Number	Description	Image
702ALU	2 ml Aluminum Vial Rack	
518	50 ml Aluminum Vial Rack	

Consumable items like beads and vials are available from BioSpec Products,
www.biospec.com.