

I N S T R U C T I O N M A N U A L

**PowerLyzer™ 24 Bench Top Bead-Based  
Homogenizer**



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## **WARRANTY INFORMATION**

This instruction manual is a guide for the use of the PowerLyzer™ 24 Bench Top Bead-Based Homogenizer and accessories.

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 other than specified herein, confirmation of the validity and suitability should be obtained; otherwise MO BIO Laboratories, Inc. 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.

Notes, cautions, and warnings within the text of this manual are used to emphasize important and critical instructions.

This MO BIO Laboratories, Inc. product is warranted to be free from defects in material and workmanship for a period of ONE YEAR from the date of delivery. MO BIO Laboratories, Inc. 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 MO BIO Laboratories, Inc. 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. MO BIO Laboratories, Inc. reserves the right to change, alter, modify, or improve any of its instruments without any obligation to make corresponding changes to any instrument previously sold or shipped.

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## **IMPORTANT SAFEGUARDS**

READ ALL INSTRUCTIONS BEFORE USING. SAVE THIS INSTRUCTION MANUAL.

The PowerLyzer™ 24 Homogenizer has been engineered for maximum functionality as well as 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 the PowerLyzer™ 24 Homogenizer. If you experience problems with or have questions about your PowerLyzer™ 24 Homogenizer, contact Technical Support at MO BIO Laboratories, Inc. at 1-800-606-6246 or 760-929-9911.

## **DANGER**

- 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.

## **WARNING**

To reduce the risk of burns, electrocution, fire, or injury:

- Use this product only for its intended purpose as described in this manual. Do not use attachments not recommended by the manufacturer.
- Check that the proper power cord is plugged into the correct outlet, and that the voltage selection switch located on the back of the unit has been selected to the correct voltage for your country.
- DO NOT operate the product if it is damaged in any way.
- Keep this product away from heated surfaces.

### **Biological Risks**

Wear gloves when handling samples and strictly follow all of the safety instructions related to bio-hazardous agents to prevent any risk of contamination. The waste produced by the normal operation of the instrument must be disposed of in biological waste containers and handled by specialized companies.

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# SECTION I. POWERLYZER™ 24 BENCH TOP BEAD-BASED HOMOGENIZER

## I.1 IMPORTANT INFORMATION

This instruction manual includes all required information regarding unpacking, installation, operation, and maintenance of the PowerLyzer™ 24 BenchTop Bead-Based Homogenizer.

**RISK OF ELECTRIC SHOCK:** Although this equipment is fully insulated and grounded, it is important for all users to be aware of the potential hazard of using liquids close to a power supply. If any liquids are spilled, immediately disconnect the instrument from the main power supply (remove the power cord from the AC power input on the rear panel) and clean the equipment and the surrounding area. **DO NOT** reconnect the equipment until it has been fully inspected.

Operating this equipment in ways other than those detailed in this instruction manual may impair the unit.

- **DO NOT** turn the unit upside down: the PowerLyzer™ 24 Homogenizer must always rest on all four feet to avoid damaging internal components or breaking the housing.
- **DO NOT** operate the unit when the housing is removed; potentially lethal voltage exists within the instrument.
- **DO NOT** operate the unit with the safety ground disconnected.
- **DO NOT** overfill the tubes as this may lead to liquid contamination and compromise the safety of the unit.
- **CHECK** that the proper power cord is plugged into the correct outlet, and that the voltage selection switch located on the back of the unit has been selected to the correct voltage for your country.



USA: 115V Power Cord



European: 230V Power Cord

**WARNING:** Check that the voltage indicated on the rear panel of the unit matches the local power supply.

The PowerLyzer™ 24 Homogenizer has been designed to lyse and homogenize biological samples contained in bead beating tubes at variable speeds. It can simultaneously process up to 24 samples in 2 ml tubes at very high speed.

Advantages of the PowerLyzer™ 24 Homogenizer:

- Simultaneously homogenize 24 x 2 ml tubes
- Greater sample flexibility for any type of sample processing; broader speed range, number of cycles, time, dwell/pause
- Unique front-loading tube position for ease of use and optimal bead beating interaction
- Process hundreds of samples per day
- 99 custom programmable settings
- Disposable tubes ensure no threat of cross-contamination or sample degradation

## I.2 SPECIFICATIONS

<b>Depth:</b>	17 in./43.2cm
<b>Width:</b>	15.5 in./39.4cm
<b>Height:</b>	13 in./33cm (24 in./61cm tall with lid open)
<b>Weight:</b>	54 lbs./24kg
<b>Motor Speed:</b>	500-5,000 rpm
<b>Noise Level:</b>	<70db
<b>Electrical Requirements:</b>	115 volts, 60Hz or 230 volts, 50Hz
<b>Standards Approval/Compliance:</b>	CE certified

**CAUTION:** This is a Class A apparatus. The equipment may cause radio-electric interference in a residential environment. In this case, it is recommended that the user takes appropriate measures.

### I.3 PARTS

Prior to operation, please remove all parts from the shipping container and inspect for damaged or missing parts. If any parts are found to be damaged or missing, please contact MO BIO Laboratories, Inc. at 1-800-606-6246.

**The PowerLyzer™ 24 Homogenizer consists of the following:**

<u>Description</u>	<u>Quantity</u>	
Motor Drive Unit (115V or 230V)	1	
Finger Plate	1	Black plastic
Tube Holder	1	Blue anodized aluminum
Power Cord	2	115V and 230V
Spare Fuse	1	
Instruction Manual	1	

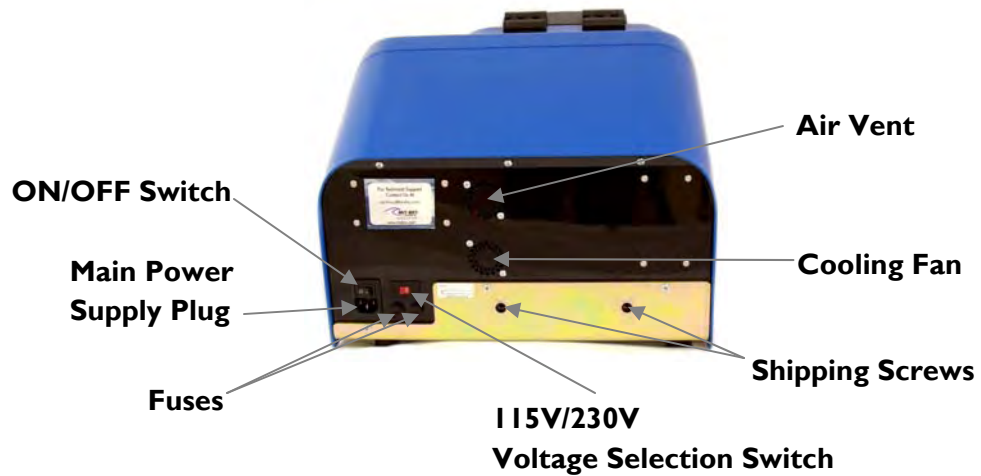
**Bead tubes for the PowerLyzer™ 24 Homogenizer are available separately from MO BIO.**



<u>Description</u>	<u>Cat. no.</u>
Metal Bead Tubes, 2.38 mm	13117-50
Ceramic Bead Tubes, 1.4 mm	13113-50
Ceramic Bead Tubes, 2.8 mm	13114-50
Glass Bead Tubes, 0.1 mm	13118-50
Glass Bead Tubes, 0.5 mm	13116-50
Carbide Bead Tubes, 0.25 mm	13121-50
Garnet Bead Tubes, 0.7 mm	13123-50
Garnet Bead Tubes, 0.15 mm	13122-50

**NOTE:** Use only accessories and disposables recommended by the manufacturer. Accuracy and operating lifetime may be affected if alternative products are used. Any damage caused by non-recommended products are not covered by the manufacturer's warranty.

## Parts of the PowerLyzer™ 24 Homogenizer



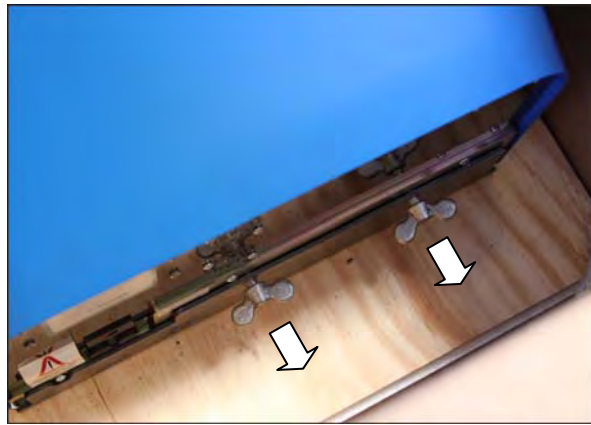


## SECTION 2. SET UP AND OPERATION

**WARNING:** DO NOT connect the unit to the main power supply until installation is complete and the correct voltage is selected. DO NOT turn the unit upside down. The PowerLyzer™ 24 Homogenizer must always rest on its four feet to avoid damaging internal components or breaking the housing.

### 2.1 UNPACKING THE POWERLYZER™ 24 HOMOGENIZER

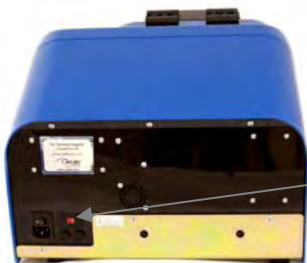
1. Unscrew the two external screws from the back of the unit to release the support plate.
2. Remove the PowerLyzer™ 24 Homogenizer from the box and place it on a clean, horizontal and stable surface. **WARNING HEAVY ITEM:** use caution when lifting to avoid back injury.



**CAUTION:** DO NOT lift the instrument by holding the door. It must be lifted by holding the bottom of the unit. Unpack the PowerLyzer™ 24 Homogenizer with care and inspect it carefully.

**NOTE:** SAVE the crate, pallet, protective foam, bubble wrap, support plate, and two screws included with the shipping crate in case a return is necessary. The PowerLyzer™ 24 Homogenizer must be shipped in an approved packaging crate to avoid damage which may invalidate the warranty. Packaging crates may be purchased for a minimal charge. For shipping inquiries, contact MO BIO at 1-800-606-6246.

3. Check that the voltage selection switch located at the back of the unit matches the voltage delivered by your electric power supply.



**WARNING:** If the voltage supplied to the equipment is higher than what is indicated on the voltage selection switch, the electronics can be irreversibly damaged and the warranty will be voided.

4. Ensure that the air vents and the cooling fan are not covered. Allow at least 6 inches of space around air vents for proper motor ventilation.
5. Plug the PowerLyzer™ 24 Homogenizer into the power supply using the proper compatible power cord supplied (115V or 230V).

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This instrument is equipped with an electric cord which is grounded to the chassis housing. The plug must be plugged in to an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**WARNING:** DO NOT modify the plug or cords that are provided. Damaged or worn power cords should be repaired or replaced immediately by a qualified electrician.

## 2.2 TUBE MOTION

Due to the equipment's design and symmetry, the 24 tubes strictly follow the same motion. This ensures a consistent level of lysis and homogenization for each sample. The mixture contained in the bead beating tubes moves throughout the tubes and moves primarily in the vertical axis to allow for efficient homogenization. Tubes must be evenly balanced on the tube holder.

The following MO BIO bead beating tubes are recommended for use with the PowerLyzer™ 24 Homogenizer:

<u>Cat. no.</u>	<u>Description</u>
13117-50	Metal Bead Tubes, 2.38 mm
13113-50	Ceramic Bead Tubes, 1.4 mm
13114-50	Ceramic Bead Tubes, 2.8 mm
13118-50	Glass Bead Tubes, 0.1 mm
13116-50	Glass Bead Tubes, 0.5 mm
13121-50	Carbide Bead Tubes, 0.25 mm
13123-50	Garnet Bead Tubes, 0.7 mm
13122-50	Garnet Bead Tubes, 0.15 mm

## 2.3 PROGRAMMING

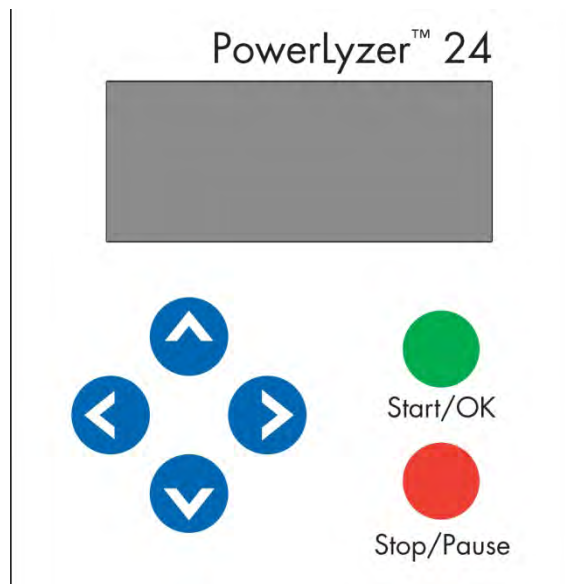
The PowerLyzer™ 24 Homogenizer can be programmed for speed, time, number of runs, and the length of the dwell or pause between programs. The PowerLyzer™ 24 Homogenizer memory can store up to 99 custom programs, allowing for maximum repeatability and flexibility.

Parameter	Operating range
Speed	From 500 to 5,000 rpm in increments of 100 rpm
Time	From 0:01 to 9:59 in increments of 1 second
Number of Cycles	01 to 10
Dwell/Pause between Cycles	Dwell minimum* up to 9:59
Storable Programs	1 to 99

\*Dwell minimum varies depending upon the speed and length of cycle.

## 2.4 KEYPAD LAYOUT

The keypad of the PowerLyzer™ 24 Homogenizer (see diagram below) consists of an LCD screen, 4 arrow buttons, and a “**Start/OK**” and “**Stop/Pause**” button.



The user can adjust four different homogenization settings with this interface. The  $\triangle$ UP and  $\nabla$ DOWN arrow buttons are used to navigate through the menu and the  $\triangleleft$ LEFT and  $\triangleright$ RIGHT arrow buttons are used to adjust parameters.

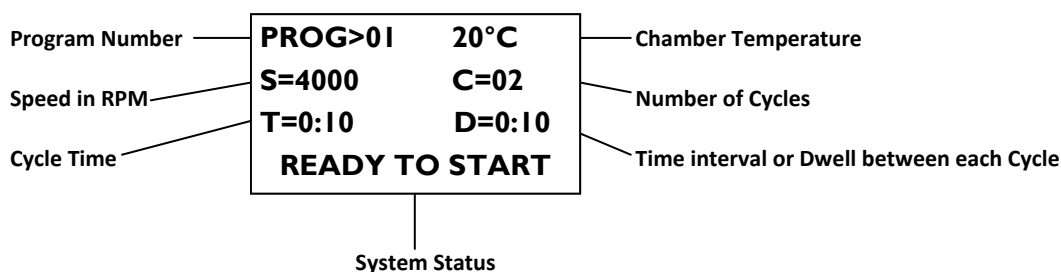
## 2.5 START UP OF THE EQUIPMENT

Turn the PowerLyzer™ 24 Homogenizer on by pressing the ON/OFF switch located on the rear panel near the AC power input. When the unit is turned on, a welcome screen is displayed for five seconds showing the following information:

**MO BIO  
LABORATORIES  
POWERLYZER 24  
rev XX/XX/XXX**

From this screen, the user can select the display language by pressing and holding ▷ to display the language. The user can then choose from English, Italian, French, German, or Spanish by pressing the △ and ▽ arrow keys.

After five seconds, a menu displays the programming mode. Programming mode displays the last program run before the power was turned off. Example:



- “S=” denotes speed of the motor ranging from 500 to 5,000 RPM, in increments of 100 RPM.
- “T=” denotes the time interval in minutes:seconds. The variable can range from 0:01 seconds to 9:59 minutes, in increments of 1 second.
- “C=” denotes the number of times the cycle (speed x time) is repeated. The variable can range from 01 to 10, in increments of 1.
- “D=” denotes the time interval in seconds of dwell/pause between each cycle. The variable can range from “Dmin” (Dwell minimum\* expressed as min:sec) to 9:59, in increments of 1 second.

\*Dwell minimum varies depending upon the speed and length of cycle.

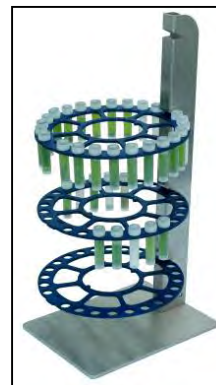
## 2.6 LOADING SAMPLE TUBES

**CAUTION:** Before operating the PowerLyzer™ 24 Homogenizer, ensure that the black motor gasket is aligned properly on the motor housing. This gasket can shift during shipment.

Follow the steps listed below to load samples into the PowerLyzer™ 24 Homogenizer.

1. Place bead tubes symmetrically into the tube holder.  
If homogenizing less than 24 samples, make sure the tubes are balanced in the tube holder.

The optional PowerLyzer™ Tube Holder Stand (Cat. no. 13157) simplifies tube loading and storage before and after processing and is sold separately.

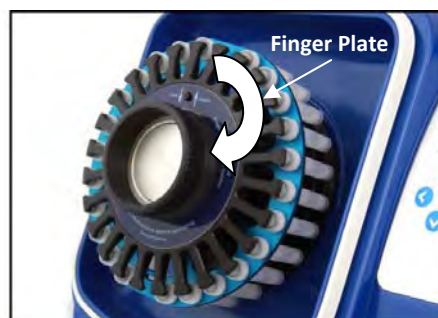


Tube Holder Stand  
(sold separately)

2. Place the tube holder onto the carousel.



3. Secure the finger plate in place over the carousel and screw about 1/8<sup>th</sup> of a turn past where the fingers contact the top of the tubes.  
**Do not over tighten!**

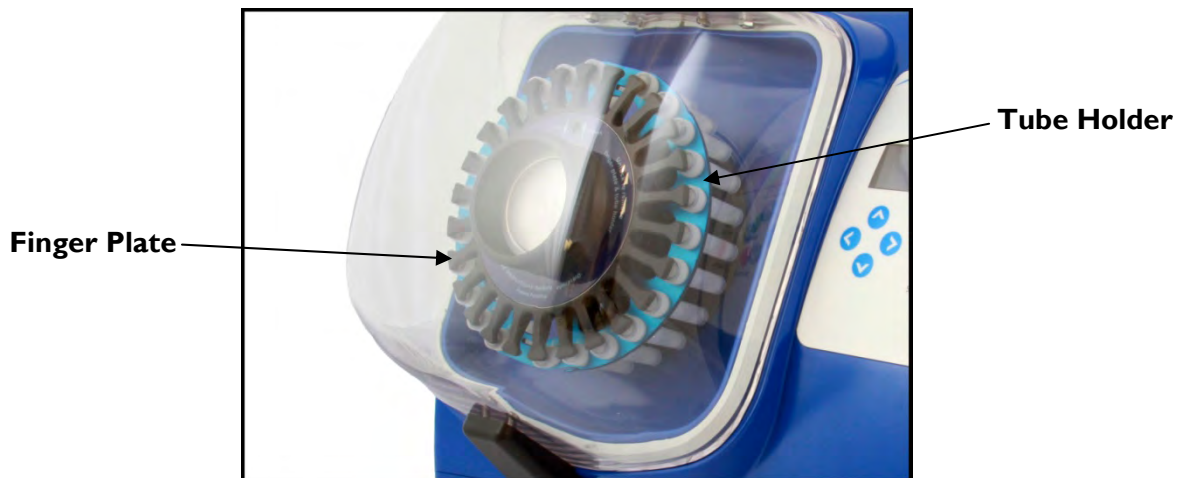
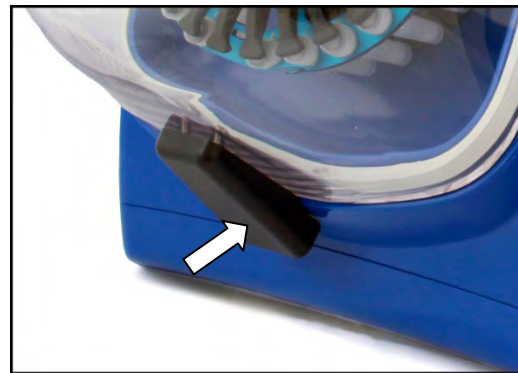


**WARNING:** The carousel can become very hot during operation. Use caution when handling the tube holder.

4. Move the hub lock switch on the finger plate to the 'Lock' position.

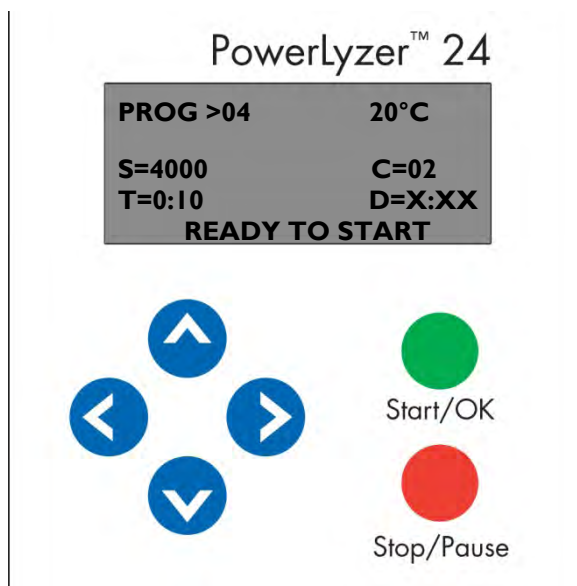


5. Close the door until the locking latch engages and locks.



## 2.7 PROGRAM SETTINGS

After powering on the PowerLyzer™ 24 Homogenizer, the LCD screen will display the program number blinking in inverse text to denote the ‘active’ variable. The  $\Delta$  and  $\nabla$  keys move the ‘active’ character (or cursor) between the different variables within the program while the  $\triangleleft$  and  $\triangleright$  buttons respectively decrease or increase the value of whichever variable is active. Each press of the button will change the variable’s value by one increment. When the  $\triangleleft$  or  $\triangleright$  buttons are held down, the variable will advance rapidly.



### Active Variable

Program: XX

S

T

C

D

### System Status Display

CLOSE DOOR or READY TO START

RUN SPEED rpm

RUN TIME

CYCLES

CYCLE DWELL

- If the run is stopped or paused, the system status will read **“RUN PAUSED.”**
- At the end of the program, **“REMOVE SAMPLES”** will be displayed followed by **“PROGRAM DONE.”**



**WARNING:** Wait until the unit stops and displays “**REMOVE SAMPLES—PROGRAM DONE**” before opening the door.

**PLEASE NOTE:**

- Homogenization settings cannot be changed once the run is in progress.
- For high throughput purposes, a rest or break period is not required.

The user can pause or stop a run at any time by pressing the “**Stop/Pause**” button once. The unit displays “**RUN PAUSED.**” At this point, the program can be continued by pressing “**Start/OK**” once more. To terminate the program, press the “**Stop/Pause**” button twice and the unit will default back to the original program screen display.

## 2.8 ADJUSTING PARAMETERS

Use the  $\triangle$  and  $\nabla$  arrow keys to move the ‘active’ character (or cursor) between the different variables within the program. The  $\triangleleft$  and  $\triangleright$  keys respectively decrease or increase the value of whichever variable is active.

### Adjusting the Speed

Use the  $\triangle$  and  $\nabla$  arrow keys to highlight the “S”- speed option.

<b>PROG 04</b>	<b>20°C</b>
<b>S=&gt;4000</b>	<b>C=02</b>
<b>T=0:10</b>	<b>D=0:10</b>
<b>RUN SPEED rpm</b>	

Change the speed value using the  $\triangleleft$  and  $\triangleright$  arrow keys. The speed adjustment ranges from 500 rpm to 5,000 RPM in increments of 100 RPM. When the desired value is reached, the user can go to the next desired variable, or return to program (“**PROG**”) to begin the run.

**CAUTION:** To prevent tube breakage at high speeds, specialized bead tubes are required with speeds higher than 4,200 RPM.

### Adjusting the Run Time

Use the  $\triangle$  and  $\nabla$  arrow keys to highlight the "T"- time option.

<b>PROG 04</b>	<b>20°C</b>
<b>S=4000</b>	<b>C=02</b>
<b>T=&gt;0:10</b>	<b>D=0:10</b>
<b>RUN TIME</b>	

The user can change the cycle time using the  $\triangleleft$  and  $\triangleright$  arrow keys. The run time ranges from 1 second to 9 minutes and 59 seconds in increments of 1 second. When the desired value is reached, the user can go to the next desired variable, or return to program ("**PROG**") to begin the run.

### Adjusting the Number of Cycles

Use the  $\triangle$  and  $\nabla$  arrow keys to highlight the "C"- cycles option.

<b>PROG 04</b>	<b>20°C</b>
<b>S=4000</b>	<b>C=&gt;02</b>
<b>T=0:10</b>	<b>D=0:10</b>
<b>CYCLES</b>	

The user can change the number of cycles using the  $\triangleleft$  and  $\triangleright$  arrow keys. The number of cycles ranges from 1 to 10. When the desired value is reached, the user can go to the last variable, or return to program ("**PROG**") to begin the run.

## Adjusting the Pause or “Dwell” Between Cycles

Use the  $\triangle$  and  $\nabla$  arrow keys to highlight the “D”- pause/dwell option.

```
PROG 04          20°C
S=4000          C=02
T=0:10         D=>0:10
CYCLE DWELL
```

The user can change the dwell time between 2 or more cycles using the  $\triangleleft$  and  $\triangleright$  arrow keys. The dwell time between cycles ranges from 1 second\* to 9 minutes and 59 seconds in increments of 1 second. Once all variables have been programmed, return cursor ( $\rightarrow$ ) to "**PROG**" and press "**Start/OK**". The screen will then display "**HUBLOCK ENGAGED?**".

```
PROG 04          20°C
S=4000          C=02
T=0:10         D=>0:10
HUBLOCK ENGAGED?
```

Ensure that the hub lock switch on the finger plate is securely positioned in the "Lock" position. Press "**Start/OK**" once more to begin the programmed run.

Samples can be removed from the PowerLyzer™ 24 Homogenizer immediately after the run has ended.

**WARNING:** The carousel can become very hot during operation. Use caution when handling the tube holder.

\*Dwell minimum varies depending upon the speed and length of cycle.

## 2.9 RECOMMENDED SETTINGS

		BEAD MATRIX	SETTING	APPLICATION
Sample Name and Type		Lysing matrix	Speed – number of cycle x time - pause	Note
MICROBIAL	Bacteria	Garnet 0.15mm	2,000 – 1 x 5 min – 0s	DNA isolation
		Glass 0.1mm	2,000 – 1 x 5 min – 0s	DNA isolation
ANIMAL	Muscle	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Brain	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Liver	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Kidney	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Lung	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Heart	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
	Spleen	Ceramic 2.8mm	3,500 – 2 x 45 sec. – 30 sec.	RNA isolation
PLANT	Leaves	Ceramic 2.8mm	4,200 – 2 x 45 sec. – 30 sec.	RNA isolation
	Leaves	Metal 2.38mm	2,000 – 1 x 3 min	DNA isolation
	Seeds	Metal 2.38mm	2,900 – 1 x 3 min	DNA isolation
	Stems	Ceramic 2.8mm	4,200 – 2 x 45 sec. – 30 sec.	RNA isolation
	Stems	Metal 2.38mm	2,200 – 1 x 3 min.	DNA Isolation
	Roots	Ceramic 2.8mm	4,200 – 2 x 45 sec. – 30 sec.	RNA isolation
	Root	Metal 2.38mm	2,500 – 1 x 3 min	DNA isolation
	Flowers	Ceramic 2.8mm	4,200 – 2 x 45 sec. – 30 sec.	RNA isolation
SOIL	Soil	Garnet 0.7mm	2,000 – 1 x 5 min	DNA isolation
		Glass 0.1mm	(clay) 4,000 – 1 x 45 sec. – 0s (loose, high humic) 2,500 – 1 x 45 sec. – 0s	DNA isolation

## 2.10 HOMOGENIZER SPEED CONVERSION TABLE

Use the chart below to convert FastPrep® or Precellys® homogenizing speed settings to the equivalent PowerLyzer™ 24 speed setting.

PowerLyzer™ 24 (rpm)	FastPrep® 24 (m/s)	Precellys® 24 (rpm)
500		
600		
700		
800		
900		
1000		
1100		
1200		
1300		
1400		
1500		
1600		
1700		
1800		
1900		
2000		
2100		
2200		
2300		
2400		
2500	4	5000
2600		5200
2700		5400
2800	4.5	5600
2900		5800
3000		6000
3100	5	6200
3200		6400
3300		6600
3400	5.5	6800
3500		
3600		
3700	6	
3800		
3900		
4000	6.5	
4100		
4200		
4300		
4400		
4500		
5000		

**NOTE:** Equivalent settings slower than 2,500 RPM or faster than 4,000 RPM on the PowerLyzer™ 24 Homogenizer cannot be obtained when using the FastPrep® or Precellys® homogenizers.

## SECTION 3. TROUBLESHOOTING

DO NOT attempt to service the PowerLyzer™ 24 Homogenizer in a manner other than that discussed in this manual. For any issue that is unsuccessfully corrected using this guide, please contact Technical Support at MO BIO Laboratories, Inc. at 1-800-606-6246 or 760-929-9911.

### 3.1 ERROR MESSAGES

Error Message	Possible Causes	Action(s)
CLOSE DOOR	The door is not closed and locked properly.	1. Check that nothing prevents the door from closing. 2. Press door down and ensure the handle is locked properly.
	Detection system in the door is faulty.	1. Turn off the unit. 2. Contact technical assistance.

### 3.2 TROUBLESHOOTING

Common Problem	Possible Cause	Action(s)
The fan does not work	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.
	Faulty fuse	Replace fuse.
	Faulty cooling system	1. Turn off the unit. 2. Contact Technical Support.
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.
	Faulty fuse	Check and replace fuse(s).
	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 a dangerous or potentially dangerous sample is contained in the tube, apply the proper decontamination procedure.

## SECTION 4. MAINTENANCE

### 4.1 REGULAR MAINTENANCE

This table lists the maintenance actions to be performed by the user on a regular basis to ensure the PowerLyzer™ 24 Homogenizer runs properly. Wearing parts include:

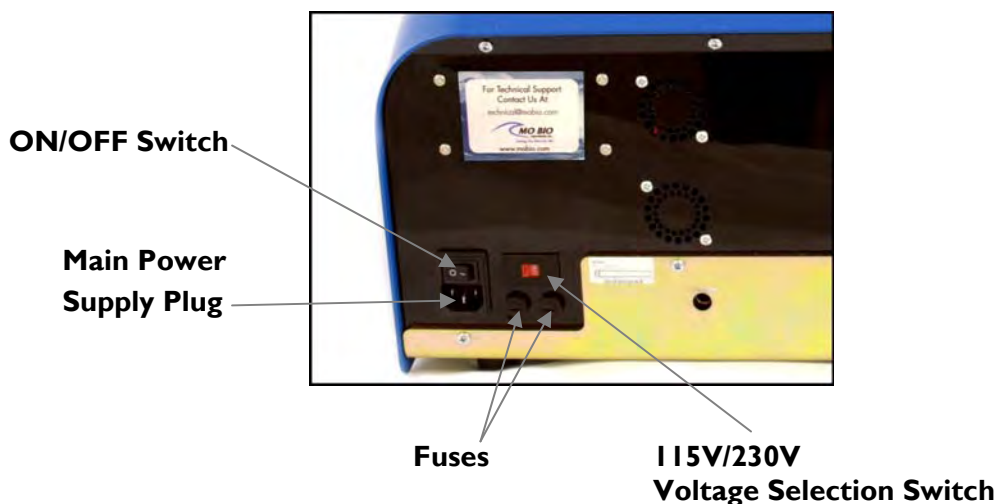
Wearing parts	Part Number	Frequency of replacement	Why?
Finger plate	13158	1 year or to destruction	Necessary to maintain tubes during homogenization
Fuse	PLFUSE	To destruction	Fuse(s) required to function

**WARNING:** Potentially dangerous voltage exists inside the instrument. In order to ensure the user's safety, the rubber containment seal should not be damaged, particularly during the cleaning and/or decontamination procedures.

#### Replacing the Fuse(s)

**WARNING:** Turn off the unit and unplug the power cord before replacing a fuse.

There are 2 fuses located directly below the voltage selection switch on the back of the unit. Replace fuse by inserting a flathead screwdriver into the slot on the fuse holder, depressing, and turning 1/4 counter clockwise. Pull out the fuse holder and inspect the fuse. If the core wire is burnt or broken, replace the fuse. Return each fuse holder to its original location.



## 4.2 CLEANING AND DECONTAMINATION

WARNING: Unplug unit before cleaning. The housing of the unit can be cleaned with a sponge or a damp cloth moistened with water or 70% ethanol. Be sure ethanol is completely dry before plugging back in to electrical outlet.

**WARNING:** Undiluted ethanol or isopropanol may damage the paint finish. For safety purposes and to prevent any damage to the unit, the recommendations listed below should be strictly followed:

- **DO NOT** spray water or alcohol directly on the unit, especially in the air vents and the fan.
- **ALWAYS** disconnect the power cord before cleaning.
- **DO NOT** use any type of scrapers.
- **DO NOT** use caustic solvents or acetone.

### Decontamination Procedure

If a tube breaks when a run is in progress, decontaminate parts that may have been contaminated with an appropriate disinfectant. The decontamination procedure is the sole responsibility of the user. Parts that may have been contaminated can be cleaned with a sponge or a damp cloth moistened with 10% bleach solution.

Contact technical support if additional or alternative decontamination procedures are required to ensure the compatibility of the new procedure with the instrument.



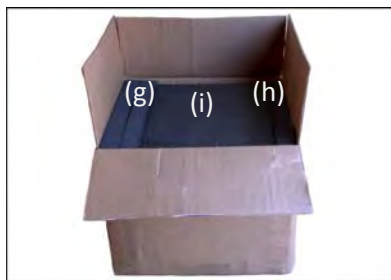
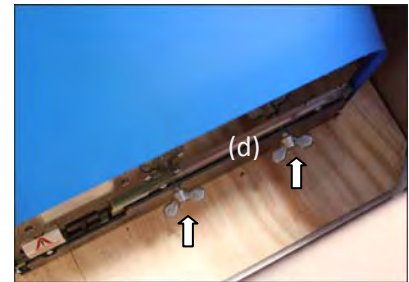
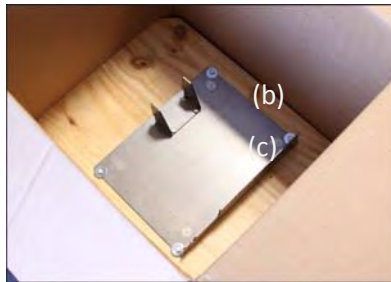
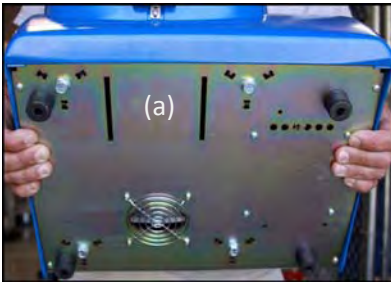
## SECTION 5. TRANSPORT AND STORAGE

### 5.1 TRANSPORTING THE POWERLYZER™ 24 HOMOGENIZER

**WARNING:** Avoid violent shock that may damage the equipment. The motor in the PowerLyzer™ 24 Homogenizer must remain firmly contained within the unit during shipments to prevent damage.

Before transporting the equipment:

1. Close the door of the PowerLyzer™ 24 Homogenizer.
2. Align the slots on the bottom of the unit (a) with the support hooks on the floor of the outer shipping crate (b).
3. Lower the unit onto the hooks and slide it backward until the back of the unit touches the supporting edge (c).
4. Secure the unit to the support plate with the included screws (d).
5. Place the inner crate over the PowerLyzer™ 24 Homogenizer (e). Wrap the power cord in bubble wrap and place on top of the unit (f). Close and seal the inner crate.
6. Place two foam pads at the rear (g) and one foam pad at the front (h) of the PowerLyzer™ 24 Homogenizer. Place a fourth foam pad on top of the inner crate (i). Close and seal the outer crate.
7. Place packaged crate on black plastic pallet (provided). Place black plastic corners along edges of crate (j). Secure crate with tape (k). Ship crate to the MO BIO Repair Center along with a completed copy of the Decontamination Certification Form included on the last page of this manual.



**NOTE:** The PowerLyzer™ 24 Homogenizer must be shipped in an approved packaging crate to avoid damage which may invalidate the warranty. Packaging crates may be purchased for a minimal charge. For additional repair and shipping inquiries, contact MO BIO at 1-800-606-6246.

## 5.2 STORAGE

The unit must be stored in a dry area at a temperature ranging from 0°C/32°F to +50°C/122°F. **DO NOT FREEZE.**

# SECTION 6. SUPPORT AND SERVICE

## 6.1 ASSISTANCE

For technical or sales assistance, please contact Technical Support at 1-800-606-6246 or 760-929-9911. For repairs, replacement parts, or shipping inquiries please contact the MO BIO Repair Center at 1-800-606-6246.

## 6.2 DECONTAMINATION

Should an instrument or component that has been used with radioactive or pathogenic material require factory or field service, comply with the following procedure to ensure the safety of service personnel:

Clean the parts to be serviced of all encrusted material and decontaminate them. Radioactivity must not be detectable by survey equipment.

Complete the Decontamination Certification Form on the last page of this manual and FAX to (760) 929-0109. Please include a copy of the Decontamination Certification Form when shipping the returned item.

If a Decontamination Certification Form is not attached, and a potential radioactive or biological hazard is detected or suspected by MO BIO Laboratories, Inc., the equipment will not be serviced until proper decontamination and certification is completed. The sender will be contacted for instructions as to the disposition of the equipment. Disposition costs will be charged to the sender.

**WARNING:** It is a violation of federal law to transport biologically hazardous or radioactive materials without proper packaging, labeling, and appropriate warnings.

PowerLyzer is a trademark of MO BIO Laboratories, Inc. FastPrep is a registered trademark of MP Biomedicals, LLC. Precellys is a registered trademark of Bertin Technologies.

### 6.3 DECONTAMINATION CERTIFICATION FORM



RA#: \_\_\_\_\_

Date: \_\_\_\_\_

Company Name: \_\_\_\_\_

Decontamination Performed By (please print): \_\_\_\_\_

Name of Unit: PowerLyzer™ 24 Bead-Based Homogenizer (MO BIO Catalog#: 13155)

Unit Serial / Lot#: \_\_\_\_\_

Check this box if the instrument / equipment listed above has not been removed from the original packaging **AND** has not come in contact with any substances or chemicals. If checked, skip to Other Comments section below.

Substances / chemicals used with unit:

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**Important Note:** Review Section 6.2 of the PowerLyzer™ 24 Homogenizer Instruction Manual for important notes regarding the decontamination procedure.

Decontamination Procedure used (required for equipment / instruments before return):

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Other Comments (attach additional comments if needed):

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**Complete this form and fax to (760) 929-0109. Please also include a copy with the returned item.**

Signature: \_\_\_\_\_

Date Sent: \_\_\_\_\_

Print Name: \_\_\_\_\_

I hereby state that the above information is true and the item I am returning has not been tampered with and/ or contaminated. If during MO BIO Laboratories decontamination testing it is found that the product has been tampered with and/ or contaminated, I understand that I will not receive a refund or a credit to my account. Version 07012010