

OMNI *PREP*

MULTI-SAMPLE HOMOGENIZER USER MANUAL



TABLE OF CONTENTS

Warranty Information.....	3
Section 1. Important Safeguards.....	4
Section 2. Omni Prep Homogenizer.....	5
2.1 Unpacking The Omni Prep.....	6
2.2 Available Accessories.....	7
2.3 Preparation for Use.....	9
Section 3. Loading the Processing Rack	
3.1 Loading Sample Tubes & Tube Holders.....	10
3.2 Set Up Processing Rack with Tubes.....	11
3.3 Loading the Ice Bath (optional).....	12
3.4 Installing the Processing Rack.....	12
Section 4. Modes of Operation	
4.1 Program Mode.....	13
4.2 Manual Mode.....	14
4.3 Processing Rack Operation.....	14
Section 5. Cleaning Procedures	
5.1 Cleaning the Omni Prep.....	15
5.2 Cleaning Omni Tips.....	15
Section 6. Servicing the Omni Prep	
6.1 Fuse Check and Replacement.....	16
6.2 Checking Drive Belt Tension.....	17
6.3 Other Services.....	17
Section 7. Troubleshooting.....	18
Section 8. Reorder Information.....	19
Section 9. Specifications.....	20

WARRANTY INFORMATION

This manual is a guide for the use of the Omni Prep Multi-Sample 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 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.

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

This Omni International 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. For the first 90 days, both parts and service are without charge. For the balance of the period, parts will be provided but service will be charged at established labor rates. 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.

THE FORGOING OBLIGATION IS IN LIEU OF ALL OBLIGATIONS AND LIABILITIES INCLUDING NEGLIGENCE AND ALL WARRANTIES OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE OUR ENTIRE AND EXCLUSIVE LIABILITY AND BUYERS EXCLUSIVE REMEDY FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE OR FURNISHING OF GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION, OR OPERATION. OMNI INTERNATIONAL WILL IN NO EVENT BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND THEIR LIABILITY UNDER NO CIRCUMSTANCES WILL EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

SECTION I. IMPORTANT SAFEGUARDS

READ ALL INSTRUCTIONS BEFORE USING
SAVE THIS USER MANUAL

The Omni Prep 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 Omni Prep. If you experience problems with or have questions about your Omni Prep, contact your authorized dealer or call Omni at 1-800-776-4431 or 770-421-0058.

WARNING

- 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.
- Keep this product away from heated surfaces.

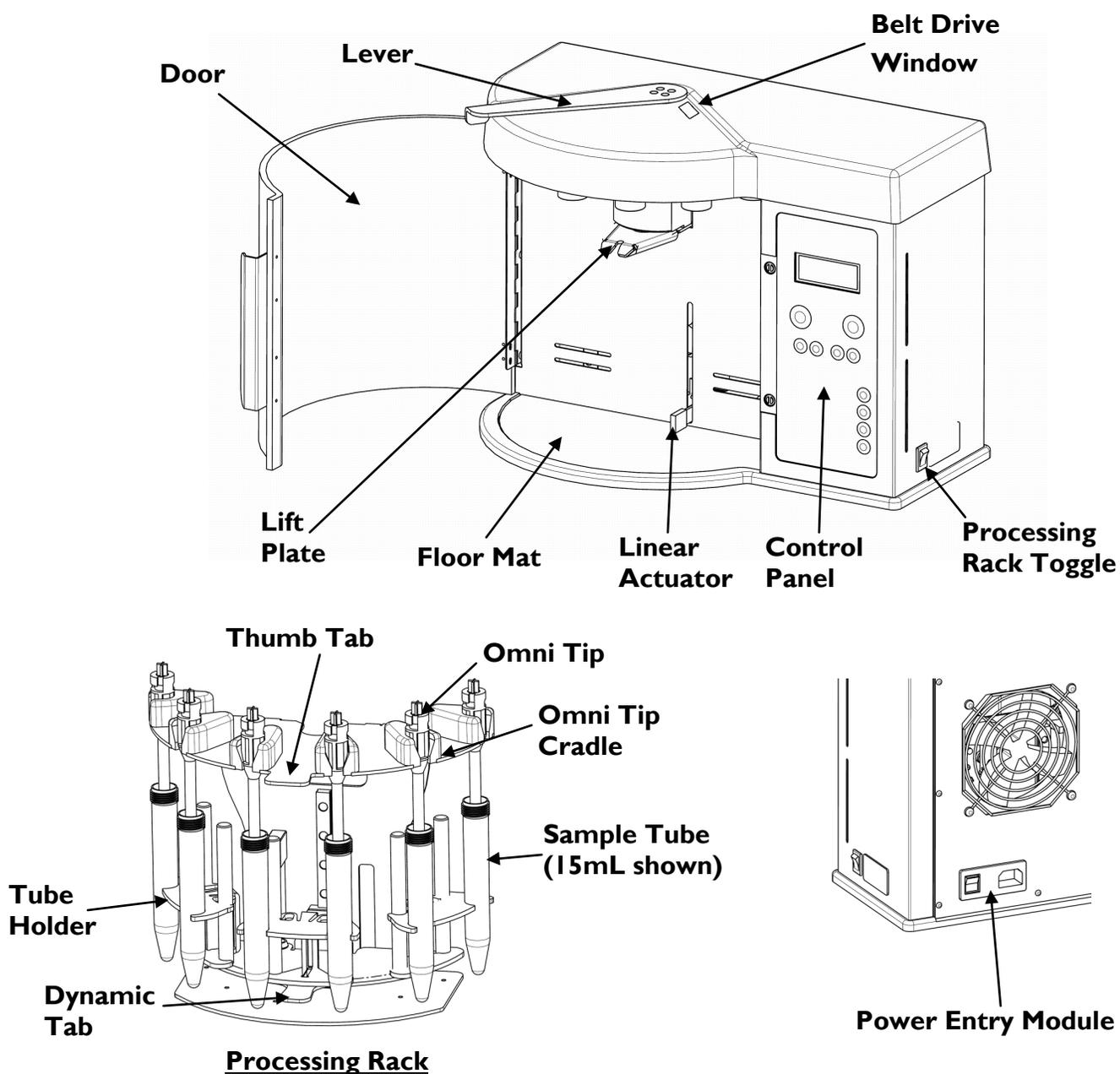
To reduce the risk of burns, electrocution, fire, or injury:

- Use this product only for its intended purpose as described in this booklet. Do not use attachments not recommended by the manufacturer.
- DO NOT operate the product if it is damaged in any way.

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.

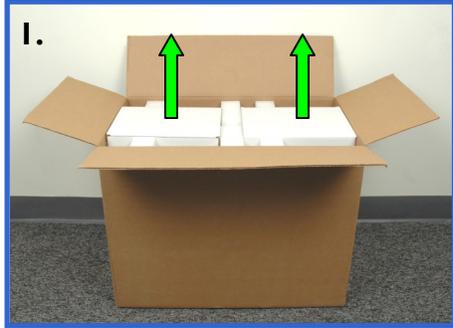
SECTION 2. OMNI PREP HOMOGENIZER

The Omni Prep Homogenizer is a variable speed, multi-sample homogenizer. The Omni Prep is powered by a 150 watt, 30,000 rpm belt-driven motor. It includes a built-in high efficiency speed control, a digital speed display, and a built-in timer. The Omni Prep operates exclusively with Omni Tip™ plastic generator probes or specially designed Stainless Steel Probes. The motor drive unit housing has been specifically designed to reduce motor noise to less than 75db at top speed. The Omni Prep allows you to process up to 6 samples at a time in 1.5mL-50mL sample tubes.

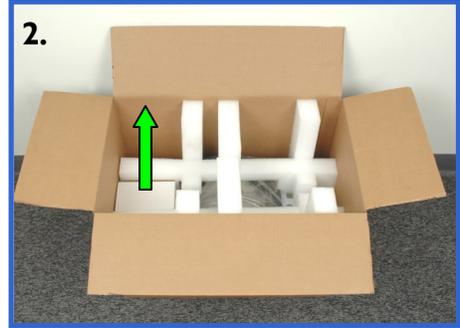


SECTION 2. OMNI PREP HOMOGENIZER

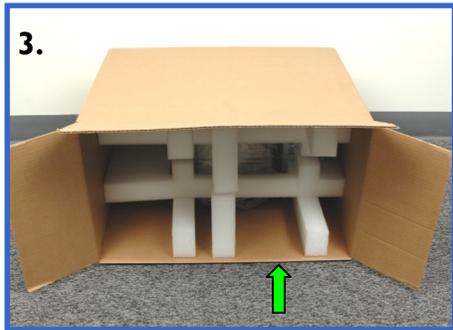
2.1 UNPACKING THE OMNI PREP



1) Open the box on the floor. Remove the two rack boxes. (Package may contain one rack box depending on your order).



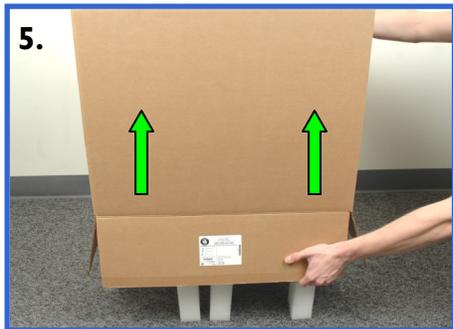
2) Remove the accessory box.



3) Lay the box down on one side. Make sure that the box flap is folded under (arrow).



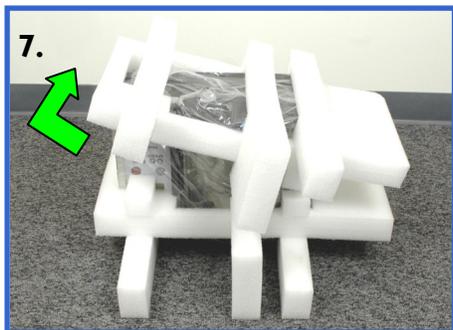
4) Turn the box upside down making sure that all of the flaps are folded out as shown.



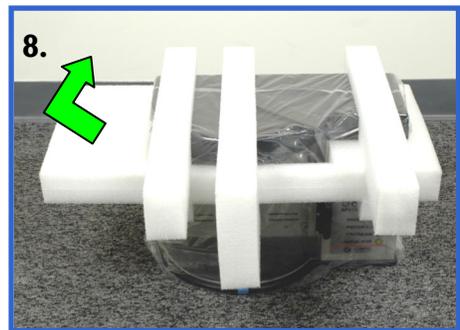
5) Lift the box off of the foam as shown.



6) Lay the Omni Prep upside-down on the floor .



7) Work the foam off of the unit by lifting from one side to the other as shown. The unit is held very tightly in the foam.



8) Turn the unit over and remove the rest of the foam.

PLEASE NOTE: SAVE ALL INCLUDED PACKAGING!

SECTION 2. OMNI PREP HOMOGENIZER

2.2 AVAILABLE ACCESSORIES

The Omni Prep is sold as a customizable homogenizing system. Listed below are all available accessories for the Omni Prep. At least 1 processing rack, 3 tube holders, and Omni Tips™ are required to operate the Omni Prep.



Omni Prep Processing Rack - Order # 06-220

Movable for highly efficient process. Required for operating the Omni Prep.

2mL



Omni Prep Rack Tube Holders

Tube holders are available for 1.5-2mL, 5mL, 15mL and 50mL sample tubes. Custom tube holder sizes are also available. Each holder holds 2 sample tubes. Tube holders are required to operate the Omni Prep.

5mL



15mL



Rack Tube Holder for 1.5mL to 2mL - Order # 06-209-02

Rack Tube Holder for 5mL - Order # 06-209-05

Rack Tube Holder for 15mL - Order # 06-209-15

Rack Tube Holder for 50mL - Order # 06-209-50

50mL



Omni Tip™ Plastic Homogenizer Probes

Omni Tips are designed to completely avoid cross-contamination between samples. They are engineered from a durable plastic and come in two different configurations for soft tissue and hard tissue. Omni tips are economical to allow for disposal after each use or they can be cleaned and autoclaved up to seven times.



25 Omni Deaggregation Tips - Order # 30750

50 Omni Deaggregation Tips - Order # 32750

100 Omni Deaggregation Tips - Order # 34750

500 Omni Deaggregation Tips - Order # 35750



25 Omni Hard Tissue Tips - Order # 30750H

50 Omni Hard Tissue Tips - Order # 32750H

100 Omni Hard Tissue Tips - Order # 34750H

500 Omni Hard Tissue Tips - Order # 35750H

(See page 8 for additional accessories.)

SECTION 2. OMNI PREP HOMOGENIZER

2.2 AVAILABLE ACCESSORIES (cont.)

Stainless Steel Homogenizer Probes

These Stainless Steel Probes were designed specifically for the Omni Prep. These probes are ideal for larger sample volumes, larger initial sample tissue sizes, and tougher tissue types. Stainless Steel Probes are also resistant to most organic solvents commonly used during homogenization.



**5mm x 75mm Stainless Steel Probe - Order # B5-075
(6 Pack) - Order # B5-075-6**

**7mm x 110mm Stainless Steel Probe - Order # B7-110ST
(6 Pack) - Order # B7-110ST-6**

**10mm x 110mm Stainless Steel Probe - Order # B10-110ST
(6 Pack) - Order # B10-110ST-6**

7mm Omni Tip Hybrid Probes

The **Omni Tip Hybrid Probes** combine the convenience of disposable plastic probes with the durability of traditional stainless steel probes. Hybrid probes are made up of an outer stainless steel tube with an inner Ultem plastic shaft. The plastic shafts can either be disposed of after use or cleaned and reused multiple times. The simple two-piece design makes these probes much easier to clean and disassemble than traditional stainless steel probes.



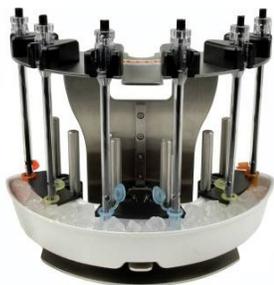
**7mm x 110mm Hybrid Probe - Order # 22-007
(6 Pack) - Order # 22-007-6**

Omni Prep Ice Tray

Keeps frozen and sensitive samples cold during processing.

Ice Tray for 1.5mL—2mL Tubes - Order # 06-207

Ice Tray for 15mL—50mL Tubes - Order # 06-210



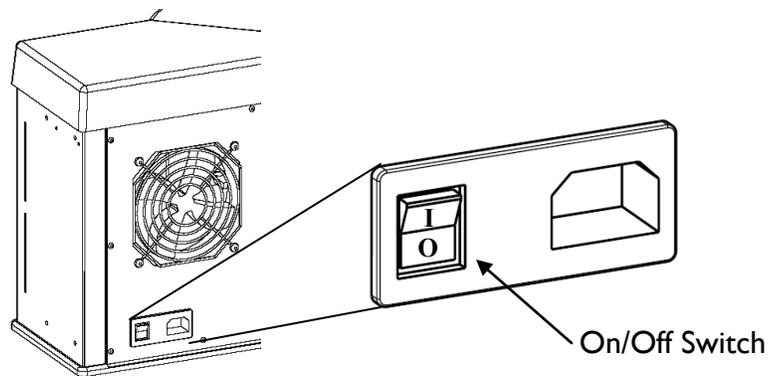
For more information or to order, please contact
Omni at 1-800-776-4431 or visit www.omni-inc.com.

SECTION 2. OMNI PREP HOMOGENIZER

2.3 PREPARATION FOR USE

Follow the instructions in Section 1.1 to remove the Omni Prep and all accessories from their packaging, and place the instrument on a hard flat surface. Connect the power cord to the power entry module on the rear panel, and plug it into an appropriate outlet.

Note: The Omni Prep is equipped with a universal power supply which works with an input voltage of 110V-230V AC at 50 or 60Hz.



WARNING: DO NOT attempt to plug a cord into an incompatible outlet.

WARNING: DO NOT attempt to remove the ground post on 115v cords. Service power must be earth grounded.

CAUTION: It is strongly recommended that a surge protector be used to help protect the Omni Prep.

SECTION 3. LOADING THE PROCESSING RACK



3.1 LOADING SAMPLE TUBES AND TUBE HOLDERS

The processing rack has been engineered to hold up to six open or sealed tubes of various sizes.

- 1) Determine the number of samples to be processed . Only an even numbers of samples may be processed at a time.



-If processing only two samples, place the tube holder between the two middle bars as shown. (50mL tube holder shown)

- If processing only four samples, mount the tube holders on the rack leaving the rods on the far ends empty. (50mL holders shown)



- If six samples are desired, mount all three tube holders in the rack as shown. (50mL tube holders shown)



- 2) Load empty sample tubes into tube holders. Do not add sample or fluid to tubes until after a complete “dry” setup has been made. (50mL tube holders shown)



- 3) Install Omni Tips or Stainless Steel Probes by first inserting the lower end into the sample tube, then lower the Tip/Probe until it rests securely in the Omni Tip cradle.

CAUTION: DO NOT allow Omni Tips to touch the bottoms of the tubes.

CAUTION: Only Omni Tips made by Omni International are compatible with the Omni Prep. Attempting to use other style processors will damage the Omni Prep and void all warranties.

SECTION 3. LOADING THE PROCESSING RACK

3.2 SET-UP PROCESSING RACK WITH TUBES

The processing rack has been engineered to allow the samples to be vertically oscillated relative to the probes during processing.



- 1) Load the tube holders, sample tubes, and Omni Tips/Stainless Steel Probes by following the steps in section 2.1 (50mL tubes shown).
- 2) Loosen top adjustment knob on rear of rack.
- 3) Raise platform up to desired Tip/Probe depth in the sample tubes. Lower top adjustment knob to platform and tighten.
- 4) Loosen lower adjustment knob on rear of rack.
- 5) Move platform down to desired Tip/Probe maximum height in sample tubes. Raise lower adjustment knob to meet platform and tighten.



CAUTION: DO NOT allow Omni Tips/Stainless Steel Probes to touch the bottoms of the tubes.

CAUTION: DO NOT allow the Omni Tips/Stainless Steel Probes to ever be completely extracted from the sample tubes during processing.

- 6) Remove the Omni Tips/Stainless Steel Probes and the sample tubes.
- 7) Load tubes containing sample and fluid and replace the Omni Tips/Stainless Steel Probes. The rack is now ready to be loaded into the Omni Prep.



Note: If stationary operation is desired, load the tube holders as described in section 2.1 and leave the processing rack toggle switch in the Off position during processing.

CAUTION: DO NOT use sealed tube caps when moveable rack processing is desired. Rack will not move with tube caps in place.



PLEASE NOTE: Portion of Omni Tip/Stainless Steel Probe shown below the red line must be submerged in liquid during processing.

SECTION 3. LOADING THE PROCESSING RACK



3.3 LOADING THE ICE BATH (OPTIONAL)

- 1) Install the empty ice bath to the rack underneath the tube holders.
- 2) Lower the tube holders so that the tubes are at the desired depth relative to the ice bath.
- 3) Place the cooling agent (chilled water, ice, dry ice, etc.) into the bath.



3.4 INSTALLING THE PROCESSING RACK

- 1) Ensure the lever is positioned all the way to the left; hold the rack in your right hand using the thumb-tab located on the center of the top plate.
- 2) Slide the rack onto the lift plate, and push completely back until it stops.
- 3) Close the door and sweep the lever to the right until the processing rack locks in its raised position.



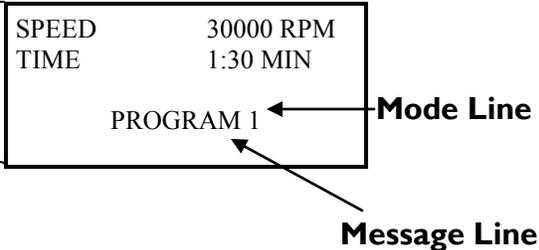
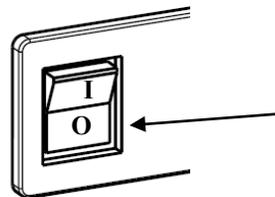
CAUTION: The lever should move with smooth and constant motion. If the lever does not slide smoothly as it is moved to the right:

- 1) Slide the lever back to the left.
- 2) Remove the rack.
- 3) Rotate the tops of the Omni Tip shafts.
- 4) Replace the rack in the Omni Prep.

Repeat this procedure until the locking lever can be moved smoothly all the way to the right (fully locked position).

SECTION 4. MODES OF OPERATION

The Omni Prep is now ready for use. Turn ON the power switch located on the rear of the unit.



The Omni Prep has two modes of operation. In Program mode, the active program defines the process **time** and **speed**. Processing time counts down and processing stops when time reaches zero. In Manual Mode, the timer counts UP from zero, and the Omni Prep continues to process until the “Stop” button is pressed (10 minute maximum).

4.1 PROGRAM MODE

The Omni Prep can store up to three separate programs. The active program number is displayed on the mode line of the LCD screen (example: PROGRAM 1). A program is modifiable when it is active and the Omni Prep is not running. Modified time and speed values are automatically stored in the active program. Press START to begin processing; the speed may be adjusted during a run, but the time may not. The time will count down from the stored value. Processing may be paused at any time by pressing the STOP button once or by lowering the rack; the message line will read “RUN PAUSED”. Pressing START will resume the run; the message line will read “RUN RESUMED” (rack must be locked). Pressing the STOP button twice will cancel the run and reset the time to the starting value.

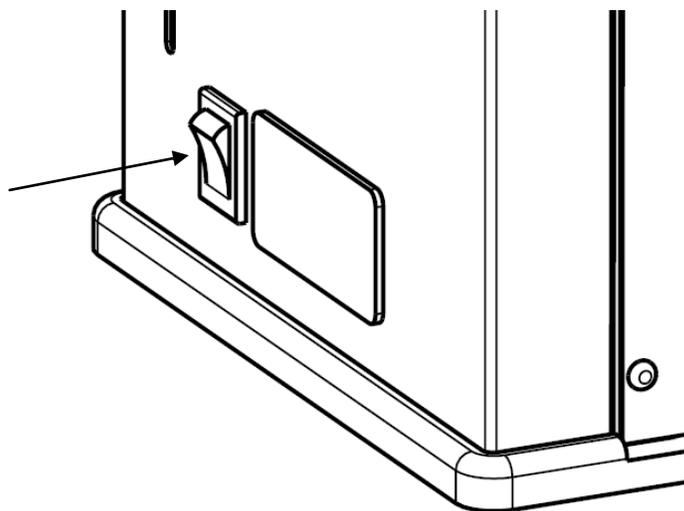
SECTION 4. MODES OF OPERATION

4.2 MANUAL MODE

The speed value is actively stored and may be changed at any time. Press START to begin processing. Processing may be paused at any time by pressing the STOP button once or by lowering the rack; the LCD display will read "RUN PAUSED". Pressing START will resume the run; the display will read "RUN RESUMED" (rack must be locked). Pressing the STOP button twice will cancel the run and reset the time to zero.

4.3 PROCESSING RACK OPERATION

The processing rack is controlled by the toggle switch on the side of the Omni Prep. The mechanism raises and lowers the rack as the samples are processed allowing more even/efficient processing. When in use, the rack oscillates through the user specified range of motion, see section 3.2. The maximum range of motion is about 2 inches. The rack oscillates at an approximate rate of 0.8 Hz. The system is disengaged until the rack is raised into the running position by sweeping and locking the lever to the right. Once the rack has been installed, see section 3, and the Program to be run has been specified, see sections 4.1 and 4.2, press the START button and turn on the movable rack toggle switch.



SECTION 5. CLEANING PROCEDURES

5.1 CLEANING THE OMNI PREP

Remove power. Remove the rack and the floor mat and wipe with a mild detergent and water solution. The Omni Prep motor unit and tube holders may be wiped down with a damp cloth of the same mild detergent. Do not use an excess amount of cleaning solution. Dry thoroughly.

CAUTION:

- DO NOT attempt to submerge any part of the Omni Prep in any solution.
- DO NOT spray cleaning solution on to the Omni Prep. Wipe the surfaces with a damp cloth.
- DO NOT sterilize plastic tube holders in an autoclave. They may be damaged if autoclaved.

5.2 CLEANING OMNI TIPS

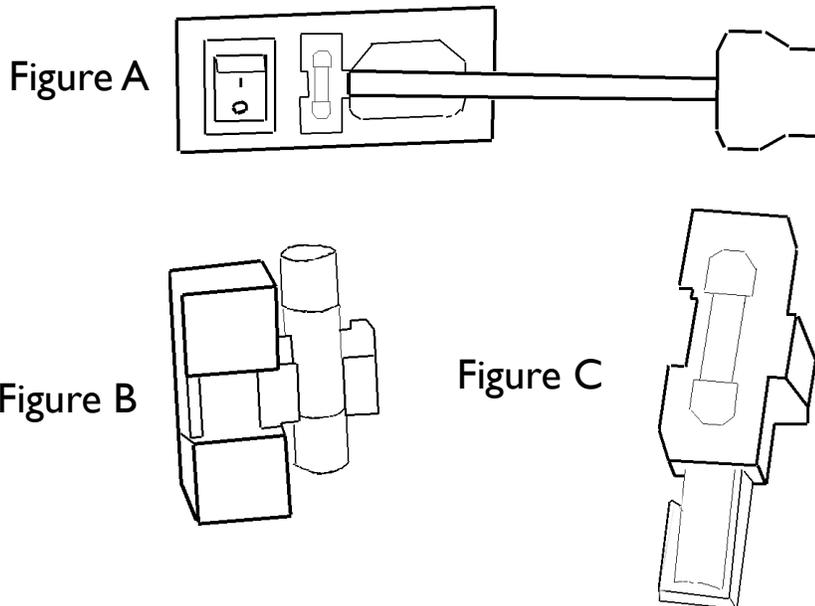
While Omni Tips can be autoclaved up to seven times for repeated use, they are not recommended for extended use with phenol or guanidine-based reagents. Disposal may be required when used in conjunction with these reagents. However, for many applications the probe can be cleaned and/or sterilized for reuse by the procedures described below:

	Recommended	Not Recommended
Sterilization Techniques:	<ul style="list-style-type: none"> • Autoclave up to 250°F • Ethylene Oxide • Formaldehyde • Gluteralhyde (2%) • Gamma irradiation up to 5MRAD 	<ul style="list-style-type: none"> • UV Irradiation
Biological Disinfection:	<ul style="list-style-type: none"> • Alcohol (70%) • Hypochlorite (5%) [chlorine bleach] • Formaldehyde (40%) 	<ul style="list-style-type: none"> • Phenolic Derivatives • Extended exposure to Guanidine • Dichloromethane
Radioactive Decontamination:	<ul style="list-style-type: none"> • Radiacwash • Count-Off • Water/Ethanol/SDS 	

SECTION 6. SERVICING THE OMNI PREP

6.1 FUSE CHECK AND REPLACEMENT

- 1) Remove power. Unplug the cord from the power entry module. The fuse holder is located in the center of the power entry module.
- 2) Use the tab on the right-hand side of the fuse holder and a screwdriver (figure A) to slide the holder straight back until it is completely removed.
- 3) Check the fuse by examining the filament in the center of the tube as shown (figure B). If the filament is broken, continue to step four. If the filament is in tact, return the assembly into the power entry module and call Omni Technical Service (1-800-776-4431)
- 4) Unclip the expired fuse and discard. Press on one end of the enclosed portion of the fuse holder to remove the spare fuse from the casing as shown (figure C). Replace the empty casing into the fuse holder.
- 5) Clip the new fuse into the exposed side of the holder and reinstall into the power entry module.
- 6) Contact OMNI INTERNATIONAL to obtain a new replacement fuse. Store the fuse in the casing on the enclosed side of the fuse holder.

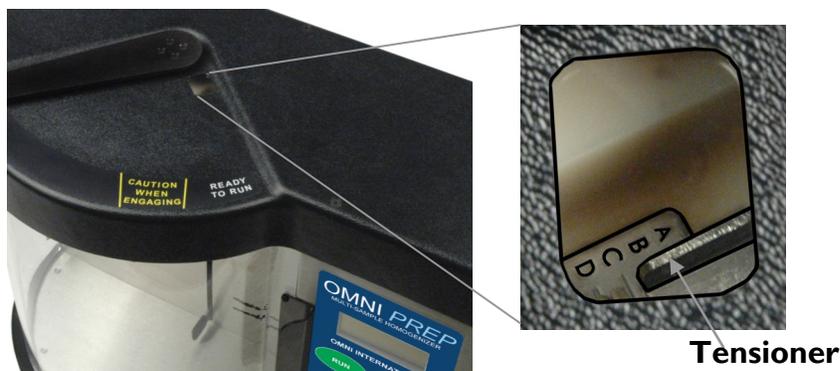


SECTION 6. SERVICING THE OMNI PREP

6.2 CHECKING DRIVE BELT TENSION

The Omni Prep operates by means of a belt driven motor system. Over time the tension of the belt may need to be adjusted or the belt itself may need to be replaced.

The Omni Prep is equipped with a Belt Drive Window located on top of the unit. This window allows for easy viewing of the Belt Drive Tensioner. The belt tension is correct when the tensioner is located between the letters “B” and “C” on the tension scale (See figure below).



If the belt tension is incorrect contact Omni International at 1-800-776-4431 for service options.

6.3 ALL OTHER SERVICING

For all other service information, please contact OMNI INTERNATIONAL at 1-800-776-4431.

CAUTION: ANY ATTEMPT TO REMOVE ANY SURFACE OR MODIFY THE OMNI PREP IN ANY WAY WILL VOID ANY WARRANTY.

WARNING: To reduce the risk of electric shock, personal injury, or death, DO NOT ATTEMPT TO REMOVE THE REAR PANEL OF THE OMNI PREP.

SECTION 7. TROUBLESHOOTING

Do not attempt to service the Omni Prep 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 technical assistance at Omni International at 1-800-776-4431 or 770-421-0058.

PROBLEM	CORRECTIVE ACTION
The Omni Prep is plugged in and turned on but is not functioning.	<ul style="list-style-type: none"> -Check power cord connectors -Check wall socket for power to the outlet -Check Fuse (see Section 6.1)
LCD screen is lit but motor will not run	<ul style="list-style-type: none"> -Verify that the LCD displays "READY" -Make sure the rack is locked (see Section 3)
LCD lit but not functioning properly	<ul style="list-style-type: none"> -Turn power off and back on to reset Call if problem persists.
Omni Prep begins a run but Omni Tips are not rotating	<ul style="list-style-type: none"> -Drive Belt may need servicing (Section 6.2) -Turn the Omni Prep OFF and call Omni technical service. 1-800-776-4431
Rack raises but will not lock	<ul style="list-style-type: none"> -Do Not Force Lever. -Verify that the rack is pushed completely onto lift plate. - Damaged drive connects on Omni Tip shafts; replace the Omni Tips.
Rack binds in transition to locked position	<ul style="list-style-type: none"> -Do Not Force Lever -Omni Tip drive connects may be damaged. Inspect and replace if necessary. -Verify that rack is securely pushed into place. (see Section 3)
Omni Tips stick in Omni Prep drives when unlocking the rack	<ul style="list-style-type: none"> -Omni Tip drive connect worn, replace Omni Tip.
Excessive noise/vibration from Omni Tips	<ul style="list-style-type: none"> -Fluid level may be too low in tube. -Drive Belt may need servicing (Section 6.2)
Excessive splashing in sample tube	<ul style="list-style-type: none"> -Fluid level too low for tube size -Contact Omni about sealed tube operation

SECTION 8. REORDER INFORMATION

This table provides part numbers for Omni Prep replacement parts.
Please call 1-800-776-4431 to order.

PART NUMBER	DESCRIPTION
00-191	Replacement Fuse
06-103	Floor mat for main housing
06-220	Omni Prep Processing Rack
06-209-02	1.5-2mL Tube Holder
06-209-05	5mL Tube Holder
06-209-15	15mL Tube Holder
06-209-50	50mL Tube Holder
06-600	Door Assembly
LT710	115v Power Cord (USA)
LT712	220v Power Cord (Europe)
Call	Omni Tips (Soft Tissue)
Call	Omni Tips (Hard Tissue)
06-207	Ice Tray for 1.5mL-2mL Tube Sizes
06-207-2	Ice Tray for 15mL-50mL Tube Sizes

SECTION 9. SPECIFICATIONS

9.1 SPECIFICATIONS

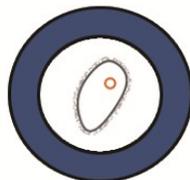
Variable Motor Speed:	500-30,000rpm
Speed Control Accuracy:	+/- 1%
Dimensions:	40cm x 20cm x 30cm (15.7 in. x 7.8 in. x 11.8in.)
Weight:	21 lbs. (9.53kg.)
Electrical Requirements:	115 volts, 60Hz or 220 volts, 50Hz
Standards Approval/Compliance:	
115V:	CE certified
220V:	CE certified



Animal



Human



Cellular



Plant



Food



Chemistry

Our Applications database can help you find the best solution - quickly.

Our constantly expanding database consists of carefully reviewed customer published applications, sorted into useful categories, complete with product recommendations to help you find the right laboratory homogenizer for any sample type.

If you can't find an answer in the database, call us and we'll help!

www.omni-inc.com/applications



Mechanical
Shear



Ultrasonic



Bead
Mills



Automation/
Robotic



935-C Cobb Place Blvd
Kennesaw, GA 30144

Toll Free: 1-800-776-4431
Phone: 770-421-0058

Email: omni@omni-inc.com

Patents Pending

P/N: 03-201

www.omni-inc.com