

OMNI TISSUE MASTER USER MANUAL



REV. B

WARRANTY INFORMATION

This manual is a guide for the use of the Omni International Tissue Master 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.

IMPORTANT SAFEGAURDS

- READ ALL INSTRUCTIONS BEFORE USING.
- SAVE THIS OWNER'S MANUAL.

The Tissue Master has been engineered for economical 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 Tissue Master. If you experience problems with or have questions about your Tissue Master, contact your authorized dealer or call Omni at 1-800-776-4431 or 770-421-0058.

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 booklet. 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.

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1.1 PARTS AND ACCESSORIES

Remove the Tissue Master and any accessories from their packaging. If any parts are missing or damaged, call your authorized dealer or call Omni at 1-800-776-4431 or 1-770-421-0058.

Your Tissue Master includes the following parts and accessories:

1. Assembled Tissue Master Unit with 5mm, 7mm or 10mm Probe
2. Two Spare Bearings (White)
3. Two Spare Flexible Collets (Black)
4. One Collet Wrench

SECTION 1. PREPARATION FOR USE

1.1 PARTS AND ACCESSORIES (cont.)

Additional stainless steel generator probes are available for the Tissue Master but are not supplied with the instrument.

Description	Part Number
Replacement 5mm x 75mm Stainless Steel Probe	F2107-05
Replacement 7mm x 95mm Stainless Steel Probe	F2107
Replacement 10mm x 110mm Stainless Steel Probe	F2107-10

The Omni Tissue Master is a variable speed, handheld homogenizer. It combines a high-speed, high-torque motor with an included autoclavable rotor-stator generator probe.

1.2 SPECIFICATIONS

Motor Drive Unit	TM125	TM240
Motor Speed:	5,000 - 35,000rpm	5,000 - 35,000rpm
Capacity:	0.25 - 30mL	0.25 - 30mL
Height (motor only):	15.3cm (6in.)	17.8cm (7in.)
Weight (motor only):	446g (15.7oz.)	535g (18.9oz.)
Electrical Requirements:	115V@60Hz or 220V@50Hz	115V@60Hz
Standards Compliance:	220V = CE Certified	N/A

Stainless Steel Generator Probes:

Probe Diameter	5mm	7mm	10mm
Probe Length	57mm	82mm	82mm
Processing Capacity	0.05mL-5mL	0.25mL-30mL	1.5mL-100mL
Probe applications	Liquid/ liquid, or most tissues	Liquid/ liquid, or most tissues	Liquid/ liquid, or most tissues
Minimum Vessel Inside Diameter	6mm	8mm	12mm

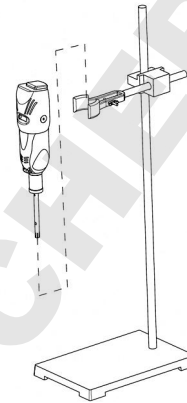
SECTION 1. PREPARATION FOR USE

1.3 STAND-MOUNTING THE TISSUE MASTER (Optional)

An optional stand kit (Part # F22000) may be purchased to mount the Tissue Master. Contact your authorized dealer or Omni International at 1-800-776-4431 or 1-770-421-0058 to order.

Assemble the stand:

1. Thread the larger rod onto the base plate.
2. Thread the cross-rod into the motor cradle.
3. Assemble the clamp to the vertical rod.
4. Assemble the cross-rod to the clamp.
5. Insert the motor unit into the motor cradle and tighten the thumb screws.



SECTION 2. OPERATION

1. Check that the power switch is in the OFF position.
2. Plug the power cord into an appropriate outlet.
WARNING: DO NOT attempt to plug a cord into an incompatible outlet.
3. The bottom of the GENERATOR must be submersed in a liquid before operation to prevent bearing damage.
4. Turn ON the power switch. The speed progressively increases as the switch slides away from the "O" mark. Run the motor for the appropriate amount of time required to homogenize the sample. Moving the homogenizer up and down within the sample during processing will increase processing efficiency.
5. A simple cleaning of the GENERATOR in between samples may be accomplished by running the probe in a chlorine bleach solution and then in distilled water to rinse. The probe must still be cleaned periodically in accordance with section 3.

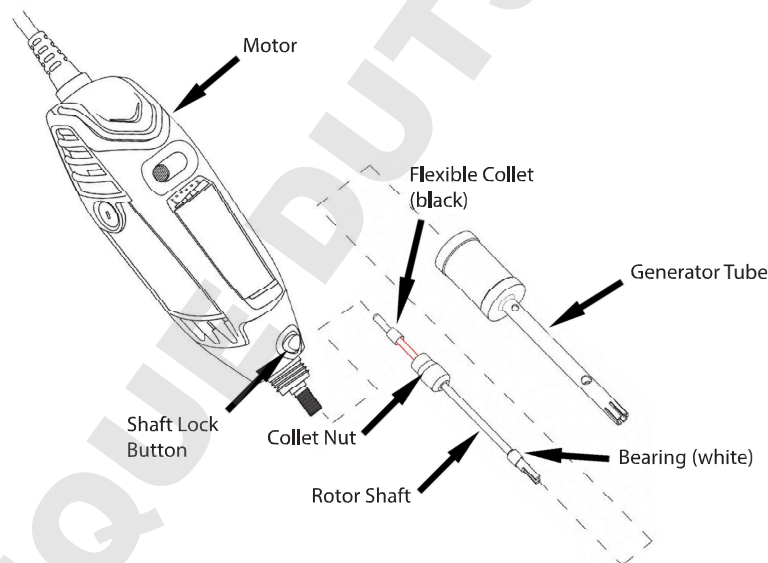
WARNING: DO NOT process pathogenic material in an open container. For assistance, contact your authorized dealer or Omni International at 1-800-776-4431

SECTION 3. GENERATOR PROBE & ACCESSORY MAINTENANCE

In order to thoroughly clean the components of the Tissue Master, it must be disassembled.

3.1 DISASSEMBLY

1. Disconnect the MOTOR from the power source.
2. Unthread the GENERATOR TUBE from the motor unit.
3. Hold down the SHAFT LOCK BUTTON. Use the collet wrench to loosen (counterclockwise) and remove the COLLET NUT.
4. Remove the steel ROTOR SHAFT from the COLLET NUT and FLEXIBLE COLLET.
5. If the BEARING is worn, it needs to be replaced (see Section 3.2). If the BEARING does not need replacing, wipe the rotor shaft with a cloth or paper towel. Use the included brush to clean inside the generator tube.



3.2 BEARING REMOVAL

1. Hold the BEARING/ROTOR SHAFT with a pair of pliers.
2. Use a sharp knife to cut the BEARING lengthwise.
3. Peel the BEARING off of the shaft and discard.

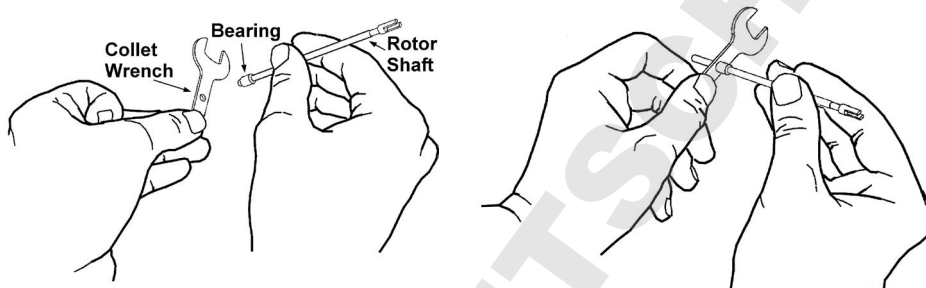
WARNING: DO NOT hold the bearing/rotor shaft with bare hands while cutting.

SECTION 3. GENERATOR PROBE & ACCESSORY MAINTENANCE

3.3 REASSEMBLY

1. Stand the new BEARING flat on a table surface and press the smaller end of the ROTOR SHAFT through the BEARING.

2. Holding the ROTOR SHAFT off the table, push the ROTOR SHAFT through the hole in the center of the collet wrench and use the wrench to press the BEARING down the shaft until it snaps into place (the bearing should feel loose in the bearing seat). (see figures)



4. Slide the COLLET NUT onto the ROTOR SHAFT.
5. Slide the FLEXIBLE COLLET about one centimeter onto the ROTOR SHAFT.
6. Check that the unit is disconnected from the power source.
7. Insert the ROTOR SHAFT into the MOTOR unit until it stops. Ensure that the shaft is all the way in the motor unit.
8. Slide the COLLET NUT down the ROTOR SHAFT and thread it onto the MOTOR unit.
9. Hold down the SHAFT LOCK BUTTON and hand tighten the collet nut as much as possible. DO NOT use the collet wrench.
10. Slide the GENERATOR TUBE over the ROTOR SHAFT and thread it onto the MOTOR unit. Firmly hand tighten the tube.
11. See section 3.4 for instructions to run-in the new BEARING. (if the bearing was not replaced, the Tissue Master is ready for use)

SECTION 3. GENERATOR PROBE & ACCESSORY MAINTENANCE

3.4 BEARING RUN-IN

If the BEARING was replaced, it must be run-in before use.

1. Immerse 1/3 of the GENERATOR in water and run the MOTOR at a low speed for one minute.
2. Increase speed at one minute intervals for three minutes
3. Run at full speed for one minute.
4. Disconnect the unit from the power source

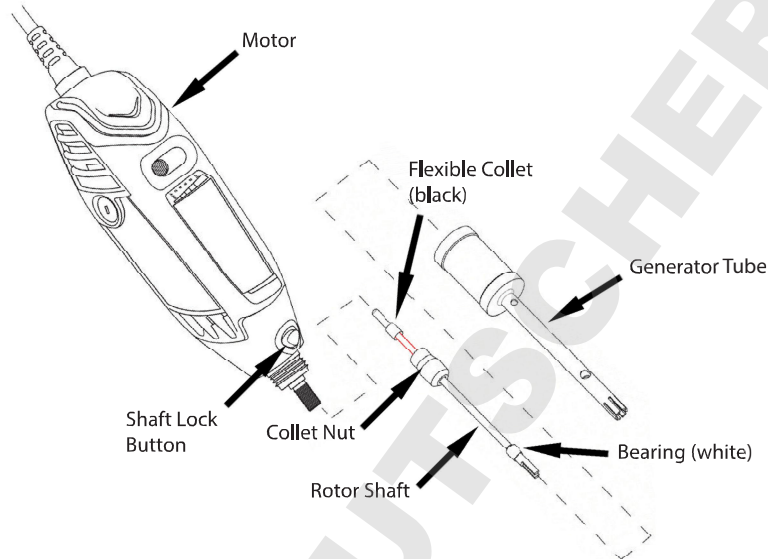
NOTE: If the probe is excessively noisy, turn the motor off and return to step 1.

5. Remove the GENERATOR TUBE and clean the BEARING with the brush. (DO NOT remove the bearing or collet nut)

6. Re-install the GENERATOR TUBE. The Tissue Master is now ready for use.

SECTION 4. REORDER INFORMATION

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



PART #	DESCRIPTION
20811	Brush Cap
62810	Brush
F2101-05	5mm Generator Tube (steel)
F2101	7mm Generator Tube (steel)
F2101-10	10mm Generator Tube (steel)
F2102	Flexible Collet (black)
F2103-05	5mm Rotor Shaft (steel)
F2103	7mm Rotor Shaft (steel)
F2103-10	10mm Rotor Shaft (steel)
F2104-5	5mm PTFE Bearing (white)
F2104	7mm PTFE Bearing (white)
F2104-10	10mm PTFE Bearing (white)
F2108	Collet Nut
F2109	Collet Wrench
F22000	Stand Assembly

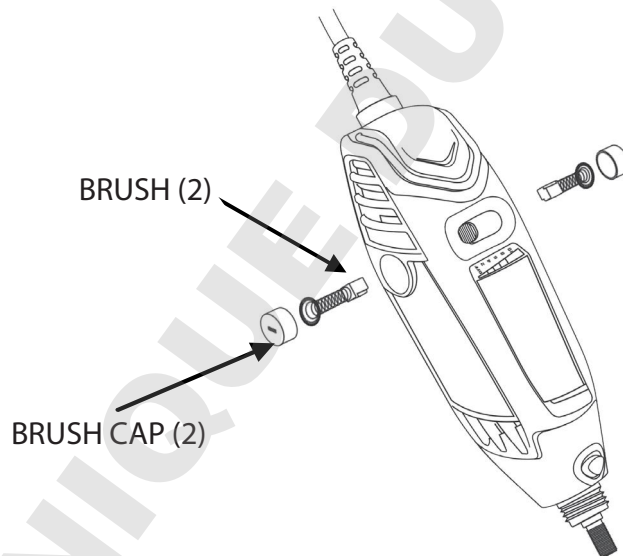
SECTION 5. MOTOR UNIT MAINTENANCE

5.1 MOTOR CLEANING

The MOTOR housing may be wiped down with a clean cloth when disconnected from the power source and not in use. DO NOT use solvents to clean the unit.

5.2 BRUSH REPLACEMENT

1. Remove Power.
2. Using the driver end of the collet wrench, unscrew and remove one BRUSH CAP.
3. Pull on the brush spring. The BRUSH and spring will come out as one assembly. If the spring breaks, turn the MOTOR on its side and tap it until the BRUSH falls out.
4. Repeat steps 2 and 3 for the other BRUSH.
5. Install the new BRUSHES (with springs) into the MOTOR unit.
6. Re-install the BRUSH CAPS to both sides of the MOTOR unit and tighten with the collet wrench. The Tissue Master is now ready for use.



WARNING: DO NOT connect the power cord to a power source if it is worn or damaged. For assistance, call your authorized dealer or Omni International at 1-800-776-4431 or 770-421-0058.

WARNING: DO NOT attempt to disassemble the motor unit.

SECTION 6. TROUBLESHOOTING

Do not attempt to service the Tissue Master 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 Tissue Master is plugged in and turned on but is not functioning.	-Check power cord connectors -Check wall socket for power to the outlet
Motor is turned ON and makes a "buzzing" sound, but is not spinning.	-Check that the brushes are not worn and are correctly installed. Replace if necessary. (see Section 4.2)
Motor unit operating speed declines, stalls intermittently, or stops completely	-Check that the brushes are not worn and are correctly installed. Replace if necessary. (see Section 4.2) -Check the condition of the flexible collet and replace if needed (see Section 3)
Excessive noise during normal operation	-Check the condition of the PTFE bearing (white) and replace if needed (see Section 3). -Check the condition of the flexible collet and replace if needed (see Section 3)
Rotor shaft slides out of the bottom of the tube.	-Check the condition of the flexible collet and replace if needed (see Section 3)

SECTION 6. TROUBLESHOOTING

PROBLEM	CORRECTIVE ACTION
Excessive noise during run-in of a new bearing	-Turn the Tissue Master OFF and return to step 1 of Section 3.4
PTFE bearing wears quickly	-Fluid level may be too low in the tube. -Immerse the probe deeper into the fluid.
Excessive splashing in sample tube	-Fluid level too low for tube size.

NOTES:

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USER MANUAL



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Patents Pending

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