USER MANUAL

Omni Prep Multi Sample Homogenizer

Version: F
Date: September 2024
Document Number: 03-201

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 Revvity 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. Revvity 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 Revvity 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. Revvity 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. REVVITY 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.

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

- Use this product only for its intended purpose.
- Keep this product away from heated surfaces.
- **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** use attachments not recommended by the manufacturer.
- **DO NOT** operate the product if it is damaged in any way.
- **DO NOT** operate the product with the safety ground disconnected.
- **DO NOT** modify the plug or cord that is provided.

WARNING: Reduce the risk of unintentional starting; make sure the machine is OFF before plugging into a power supply.
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.

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.

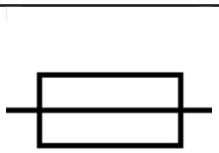
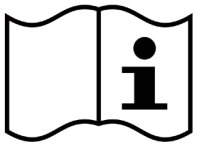
FCC
This device complies with part 15 of the FCC (United States Federal Communications Commission) Rules. Operation is subject to the following two conditions:

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

CE/UKCA
This device complies with all CE and UKCA 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.

Table of Contents

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)		Consult Instructions for Use. (ISO 7000-1641)
	Alternating current. (IEC 60417-5032)		CE Compliance Mark
	UKCA Certification Mark		WEEE symbol (EN50419:2005)
	RoHS Certification Mark		KC Certification Mark

Specifications

Part Number	06-021
Input Voltage	110-230V, 50/60 Hz
Weight	21 lbs. (9.5 kg)
Dimensions	W: 15.7″ (40 cm), D: 7.8″ (20 cm), H: 11.8″ (33 cm)
Power Rating	150 Watts
Power Connector	IEC 60320 C13
Speed	500 - 30,000 rpm
Overvoltage Category	II
Pollution Degree	2
Altitude	Up to 2000 m
Warranty	1 Year
Standards Approval	CE and UKCA Approved

Site Requirements

The unit must be placed on a solid work surface.

Weight and Dimensions
The work surface or bench must be able to support the weight of the system.
The dimensions of the system are: W: 15.7″ (40 cm), D: 7.8″ (20 cm), H: 11.8″ (33 cm)

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

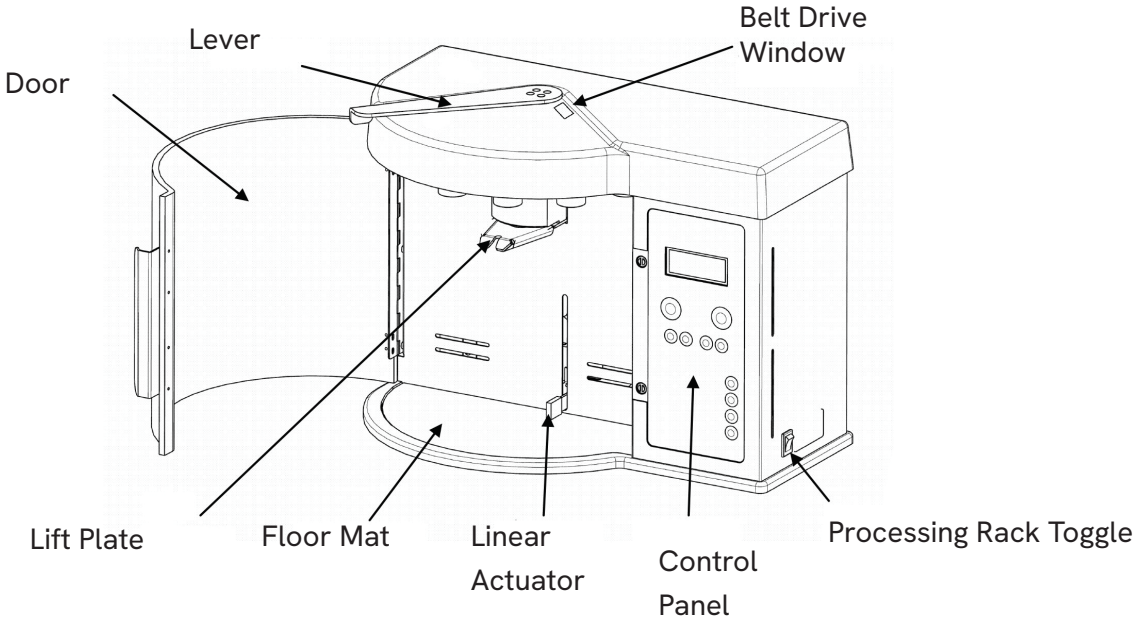
Ambient Air
The system must be located in an area where the ambient air is clean. No emission of solid particles or smoke in the air by adjacent equipment is allowed. The level of dust should be comparable to that of normal laboratory spaces.

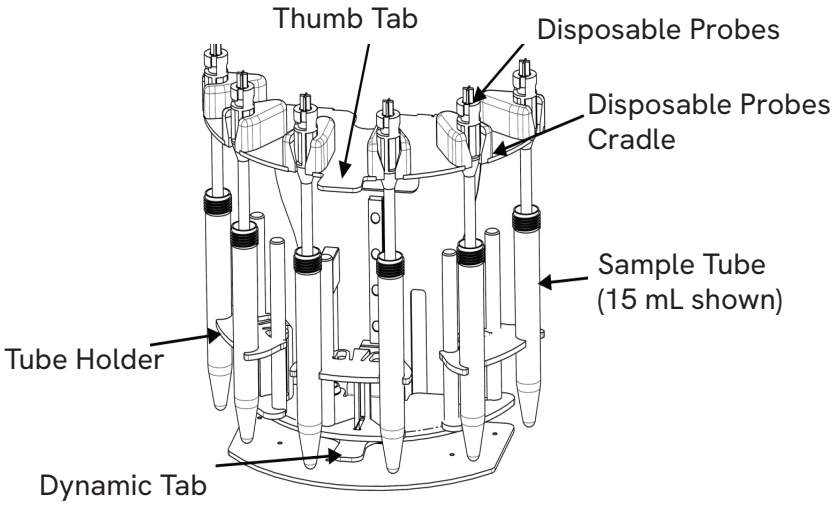
Electrical Supply
110-230V, 50/60Hz, 10A max.
Connect only to a properly grounded outlet.

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

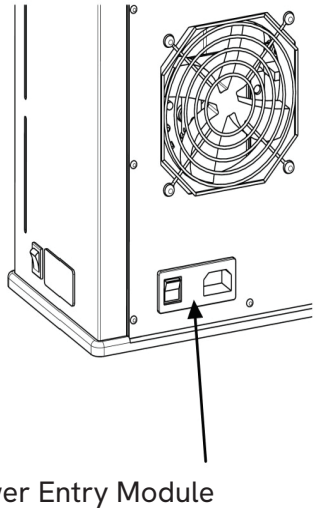
System Overview

The Omni Prep Homogenizer is a variable speed, multi-sample homogenizer. The unit 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 system operates exclusively with Omni Tip™ Disposable 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 system allows you to process up to 6 samples at a time in 1.5 - 50 mL sample tubes.
The Omni Prep is sold as a customizable homogenizing system. At least 1 processing rack, 3 tube holders, and disposable Probes are required to operate the unit.

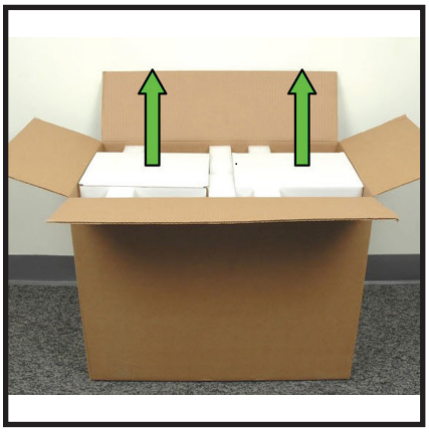




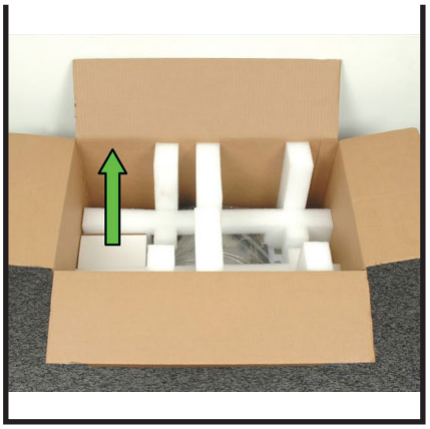
Processing Rack



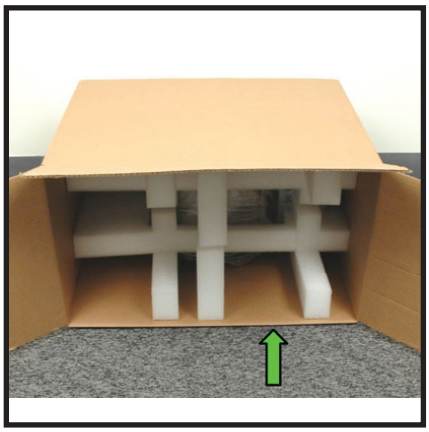
Unpacking the Omni Prep



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

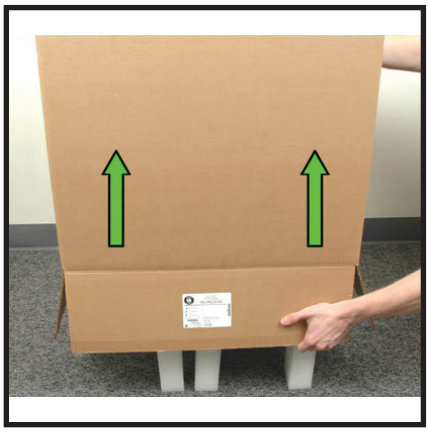


2. Remove the accessory box.

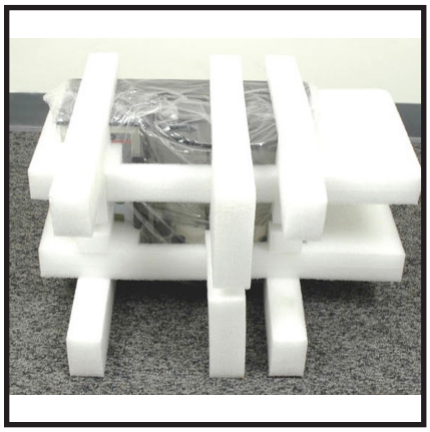


3. Lay the box down on one side. Make sure that the box flap is folded under (arrow).

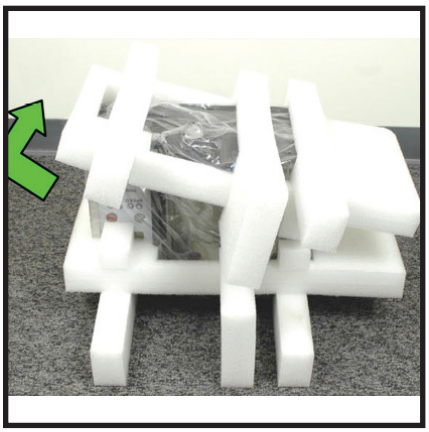
4. Turn the box upside down making sure that all of the flaps are folded out as shown.



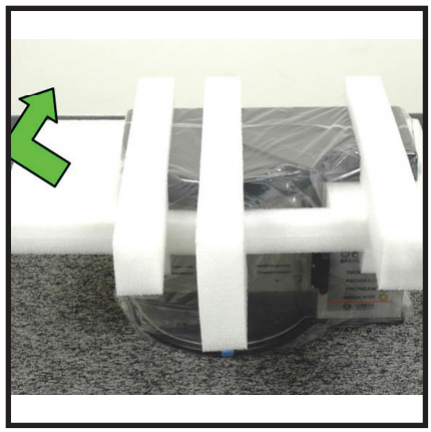
5. Lift the box off of the foam as shown.



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.

NOTE: Save all included packaging

Loading Samples - 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 number of samples may be processed at a time.

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

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

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

3. Install disposable/stainless steel probes by first inserting the lower end into the sample tube, then lower the tip/probe until it rests securely in the probe cradle.

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

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

Loading Samples - Processing Rack

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 disposable/stainless steel probes by following the steps (50 mL 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 disposable/stainless steel probes to touch the bottoms of the tubes.

CAUTION: DO NOT allow the disposable/stainless steel probes to ever be completely extracted from the sample tubes during processing.

6. Remove the disposable/stainless steel probes and the sample tubes.

7. Load tubes containing sample and fluid and replace the disposable/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 and leave the processing rack toggle switch in the Off position during processing.

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

NOTE: The portion of disposable/stainless steel probes shown below the red line must be submerged in liquid during processing.

Loading 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.

Loading 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.

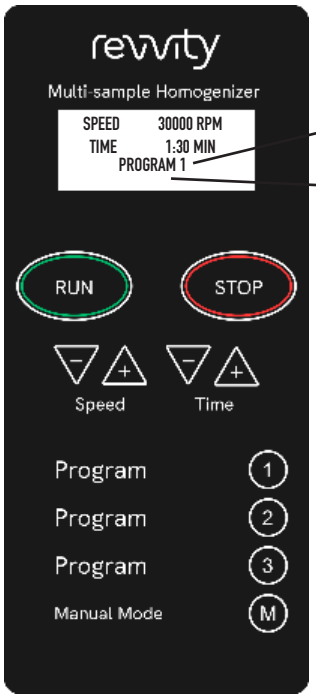
CAUTION: The lever should move with smooth and constant motion. If the lever does not slide smoothly as it is moved to the right:

- Slide the lever back to the left.
- Remove the rack.
- Rotate the tops of the probe shafts.
- 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).

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

Modes of Operation



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).

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.

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.

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. 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, press the START button and turn on the movable rack toggle switch.

Maintenance - Cleaning the Omni Prep

Disconnect from power supply. 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.

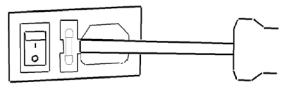
CAUTION: DO NOT attempt to submerge any part of the Omni Prep in any solution.
CAUTION: DO NOT spray cleaning solution on to the Omni Prep. Wipe the surfaces with a damp cloth.
CAUTION: DO NOT sterilize plastic tube holders in an autoclave. They may be damaged if autoclaved.

Maintenance - Fuse Check and Replacement

1. Disconnect from power supply. Unplug the cord from the power entry module.
The fuse holder is located in the center of the power entry module.

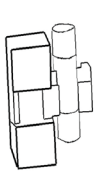
2. Use the tab on the right-hand side of the fuse holder and a screwdriver (figure A) to slide the holder straight back until it is completely removed.

Figure A



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 intact, return the assembly into the power entry module and contact Revvity.

Figure B



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.

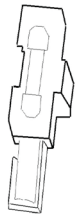


Figure C

5. Clip the new fuse into the exposed side of the holder and reinstall into the power entry module.

6. Contact Revvity to obtain a new replacement fuse. Store the fuse in the casing on the enclosed side of the fuse holder.

Troubleshooting

Error	Possible Solution
The system is plugged in and turned on but is not functioning.	▪ Check power cord connectors. ▪ Check wall socket for power to the outlet. ▪ Check fuse.
LCD screen is lit but motor will not run.	▪ Verify that the LCD displays “READY”. ▪ Make sure the rack is locked.
LCD lit but not functioning properly.	▪ Turn power off and back on to reset. ▪ Call if problem persists.
Omni Prep begins a run but probes/tips are not rotating.	▪ Drive belt may need servicing. ▪ Turn the unit OFF and call Revvity.
Rack raises but will not lock.	▪ Do not force the lever. ▪ Verify that the rack is pushed completely onto lift plate. ▪ Damaged drive connects on disposable probes tip shafts; replace the disposable probes.
Rack binds in transition to locked position.	▪ Do not force the lever. ▪ Disposable probe drive connects may be damaged. Inspect and replace if necessary. ▪ Verify that rack is securely pushed into place.
Disposable probes/tips stick in Omni Prep drives when unlocking the rack.	▪ Disposable probe drive connect worn, replace disposable probe.
Excessive noise/vibration from disposable probes .	▪ Fluid level may be too low in tube. ▪ Drive belt may need servicing.
Excessive splashing in sample tube.	▪ Fluid level too low for tube size. ▪ Contact Revvity about sealed tube operation.

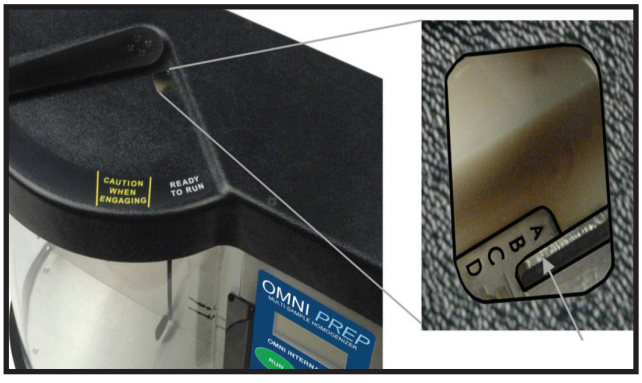
WARNING: Any service must be performed by a qualified service technician. This can be either an Revvity Technician or an end user resource.

All parts need to be sourced from the Revvity service department.

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 unit 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).



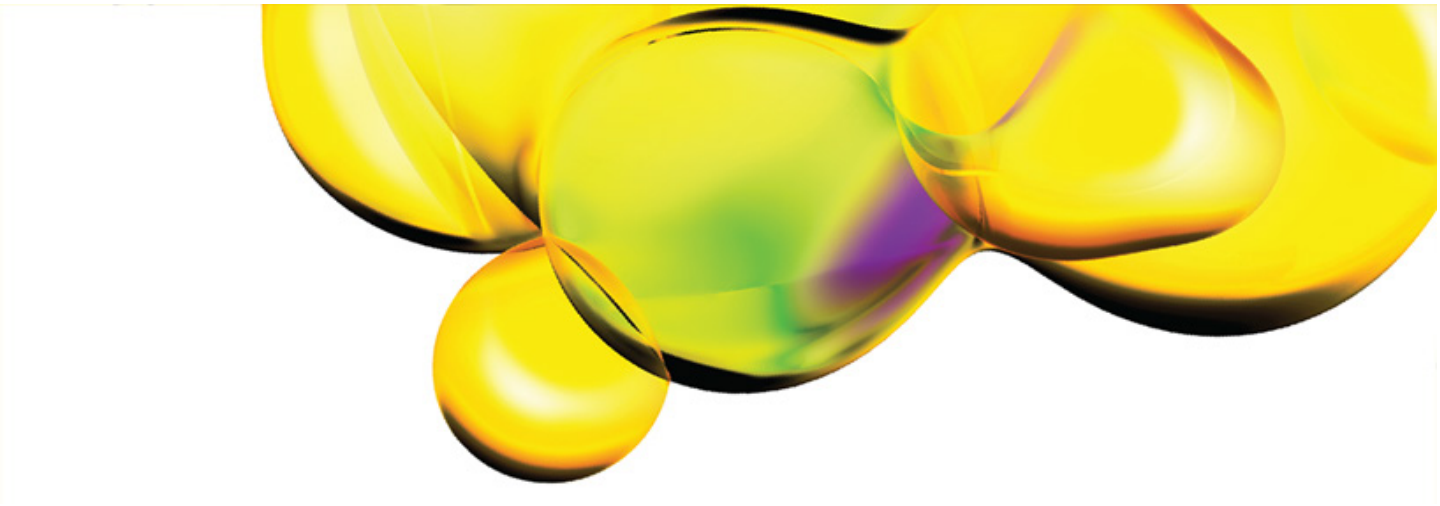
If the belt tension is incorrect contact Revvity service department.

Accessories and Consumables

Part Number	Description
06-220	Processing Rack for Omni Prep Homogenizer
06-209-02	Omni Prep Tube Holder, 1.5 mL - 2 mL
06-209-05	Omni Prep Tube Holder, 5 mL
06-209-15	Omni Prep Tube Holder, 15 mL
06-209-50	Omni Prep Tube Holder, 30 mL - 50 mL
06-207	Cooling Ice Tray for 1.5 mL - 5 mL Tubes
06-210	Cooling Ice Tray for 15 mL - 50 mL Tubes
30750	Soft Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (25/pk)
32750	Soft Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (50/pk)
34750	Soft Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (100/pk)
35750	Soft Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (500/pk)
30750H	Hard Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (25/pk)
32750H	Hard Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (50/pk)
34750H	Hard Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (100/pk)
35750H	Hard Tissue Omni Tip Plastic Homogenizing Probes, 7 mm (500/pk)
301250	Hard Tissue Omni Tip Plastic Homogenizing Probes, 12 mm (25/pk)
321250	Hard Tissue Omni Tip Plastic Homogenizing Probes, 12 mm (50/pk)
341250	Hard Tissue Omni Tip Plastic Homogenizing Probes, 12 mm (100/pk)
351250	Hard Tissue Omni Tip Plastic Homogenizing Probes, 12 mm (500/pk)
22-007	Omni Tip Hybrid Probe (Stainless Steel & Plastic), 7 mm
22-007-6	Omni Tip Hybrid Probe (Stainless Steel & Plastic), 7 mm (6/pk)
301725HT	Omni Tip Hybrid Probe Replacement Shafts, 7 mm (25/pk)
22-012	Omni Tip Hybrid Probe (Stainless Steel & Plastic), 12 mm
22-012-6	Omni Tip Hybrid Probe (Stainless Steel & Plastic), 12 mm (6/pk)
S-22-012	Omni Tip Hybrid Probe Replacement Shafts, 12 mm (25/pk)
B5-075	Stainless Steel Generator Probes, 5 x 75 mm
B5-075-6	Stainless Steel Generator Probes, 5 x 75 mm (6/pk)
B7-110ST	Stainless Steel Generator Probes, 7 x 110 mm
B7-110ST-6	Stainless Steel Generator Probes, 7 x 110 mm (6/pk)
B10-110ST	Stainless Steel Generator Probe, 10 x 110 mm
B10-110ST6	Stainless Steel Generator Probes, 10 x 110 mm (6/pk)

Appendix

This equipment is marked with the crossed-out wheeled bin symbol, to indicate that this equipment may not be disposed of as unsorted municipal waste.
It's your responsibility to correctly dispose of your equipment at life-cycle end, by handing it over to an authorized facility for separate collection and recycling of waste equipment. It's also your responsibility to decontaminate your equipment in case of biological, chemical or radiological contamination, and so protect the persons involved in the disposal and recycling of the equipment from health hazards.
For more information about where you can dispose of your waste equipment, please contact your local dealer, from whom you purchased the equipment.
By doing so, you will help to preserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.



www.revvity.com

For research use only. Not for use in diagnostic procedures

Revvity, Inc.
940 Winter Street
Waltham, MA 02451
USA
www.revvity.com

For a complete listing of our global offices, visit www.revvity.com