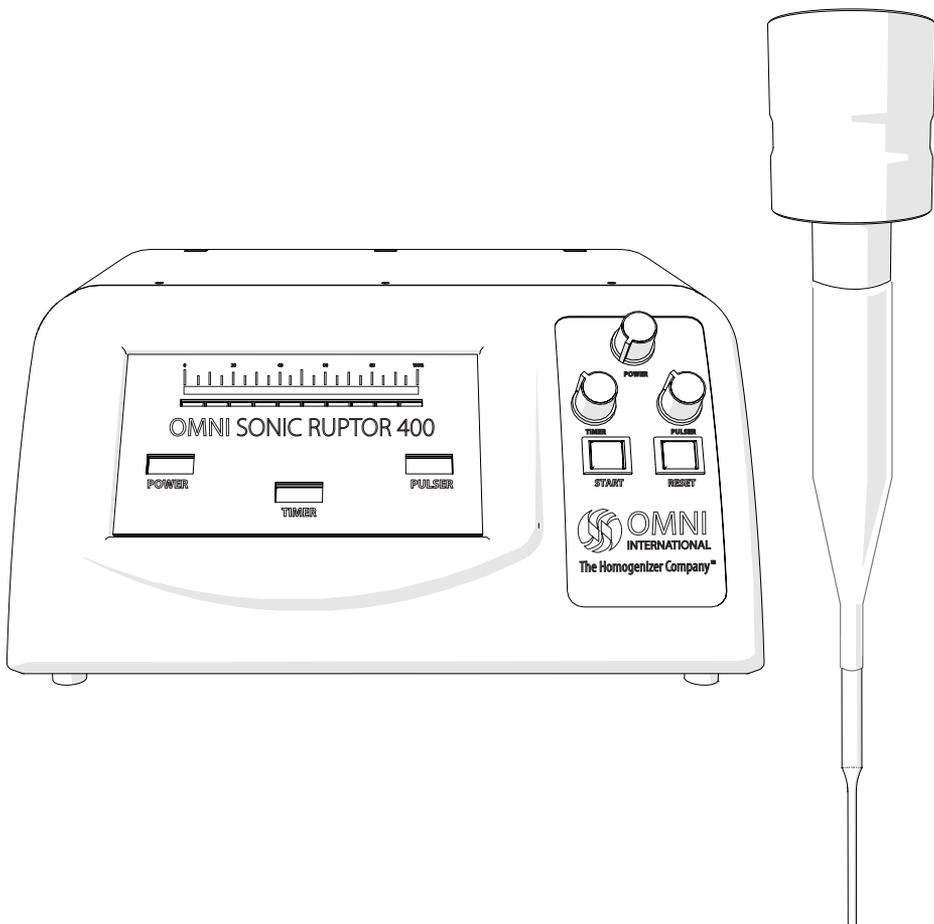


# Sonic Ruptor 400

## User Manual



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.

This 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. 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.

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

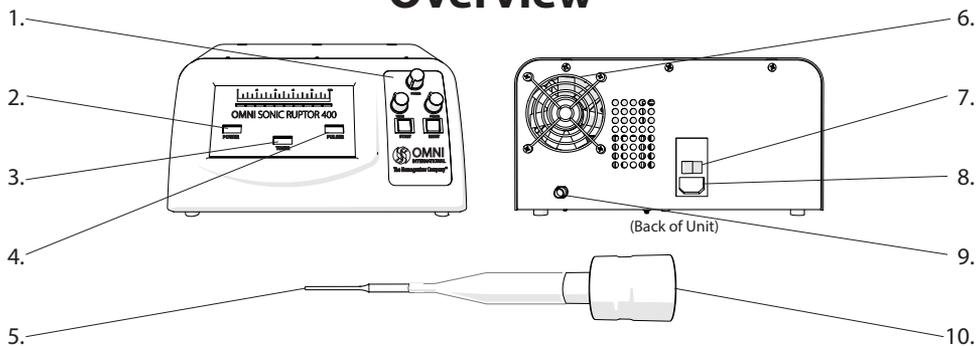
- DO NOT attempt to modify any part of this product.
- DO NOT allow the machine to be submerged in any liquid.
- DO NOT use in any setting other than an indoor laboratory.
- DO NOT plug power cord into an incorrect outlet or subject it to an incorrect voltage.
- Use this product only for its intended purpose.
- 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.
- DO NOT modify the plug or cord that is provided. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.
- DO NOT operate the product with the safety ground disconnected.

**WARNING:** Reduce the risk of unintentional starting; make sure the speed switch is in the OFF position before plugging in the motor.

**WARNING:** Damaged or worn power cords should be repaired or replaced immediately by a qualified electrician.

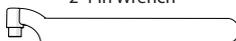
**WARNING:** Improper connection of the equipment can result in a risk of electric shock.

# Overview



- |                                     |                         |
|-------------------------------------|-------------------------|
| 1. Control Panel                    | 6. Cooling Fan          |
| 2. Power LED                        | 7. On/Off Switch        |
| 3. Timer LED                        | 8. Power Cord Port      |
| 4. Pulser LED                       | 9. Transducer Connector |
| 5. Processing Tip (Sold Separately) | 10. Transducer          |

2" Pin Wrench



The Sonic Ruptor 400 Ultrasonic Homogenizer consists of the following:

Description	Quantity
Control Unit	1
Transducer	1
Power Cord	1
2" Pin Wrench	2
User Manual	1

## Accessories

### Solid Titanium Tips

Each includes a package of five interface washers.

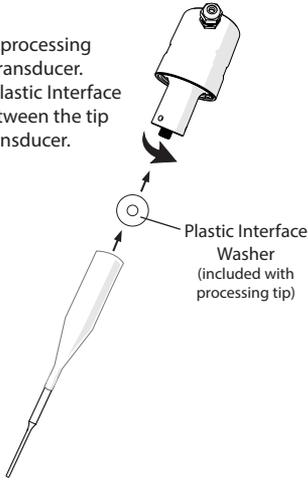
Always operate Tips in liquid (low surface tension or aqueous solution).

Description	Tip Size	Volume Range	P/N	Power Limit
5/32" Speed Micro Processing Tip	Diameter: 5/32" (3.8mm) Length: 10.1" (25.6cm)	250 µL - 10 mL	OR-T-156	50%
3/8" Intermediate Processing Tip	Diameter: 3/8" (9.5mm) Length: 4" (10.16cm)	10 mL - 250 mL	OR-T-375	80%
1/2" Processing Tip	Diameter: 1/2" (12.7mm) Length: 5.38 (13.65cm)	10 mL - 300 mL	OR-T-500	100%
3/4" Standard Processing Tip	Diameter: 3/4" (19mm) Length: 4.1" (10.5cm)	10 mL - 500 mL	OR-T-750	100%
1.0" Full Size Processing Tip	Diameter: 1" (25.4mm) Length: 4.85" (12.3cm)	50 mL - 1L	OR-T-1000	100%

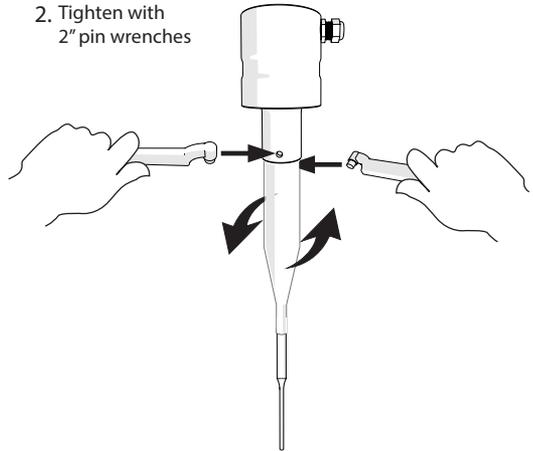
# Accessories

## Generator Probes

1. Attach the processing tip to the transducer. Place the Plastic Interface Washer between the tip and the transducer.



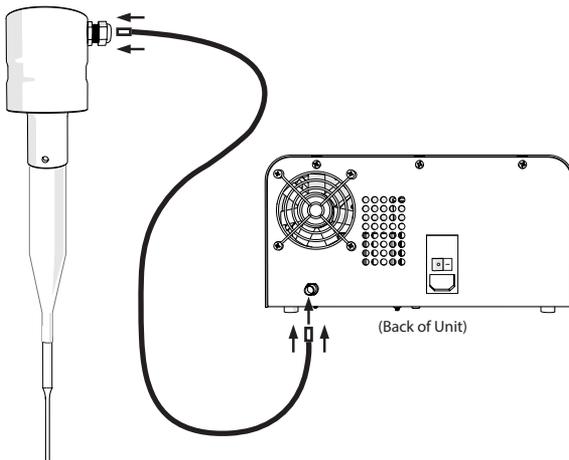
2. Tighten with 2" pin wrenches



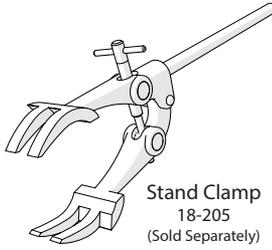
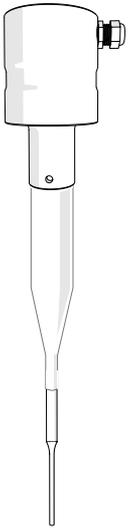
**CAUTION:** Use wrenches to twist the processing tip. Do not twist the Transducer.

**Note:** Use the wrenches to check the tightness of the probe periodically after processing.

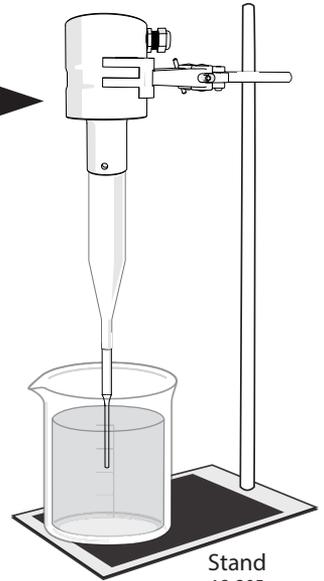
3. Connect the Transducer cable to the Transducer and the Control Unit.
  - Connect Power Cord to Power Cord Port.
  - Plug Power Cord into grounded outlet



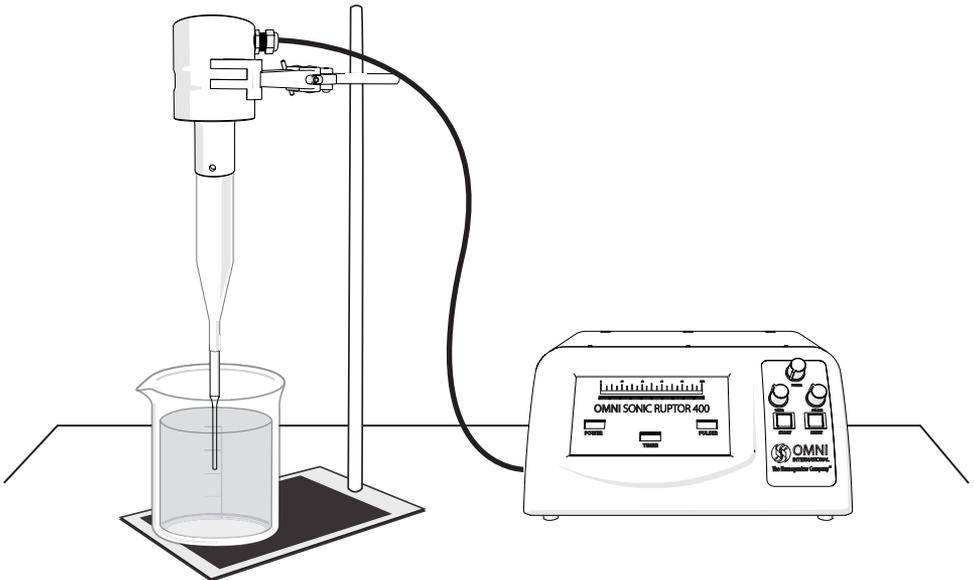
# Stand Mounting



Stand Clamp  
18-205  
(Sold Separately)

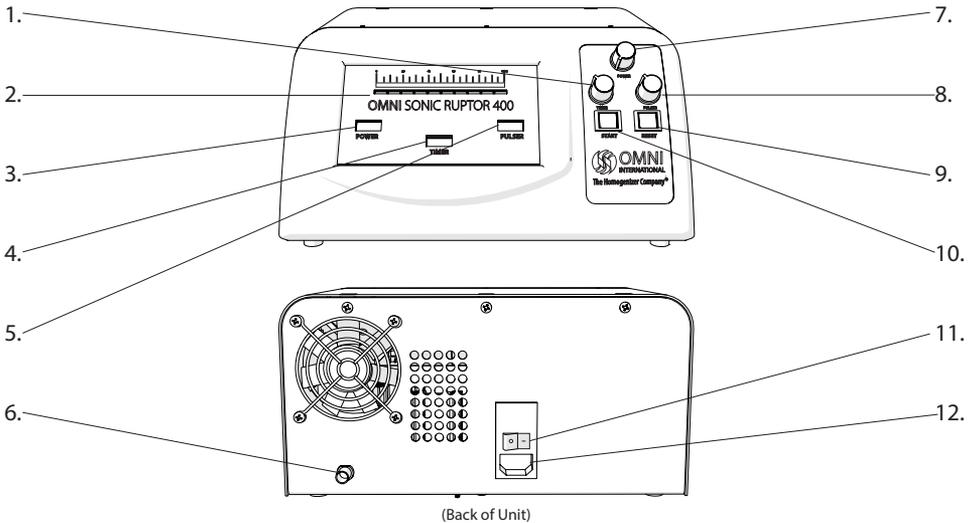


Stand  
18-205  
(Sold separately)



Ready to use.

# Operation



- |                         |                     |
|-------------------------|---------------------|
| 1. Timer Control        | 7. Power Control    |
| 2. Power Output Meter   | 8. Pulser Control   |
| 3. Power LED            | 9. Reset Button     |
| 4. Timer LED            | 10. Start Button    |
| 5. Pulser LED           | 11. On/Off Switch   |
| 6. Transducer Connector | 12. Power Cord Port |

## General Operation

- Adjust power level to desired setting (see probe instructions for max settings)
- Adjust timer setting for run duration
- Pulser settings  
Select from 10% - 90%  
Ex. 90% = 1.8 second pulse / 0.2 second dwell  
10% = 0.2 second pulse / 1.8 second dwell
- Constant Run Mode - Move Pulser setting to the off position.
- Immerse the Processing Tip into sample.  
Tip depth should be approximately 1.5 times the diameter of the processing tip.
- Press Start button to begin preset cycle
- Reset button interrupts the cycle and returns all settings to 0.  
Press Reset to terminate processing at any time.

**Note: The Sonic Ruptor 400 Ultrasonic Homogenizer should not be operated at its maximum power level for more than fifteen (15) minutes.** Long periods of operation will shorten the life of the electronic components due to the high temperature developed inside the unit. After operating the Sonic Ruptor 400 homogenizer for fifteen (15) minutes at the maximum power level, allow it to run for five (5) minutes in its idle state to cool the unit to approximately ambient temperature. When cycling the unit with large numbers of samples at maximum power level, observe the same precautions with respect to heat. Be sure to periodically allow the unit to cool down.

# Troubleshooting

Error	Cause	Possible Solution
Unit will not power On	Control Unit is not plugged in	1. Ensure the unit is properly plugged in 2. Check that the voltage of the unit matches that being delivered by the main power supply.
	Transducer is not correctly connected to control unit	Check connection and secure properly
	Fuse needs to be replaced	Check and replace fuse if necessary
	No Power or incorrect voltage	1. Check main voltage. 2. Check that the voltage of the unit matches. 3. Make sure that the unit is plugged in properly.
Power Output is less than 20%	Worn Washer	1. Turn off the unit. 2. Use the wrenches to loosen the processing tip from the transducer. Be sure to twist the tip, not the transducer. 3. Replace the washer
	The probe is not properly secured	Turn off the unit. Use the wrenches to tighten the processing tip on the transducer.
Burning smell from the Transducer	Transducer is overheating	1. Turn off the control unit. 2. Wait 30 min before turning the unit back on 3. Reduce run time 4. Contact Technical Support if the problem persists
Glass Sample Vessel Cracked or Shattered	The processing tip is touching the side or bottom of the container	Do not allow the processing tip touch the sample vessel.
Loud or inconsistent sound coming from the processing tip	The processing tip is not immersed in enough fluid	1. Turn off the unit 2. Check the depth of the tip in the sample liquid. 3. Adjust the probe if necessary
	The processing tip is fractured or damaged causing it to resonate at an incorrect frequency	1. Turn off the unit. 2. Remove the damaged processing tip. 3. Attach a new washer and tip.

**DO NOT** attempt to service the Sonic Ruptor 400 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 Omni International at 1-800-776-4431



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