



**OPERATIONAL & INSTRUCTION**

**MANUAL**

**Models: 1000M, 1300M, 2000M and 2100M**

**(120v)**

**UltraSonic LLC**

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## FEATURES

- Stainless Steel Housing, Tank and Lid
- Stamp Tank
- Cooling Fan
- Moisture-Proof Controls
- Industrial-grade IC and Ultrasonic Transducer

Thank you for purchasing an UltraSonic LLC Cleaner. Please take time to read these **Operating Instructions Before Use** and retain them for future reference. Failure to follow these instructions may lead to serious personal injury and/or damage to property.

## SOAP REQUIREMENTS

Ultra 1000M: 1 pint

Ultra 1300M: 1 quart

Ultra 2000M: 2 quarts

Ultra 2100M: 1 gallon

**Please Note the UltraSonic Light is very dim.**

Please allow 3-4 hours on initial set up for water to reach operating temperature

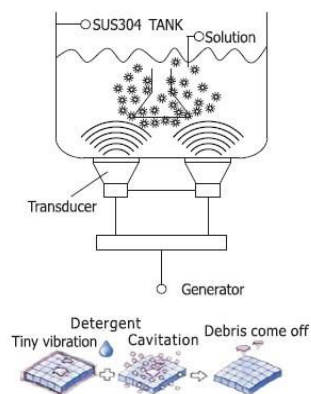
Please Run machine at 65 C which is equal to 150 F

Please do not run machine above 70 C

Please run only 5 to 10 min. cycles

Please use 1 Gallon of Soap per tank of water

# ULTRASONIC CLEANING PRINCIPLE



Ultrasonic cleaning is based on the cavitation effect caused by high-frequency ultrasonic wave vibration signal in the fluid. Microscopic bubbles are formed, and they implode violently causing the cavitation which creates an intense scrubbing action on the surface of the item being cleaned. The bubbles are small enough to penetrate microscopic crevices, cleaning them thoroughly and consistently.

Ultrasonic cleaning is extremely effective at removing dirt and grime that would normally require tedious hand washing. It is used to clean a wide variety of instruments, assemblies and mechanical parts for industrial, automotive, medical, aerospace and other applications, returning them to almost “like new”

## PREPARATION:

1. Carefully unpack the cleaner and remove all traces of packing materials from it. Visually inspect the cleaner for any parts that may have become loose or damaged during transit.

### Contents:

- A: UltraSonic Machine
- B: Lid
- C: Power Cord
- D: Mesh Basket
- E: Operational & Instruction Manual

2. Place the ultrasonic cleaner on a flat, clean surface where the cooling fans will receive adequate ventilation, and make sure all controls are set to off and the drain valve is in the closed position.
  
2. Carefully fill at least half of the tank with water. For cleaning we recommend a small amount of UltraSonic LLC soap solution:

Ultra 1000M: 1 pint

Ultra 1300M: 1 quart

Ultra 2000M: 2 quarts

Ultra 2100M: 1 gallon

Your ultrasonic cleaner is now ready for use.

4. Make sure the power cord is securely plugged into the cleaner and that no part of the power cord comes into contact with moisture from the tank.

 **Attention**

DO NOT RUN THE MACHINE CONTINUOUSLY (not more than 20 min.). Longer than recommended run times will cause high temperatures and can damage the tank and transducers.



## SAFETY PRECAUTIONS

**This unit's voltage is: 120V single phase**

### **Keep the unit away from children!**

This device is not intended for use by individuals with restricted physical or mental capacities or those with lack of experience or knowledge, including children, unless they are supervised by an individual who is responsible for their safety or has received training in operating the UltraSonic LLC cleaning machine.

**Please read the following very carefully as failure to comply may VOID your Warranty**

- 1) DO NOT run the cleaner continuously for more than 20 minutes at a time; doing so can damage the internal components.
- 2) DO NOT operate the unit without water in the tank. Always make sure the water is no higher than the max mark, and always make sure there is a minimum fluid depth in the tank of 2.75 inches (7 centimeters).
-  3) DO NOT drop any item into the tank as this may cause damage to the transducer. Always place items gently into the tank and use the basket or bottom table. Never set parts directly on the tank.
-  4) The more items that you place in your cleaning bath, the less efficient it will clean. It is not advised to overlap items. Always allow plenty of clear space between the items.
- 5) Do keep the lid on during and after use. This will prevent splashes and reduce evaporation of the fluid.
- 6) Never immerse the machine or power cord in water or other liquid.
- 7) DO NOT touch the power plug with wet hands, especially when inserting or removing the plug.

- 8) DO NOT touch the unit if the machine has fallen into water during operation. Remove the power plug from the socket first.
- 9) DO NOT disassemble the machine. Disassembly of any kind should be done by professionals.
- 10) UNPLUG the power source while filling or emptying the tank.
- 11) DO NOT spray water or liquid over the device and the control panel.
- 12) DO NOT operate the cleaner without proper grounding.
- 13) DO NOT place the device on a soft surface, where the vents could be blocked.
- 14) Always turn the heater off after usage as leaving it on can cause the fluid to evaporate and damage the internal components.
- 15) Upon completion of the cleaning cycle, turn the heater button off and isolate the machine from the electrical supply.
- 16) Take care when adding or removing items from the cleaning tank when the water hot and displaced fluid can damage the internal components of the machine. Any displaced fluid must be dried up immediately.
- 17) In the event of failure/emergency, disconnect the main supply by removing the plug from the wall outlet.

## APPLICATIONS

This list is almost endless. Provided the product is non-porous and can normally be immersed in water, nearly anything can be thoroughly cleaned. Examples include:

- PCB boards
- Electrical components
- Diesel injection pumps
- Printer heads and toner cartridges
- Motorcycle radiators and crank cases
- Surgical equipment
- Golf clubs, grips and balls
- Horse bits, stirrups and horse brasses
- Tattoo needles
- Engine cylinder heads
- Turbochargers
- Bicycle chains, hand brakes,
- Knives, bayonets and other militaria
- Gun and gun components
- Jewelry, especially gold, silver and platinum
- Dental appliances
- Coins and other collectibles
- Makeup cases

Ultrasonic cleaning is not recommended for gemstones, including but not limited to the following: opal, pearl, emerald, tanzanite, malachite, turquoise, lapis and coral.



## OPERATION

UltraSonic LLC cleaning machines are designed to be easy to operate. Simply introduce the part to the tank via a wire tray, set the required temperature for the cleaning soap and water, and rotate the timer to the required cleaning time, starting the cleaner in the process. Periodic inspection of the cleaning soap and water is recommended; replace when ineffective.

### Startup Machine Procedure

- 1) Fill the stainless steel tank with UltraSonic LLC soap (approximately 10% of the water volume) and water, then turn the machine on.
- 2) Place items to be cleaned inside the basket and place the basket inside the tank. (If there is no basket, **DO NOT PLACE THE ITEMS** on the bottom of the tank.)
- 3) Plug the cleaner into a grounded outlet.

### Startup Heating Procedure

- 1) Set temperature: Turn the “Temperature” switch  to set the temperature between 68F – 176F. Usually, best results are achieved within the 104F– 140F range.
- 2) Turn the “Timer” switch  leftward to “ON” for continuous operation. Alternatively, turn the switch rightward to set the 1-20 minute operation time.
- 3) During operation, you will hear a “sizzling” sound; this indicates that the cleaner is operating properly.

**NOTE:** Do not run the cleaner continuously for more than 20 minutes.

#### **Attention**

DO NOT RUN THE MACHINE CONTINUOUSLY (not more than 20 min.). Longer than recommended run times will cause high temperatures and can damage the tank and transducers.



### **Procedure to stop the ultrasonic operation and heating processes:**

1. Switch the “Ultrasonic” button to “OFF” – the cleaner will stop operating, and the indicator light will switch to the off position. Next, disconnect the power supply.
2. Switch the “Heating” button to “OFF” – the heating function will stop operating.
3. Empty the tank and clean both the outside and inside of the cleaner with a clean and dry cloth for the next use.

**NOTE:** Do not pour water out until it has sufficiently cooled. Hot water can cause skin burns and can also damage the machine.

## **DIFFERENT CLEANING METHODS**

**General Cleaning** – Use only warm tap water and set the temperature at about 65°C.

**Enhanced Cleaning** – Add a recommended amount of UltraSonic liquid soap (please see front of manual) into the water. Other non-acidic cleaning agents can also be used.

**Extensive Cleaning** – For removing tarnish, carbon and rust from non-plated metals, it is recommended to use a specialized cleaning solution in association with using the ultrasonic cleaner.

**WARNING:** Strong acid or alkaline cleaning solution will cause corrosion, rust and even potentially puncture of tank or machine body. To overcome this problem, dilute to mild PH solution or request for tank made of specific grade of stainless steel like SUS304.

The cleaning solution will deteriorate in effectiveness over time and use. It is important to regularly change the fluid and carefully wash the inside of the cleaning tank to preserve the effectiveness and longevity of the cleaner. Do not use corrosive or abrasive cleaning products on the tank, which must be wiped down and dried before it can be re-connected to the electrical supply.

**NOTE:** If the machine starts to spark, smoke, smell of burnt electronics or displays any other fault, the operator must immediately stop the machine, isolate the electrical supply and contact UltraSonic LLC. Continued use is dangerous.

**For better cleaning effect:**

- The item should be completely submerged in the water (do not exceed the “MAX” mark).
- Warm water (never hot or boiling) and a small amount of “UltraSonic LLC Cleaning Soap” will help increase the cleaning performance.
- Make sure there is adequate space around each part or component you put in the tank. The more items that you place in the tank, the less efficiently it will clean. It is not advised to overlap items. If laying items one on top of the other, the system won't perform to its optimal level.
- Basket use – do not place items directly onto the bottom of the tank. You will achieve a better cleaning effect by using the provided basket
- Temperature – the higher temperature, the better cleaning effect. However, when temperatures exceed 158F – 176F, the cleaning power will be greatly affected. The ideal temperatures we suggest are between 122F– 158F.

## SPECIFICATIONS

Model	Tank Size	Overall Size	Volume	Power	Frequ -ency	Heating Power	Time setting	Temper- ature
	(L*W*H)mm	(L*W*H)mm	L	W	KHz	W	Min	F
<b>U-1000M</b>	11.8''(300mm) Lx6.1''(155mm )Wx3.9''(100m m)D	12.2''(312mm) Lx6.3''(162m m)Wx8.5''(218 mm)D	<b>4.5</b>		<b>40</b>	<b>100</b>	<b>0-20</b>	<b>68-176</b>
<b>U-1300M</b>	13''(330mm)L x11.8''(300mm )Wx7.8''(200m m)D	14.1''(360mm) Lx13.3''(340m m)Wx13.3''(34 0mm)D	<b>15</b>		<b>40</b>	<b>400</b>	<b>0-20</b>	<b>68-176</b>
<b>U-2000M</b>	19.6''(500mm) Lx11.8''(300m m)Wx7.8''(200 mm)D	21.6''(550mm) Lx13.3''(340m m)Wx13.3''(34 0mm)D	<b>30</b>		<b>40</b>	<b>500</b>	<b>0-20</b>	<b>68-176</b>
<b>U-2100M</b>	21.6''(550mm) Lx13.7''(350m m)Wx11.8''(30 0mm)D	22.8''(580mm) Lx15''(380mm )Wx22''(560m m)D	<b>58</b>		<b>40</b>	<b>1000</b>	<b>0-20</b>	<b>68-176</b>

**H: 0 – 20 minute timer is adjustable    T: 68 – 176F temperature is adjustable**

