

SPECIFICATIONS

Description	Digital Ultrasonic Cleaner
Model	TS-6000
Item No.	(115V) 7631725 (230V) 7631726
Tank Size	12.7 x 8.0 x 3.9 in. 32.3 x 20.3 x 9.9 cm
Longest item that can fit in tank	13.4" / 34.0 cm
Rating voltage	AC 220~240V ~ 50-60 Hz
& Frequency	AC 100~120V ~ 50-60 Hz
Consumption Power	AC 220~240V ~ 310W AC 100~120V ~ 260W
Digital timer	1 to 30 minute full range timer
Temperature Settings	104°F — 140°F / 40°C — 60°C
Drainage	Drainage Valve
Ultrasonic Frequency	35,000 Hz
Tank Material	Stainless Steel SUS304
Housing Material	ABS
Net Weight	11.9 lbs / 5.4 kg
Gross Weight	15.0 lbs / 6.8 kg
Unit Size	17.2 x 11.8 x 9.8 in. / 43.7 x 30.00 x 24.9 cm
Box Size	20.3 x 14.0 x 12.6 in. / 51.5 x 35.5 x 32.0 cm

Raytech Industries®

A Division of Lyman Products
475 Smith Street
Middletown, CT 06457

1-800-243-7163
www.raytech-ind.com

Raytech®

Turbo® Sonic 6000 Ultrasonic Cleaner



Operating Instructions

READ BEFORE OPERATING

Ultrasonic cleaners are very easy to use. To get the best results from your new purchase we recommend that you read this users guide before getting started. After reading instructions, if you do not fully understand the operation of this machine you may contact Raytech customer service at 1-800-243-7163 for further assistance.

MAIN FEATURES

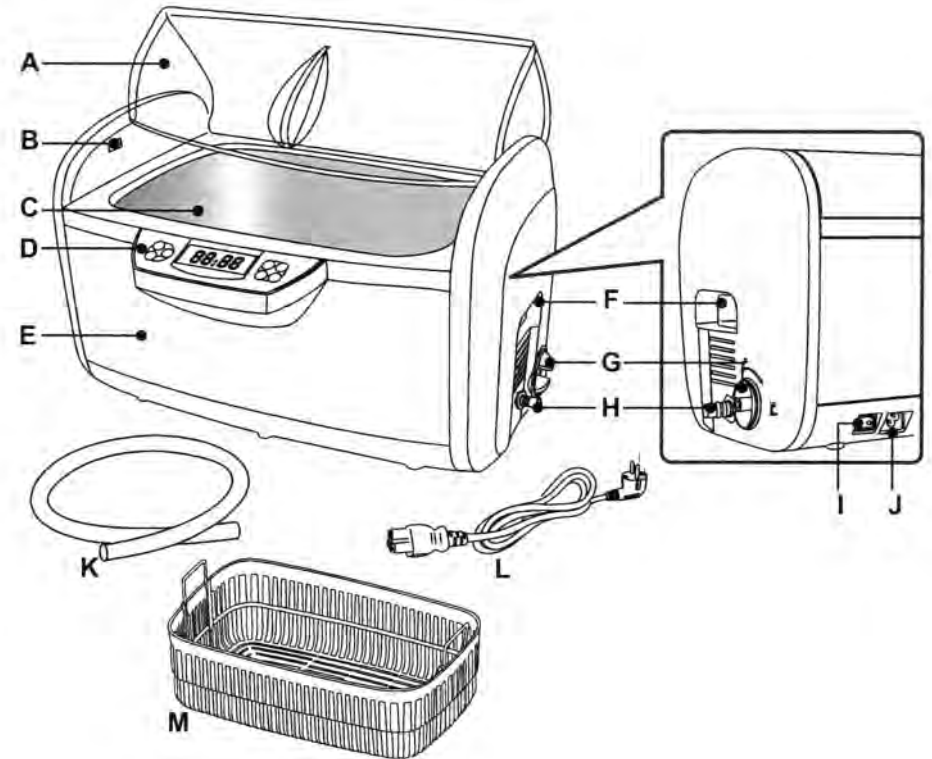
- Large tank capacity: 1.6 U.S. Gallons / 6000ml
- Larger tank size: 12.7" x 8.0" x 3.9" / 32.3 x 20.3 x 9.9 cm
- Two industrial grade ultrasonic transducers with independent control circuits
- Two ceramic heaters
- 2-color LED display with 5 timed cleaning cycles. From 1-30 minutes
- De-gas feature: removes air bubbles & improves cleaning efficiency
- Cooling fan
- Built in drain: Convenient clean-up
- Multiple circuit protectors

SAFETY INSTRUCTIONS

- Do not use for loaded ammunition cartridges.
- Always unplug this unit when not in use.
- Always keep unit in a safe place to avoid having it fall into water or other liquids.
- Do not immerse in water or other liquids, do not spray water or other liquids on unit.
- Always unplug unit immediately if unit has fallen into water or other liquid.
- Always keep unit and power cord away from heated surfaces, never use unit with damaged power cord.
- Always place unit on dry level surface for use, avoid blocking air vents.
- Do not disassemble unit.
- Always unplug unit before filling tank and never exceed the maximum fill mark.
- Do not fill tank with abrasive or corrosive materials, use only manufacturers recommended cleaning solutions.
- Follow all instructions in this manual.

- Do not run unit for extended time: After 45 minutes of continuous use let unit stand for 20 minutes to prolong unit's life.
- Never let items being cleaned come in contact with the tank.
- Avoid areas that may have electromagnetic interference.

FEATURES AND ACCESSORIES:



- | | |
|--------------------------|-------------------|
| A. Lid | H. Drainage Pipe |
| B. LED Lights | I. Power Switch |
| C. Stainless Steel Tank | J. Power Socket |
| D. Control Panel | K. Hose |
| E. Housing | L. Power Cord |
| F. Handles | M. Plastic Basket |
| G. Drainage Valve Handle | |


CONTROL PANEL AND OPERATION

1. Indicator Light - Working Status

Green - Ready (G): Normal working status, ready to use



Red - Overheat (R): Under overheat protection. 15 minutes of waiting time is needed for the light to change from red to green. Work can resume afterwards.

2. On/Off Button - On/Off Switch

After powering on, the LED displays  which is the default time and the unit is ready with normal working status.


Press On/Off button once and the cleaning starts. The cleaning stops when the timer counts down to 00:00. If the unit needs to be stopped before the timer runs out, press On/Off button.

3. Function Button - Functions (De-gas / Normal)

Press Function Button,  illuminates, indicating de-gas function is selected. Press On/Off button to start de-gassing.  will flash for two minutes, then the unit will return to normal cleaning function. Pressing Function button before it ends will stop de-gassing. If additional de-gassing is needed after it ends, press Function button again.


De-Gas: When cleaning heavily soiled or greasy items or steel, brass, silver, or copper items, chemical solutions need to be added to the water. The solution may form many small droplets and take a long time to dissolve in the water. Newly added water may generate many air bubbles on the tank walls. These will reduce the cleaning effect in the beginning phase of ultrasonic cleaning. Turning on the de-gas function will dissipate the droplets and the air bubbles, usually in 2 minutes, and will improve cleaning efficiency.

4. De-Gas Status



 Illuminated, the de-gas function is selected.

 Flashing, de-gassing is underway.

5. Normal Cleaning Status

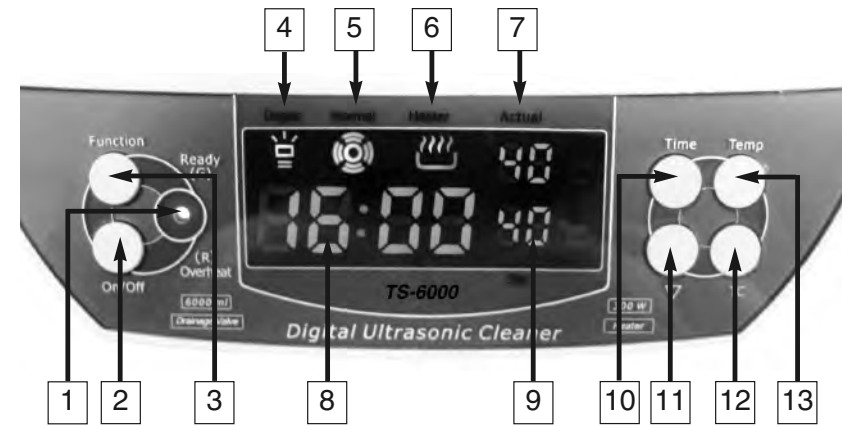
 Illuminated, normal cleaning is underway.

6. Heater Status

Press TC button,  flashes, indicating the heater is turned on. Press TC button again,  dims, indicating the heater is turned off.

7. Actual - Water temperature display.

It displays the actual water temperature in the tank.



8. Digital LED display of working items.

It counts down after work is started.

9. Set temperature display.

Press Temp button to select one of the 5 set temperatures.



10. Time button - Timer quick set button.

Press the Time button, LED display shows 05:00. Each pressing increases it by 5 minutes.

11. Button - Timer decreasing button.

Each pressing reduces the timer by 1 minute.

12. TC button - Heater button.

Pressing TC button,  flashes, indicating the heater is turned on. To cancel heating, press TC.  dims, indicating the heater is turned off.

When the water reaches the set temperature or 140°F (60°C), the heater will turn off automatically.

13. Temp button - Temperature Set button.

5 set temperatures can be selected. The default temperature is 104°F (40°C). Press Temp button to select the temperature in the following sequence:

FAHRENHEIT TO CELSIUS CONVERSION CHART

Fahrenheit:	104°F ▶	113°F ▶	122°F ▶	131°F ▶	140°F
Celsius:	40°C ▶	45°C ▶	50°C ▶	55°C ▶	60°C

USER MAINTENANCE

- Unplug and empty unit after each use.
- Do not store water or cleaning solutions in cleaning tank for any long periods of time.
- Keep unit in cool, dry, ventilated location.

OPERATING INSTRUCTIONS

For step by step instructions please see our instructional videos on the Lyman Products website at : www.lymanproducts.com

1. Open the lid and remove basket. Place items into basket, then put basket into the cleaning tank. Add water to a level between MIN and MAX to cover the items being cleaned.

If the unit is turned on without water, ultrasonic energy will not be absorbed. This model is high-powered. If turned on for more than 15 seconds without water, it may damage or severely reduce the life of the unit.

2. Connect the power cord to an outlet and turn the switch on. LED display shows 05:00. This is the default setting and most common timer setting and working state. If the timer needs to be adjusted, press TIME button and ▽ button. The timer can be set between 1 and 30 minutes. Common cleaning times are 5, 10 or 15 minutes.

Prolonged cleaning time may result in:

- a. Loosening of screws (if used).
- b. Increasing pre-existing cracks.
- c. Peeling of coating which was already separated.

3. Press On/Off button to start cleaning. During cleaning, 2 sets of blue LED lights at the two sides of the unit illuminate, and a buzzing sound can be heard from the cleaning tank, indicating that cleaning is underway. Closing the lid will reduce the noise level. The digital timer will count down to show the remaining cleaning time. When it displays 00:00, the cleaning is done.

To stop cleaning at any time, press On/Off button. The unit is designed with overheating protection to avoid extended and continuous operation for too long. When the red light is on, the unit will not turn on even by force. The unit will idle for about 20 minutes and can be restarted after the green light comes on.

- a. When the heater is needed, press TEMP button to select one of the 5 preset temperatures. Press TC button, 🔊 flashes, indicating the heater is turned on. LED Actual displays actual water temperature. When the water reaches the set temperature, 🔊 dims, indicating the heater is turned off.

To ensure safety, the unit is designed with dual protection. The heater will be turned off automatically if it has been running for 50 minutes.

- b. To speed up the mixing and to use less solution, use De-gas function. Press TIME button to set the timer for 10 minutes, then press FUNCTION button, 🔊 illuminates. Press On/Off to start de-gassing. It changes over to normal cleaning after 2 minutes.

- c. When debris “smoke” is no longer visible, cleaning is done. If additional cleaning is needed, reset the timer and repeat the previous steps.

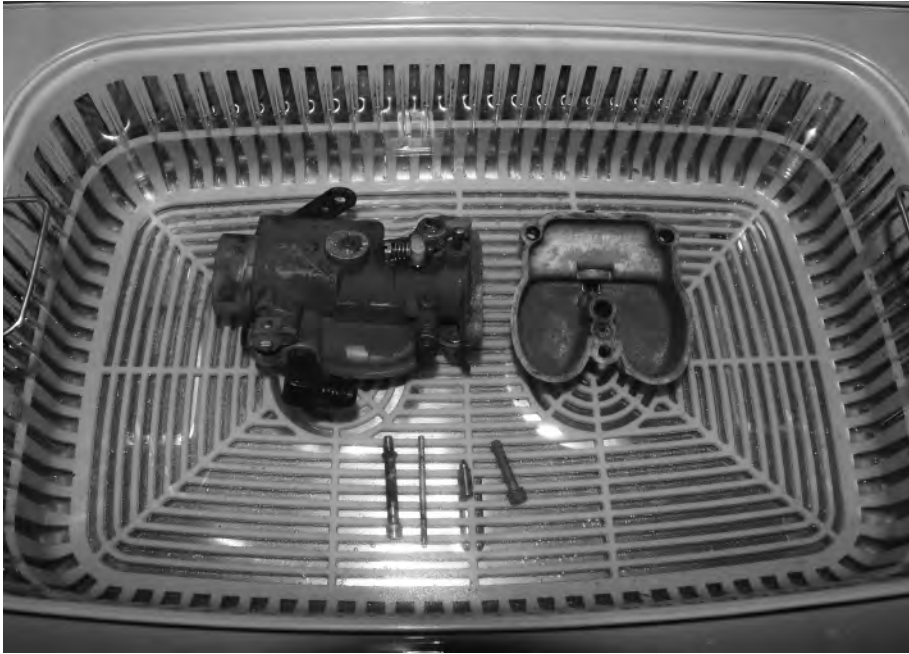
4. When cleaning is completed, unplug the power cord, open the lid and remove the basket. Connect the supplied drainage hose to the drain nozzle by pushing straight on. Open the drainage valve to drain the dirty water. Clean and wipe the tank dry. Close the drainage valve. Remove drainage hose and rinse with clean water.

CLEANING SOLUTIONS

It is important to use the proper cleaning solutions for the material being cleaned. Raytech offers several different ultra-sonic cleaning solutions for your specific cleaning needs. Always follow the directions on the label of the cleaning solution for best results.

RAYTECH® CR CONCENTRATED CORROSION REMOVING SOLUTION

- Can be used to restore surface appearance on metals
- Removes tarnish, oxidation, rust, and scale build up.
- Parts to be cleaned should not have excessive oil – remove bulk oil before cleaning in this solution.
- For best cleaning action, avoid multiple layers – keep as much space between parts as possible.
- For best results when cleaning parts with cavities, remove the basket from the unit and load the parts into the basket. Lower the basket into the solution and shake the basket slightly to help dislodge any bubbles that might be present inside the parts.



- Not recommended for cleaning silver, sterling silver or silver plating.
 - Will effectively clean gold jewelry, but avoid immersion of gemstones in the solution as they may be damaged by the solution or sonic energy or both.
 - When starting with a new batch of parts and new cleaning solution pre-heat the solution and run the ultrasonic for 5 minutes to “degas” the solution. Dissolved gas in the solution can diminish the ultrasonic energy. Once degassed, it is not necessary to degas again until the solution is changed.
 - Discard the solution when it becomes highly discolored or murky. Rinse the unit with clean water before recharging.
 - Do not mix with other cleaners or chemicals.
- (Caution- removes bluing from steel, coated surfaces can be damaged by excessive ultra sonic action)

**RAYTECH® GP CONCENTRATED
GENERAL PURPOSE CLEANING SOLUTION**

- Can be used as a general purpose cleaner for most metals



- When cleaning aluminum, keep the use of the sonics to the minimum time needed. The part(s) can be allowed to soak (no sonics) to help in decreasing the time required for sonic cleaning. Aluminum can be damaged by excessive sonic energy.
- Designed to clean oil, grease, and grime buildup on parts.
- Not recommended for cleaning silver, sterling silver or silver plating.
- Avoid cleaning jewelry, particularly gemstones in this cleaning solution.
- Will provide limited corrosion protection – after cleaning, do not rinse the part(s). The part(s) should be properly drained and allowed to air dry. Not meant as a long term inhibitor – part(s) should be oiled for long term corrosion protection.
- When starting with a new batch of parts and new cleaning solution preheat the solution and run the ultrasonic for 5 minutes to “degas” the solution. Dissolved gas in the solution can diminish the ultrasonic energy. Once degassed, it is not necessary to degas again until the solution is changed.

(Caution: can cause discoloration on aluminum and pitting when used for extended periods of time)

ULTRASONIC APPLICATIONS

Your Raytech Turbo® Sonic Ultrasonic Cleaner offers a new and innovative approach to cleaning small intricate parts. Ultrasonic cleaning is widely used in the industrial, medical, jewelry, automotive, and firearms industries. Ultrasonic cleaners may also be used for a variety of general purpose applications for the hobbyist and professional alike. It is extremely important when using the Turbo Sonic for uses other than steel parts that you use the correct cleaning solution or you risk damage to the item you are cleaning. Raytech offers a special jewelry cleaning solution. For items questionable about their suitability for ultrasonic cleaning we suggest contacting the manufacturer of the item to determine if ultrasonic cleaning is appropriate for that item.

WARRANTY/REPAIR POLICY

Your Raytech Product has been produced under rigid standards of manufacture and inspection. However, if your Raytech product is found to be defective in material or workmanship within one year of delivery to the first retail purchaser, we will repair or replace it without charge.

If you require service under this warranty, please contact Raytech for a return authorization. Return the complete item along with a letter of explanation, including your complete name and address, freight prepaid to the factory at the address listed below, be sure to write the RMA number on the outside of the package. Your Raytech product will be repaired or replaced and returned to you within 30 days of our receipt. In making any return of a Raytech product to the factory, please be sure it is packaged with proper care to protect it from damage in transit.

We are sorry, but our warranty cannot apply to a defect which results from misuse, abuse, neglect, accident or improper care, or if your Raytech product has been altered or repaired by anyone other than factory personnel.

If the item is out of warranty and is in need of repairs, the Raytech product should also be returned to the same address listed below. Appropriate charges will apply for parts and labor. Estimates are available only when the item has been thoroughly inspected by our repair personnel.

Raytech IND, Div. of Lyman Products Corporation

475 Smith Street, Middletown, CT 06457

Attn: Service Department

For step-by-step instructional videos on using the
Raytech Turbo®Sonic Ultrasonic Cleaner

Visit our website at:

www.lymanproducts.com