

# TPC

**UC 450 / UC1050  
Ultrasonic Cleaner**

## **Operation Manual**



[www.tpcdental.com](http://www.tpcdental.com)

## **WHAT IS ULTRASONIC CLEANING**

Ultrasonic cleaning is a process created by sound waves that are transmitted at frequencies beyond the range of human hearing. These sound waves that are carried through the solution in the tank create a unique vibration pattern causing alternating high and low pressures in the liquid. During the low-pressure stage, millions of tiny bubbles form. This process is called CAVITATION, meaning the formulation of cavities. During the high-pressure stage, the bubbles collapse or implode, releasing enormous amounts of energy\_ working in all directions, attacking every surface and invading all recesses and crevices, pulling the debris off of the object being cleaned.

### **WARNINGS**

Before using your TPC CLEANING SYSTEM, please read and understand the following warnings. Failure to follow, may result in personal injury or property damage, and negate the warranty.

- Never operate your TPC CLEANING SYSTEM when hands are wet.
- Never put highly flammable liquids in tank.
- Never allow liquid level to drop above one inch (25mm) from the bottom of the tank.
- Never run your machine dry. This will cause damage to the machine.
- Make sure the machine is grounded. Do not remove the grounding pin from the line cord.
- Make sure you are using the proper voltage for your machine.
- Keep the control panel clean and dry.

- Keep the area around the machine clean and dry.
- Never immerse your machine in water. To clean unit: unplug, rinse and wipe dry.
- Avoid placing your fingers in the tank when it is in operation. Always use accessories available from TPC.
- Never disassemble your machine. This should only be done by an authorized TPC technician.
- Avoid operating your machine at extremely high temperatures for extended periods of time.

## BASIC OPERATING DO'S AND DON'TS

### **Do's**

1. Ensure that the power cord included with you system is properly grounded.
2. Operate your Ultrasonic Cleaning System with sufficient solution in the tank.
3. To prevent solution loss through evaporation and splashing, use the tank cover when the machine is in operation.
4. Keep the inside surface of the tank clean and free of sediment.
5. Keep ventilating louvers clean and free of obstructions.
6. Be sure to unplug the machine before moving it.
7. If service is required, consult the TPC technician.

## Don'ts

1. Do not subject your machine to shock impact.
2. Do not operate the cleaning system when hands are wet.
3. Do not immerse machine in water or any other liquid.
4. Do not use gasoline, benzine or other highly flammable chemicals in your Ultrasonic Cleaning System.
5. Do not use acid or blend in your stainless steel tank as pinholes will be created.
6. Do not place any objects directly on the bottom of the tank. They may block cavitation, prevent proper cleaning, and cause a build-up of heat in the transducers. A TPC Stainless Steel Accessory Basket is recommended.
7. Do not restrict airflow. Good ventilation is required.
8. Do not operate your machine in extremely dusty areas. Dust build-up may interfere with the machine's normal operation.
9. Avoid placing hands in the machine.

## START-UP

1. Plug line cord into the AC outlet.
2. Pour in the required amount of water. Add the part(s) to be cleaned in your accessory basket. Make sure the part(s) are totally covered by water. If necessary, add more water to bring the level to just above the part(s) being cleaned.
3. For machines with a timer. To activate your machine, simply set your timer on the front panel to the number of minutes desired for ultrasonic cleaning. Then press the start button. These self-timing units will automatically shut

themselves off at the end of the pre-set time. To stop a cycle, simply press the start/stop button and the cycle will stop.

4. For machines with heat: On machines equipped with heat, a separate "On-Off" rocker switch is located on the front panel. This switch allows pre-heating of cleaning solution before the ultrasonic operation. The rocker switch is lit when the heater is in operation and must be switched off when not in use.
5. The heater element is designed to maintain a temperature of 125°F-150°F (52°C- 65°C). When you operate both the ultrasonic and heat simultaneously, with the tank covered with the supplied lid for an extended period of time, the solution temperature will rise above this level. At this point, the thermostat will automatically shut the heater element off until the solution drops below maximum heat level. The thermostat will be reactivated as required. During this cycle, the heat indicator light will remain lit. Because of the intense ultrasonic power dissipated in the form of heat, the temperature of the solution may once again rise above the 150°F with the ultrasonic

## CLEANING METHODS

### **Direct Cleaning Method**

This direct method of cleaning is beneficial due to its simplicity and cleaning effectiveness. In this method, the part(s) to be cleaned are placed in your accessory basket. In turn, the basket is then placed directly into the main tank already containing water. Cleaning times may vary depending on the amount and types of contamination on the items. We suggest that a 3-5 minute cycle be initiated and more time added if necessary.

NOTE: For extremely contaminated objects, per-soaking or post-hand brushing may be necessary.

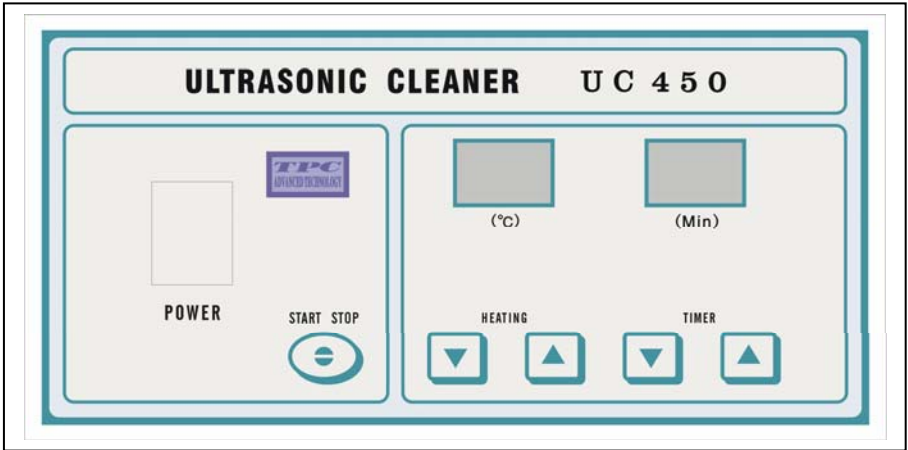
### **Indirect Cleaning Method**

When a cleaning application necessitates a series of different solutions, or when a specialized solution which is not to be placed directly into the stainless tank is to be used, the following procedure is recommended.

If a beaker or beakers are used, place the beaker in a TPC positioning cover using the beaker band to adjust the depth of the suspension so the beaker bottom is slightly below the surface of the solution in the main tank, but off the bottom.

In the Indirect method, the beaker functions as a second ultrasonic cleaning machine when properly used.

## Description of controls



1. Power Switch: Use this switch to turn the power on and off to the unit.
2. Start / Stop: Press this button to start and stop the ultrasonic operation.
3. Heating  $\uparrow\downarrow$ : Press the heating  $\uparrow$  to increase the temperature of the solution. Press the heating  $\downarrow$  to decrease the temperature of the solution.
4. Timer  $\uparrow\downarrow$ : Press the timer  $\uparrow$  to increase the elapsed time. Press the timer  $\downarrow$  to decrease the elapsed time.
5. (°C) OR (°F): displays the temperature of the heater setting.
6. (MIN): Displays the time remaining for a cycle. It also lets you see how long the cycle will be set for.

# WARRANTY

TPC hereby warrants that for a period of 1 year from the date of purchase this instrument shall be free from defects in material and workmanship and will perform satisfactorily under normal use and service.

The warranty stated herein is the sole warranty applicable to TPC products. TPC expressly disclaims any and all other warranties expressed or implied, including warranties or merchantability or fitness for a particular use. TPC'S liability with respect to its products expressly limited to the remedies set forth above. The remedies are the buyer's exclusive remedies. TPC shall under no circumstances be liable for incidental or consequential damages.

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone # \_\_\_\_\_

Product S/N \_\_\_\_\_

Model # \_\_\_\_\_

Purchase Date \_\_\_\_\_

Dealer \_\_\_\_\_

Include a copy of you original purchase invoice