

SHESTO

Shesto Limited
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Ultrasonic Cleaner User Manual



General Information

Introduction

This user manual is for use with ultrasonic cleaning tanks from Shesto Ltd.
All cleaning tanks should be handled with care to ensure maximum performance.

Please read and understand this user manual before using your ultrasonic cleaner.

Care and Safety

- Do not operate if the tank is less than 2/3 full.
- Ensure power is disconnected before attempting to add or remove fluid.
- If pouring fluid away, pour away from the electrical socket on the rear and front control panel.
- Do not let items rest on the base of the bath, always use a glass beaker or basket.
- Do not place hands or fingers in the bath. Contact exposure to ultrasonic cavitation is suspected to cause living tissue and bone damage.
- Do not use any fluids which could potentially damage the stainless steel bath e.g acids.
- Do not use fluids exceeding 80 °C.
- When submerging parts ensure fluid is not displaced out of the bath.
- Maximum running time for a single cycle is 45 minutes.
- Always allow a rest time of 20 minutes between cleaning cycles.
- Never drop an item onto the base of the bath.
- Always clean bath after use.
- Never change the fuse for a higher rated one.
- Aqueous solvent/detergent solutions should be made up with deionised, demineralised or distilled water as calcium carbonate and other impurities in tap water can effect/ reduce the cleaning properties of the solutions and produce undesirable side effects such as deposits and staining.
- Volatile solvents with low boiling temperatures should not be used. The ultrasonic action can cause them to heat rapid and the vapour is a fire risk.

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About Ultrasonics

How Ultrasonics Work

Ground-In dirt and grime can be extremely tedious to remove by hand, however it becomes easy with the use of ultrasonic cleaners. A wide range of parts can be cleaned by the ultrasonic process to a 'Like New' condition with the right detergent/solvent without damaging the part.

A physical effect called "acoustic cavitation" generated in the liquid is responsible for the cleaning process. Cavitations form when ultrasonic waves travel through liquid. When a sound wave travels through fluid it stretches and compresses the liquid to transmit the sound, as the amplitude of such sound waves increase to a critical level the negative pressures create cavities in the water.

As these cavities collapse high temperatures and large forces are generated in a very localized area, the accumulative effect of millions of these collapsing cavities is responsible for the cleaning action and are particularly effective when used with the correct detergent/solvent. Cavitation takes place where ever the liquid comes into contact with the object being cleaned, for example; fine recesses/cracks and obscured chambers to clean where many other cleaning methods cannot reach.

Objects Ultrasonics Can and Can't Clean

Ultrasonic cleaners can be used to clean just about anything. The list below names the most common items cleaned by ultrasonics:

- Taps, Dies, Milling cutters,
- Engine Blocks,
- Carburetors,
- Jewellery (Gold, Silver and Platinum)
- Waterproof watches
- CD's and DVD's,
- Medical equipment / instruments (ultrasonic cleaning does not sterilize, it must be followed by sterilisation in an autoclave)
- Dentures,
- PCBs / assemblies (clean with caution, see operational advice below)
- Golf clubs,
- Ceramics,
- Paint spray guns, Airbrushes
- Tattooing equipment (ultrasonic cleaning does not sterilize, it must be followed by sterilisation in an autoclave)
- Printer heads,
- Diving respirators,
- Bike parts and much more.

Most objects can be processed in an ultrasonic tank but there are some exceptions including some plastics, precious stones and electronic components. We advise checking with the manufacturer of the objects to be cleaned whether they are suitable for ultrasonic cleaning.

Professional Series

Product Operation

The following instructions will ensure safe and correct use of your ultrasonic cleaner:

Step One: Place ultrasonic cleaner on a flat stable surface.

Step Two: Add your chosen cleaning solution to the bath (cleaning agents are not always necessary) to a level where it will not overflow when the item to be cleaned is added. Add item to be cleaned.

Step Three: Plug in the cleaner and switch on via the switch on the rear of the unit if present, otherwise at the wall socket.

If no buttons are pressed after eight hours your ultrasonic cleaner will go into power save mode. To restore power press any button on the front panel.

Step Four: Digital displays on the front panel should now show the last set time and the current water temperature.

Step Five: To increase/decrease the target temperature, press the up or down arrow below the temperature display, temperature is adjusted by 1 °C with each press between 0 and 80 °C, holding the up or down button will change the target temperature by 10°C. The heater is used to keep fluid at temperature between cleaning cycles, the ultrasonic process also acts to heat the fluid.

Step Six: To increase the process timer by 1 minute press the up arrow button, hold the up arrow button to increase in 10 minute steps.

To decrease by 1 minute press the down arrow button, hold the down arrow button to decrease in 10 minute steps.

Step Seven: Once the time and temperature have been set press the relevant process enable/disable button(s) (Heating, Degas, Delicate or Full). The relevant indicator lights will turn on and the cleaner and/or heater will enable.

To end the cleaning/heating process press the corresponding key(s) again, if nothing is pressed the ultrasonic will stop when the timer reaches 00:00, the heater will switch on and off to maintain the fluid at the target temperature.

Cleaning Modes

Degas Mode: Degas mode will start intermittent operation of the ultrasonic power. This ensures rapid removal of air from liquids. This can be started via the degas button. This button will also stop the cleaning prior to timed ending if needed.

Delicate Mode: The ultrasonic cleaner delivers half power to provide a less aggressive clean for delicate items. To start the delicate mode press the delicate button. This button will also stop the cleaning prior to the timed ending if needed.

Full Mode: The ultrasonic cleaner delivers its maximum ultrasonic power to provide an aggressive clean for heavily soiled items. The full button will start Full mode on your ultrasonic tank. This button will also stop the cleaning prior to the timed ending if needed.

Different Methods of Cleaning

General Cleaning: For lightly soiled objects we suggest only using warm water. This should be paired with a temperature around 40°C .

Enhanced Cleaning: If the objects in question need a deeper clean then we advise the use of an ultrasonic cleaning solution mixed weakly and heated to the mid range of the fluids operating temperature. Again a warm temperature between 40-60°C will help you achieved your desired results.

Extensive Cleaning: For the removal of tarnish, fuel and hard carbon deposits, and rust from non-plated metals, etc, we recommend a pre-soaking in the ultrasonic bath of detergent/solvent mixed to its strongest concentration ratio to soften unwanted deposits whilst heated to the high end of the fluids operating temperature range. These steps coupled with the Full mode will ensure the best cleaning possible.

For more information on the range of solutions visit page 8.

Series Features



Series Comparison Sheet

	Units	UT8021/EUK	UT8031/EUK	UT8061/EUK
Tank Capacity	Litres	2	3	6
Timer	Minutes	1-99	1-99	1-99
Ultrasonic Power (No. of Transducers)	Watts	50 (1)	100 (2)	150 (3)
Heating Power	Watts	100	100	300
Frequency	KHZ	40	40	40
Tank Dimensions (Bath Lip)	MM	150x137x100	240x137x100	300x153x150
Tank Dimensions (Bath Base)	MM	138x124	221x118	275x130

Ultrasonic Solutions

Ultrasonic solutions can be essential when using an ultrasonic cleaner to achieve your desired results, whether that's for cleaning motor parts through to rust removal and optical cleaners.

Shesto Ltd stocks a range of solutions which will cater for a wide range cleaning needs. Most of the solutions come in a range of bottle sizes right through to 25 litre bottles.



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