multicomp PRO

ULTRASONIC CLEANER EU-UK
MP-USC-2L and MP-USC-3L

General Information

Introduction

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, keep 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 eg 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 unless the solution states tap water is OK, as calcium carbonate and other impurities in tap water can affect or 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.

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 increases 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 wherever 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 Will Clean

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

- Tools and machine cutters
- Car/motorcycle small parts
- Jewelry (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)
- PCBs / assemblies (clean with caution, see operational advice below)
- Ceramics
- Paint spray gun parts, Airbrushes
- 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.

Operation and Features

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, and 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 steps. The heater is used to keep fluid at temperature between cleaning cycles and works independently to the ultrasonic action but is switched off automatically at the end of a timed cycle. 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 and heating action will stop when the timer reaches 00:00, while the timer is running 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.

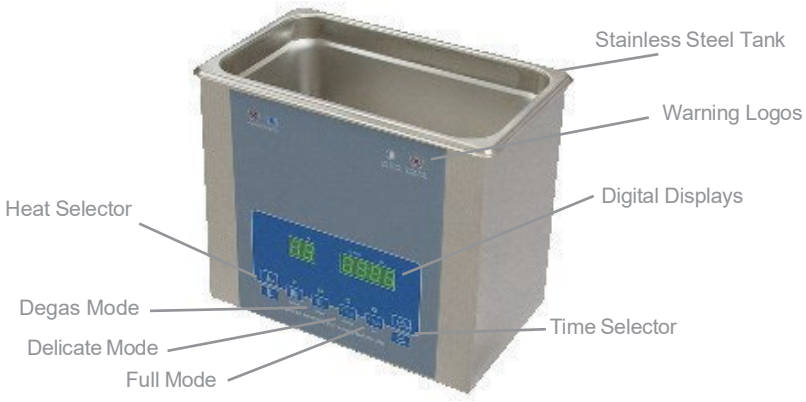
Different Methods of Cleaning

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 a weak ultrasonic cleaning solution and heated to the mid-range of the fluids operating temperature. A temperature between 40-60°C should achieve good 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.

Product Features



Specifications

	Tank Capacity	Timer	Ultrasonic Power (No. of Transducers)	Heating Power	Frequency	Tank Dimensions (Bath Lip)	Tank Dimensions (Bath Base)
Units	Litres	Minutes	Watts	Watts	KHz	MM	MM
MP-USC-2L	2	1-99	50 (1)	100	40	150x137x100	138x124
MP-USC-3L	3	1-99	100 (2)	100	40	240x137x100	221x118

Recommended Multicomp-pro powder concentrates are:
MP-UTPCB200 - Ultrasonic Cleaning Powder Concentrate for PCB and Flux (200g)
MP-UTRUS200 - Ultrasonic Cleaning Powder Concentrate for Oxidation and Rust Removal (200g)

INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.

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