

ULTRASONIC CLEANER

USER MANUAL

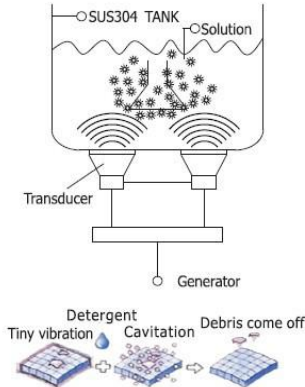
△ **Keep this manual for reference**

Thank you for purchasing our smart ultrasonic cleaner.

The product you have purchased is one of the most innovative ultrasonic products and provides optimum cleaning performance with comfort of use.

In order to ensure reliable operation, please take note of all the information and instructions in these operating instructions without fail.

ULTRASONIC 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 which would normally require tedious manual cleaning by hand. It has been used to clean a wide variety of instruments and mechanical parts such as carburetors, returning them to almost "like new" condition without damage to delicate parts.

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: Main machine | b: Sound proof lid | c: Power lead |
| d: Outlet filter | e: Mesh basket (Optional) | f: Manual |

2. Place the cleaner on a flat, clean surface where the cooling fans will receive adequate ventilation and ensure all controls are set to off. Also ensure the drain tap is in the closed position.
3. Ensure the power lead is securely plugged into the cleaner and that no part of the lead is likely to come into contact with moisture.
4. Carefully fill at least 1/2 of the tank with a solvent solution. For demanding cleaning we recommend a small amount of washing up liquid, this will help increase the cleaning performance. The cleaner is now ready for use.

 **Attention**

- a) While the machine is working normally, ultrasonic and tank syntonny gives a well-proportioned sound, and no shudder on the surface of the water, yet there is spray made by the tiny bubbles. If there are discontinuous surges, please add or release a little of washing solution in the tank, stopping the surges is better for the objects cleaning.
- b) On the condition of making sure the cleaning object is cleaned, please run the machine discontinuously as far as possible(not more than 30min.),for long-time running will cause temperature increment of the case .

 **Keep it away from children !**

This device is not intended to use by individuals with restricted physical sensory or metal capacities or those with lack of experience or knowledge, include children, unless they are supervised by an individual who is responsible for their safety or have received training in operating the device .

 **Please read the following very carefully as failure to comply may invalidate your guarantee**

- 1) DO NOT run the cleaner continuously for more than one hour at a time, as doing so can damage the internal components.
- 2) DO NOT operate the unit without fluid in the tank. Always ensure the fluid is no higher than the max mark, Always ensure there is a minimum depth of 7cm.
- 3) DO NOT drop any item into the tank as may cause damage to the transducer.
- 4) The more items that you place in your cleaning bath the less efficient it will clean. It is not advised to overlap items.
- 5) Do keep the lid on during 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, except 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 using 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 as the fluid is likely to be hot and displaced fluid can damage the internal components. Any displaced fluid must be dried up immediately.
- 17) In the event of failure/emergency, disconnect the mains supply by removing the plug from the mains socket.

APPLICATIONS

This list is almost endless. Provided the product is non porous and can normally be immersed in water almost anything can be thoroughly cleaned. Here are some examples:

- Jewellery especially gold, silver & platinum
- Watchstraps
- Coins and other collectibles
- PCB Boards etc
- Engine/Model parts
- Toothbrushes & Dentures

- Electrical components
- Make-up cases
- Diesel injection pumps
- Printer heads and toner cartridges
- Motorcycle radiators
- Vehicle differentials
- Milking parlour equipment
- Golf clubs&grips&golf balls
- Horse bits&stirrups &horse brasses
- Tattoo needles
- Sugical equipment
- Motorcycle engine crank cases
- Engine cylinder heads
- Turbochargers
- Bicycle derailleurs
- Knives, bayonets and other militaria
- Gun and gun components

Ultrasonic cleaning is not recommended for the following gemstones: Opal, Pearl, Emerald, Tanzanite, Malachite, Turquoise, Lapis and Coral.

DIGITAL ULTRASONIC CLEANER STRUTURE AND ACCESSORIES

OPERATION

A) Add cleaning liquid into the tank,then plug in (make sure that power supply connect to the ground), when connected,the temperature defaults to be 25 °C ,and the timer defaults to be 3 minutes.

B) Timer setting:Press “**TIME-/TIME+** ” shortly at a time means time increase/reduce 1min at a time, press and hold means time will increase/reduce by 10mins continuously.

C) Temperature setting:Press **temperature-/temperature+** shortly at a time means time increase/reduce 1°C at a time, press and hold there means time will increase/reduce by 10°C continuously. When actual temperature is higher than the setting time,The operation is invalid. The indicator light will be off when the

temperature reach the setting number. The LED panel display the actual temperature when ultrasonic is working.

D) After time and temperature are set, press heating bottom and choose the following three cleaning mode:

- 1) **Sweep mode** :lower frequency and lower power are better used for cleaning precision workpiece.
- 2) **Turbo mode**:higher frequency and higher power are better used for cleaning those workpiece are different to clean
- 3) **Degas mode**:work Intermittently, 6s on + 2s off working mode. Cleaning deeply and efficiently

E) After cleaning, Empty the tank and clean both the outside and inside of the cleaner with clean and dry cloth for next use.

NOTE: Do not pour water out until it's cooling, Hot water will hurt you and damage the machine itself.

DIFFERENT WAYS OF CLEANING

Genrral Cleaning—use only tap water. Use warm temperature about 50°C .

Enhanced Cleaning—add few drops of standard washing up liquid, liquid soap, or detergent into water, other non-acidic cleaning agents can also be used.

Extensive Cleaning--removing tarnish, carbon & rust from non-plated metals, it is recommended to use specialist cleaning solution in associated using ultrasonic cleaner.

WARNING : Strong acid or alkaline cleaning solution will cause corrosion, rust and even 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 in order 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 electrics or displays any other fault the operator must immediately stop the machine, isolate the electrical supply and contact the supplier. Continued use is dangerous.

Advantage

Ultrasonic is widely used throughout industries to remove difficult contaminants from the parts during or after manufacturing process which might require a stage of cleaning before the next process. In general, if an item can be cleaned with liquid, it can be cleaned much faster and more thoroughly with an ultrasonic cleaner, Compared to traditional solvent/scrubbing methods of cleaning in a parts washer, our ultrasonic cleaners:

- Are more effective at removing contamination
- Are quicker to achieve the results you want
- Save employee time (and consequently money) by enabling 'switch on and leave' cleaning
- Are heated to allow cleaning solvents to work more effectively
- Use mechanical timers for simplicity, precision and longevity
- Produce less mess during use
- Less chemistry
- Reproducible result

For Better cleaning effect:

- The item should be immersed well into the water.(do not exceed the "MAX" mark)
- Warm water(never hot or boiling) and a small amount of washing up liquid will help increase the cleaning performance.
- Make sure there is good space around each part 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 lay items one on top of the other the system doesn't work

the way it's supposed to.

- Basket use. Do not put items directly into the bottom of the tank, better cleaning effect with a suitable basket. A metal basket absorbs less ultrasonic energy at about 8%.
- Temperature: The higher temperature the better cleaning effect. However, when temperature exceed 70°C~80°C, cleaning effect will be affect. The best temperature we suggest is 40°C~60°C.

SPECIFICATIONS

Model	Tank Size	Volume	Power	Frequency	Heating Power	Timer	Temperature
	(L*W*H)mm	L	W	KHz	W	Min	°C
DK-130S	150×140×65	1.3	60	33,40	100	1-99	0-80
DK-200S	150×140×100	2.0	60		100	1-99	0-80
DK-300S	240×140×100	3.2	120		100	1-99	0-80
DK-400S	300×155×110	4.5	120		100	1-99	0-80
DK-450S	300×155×100	4.5	180		100	1-99	0-80
DK-600S	300×155×150	6.5	180		300	1-99	0-80
DK-1000S	300×240×150	10	240		300	1-99	0-80
DK-1500S	330×300×150	15	360		400	1-99	0-80
DK-2200S	500×300×150	22	480		500	1-99	0-80
DK-3000S	500×300×200	30	600		500	1-99	0-80

H: 0-80 °C temperature can be adjustable

T: 1-99 mins can be adjustable

S: Smart ultrasonic cleaner

