



ULTRASONIC CLEANER

Operating Manual



For questions, comments, or concerns

Please call Hardware Factory Store Inc.

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Mon-Fri: 10:00AM - 6PM

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WARNING: To reduce the risk of injury, do not attempt to use or maintain this unit until you read and understand these instructions. Do not permit untrained persons to use or maintain

We appreciate you for choosing HFS' ULTRASONIC CLEANER. [Visit us online](#) to see our full line of products available for your Business.

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SAFETY PRECAUTIONS

 **Keep it away from children!**

This device is not intended to use by individuals with restricted physical sensory or mental 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!**

- 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 this may cause damage to the transducer. Always place the items gently into the tank and use the basket whenever possible.
- 4) The more items that you place in your cleaning bath the less efficient it will clean. It is not advised to overlap items. Always allow plenty of clear space between the 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.

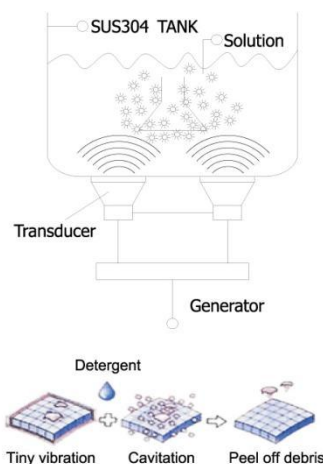
I. Introduction

Digital control series ultrasonic cleaning machines have been widely used in hospitals, medicine, schools, scientific research, petroleum, chemical industry, light industry, metallurgy, machinery, transportation, national defense and other industries.

For instruments, meters, electronic devices, circuit boards, semiconductor silicon chips, magnetic materials, electroplating parts, hardware, optical lenses and spare parts, audio magnetic head, polyester filter element, spinneret, latex mold, medical equipment, glassware, jewelry The deep cleaning of clock parts, precision hardware, bearings, oil nozzles, oil pumps and parts and components with complex geometry in mechanical manufacturing, especially the dirt cleaning of deep holes, blind holes and concave and convex surfaces, is the most ideal high-efficiency and high-precision cleaning equipment at present.

When cleaning, choose to add the corresponding cleaning solution to achieve better cleaning effect.

II. 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 then implode violently causing the cavitation which create 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.

III. Features

- (1) Stainless steel housing, tank and lid.
- (2) Stamp tank without welding gap for better waterproof.
- (3) Cooling fan
- (4) Moisture-proofed PCB
- (5) Industrial grade IC & ultrasonic transducer



IV. Technical Parameter

Model	Tank Material	Heating Power(W)	Ultrasonic Power(W)	Frequency (kHz)	Power Supply	Tank Capacity (L)	Time Setting	Temperature Setting (°C)	Transducer Quantity	Tank Size (L x W x H)	Ultrasonic Cleaner Size (L x W x H)
PS-10A	SUS304	50	70	40	110V 60HZ	2	1 - 30 min	0-80	2	6"×5 1/2"×4"	11"×7"×8 1/2"
PS-20A	SUS304	100	120	40	110V 60HZ	3	1 - 30 min	0-80	2	9 1/2"×5 1/2"×4"	11"×7"×8 1/2"
PS-30A	SUS304	180	200	40	110V 60HZ	6	1 - 30 min	0-80	3	11 3/4"×6"×6"	14 1/2"×6 3/4"×10 3/4"
PS-40A	SUS304	240	250	40	110V 60HZ	10	1 - 30 min	0-80	4	12"×9 1/2"×6"	13"×10 1/2"×10 1/2"
PS-60A	SUS304	360	400	40	110V 60HZ	15	1 - 30 min	0-80	6	13"×12"×6"	14 1/2"×13"×10 1/2"
PS-80A	SUS304	480	600	40	110V 60HZ	22	1 - 30 min	0-80	8	19 1/2"×11 1/2"×6"	22"×13"×11"
PS-100A	SUS304	600	800	40	110V 60HZ	30	1 - 30 min	0-80	10	20"×12"×8"	22"×13"×12 1/2"

H: 1-30 mins can be adjustable

T: 0-80 °C temperature can be adjustable

D: LED Digital display

V. Operating Manual

1. Before operating

(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 .

2. Operation instructions

(1) Fill stainless steel tank with liquid; Plug the cleaner into grounded outlet; after power on, the temperature displays the actual environment temperature, LED displays 3 minutes, which is default time.

(2) Time setting: Press the “**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.

The cleaning stops when the timer counts down to 00:00. If the unit needs to be stopped before the timer runs up, press “**ON/OFF**” button.

NOTE: Do not run the cleaner continuously for more than one hour.

(3) Set temperature: 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. Usually, the best results are within 40°C to 60°C.

(4) After time and heat setting, press ON/OFF key to start both function. Press “**Heating**” button “**OFF**”, the heating function will stop. The same for Ultrasonic function. Degas mode: work intermittently, 6s on + 2s off working mode. Cleaning deeply and efficiently.

(5) 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.

VI. 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 clean 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

VII. Attentions

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.

VIII. Application

1. Clean Solution

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.

2. Applicable objects

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:

- Jeweler 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 club s& grips & golf balls
- Horse bits & stirrups & horse brasses
- Tattoo needles
- Surgical equipment
- Motorcycle engine crank cases
- Engine cylinder heads
- Turbochargers
- Bicycle derailleurs
- Knives, bayonets and other military
- Gun and gun components

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

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