

Ultrasonic Cleaning Machine User Manual

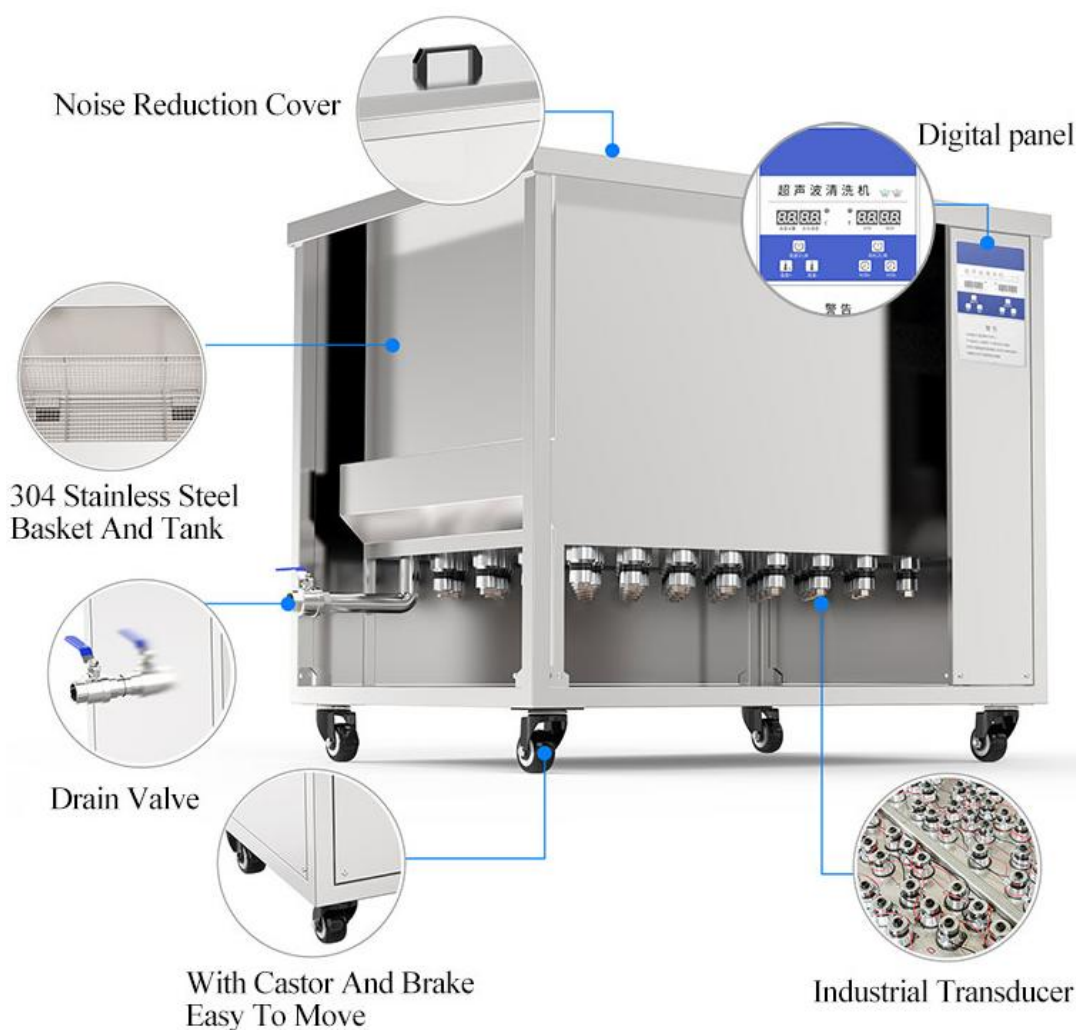
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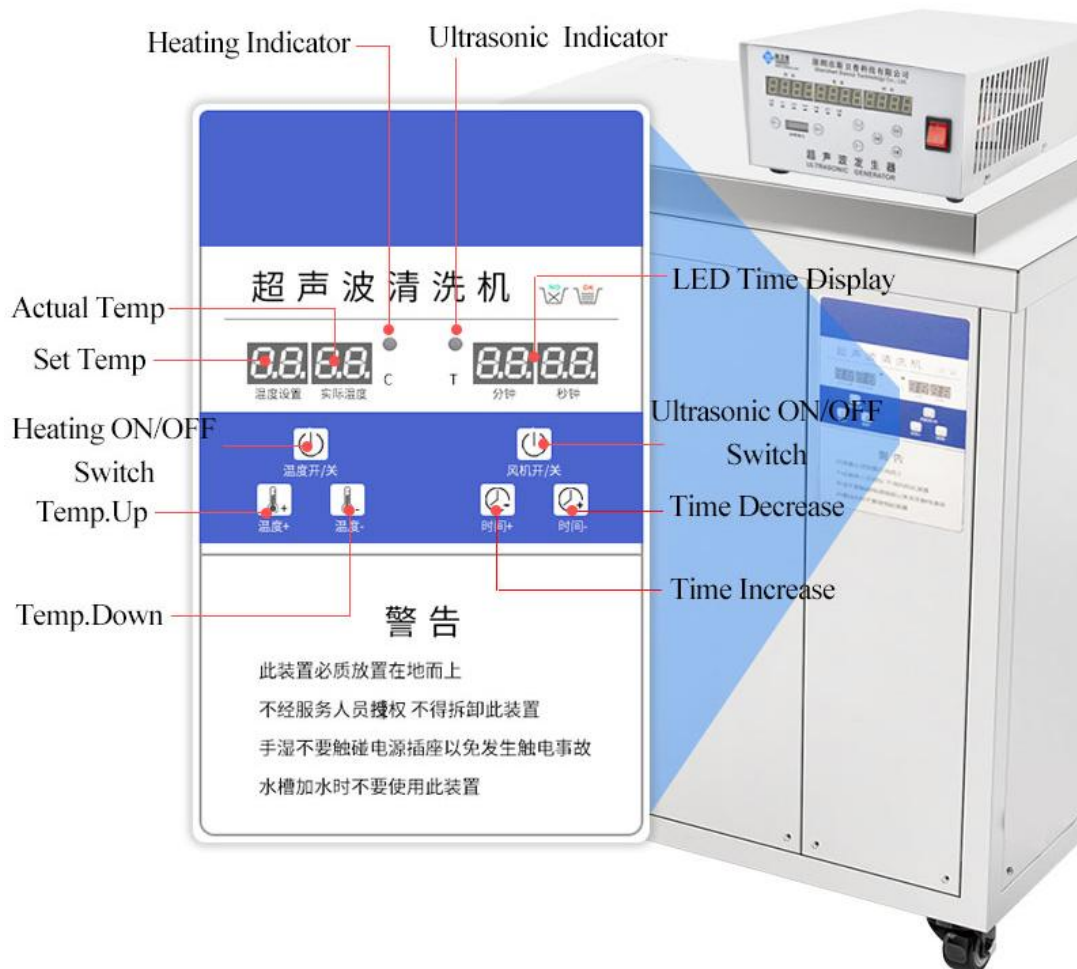
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1 Ultrasonic cleaning principle

Ultrasonic cleaning is a high-tech technology for removing contaminants without residues on surfaces and in hard-to-reach crevices. The ultrasonic cleaner uses transducers to generate sound waves; frequency ranges from 20KHz to 120kHz (20,000 cycles per second to over 100,000 cycles per second). When the sound waves travel through the liquid, millions of tiny bubbles form and burst continuously. This process is called a “**cavitation**” effect. The bursting bubbles scrub everywhere the liquid can penetrate and trigger huge amount of energy. Intricate surfaces and difficult access areas, such as burs, endodontic files, serrated instrument handles, and hinged instruments, are cleaned more thoroughly and rapidly.

This technology does not destroy the washed material requires no brushes or chemicals, is so active contribution to environmental protection.





2 Operation Procedure

- Please ensure correct power and switch connect before starting the equipment. Be careful that the control panel will be corrosive under the condition of organic, strong acid and alkaline solution.
- Keep the unit on a stable and flat working platform in dry environment.
- Keep machine on the flat floor and must be grounded
- Connect power wire and ultrasonic cable correctly.
- Put into cleaning liquid to the working surface.
- Set temperature based on requirement and turn on the power switch.
- Adjust ultrasonic power to Min., then start ultrasonic switch and adjust ultrasonic power to requirement after normal vibration.
- The ultrasonic cleaner machine has been debugged before out of factory; customer can use this machine directly by adjusting power on the generator front panel after cable connection.
- Do not use the product under condition of:
 - Where temperature fluctuate strongly
 - Where it has high humidity and especially dew
 - Where vibration or shock is strong
 - Where corrosive gas or dust exist

- Where water, oil or chemicals splash.
- Where is easy to cause explosion.

3 Specifications

Model	Capacity	Ultrasonic Frequency	Ultrasonic Power	Heating Power	Tank Size (L*W*H)	Ext. Size (L*W*H)	SUS 304 Thickness
1T12	37.5L/9.9Gal.	28/40KHz	600W	1500W	50*30*25cm/ 19.7*11.8*9.8"	68*48*55cm/ 26.8*18.9*21.7"	2.5mm
1T18	61.3L/16.2Gal.	28/40KHz	900W	1500W	50*35*35cm/ 19.7*13.8*13.8"	68*53*65cm/ 26.8*20.9*25.6"	2.5mm
1T24	88L/23.2Gal.	28/40KHz	1200W	3000W	55*40*40cm/ 21.7*15.7*15.7"	73*58*65cm/ 28.7*22.8*25.6"	2.5mm
1T30	108L/28.5Gal.	28/40KHz	1500W	3000W	60*45*40cm/ 23.6*17.7*17.7"	78*63*65cm/ 30.7*24.8*25.6"	2.5mm
1T36	135L/35.7Gal.	28/40KHz	1800W	4500W	60*50*45cm/ 23.6*19.7*19.7"	78*68*70cm/ 30.7*26.8*27.6"	2.5mm
1T48	175L/46.2Gal.	28/40KHz	2400W	6000W	70*50*50cm/ 27.6*19.7*19.7"	88*68*75cm/ 34.6*26.8*29.5"	2.5mm
1T60	264L/69.7Gal.	28/40KHz	3000W	7500W	80*60*55cm/ 31.5*23.6*23.6"	98*78*80cm/ 38.6*30.7*31.5"	2.5mm
1T72	360L/95.1Gal.	28/40KHz	3600W	9000W	100*60*60cm/ 39.4*23.6*23.6"	118*78*85cm/ 46.5*30.7*33.5"	2.5mm

4 Cleaning Application

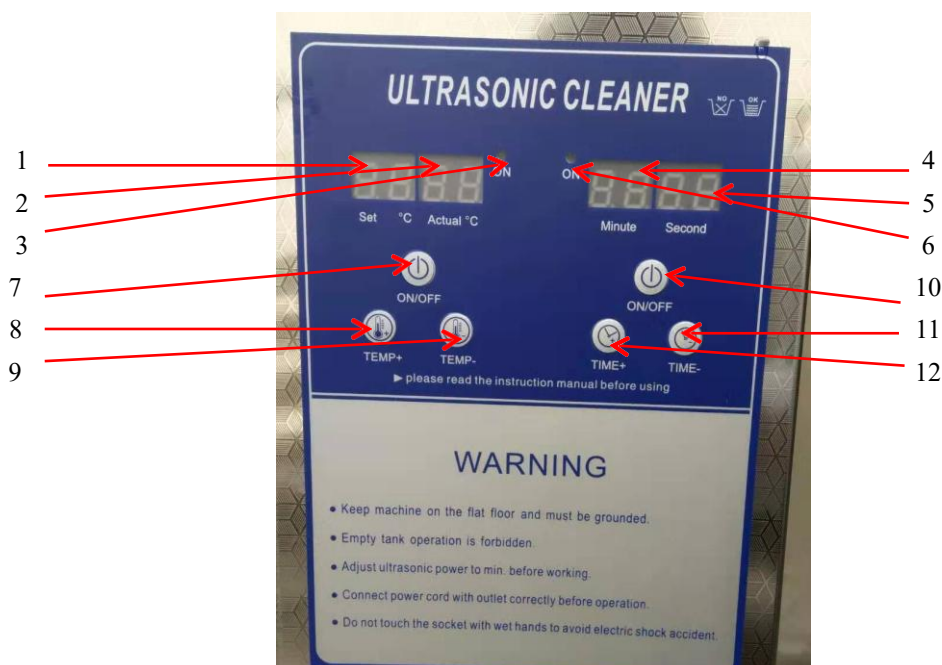
Ultrasonic cleaner adopts SUS 304 stainless steel housing which is corrosion resistance and long lifespan, piezoelectric ceramic transducer, international advanced technology PCB and constant heating system to ensure the strong ultrasonic power. Widely applied for industry of electronics, painting, semi-conductor, filter system, watch-clocks, glasses, metal, jewelry, and medical instruments cleaning, etc.

Industry	Cleaning products & materials	Clear contaminant
Semi-conductor	Integrated circuit, power tube, silicon wafer, diode, lead frame, capillary, tray, etc	Debris, etching oil, stamping oil, polishing wax, dust particles, etc.
Electrical and electronic machine	Tube parts, cathode ray tube, printed circuit board, quartz parts, electronic components, telephone switching equipment, speaker components, power meter, LCD glass, core iron parts, computer floppy disk, video parts, hoop parts, head, photo die mask, etc.	Finger print, powder, cutting oil, stamping oil, iron filings, polishing materials, walnut powder, polishing wax, resin, dust, etc.
Precision machine	Bearing, sewing machine parts, typewriter, textile machine, optical mechanical device, gas valve, watches, cameras, metal filter element, etc.	Machine cutting oil, iron filings, polishing powder, finger print, oil, grease, dirt, etc.
Optical devices	Lenses, prisms, lenses, filter lenses, glass devices, films, optical fibers, etc.	Plastic, resin, paraffin, finger prints, etc.

Hardware & Machinery	Bearings, gears, steel balls, metal castings, tools, adjustable valves and cylinder parts, burners, compressors, hydraulic presses, spray guns and ultracentrifuges, municipal faucets, filters, filter elements, etc.	Cutting oil, iron filings, grease, polishing powder, finger prints, etc.
Electroplate	Plating parts, casting molds, stamping parts, etc	Polishing iron filings, oil, black iron shell, rust, oxidized shell, iron filings, polishing powder, stamping oil, dust, etc.
Car parts	Piston rings, carburetors, fuel pumps, flow meter housings, compressor housings, measuring the bottom of rotating cranks, automotive castings, electrical components, etc.	Iron filings, polishing powder, oil, stamping oil, dust, etc
Chemical fiber	Chemical or artificial fiber nozzles, filter protectors, chemical fiber textures, etc.	Chemical colloids, glues, other solid materials, dust, etc.

5 Structure and Function

- Ultrasonic generator frequency: 40kHz, with sweep function
- Transducer: Convert electric power into Hi-Fi mechanical vibration energy. with broad band frequency, high power and high stability.
- Heating system: It has heating panel, digital timer and temperature switch.
- Timer: timer can be set by customer upon requirement.
- Temperature: set temperature if need heating, range from normal ~80°C
 - Front control panel



1. Setting temperature display: Shows the required temperature.
2. Actual temperature display: Shows the real time temperature of liquid
3. Temperature working indicator light: Turns green when heater working, auto off when actual temp reach set temperature.

4. Minutes display
5. Seconds display
6. Ultrasonic indicator light: Turns green when ultrasonic working.
7. Heater ON/OFF switch: press one time to start heater, press again to close heater
8. TEMP+: Press one time to increase set temp by 1 degree Celsius
9. TEMP-: Press one time to decrease set temp by 1 degree Celsius
10. Ultrasonic ON/OFF switch: press one time to start, press again to close
11. TIME-: Press one time to decrease working time by 1 minutes
12. TIME+: Press one time to add working time by 1 minutes

6 Cautions

- Place all buttons on “OFF” before starting.
- Cleaning liquid is ready in tank. (**Empty tank working is forbidden!**)
- Don't let the liquid splash into the electronic parts, especially transducers
- Keep the machine in dry and cool environment.
 - Ultrasonic signal output line is connected with generator back. “+” connect wire with “+”, “-” connect wire with “-”
- Power supply is 220V 50HZ, and should be ungrounded.
- Cover the lid to reduce noise and attention to liquid drop and evaporation.
- Wash the tank if there is much deposit in the tank
- Don't exclude inside liquid if liquid temperature is not close to room temperature, to avoid the side tank which equip with heating pad deform.
- Don't move the machine when there is liquid inside tank to avoid splash.
- Ultrasonic generator power supply is 220V/50Hz, must be ungrounded.

7 Trouble shooting

Item	Questions	Possible reasons	solutions	remark
1	No ultrasonic	A. Power supply not connect B. Fuse broken C. Cable short circuit D. Transducer short circuit E. Other reasons	Check and plug power switch Check fitted power supply and fuse Connect fitted cable or replace a new Inquiry our after-service engineer Inquiry our after-service engineer	
2	Not cleaning well	A. Not strong ultrasonic cleaning B. Too high too low liquid surface C. Too high too low temperature D. Not suitable cleaning liquid E. Other reasons	Connect ultrasonic button and adjust liquid into the best surface Adjust temperature into the most fitted Stop and switch off power supply, replace suitable liquid after the previous liquid cool down. Inquiry our after-service engineer	Suggestion 50-60°C

3	No heating	A. Heating power switch bad linkage B. Fuse broken C. C、Other reasons	Check heating plug to correct connect Check outlet line with multi meter: If OK and resistance value is few hundreds. OHMS, then replace fuse. If not OK, it's short circuit, replace heater. Inquiry our after-service engineer	Suggestion 50-60°C
4	Temperature control failure	A. Thermostat loosens B. Thermostat tube broken C. Other reasons	Fasten the thermostat header replace thermostat Inquiry our after-service engineer	
5	Timer control failure	A. Timer knob out of control B. Timer failure C. Other reasons	Loosen or tighten the screw Replace timer or digital panel Inquiry our after-service engineer	
6	Electric leakage	A. Customer side not grounded B. Machine not grounded	To ensure grounded Check if machine earth wire loosens	
7	Other problems		Inquiry our after-service engineer	

8 Maintenance

- Use high-pressure blast to clean dust of the control system regularly
- Clean the tank once a week at least
- Keep tank dry if don't use it for a long time
- Keep machine rests at least half an hour after continuous working 4hours.

9 Warranty

- 12 months warranty since the day of delivery.
- Free replacement part is available if any technical problem during warranty period. (Free parts not suit for problem caused by Human factor)
- Lifetime technical maintenance. Engineers provide technical support if any problem.