Ultrasonic Cleaner
User Manual

Please read the manual carefully before operation.

Content

(The instruction manual suits for ultrasonic cleaner)

Thanks for purchasing ultrasonic cleaner, the instruction manual note the necessary precautions during the installation and use, please read it carefully before operation and keep it for reference.

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 solution, strong acid and strong base.

(1).Working Conditions

- 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.
- **Machine Features:**
  - Voltage: AC 220 V, -10～+10％
  - Ultrasonic power: **1500W**max
  - Room temperature: -10℃～40℃
  - Room humidity: 35～85％

(2).General:

Single tank ultrasonic cleaner are standard models in industrial field, made of high quality SUS stainless steel plate, corrosion resistance and long lifespan, adopt with original South Korea ultrasonic transducer and advanced adhesive technology, high electro-acoustic conversion efficiency and strong ultrasonic power output. Equipped with automatic constant temperature heating device, heating range: room temperature~95℃.

Ultrasonic cleaner widely applied to industry of precision electronics, painting, semi-conductor, filter system, watch-clocks, glass, metal, jewelry, and medical instruments cleaning etc.

(3).Structure & Function:

■ Ultrasonic generator: output frequency is 40KHz (28/68/80/120/132KHZ are available for customized model).Equipped with sweep function and compensation circuit, strong anti-interference ability, high output frequency precision.

■ Transducer：Convert electric power into Hi-Fi mechanical vibration energy, with broad band frequency, high power and high stability.

■ Heating system: Automatic constant temperature heating systems, made up of heating panel, digital timer and temperature switch.

■ Machine structure: below chart 1

■ Timer: timer can be set by customer upon requirement 1-99 minutes or ON/OFF

■ Temperature: set temperature based on your demand, 20℃~ 80℃ can be setted.

■ Ultrasonic control:

A. ultrasonic tank: equipped with 40kHz 12-30pcs transducers.

B. Ultrasonic tank: equipped with 1500W or 3000W heating tube.

C. Inset ultrasonic control.

D. Operation panel:

Temperature display: shows setting temp. and actual temp. 0--90℃ is optional.

Temperature change button: increase or decrease 1℃ when press ↑/↓button one time. press ↑/↓button more than 3seconds to change temp rapidly.

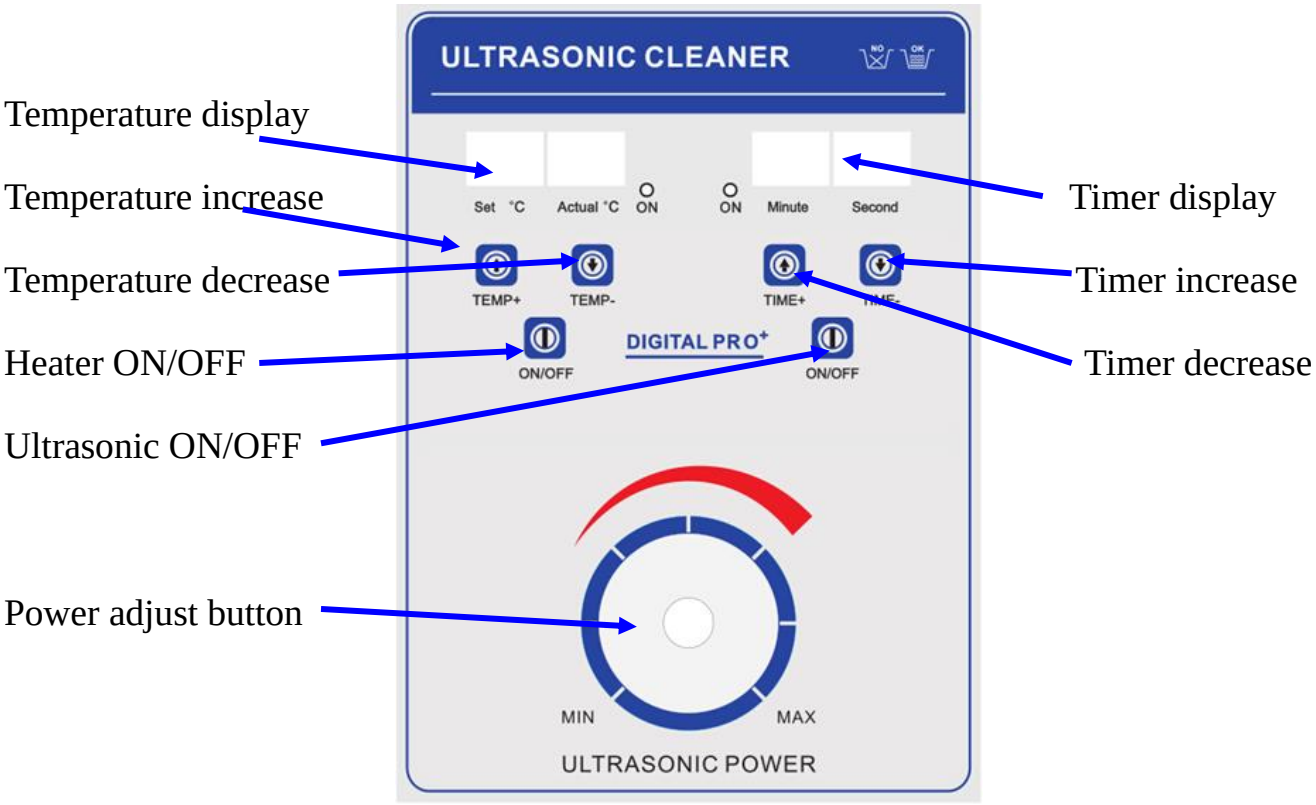
Heater ON/OFF button: open or close heating function. Actual temp is shining when heater is working and indicator light is red. Heater will auto off when it reaches setting point, indicator light will off. Heater will auto on when actual temp is 2℃ lower than setting temp.

Timer display: shows ultrasonic working time;

Timer change button: increase or decrease 1minute when press ↑/↓button one time. press ↑/↓button more than 3seconds to change time rapidly.

Ultrasonic ON/OFF button: open or close ultrasonic. Time will count down when open it, it will auto off when times counts to “0”. Press ON/OFF to close ultrasonic when working, press it again to open ultrasonic and timer counts down.

Ultrasonic power adjust button: adjust the working power of ultrasonic, clockwise to increase power.



(4). Ultrasonic cleaning principle:

The ultrasonic cleaner uses transducers to generate sound waves; frequency is 40KHz. 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. Intricate surfaces and difficult access areas, such as burs, endodontic files, serrated instrument handles, and hinged instruments, are cleaned more thoroughly and rapidly but no damage to cleaning objects. The cavitation is basic theory of ultrasonic.

(5). Ultrasonic cleaner suits for aqueous solution, neutral liquid is suggested.

(6). Cautions before start the machine:

■ Place all buttons on "OFF".

- Cleaning liquid is ready in tank, Empty tank working is forbidden!
- Don't let the liquid splash into the electronic parts, especially transducers.
- Start the ultrasonic when liquid temperature reaches, we set.
- Don't start heating if no liquid or liquid level is lower than work level, or heating pad will be damaged.
- Don't contact the bottom directly (vibration plate), or may damage the transducers.
- Keep the machine in dry and cool environment.
- Power supply is 240V 50HZ 30AMP and should be earthing.
- 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 pull inside liquid out if liquid temperature is not close to room temperature, to avoid the side tank which equip with heating tube deform.
- Don't move the machine when there is liquid inside tank to avoid splash.
- Machine power supply is 220V 50HZ 10AMP must be grounded.

(8). Instructions:

- Keep machine on the flat floor and must be grounded
- Connect power wire and ultrasonic cable correctly.
- Connect the drain pipe with factory drainage system
- Put into cleaning liquid to the working surface.
- Set temperature based on requirement and turn on the heater switch.
- Adjust ultrasonic power to Min., then start ultrasonic and adjust ultrasonic power to requirement after normal vibration.

(9) Maintenance:

- Use high-pressure blast to clean dust of the control system regularly
- Clean the tank once a week at least

(10) Trouble clearing:

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 well cleaning	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 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℃
3	No heating	A、 Heating power switch bad linkage B、 Fuse broken C、 Other reasons	Check heating plug to correct connect Check outlet line with multimeter: if OK and resistance value is few hundreds then replace fuse. If not OK,it's short circuit, replace heater. Inquiry our after service engineer	Suggestion 50-60℃
4	Temperature control failure	A、 Thermostat loosen 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 loosen	
7	Other problems		Inquiry our after service engineer	