

# **DTS Series Ultrasonic Cleaner User Manual**



Please read operating manual before installation and operation.

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## 1. product overview

The ultrasonic cleaning machine uses the cavitation effect of ultrasonic waves in the cleaning liquid to accelerate the dissolution and stripping of dirt, grease and other dirt in the inner holes and blind holes of the cleaned utensils. The main components and key devices of the instrument are all imported brand products, so that the instrument has the advantages of fast cleaning speed, good effect, no damage to the surface, and reduced labor intensity. Users can choose products with different functions such as heating, power adjustment, dual frequency, high frequency (59K, low noise, suitable for fine cleaning), frequency sweeping, etc. according to their needs.

## 2. working principle and structure

### 2.1 working principle

Through the transducer, the sound energy of the power ultrasonic frequency source is converted into mechanical vibration, and the ultrasonic wave is radiated to the cleaning liquid in the tank through the cleaning tank wall. Due to the radiation of ultrasonic waves, the microbubbles in the liquid in the tank can quickly become larger and rupture under the action of sound waves, and the high-intensity shear force generated during the rupture acts on various samples, thereby achieving cleaning, extraction, emulsification, Dissolving, pulverizing, dispersing and other functions.

## 2.2 Structure

As shown in Figure 2-2 (product picture)



Figure 2-2 Ultrasonic cleaning machine

## 3. Technical Parameters

Model	Inner tank	Capacity	Frequency	Ultrasonic power	Heating power	Adjustable temperature	Time adjustable	Drain
	L*W*H(mm)	L	KHZ	W	W		min	
DW-3200DTS	300*155*150	6	37 / 57	180	400	RT -80. C	1-999	/
DW-5200DTS	300*240*150	10	37 / 57	240	800	RT -80. C	1-999	Yes
DW-5200DTS	300*240*150	10	37 / 57	360	800	RT -80. C	1-999	Yes
DW-4200DTS	300*240*200	14.4	37 / 57	480	800	RT -80. C	1-999	Yes
DW25-12DTS	500*300*150	22.5	37 / 57	600	1000	RT -80. C	1-999	Yes
DW25-12DTS	500*300*150	22.5	37 / 57	720	1000	RT -80. C	1-999	Yes
DW-800DTS	500*300*200	30	37 / 57	840	1000	RT -80. C	1-999	Yes
DW-1000DTS	780*480*790	5 4	37/57	1000	3600	RT -80. C	1-999	Yes
DW-1200DTS	780*580*790	7 2	37/57	1200	4000	RT -80. C	1-999	Yes

Table 3-1 Technical parameters of DTS series ultrasonic cleaning machine

## 4. Instrument installation

### 4.1 Open box to check

The instrument packaging has been strictly inspected by the company before transportation. After you receive the instrument, please check carefully before unpacking, and pay attention to whether there are any following damages:

- ① The outer packaging is inverted or deformed;
- ② There are obvious traces of wet water on the outer packaging;
- ③ The outer packaging has obvious impact marks;
- ④ The outer packaging shows signs of being opened;

Once you find the above damage, please contact us or local distributor immediately.

After confirming that the outer packaging is intact, please open the packing box and check after unpacking:

- ① According to the following table 4-1 of the packing list, check whether all components are complete;
- ② Carefully inspect the appearance of all components for cracks, bruises, or deformations

Model	Quantity
Ultrasonic cleaner	1 set
Basket	1pc
Cover	1pc
Drain pipe	1pc
manual	1 copy

Table 4-1 Unpacking list of DTS series ultrasonic cleaner

After confirming that the accessories are complete, the instrument can be

installed according to the requirements of this manual.

## 4.2 Instrument installation

### Place the instrument:

The instrument should be placed on a dry and horizontal table, avoid direct sunlight, and prohibit contact with corrosive substances. The line connection is correct and meets the exhaust requirements.

### Steps before instrument operation:

① Add clean water or detergent to the water level in the cleaning tank. According to different cleaning requirements, add detergent, see cleaning solution refer to Table 4-2-1

**Note:** The temperature of the cleaning solution should not be higher than 70. C, and the liquid level should not exceed the water level.

Clean parts and dirt	Detergent	Cleaning solution concentration
Machinery Parts	Industrial detergent	(5-10) % or cleaning needs
Hardware	Industrial ultrasonic	
Carbon powder	Detergent	
Cutting oil, residual oil, tallow, light oil	Industrial oil	
Metal shavings, metal oxides, rust	Detergent	
Watch straps, workpieces, dirt, marks		(5-10) %
Polishing compound, iron red powder, diatomaceous earth	Polishing material detergent	(5-10) %
Electronic components, circuit boards	Detergent for electrical components	(5-10) %

Optical Instruments	Optics Cleaner	(5-10) %
Optical glass		
magnetic material	Magnetic material detergent	(5-10) %
Gold and Silver, Jewelry, Platinum	Jewel detergent	(5-10)%

Table 4-2-1 Cleaning solution reference table

- ② Put the cleaning material into the cleaning tank
- ③ Insert the power plug of the ultrasonic cleaner into a power socket (with ground wire), and turn on the power switch.

Note: There is no cleaning fluid in the cleaning tank, do not turn on the machine.

## 5. Instructions

### 5.1 Parameter settings

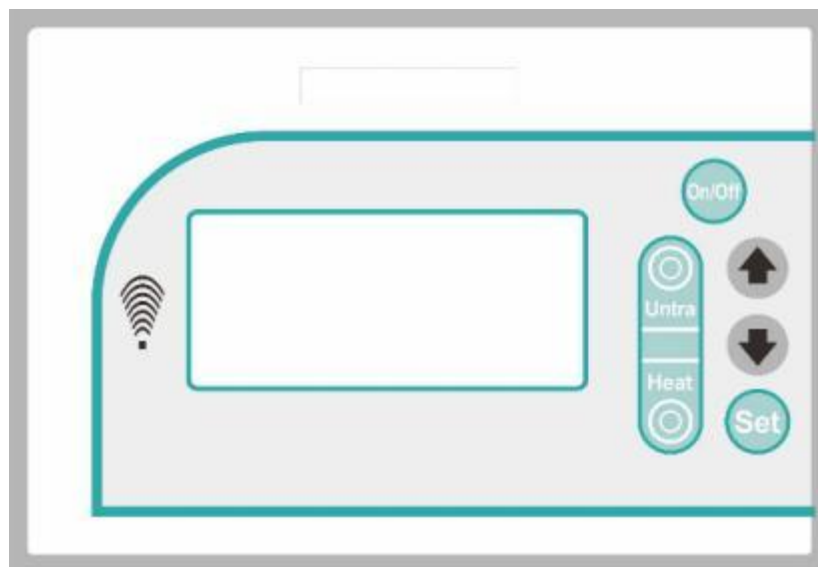






Figure 5-1 Schematic diagram of keys and interface



After the instrument is powered on, enter the parameter setting interface (as shown in Figure 5-1 above)

- ① Ultrasound total time setting: Press the <Set> key to enter the setting





mode, the last digit of "108" in the ultrasonic timing window is flashing, press the  and  keys to add or subtract the parameter. After the total ultrasonic working time is set, press the <SET> key to enter the temperature setting.

② The last digit of "20" in the temperature setting window is flashing, press  and  keys to add or subtract the digit parameter. After the temperature setting is completed, press the <SET> key to enter the ultrasonic power setting.

③ The last digit of "99" in the power setting window is flashing, press  and  keys to add or subtract the parameter. After the ultrasonic power is completed, press the <SET> button again.

For example, if the frequency is 37 KHZ and 57 KHZ, then enter the 37 kHz working time setting.

Single frequency working time setting: The working frequency display window " 37 " flickers as a whole, and the last digit of the timing time in the ultrasonic timing window flickers. Press the  and  keys to add and subtract the 37 KHZ working time.



When set to 0, this frequency does not participate in work ( [note: all frequency working hours must not be set to 0](#) )

After the 37 KHZ working time setting is completed, press the <SET> key to enter the next single-frequency working time setting.

After setting the last single-frequency working time, press <SET> to exit the setting. enter standby

start ultrasound: after the ultrasound power and timing are set, press the <ultrasound> button to start the ultrasound.

During the start-up of the ultrasound, the "Timing" symbol is displayed to indicate that the ultrasound is working.

During the ultrasonic startup process, the user can directly adjust the power in realtime by pressing the  and  keys.

When the preset time is up, the device will beep to remind the user that

the operation is completed.

Return to the standby state. During the start-up process of ultrasound, press the <ultrasound> key to stop the ultrasound.

start temperature control: Press the <heating> key to perform automatic temperature control.



Description of ATC symbols

-- The ATC symbol is always on, indicating that the heating output is in progress, that is, the measured temperature has not reached the set temperature;

-- The ATC symbol flashes to indicate that the heating output stops, that is, the measured temperature reaches or exceeds the set temperature.

During the process of automatic temperature control, press the <heating> key to turn off the automatic temperature control.

## 5.2 key Description

- ① Power: power switch
- ② On/Off: Display On/Off
- ③  : add button
- ④  : Minus button
- ⑤ Settings: enter the settings button
- ⑥ Ultrasound: Ultrasonic switch button
- ⑦ Heating: heating switch button

## 5.3 Display introduction





Figure 5-3 interface diagram

- ① Workfreq: ultrasonic working frequency display window
- ② Power: ultrasonic power setting window
- ③ Timing: Ultrasound timing setting window
- ④ TEM Setting: temperature setting window
- ⑤ Meas.TEM : actual temperature in the tank
- ⑥ ATC: Automatic Temperature Control Activation Symbol

## 6. Instrument Maintenance and precautions

### 6.1 Factors Affecting the Effect of Ultrasonic Cleaning

- ① Ultrasonic power density: The higher the power density, the stronger the cavitation effect, the better the cleaning effect, and the faster the cleaning speed.
- ② Ultrasonic frequency: the lower the frequency, the better the cavitation, and the higher the frequency, the better the reflection effect.
- ③ Cleaning temperature : uutrasonic cavitation is best at 40 °C ~ 50 °C . The higher the temperature, the more conducive to the decomposition of dirt, but when the temperature reaches 70 °C ~ 80 °C , it will affect the function of ultrasonic waves and reduce the cleaning effect.

④ Cleaning time : The longer the cleaning time, the better the effect, except for special materials .

⑤ Other factors: There are many influencing factors, such as the type and nature of cleaning fluid and dirt, and so on.

## 6.2 precautions

① Check the cooling fan net cover of the ultrasonic power supply and remove the dust on it to avoid damage to internal parts due to heat dissipation.

② Check the sealing condition of the bottom plate of the cleaning tank, and check whether there is any leakage at the joint between the drain pipe and the cleaning tank.

③ After cleaning, please drain the liquid in the tank in time, clean the tank and keep the tank dry when the instrument is not in use.

④ Adding ice cubes during use will cause condensed water on the outer wall of the cleaning tank. Excessive condensed water may cause serious damage to the washing machine. If you have this requirement, please purchase the special model of our company.

⑤ When using the instrument, try to avoid touching the edge of the cleaning tank to prevent burns .

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