

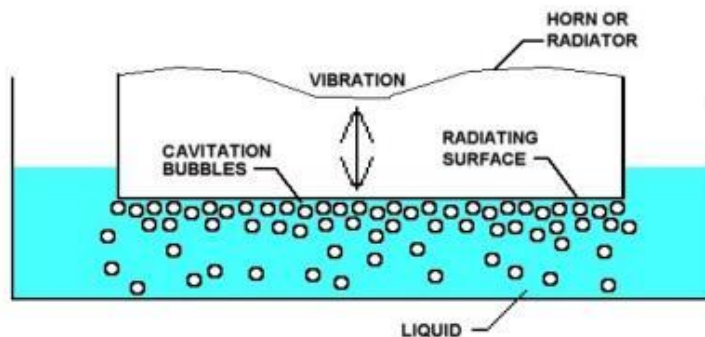
Twin Tank Ultrasonic Cleaner

Operation Manual

Foshan Fundy Technology Co.,LTD

Ultrasonic Cleaner

Household/Industrial/Medical



ULTRASONIC CLEANING

1.Thank you for using the GW-1048 ultrasonic cleaner produced by our company. This machine is a single tank type all stainless steel structure, acid and alkali resistance, beautiful and durable, using alkaline or neutral solution as cleaning solution, suitable for pre-plating or post-plating cleaning of electroplating parts, watch parts, hardware machinery parts, plastic parts , jewelry, lenses, glasses frames and glassware cleaning.

2.The structure of the cleaning machine and the functions of each component:

(1)Structure and composition:

The ultrasonic cleaning machine is composed of tank body, ultrasonic transducer, ultrasonic generator, electric heater, automatic temperature control and other parts. The structure is shown in the attached drawings.

(2). The functions of each component:

1) Ultrasonic generator: generates super-audio electrical signals to supply transducers

2)Transducer: Convert the high-frequency electrical signal generated by the ultrasonic generator into high-frequency mechanical vibration and transmit it into the cleaning medium, so as to achieve the purpose of ultrasonic cleaning.

(3)Cleaning tank: The workpiece is ultrasonically cleaned in the ultrasonic cleaning tank, which can shake off the dirt on the surface of the workpiece and in the gap to achieve the effect of cleaning.

(4)Automatic temperature control heating system: automatically control the use

temperature of the cleaning liquid in the cleaning tank to reach the set temperature and whether to heat it or not.

(5) Electrical control part: control the electrical operation of the whole machine to ensure the realization of the function of the whole machine.

(6) Rack and the whole machine shell: It consists of chassis, rollers, component brackets, door panels, etc. The frame is the installation base for other parts of the washing machine.

3.The basic principle of ultrasonic cleaning:

The generator is used to generate a high-frequency electrical signal higher than 20KHz, which is converted into a high-frequency mechanical oscillation by the transducer and transmitted to the cleaning medium. The tiny bubbles are formed and grown in the negative pressure area where ultrasonic waves propagate longitudinally, and are rapidly closed (extinguished) in the positive pressure area. The formation, growth and rapid closure of such tiny bubbles is called "cavitation".

In the "cavitation phenomenon", when the bubbles are closed, an instantaneous high pressure of more than 1000 atmospheres is formed. The instantaneous high pressure generated continuously is like a series of small explosions that continuously bombard the surface of the object, making the surface of the object and the uneven surface and the dirt in the tiny gaps. Quickly fall off, so as to achieve the purpose of thorough cleaning of the workpiece.

Preparation Work: Very Important

Wire Connection:



Live Wire (L)

Neutral Wire (N)

Ground Earth Wire(PE)

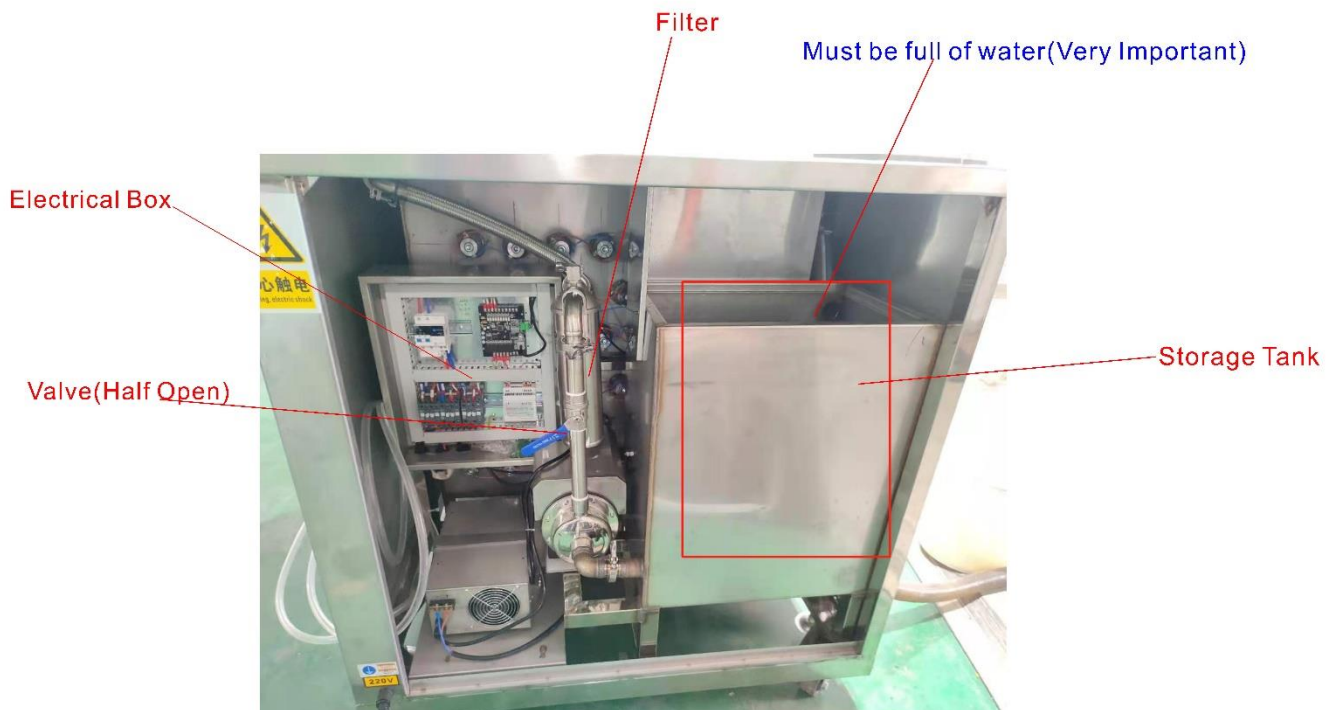
Cuff off the pipe , separate the pipe into two pipes, one is for water, another is for Air



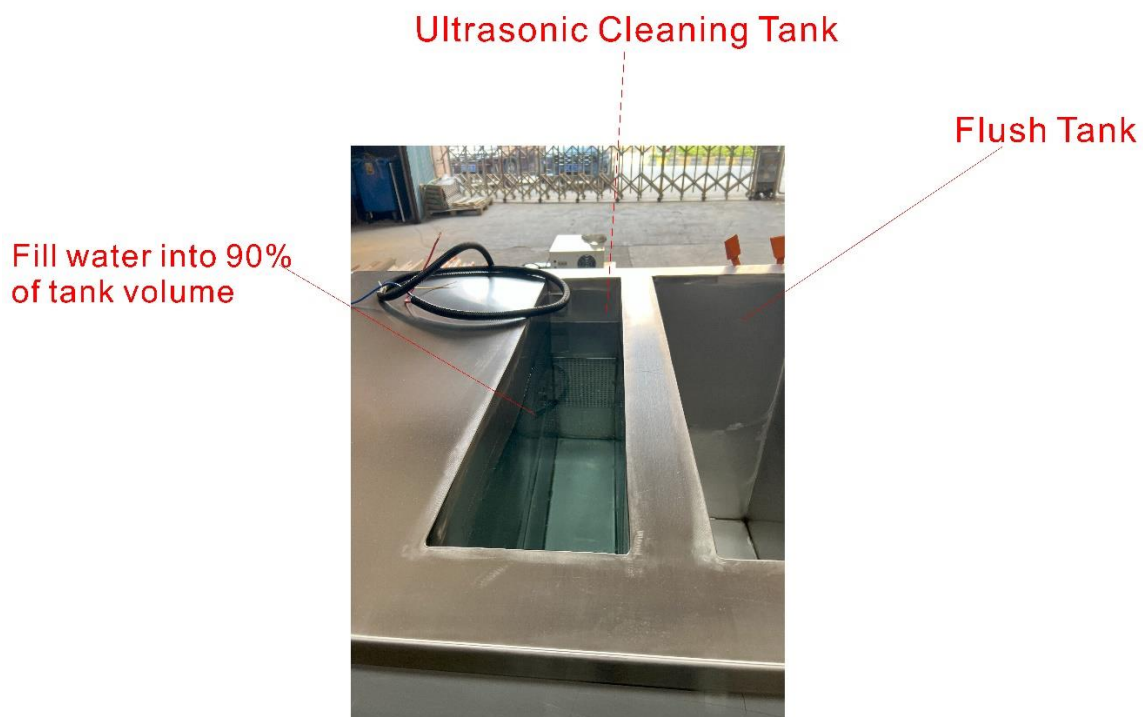
Cut off this pipe



Fill water into storage Tank and make valve half-open



Fill water or cleaning liquid into Ultrasonic cleaning Tank before start this machine (Very Important)



4.The main technical parameters:

Data Model no	Ultrasonic Power	Frequency kHz	Inner Tank size (L×W×H) mm	Unit Size (L×W×H) mm	Heat Power (KW)	Temperature control ℃	Power VAC
GW-1048	2.4KW	33KHZ	940(L)*200(W)*880(H) mm+940(L)*400(W)*880(H)mm	1500*1250*930mm	3Kw	20-80℃	220VAC 60hz 1Phase

5.Instructions for use:

A. Familiarize yourself with the machine information:

- (1)Structural diagram, see attached
- (2)Electrical control panel diagram, see control box panel

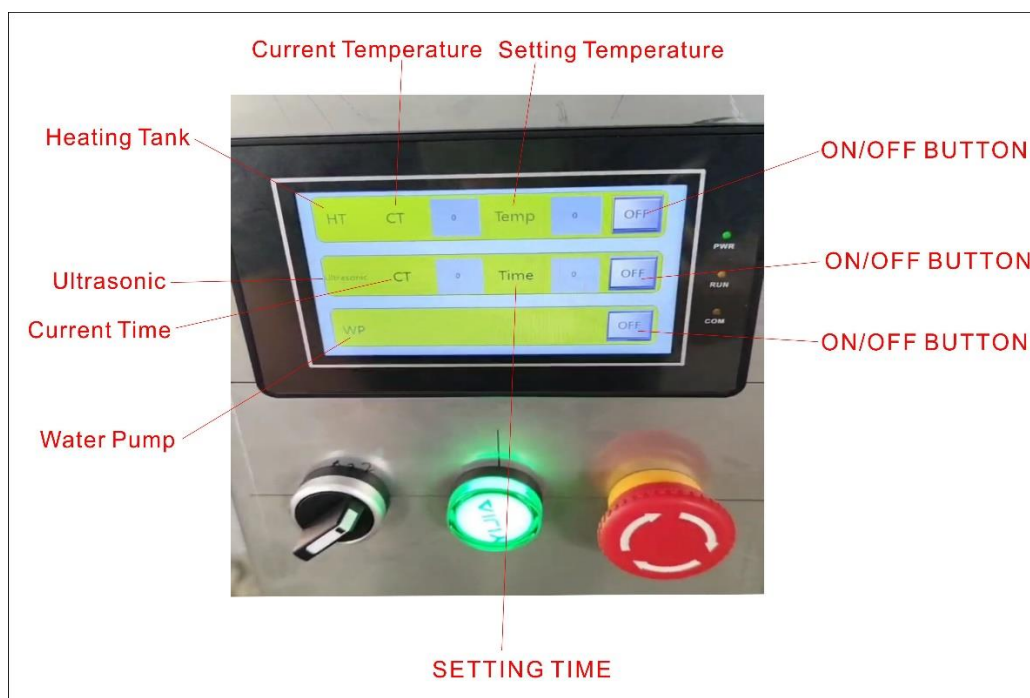
B. Preparation before start-up

- (1)Check that the machine is properly installed and balanced, and place the machine horizontally.
 - 2) Put all power switches and electrical switches in the "off" position.
 - 3) Connect the high-frequency head on the high-frequency line to the high-frequency seat on the back of the generator electric control box.
 - 4) Close the drain ball valve on the side of the cylinder.
 - 5) According to the requirements of the cleaning process, the cleaning liquid is injected, and the distance from the liquid level to the cylinder surface is controlled within 50-100mm.

6. Generator panel operation instructions:

Using the operation panel, you can set the running frequency, monitor the running current, set time parameters, etc., and display error codes.

Name and function of the operator panel



Therefore, you should pay attention to:

- (1) When there is no cleaning liquid in the cleaning tank or the water level requirements are not met (the distance between the tank surface and the minimum water surface liquid should be less than 100mm, preferably 60mm), the ultrasound must not be activated, otherwise it will lead to serious consequences of damage to the transducer.**
- (2). There is no cleaning liquid or cleaning liquid in the tank, and the liquid level is not high enough (the distance between the tank surface and the minimum water surface liquid should be less than 110mm). It is absolutely forbidden to heat, otherwise the heating plate and heating wire will be damaged.**
- (3). Do not put objects directly into the cleaning tank. If foreign objects fall into the bottom of the tank, they should be taken out in time, otherwise the ultrasonic transducer will be damaged.**
- (4). In the process of use, prevent the cleaning liquid from overflowing the cylinder surface, especially the foam floating on the liquid surface should be removed in time, so as not to cause transducer and line failure.**
- (5). Never use flammable solvents as cleaning fluids.**
- (6). The power button should be pressed for emergency stop, and all switches on the control panel should be turned off before disconnecting the main power of the machine under normal circumstances.**
- (7). When replacing the old liquid with a new one, the liquid should be drained with the temperature control knob switch and the ultrasonic switch in the "off" position and at**

normal temperature.

(8).When there is too much sediment in the cleaning tank, it should be flushed and removed in time.

(9).When the ambient humidity is too high, the moisture and water droplets attached to the transducer should be blown dry frequently.

(10).When the cleaning tank is filled with cleaning fluid, try to avoid pushing or moving the machine.

(11). Avoid strong impact on the bottom of the ultrasonic cleaning tank.

8.Shipping and Installation

(1)Handling method: When handling, it should rise and fall flat, the inclination should not exceed 30°, and it should not collide with the machine.

(2)Installation location: The machine should be installed in a ventilated and dry place. The ambient temperature and humidity should not be too high. The casters of the machine should be placed stably, and there should be a distance from the wall for good ventilation and heat dissipation.

(3)Power supply: The voltage and maximum allowable current of the power supply should meet the requirements of this manual.

(4)Guaranteed grounding: The machine requires a reliable ground connection.

9.Simple troubleshooting and troubleshooting:

(1)The heating of the cleaning tank fails: check whether the heating plate of the tank is burnt and whether the corresponding relay is damaged; check whether the air switch of the circuit is tripped.

(2)No ultrasonic wave: Check whether the fuse in the fuse seat is burnt, whether the ultrasonic generator element is damaged; whether the transducer is short-circuited, and whether the air switch of this road has tripped.

(3)Ultrasonic weakening: Dirt is accumulated on the surface of the vibration plate. If the transducer is contaminated by moisture, conductive dust and strong shock, it will cause leakage, short circuit, breakdown, crack or even fall off, resulting in the weakening of ultrasonic intensity.

(4)If the transducer or ultrasonic generator is damaged, stop using it immediately, and notify our company to send someone to repair it.