

Operating Instructions for **Ultrasonic Cleaner**

No. **23.585**

1. Principle

The ultrasonic generator generates an electrical signal which possesses a fixed power and a specialized frequency. Then the power is dispatched to the transducer. The transducer is a kind of high effective transducing component which can convert electric energy into mechanical energy, thus generating a strong ultrasonic vibration. This vibration gives rise to a great many micro-bubbles when it is brought into a container which is full of liquor. This is what we say cavitation. When many micro-bubbles are continuously engendered and disappeared, a huge impulsive force is produced at the same time. The force diminishes the adhesive force between the dirt and the part that needs cleaning. After a period of impact, the dirt will be completely stripped off the part needed cleaning. This is cavitation immersion erosion.

The quality and the speed of ultrasonic cleaning depend mainly on the function of the machine and the ingredient of the cleaning liquor. The temperature will also exert an influence on the cleaning effect .

Comparison of Various Effects by Different Cleaning Methods

Cleaning Method	Retained Dirt(%)
Spray Rinsing	86
Immersion Cleaning	70
Stream Cleaning	65
Brushing	8
Ultrasonic Cleaning	0-0.5

2. Model

- Output Power:50W
- Operating Frequency: 40KHz
- Power Supply: 230±10%, 50/60Hz
- Cleaning Tank Volume(mm): 150 • 85 • 60
- Output Power: 100W
- Operating Frequency: 40KHz
- Power Supply: 230 ±10 %, 50/60Hz
- Cleaning Tank Volume(mm): 150 • 140 • 60

3. Way of Using the Ultrasonic Cleaning Equipment

- 3.1** Pour the cleaning liquor into the cleaning tank, the level of which should not be more than 1/2 of the tank.
- 3.2** Turn the timer button of the Ultrasonic cleaning Equipment and it starts to work.
- 3.3** Putting the articles in the cleaning tank to clean. After taking them out from the tank washing, rinsing or drying the articles accordingly.
- 3.4** After finishing the cleaning, turn off the power first, and unplug it, remove the erosion liquor and clean the tank.

4. Precautions

- 4.1** To avoid the damage of the cleaning machine, don't turn on the machine before cleaning liquor is poured into the cleaning tank.
- 4.2** To avoid the damage of the cleaning tank and to achieve the best cleaning result, it is better to use a basket to clean, and, for heavy articles, to use a hock to hang the basket while cleaning.
- 4.3** The less layers of articles to be cleaned, the better the cleaning results.
- 4.4** Choice of cleaning liquors can be made for different kinds of articles and dirties to shorten the cleaning period and improve the cleaning quality. If liquors evaporate smell which is dangerous to human beings, the cleaning tank should be installed under a ventilation cover.
- 4.5** Never use cleaning liquors of CCL, as the ultrasonic wave will cause them to decompose dangerous gases.
- 4.6** When changing the cleaning liquors, it is forbidden to pour a cleaning liquor with a bigger temperature difference (The temperature difference should not be bigger than 40°C), or the cleaning tanks may be damaged and the cleaning quality reduced and even the machine damaged.
- 4.7** To avoid the erosion of the cleaning tank and the damage of the machine, it is forbidden to put strong acid or strong soda into the cleaning tank.
- 4.8** Cut off the power and unplug it if the cleaning machine is not to be used for a long time.
- 4.9** When a failure happens, don't open the machine by yourself to avoid the damage of the machine as the parts are all special high-pressure parts.
- 4.10** The machine should be put at a clean, dry and well-ventilated place. To avoid the erosion and damage of the transducer, don't put it in a wet area.
- 4.11** The normal working power is 220V±10% 50Hz. It will cause the surcharge on the or ultrasonic generator to damage the inner parts if offered too low power.
- 4.12** Grounding: As the inside voltage of the machine is extremely high, it must be grounded while working to ensure the safety of the operators.
- 4.13** Transportation or moving: A void intense vibration while transporting or moving.



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