USER MANUAL

ANALOG ULTRASONIC CLEANER

EN

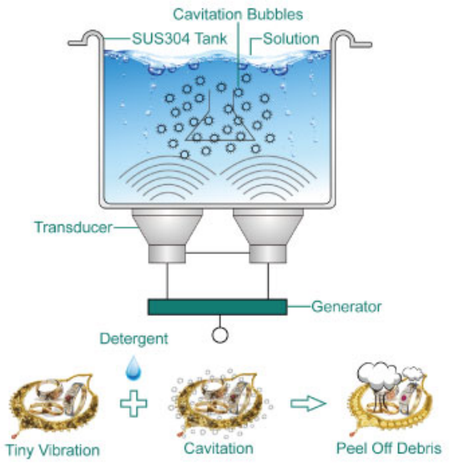
DYNVIM

Thanks for purchasing this ultrasonic cleaner. Please read these operating instructions before use and keep the user manual for future reference. Failure to follow the instrustions may lead to serious personal and damage to the product.

FEATURES

- 40KHz for intensive rinse
- 1~30 minutes working time
- 20~80℃ temperature range
- Industrial grade integrated circuit
- Dewaxing and degreasing function
- Die casting SUS304 stainless steel tank
- Classic analog controller with a long service-life

ULTRASONIC PRINCIPLE



Ultrasonic cleaning is based on the cavitation effect caused by high frequency ultrasonic wave vibration signal in the fluid. Microscopic bubbles are formed, and then implode violently causing the cavitation which create an intense scrubbing action on the surface of the item being cleaned. The bubbles are small enough to penetrate microscopic crevices, cleaning them thoroughly and consistently.
Ultrasonic cleaning is extremely effective at removing dirt and grime which would normally require tedious manual cleaning by hand. It has been used to clean a wide variety of instruments and mechanical parts such as carburetors, returning them to almost “like new” condition without damage to delicate parts.

PREPARATION

1. Carefully unpack the cleaner, remove all packing materials and check whether any parts have become loose or damaged during transit.
   Contents: a: Main machine b: Sound proof lid c: Power lead d: Outlet filter e: Mesh basket (Optional) f: Manual
2. Place the cleaner on a flat, clean surface and ensure that the cooling fan will get adequate ventilation, and that all controls are set to off, and the drain tap is closed.
3. Ensure that the power lead is securely plugged into the cleaner, and that no part of the lead is likely to contact with moisture.
4. Carefully fill at least 1/2 of the tank with a solvent solution. Based on cleaning requirements, we recommend to use a small amount of cleaning solution because this will help increase the cleaning performance. Now the cleaner is ready for use.

⚠ Attention

A) While the machine is working normally, the syntony of the ultrasonic wave and tank gives a well-proportioned sound with no shudder on the surface of the water but sprays generated by the tiny bubbles. If there are discontinuous surges, please add or reduce a little of washing solution in the tank to stop the surges, which is good for get a better cleaning effect.
B) Please don’t make the machine work for a continuous long time (not more than 30 minutes) as possible as you can because a long time working will raise the temperature of the case, accelerate the burn-in process of inner electronic components and parts.

SAFETY PRECAUTIONS

⚠ Keep it away from children!

This device can not be used by individuals with limited physical knowledge, or the mental disabled, or those lacking experiences or knowledge, such as children, unless they are supervised by an individual who can take charge of their safety or have received training in operating the device .

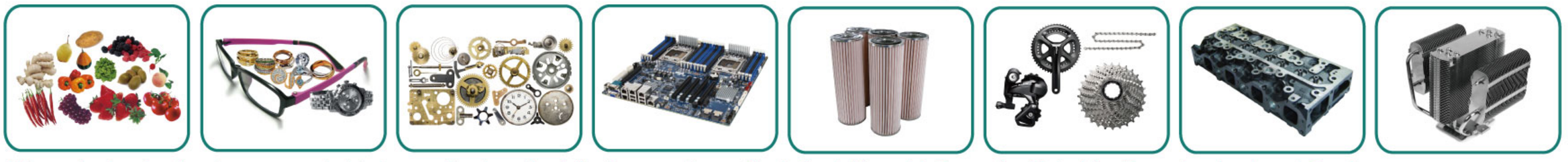
⚠ Please read the following items very carefully as failure to comply with them may invalidate your guarantee.

1) DO NOT run the cleaner continuously for more than one hour at a time because it can damage the internal components.
2) DO NOT operate the unit without fluid in the tank. Always ensure that the fluid is no higher than the max mark and no lower than the minimum depth of 7cm.
3) DO NOT drop any item into the tank because it may damage the transducer. Always place items gently into the tank and use the basket whenever possible.
4) The more items you place in the cleaning bath, the less cleaning efficient you can get. Leaving enough spaces among items rather than overlapping them is recommended.
5) Do keep the lid closed during use. This will prevent splashes and reduce evaporation of the fluid.
6) Never immerse the machine or power cord in water or other liquid.
7) DO NOT touch the power plug with wet hands, especially when inserting or removing the plug.
8) DO NOT touch the unit if the machine has fallen into water during operation. Remove the power plug from the socket firstly.
9) DO NOT disassemble the machine if you are not professional.
10) UNPLUG the power source while filling or emptying the tank.
11) DO NOT spray water or liquid over the device and the control panel.
12) DO NOT operate the cleaner without proper grounding.
13) DO NOT place the device on a soft surface where the vents can be blocked.
14) DO NOT use any volatile solutions whose gas is flammable or explosive.
15) Always turn the heater off after using as leaving it on can make the fluid evaporate and damage the internal components.
16) Take care when adding or removing items from the cleaning tank as the splashed fluid is likely to be hot and damage the internal components. Any splashed fluid must be dried immediately.
17) In case of emergency or failure to follow the aforementioned items, disconnect the mains supply by removing the plug from the mains socket.

APPLICATIONS

This list is almost endless. Provided the product is non porous and can normally be immersed in water, they can be thoroughly cleaned. Here are some examples:

- Jewelry especially gold, silver & platinum
- Watchstraps
- Coins and other collectibles
- PCB Boards etc
- Engine/Model parts
- Toothbrushes & Dentures
- Electrical components
- Make-up cases
- Diesel injection pumps
- Printer heads and toner cartridges
- Motorcycle radiators
- Vehicle differentials
- Milking parlor equipment
- Golf clubs&grips&golf balls
- Horse bits&stirrups &horse brasses
- Tattoo needles
- Surgical equipment
- Motorcycle engine crank cases
- Engine cylinder heads
- Turbochargers
- Bicycle derailleurs
- Knives, bayonets and other militaria
- Gun and gun components



Ultrasonic cleaning is not recommended to be used to clean the following gemstones: Opal, Pearl, Emerald, Tanzanite, Malachite, Turquoise, Lapis and Coral.

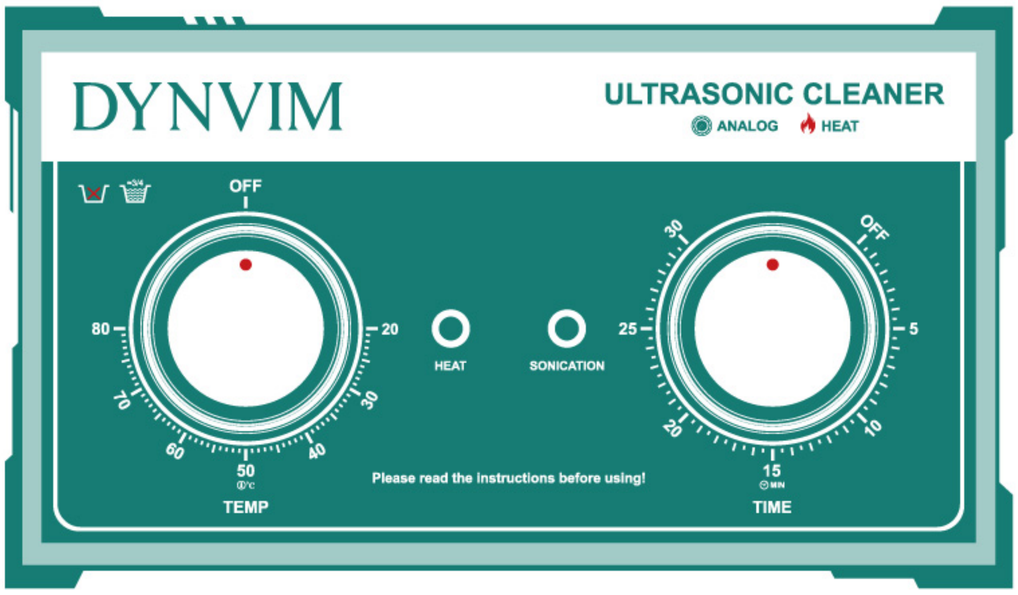
FRONT VIEW

A. Soundproof lid
B. Die casting SUS304 tank
C. Plastic Carrying Handles
D. SUS304 Drain Valve
E. Anti-slide Feet

BACK VIEW

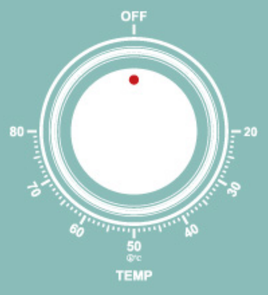
A. Power Switch
B. Power Socket
C. Air Outlet/Louver

CONTROL PANEL



OPERATION

Fill the stainless steel tank with cleaning solution; put the stuffs to be cleaned into the basket and then put the basket inside the tank (if no basket, put the stuffs gently on the bottom of the tank); plug the power lead into grounded outlet.
Turn the power switch on and then operate the device according to the following instructions:



1. According the characters of stuffs to be cleaned, rotate the temperature setting knob to a certain preset temperature among 20~80℃. The “HEAT” indicator shall turn on when the device is in the heating status.
NOTE: Generally the best cleaning temperature is among 40~60℃.

2. Rotate the "HEAT" knob to "OFF" position if heating is not necessary. The “HEAT” indicator shall turn off when the device is not in heating status.
NOTE: The preset temperature must be higher than the actual water temperature, or the heating function can not be started. Besides, the heating function shall also be stopped once the actual water temperature reaches the preset temperature, and it shall be restarted once the water temperature decreases to a value which is about 2 or 3 degrees Cenlsius lower than the preset temperature.

1. Based on the characters of stuffs to be cleaned, rotate the "TIME" knob rightwards to a certain value within 30 minutes. The device shall sizzle and the sonication indicator shall turn on when the sonication is started.
NOTE: For the consideration of a long service life, it is not recommended to run the cleaner continuously for more than one hour.

2. Rotate the "TIME" knob to "OFF" position if sonication is not necessary. The ultrasonic cleaning shall be stopped and the sonication indicator shall turn off.

Turn the power switch off; empty the tank and clean both the outside and inside of the cleaner with a clean and dry cloth for next use.
NOTE: Do not pour water out until it’s cooling-off because hot water will hurt you and damage the machine itself.

ADVANTAGES

Ultrasonic is widely used throughout sundry industries to remove difficult contaminants from spare parts during or after manufacturing process which require a cleaning process before the next process. In general, if a stuff can be cleaned with liquid, it can be cleaned much faster and more thoroughly with an ultrasonic cleaner. Compared with traditional solvent/scrubbing, our ultrasonic cleaners have following advantages:

- Being more effective at removing contaminants;
- Being much quicker to get a good cleaning effect;
- Saving the labor time of employees (and subsequent labor cost);
- Being able to heat the cleaning solutions to a suitable temperature so as to enhance the cleaning efficiency;
- Having a digital controller of high-precision and a long service-life;
- Being of high performance;
- Reducing chemicals left in the cleaned stuffs;
- Being environment-friendly because of its recyclability.

DIFFERENT CLEANING WAYS

- **General Cleaning** —— A common ultrasonic cleaning way with only water and under 50℃.
- **Enhanced Cleaning** —— An ultrasonic cleaning way with a few drops of standard cleaning solutions added, such as liquid soap, detergent, or any other non-acidic cleaning agents.
- **Extensive Cleaning** —— A special ultrasonic cleaning way with specific cleaning solution added for removing tarnish, carbon & rust from non-plated metals.

⚠ WARNING

Strong acid or alkaline cleaning solution will cause corrosion, rust and even puncture of tank or machine body.

————To solve this problem, please dilute the solution to a mild PH value with a specil tank made of a specific-graded stainless steel, like SUS316, before pouring it into the tank of the ultrasonic cleaner.

The cleaning solution's effectiveness will deteriorate over time and use. It is important to regularly change the fluid and wash the cleaning tank carefully so as to preserve the effectiveness and prolong the tank's service life. Besides, the tank must be wiped down and dried before beingre-connected to the electrical supply. Do not use corrosive or abrasive cleaning tools to clean the tank.

⚠ NOTE

If the machine starts to spark, smoke, smells burnt electrics or displays any other fault, the operator must immediately stop the machine, and isolate it from the electrical supply and contact the supplier. It is dangerous to use it after that.

HOW TO GET A BETTER CLEANING EFFECT

- Immerse the cleaned stuffs well into the water. (below the "MAX" mark)
- Add a small amount of cleaning solution.
- Make sure that there is enough space around each stuff in the tank. The more stuffs youplace in the tank, the less efficiency you can get. It is not advised to overlap stuffs because the ultrasonic cleaning system can not make a good cleaning effect on layered stuffs.
- Use a suitable basket. Do not put stuffs directly into the bottom of the tank because that is harmful for the inner tank. Especially a metal basket only absorbs about 8% ultrasonic energy.
- Choose a suitable temperature: Generally, the higher the temperature is, the better cleaning effect the ultrasonic cleaner can make. However, when temperature exceed 70～80℃, cleaning effect will be affected. The best temperature we suggest is 40～60℃.

SPECIFICATIONS

Model No.	Tank Size(mm)	Overall Size(mm)	Capacity	Frequency(KHz)	Ultrasonic Power(W)	Heating Power(W)	Time(min)	Temperature(℃)	Drainage
DK-200A	150x140x100	190x170x195	2.0L	40	60	100	1~30	20~80	None
DK-300A	240x140x100	270x160x220	3.2L	40	120	100	1~30	20~80	None
DK-600A	300x155x150	330x180x280	6.5L	40	180	300	1~30	20~80	Yes
DK-1000A	300x240x150	330x270x280	10L	40	240	300	1~30	20~80	Yes
DK-1500A	330x300x150	360x330x280	15L	40	360	400	1~30	20~80	Yes
DK-2200A	500x300x150	530x330x280	22L	40	480	500	1~30	20~80	Yes
DK-3000A	500x300x200	530x330x330	30L	40	600	500	1~30	20~80	Yes

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