



## R Series

Ultrasonic Cleaner Manual

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## Dear Customer

Before starting up the device, please read through the following instructions carefully, both for your own and the device safety.

Keep this manual where it can be readily accessed by all users.

Only use bath liquid which comply with environmental standards and are tested and approved for use in ultrasonic cleaning system.

All necessary settings were either made in the factory or are described here. If any doubts or questions, please contact us at Quality NDE.

If problems occur on start-up, please do not make any prohibited adjustments to the device, as this would endanger device.

## Safety Instruction

### 1.Avoid Electric Shock

- Do not plug in the power supply during water intake or drainage
- Be sure to keep the control panel as well as the surrounding clean and dry, remove the water overflowing from ultrasonic tank timely. Otherwise, it may cause electric shock
- Be sure to ground properly before operating the machine
- Do not dismantle this machine without guidance under professional technician. Inside high pressure is very dangerous

### 2.Prevent Personal Injury and Property Damage

- User water-based cleaning liquid, don't use alcohol, gasoline or other flammable cleaning liquid. Otherwise it will cause fire, explosion and void the warranty
- Don't use acid liquid which may damage the SUS tank
- Don't touch the tank, it may have a high temperature due to heating
- Don't put your hand in the tank during working. Otherwise it will lead to uncomfortable or stinging feelings to skin.
- Keep the machine at the place with proper ventilation

### 3.Prevent Damage To This Machine

- Change the cleaning liquid regularly
- Do not operate the machine in dry
- Don't place the workpiece or container on the tank bottom directly. We provide the hooks or suspended rope to place the basket. Don't follow the instruction, ultrasonic transducer may be damaged and void the warranty
- Must ensure the cleaning liquid immersing the liquid level sensor when ultrasonic or heating is open. Otherwise, that may damage the transducer or heaters and void the warranty

## Production Introduction

### 1. Overview

R series is integrated ultrasonic cleaning machine suitable for industrial applications. The core component ultrasonic generator adopts the most advanced T technology platform which has high cleaning efficiency, simple operations and no need of debugging on site. It can be widely used in metal products, auto parts, electronics cleaning etc.

### 2. Features

- **Efficient Cleaning**

Adopting peak modulation technology which can breakdown the bubbles more quickly and remove the stubborn stains easily. Under same conditions, the breakdown speed of foil is significantly improved.

- **Stable Output**

Self-adaption technology can ensure the machine to fit to load changing perfectly, such as different liquid level, liquid temperature changing and workpiece movement. Ultrasonic performance will keep still.

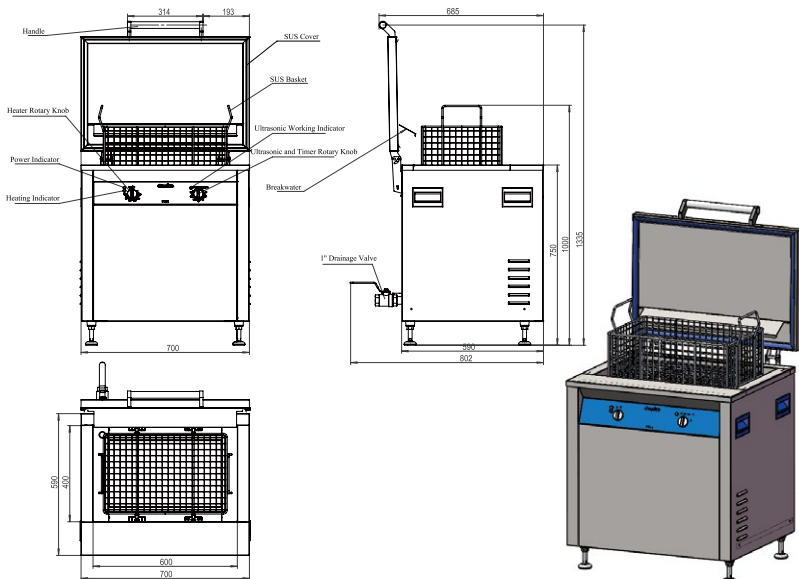
- **High Conversion Efficiency**

The conversion efficiency of ultrasonic and electric energy is more than 95%. The energy conservation is more than others at same ultrasonic power output.

- **Simple Operation**

Fill in liquid, put into the workpiece and turn on switches. Ultrasonic cleaning can start in only 3 steps. All the parameters will be matched automatically.

## Structure Drawing



## Technical Specification

Model	R85	R120	R160
Max. Volume	85L	120L	160L
Effective Volume	60L	90L	120L
Tank Material	SUS304		
	SUS316L (Optional)		
SUS Cover	Optional		
Holder	Feet		
	Wheel (Optional)		
Side Handle	√	√	×
Overall Size (mm) L*W*H	700*590*750	750*640*750	800*690*800
Inner Tank Size (mm) L*W*H	600*400*350	650*450*400	700*500*450
Basket Size (mm) L*W*H	510*330*180	540*375*230	600*425*260
Drainage	1"	1"	1" 1/2
Ultrasonic Frequency	28KHz or 40KHz		
Ultrasonic Power	1500W	1800W	2400W
Heating Power	5000W	6000W	8000W
Working Voltage	220VAC/1φ	220VAC/1φ	380VAC/3φ
Power Supply Frequency	50/60HZ		
Max. Heating Temperature	80 °C		
Timer	1-15minutes/∞		
Protection Class	IP21		
Cable Length	3m		
The Max. Workpiece Length	500mm	550mm	600mm
Max. Loading Capacity ( kg)	20kgs	25kgs	30kgs
Working Environment Temperature	0-40 °C		
Liquid Optimum Temperature	40-60°C(Warning: When temperature is more than 70°C, it may affect the lifespan of ultrasonic transducer during long time continuous working)		

## Installation

### 1.Unpacking

Please check carefully whether any damage to the machine and outer package or not. If any damage is found, please contact the shipping company and us, and keep the package as still.

### 2.Placing

- The machine should be placed at dry, well-ventilated and free of corrosive gas area.
- The standard cable for this machine is 3m, please place the machine close to your power supply.
- Please ensure the machine is placed flatly, you can adjust the height by feet.

### 3.Power Supply

The R series ultrasonic cleaner can be supplied by 220VAC and 380V. Please check the voltage and power carefully on the nameplate before connection to your power supply. Then connect to the breaker which has power 1.2 times than machine power.

#### Please note:.

The machine should be grounded reliably. Otherwise, you may risk of electric shock.

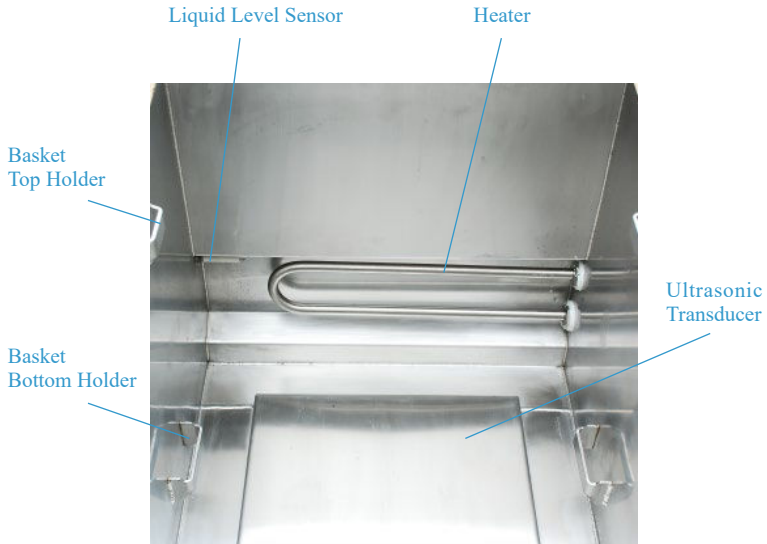
## Function Description

### 1.Appearance

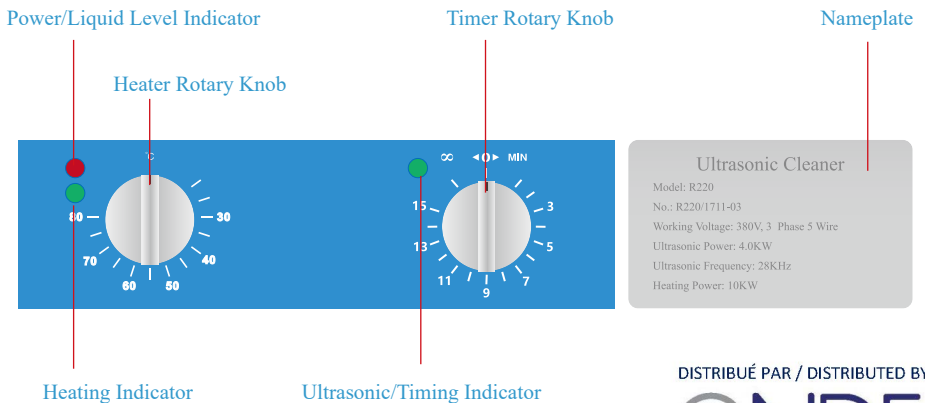


No.	Description	No.	Description
1	Ultrasonic and Timer Rotary Knob	2	Heater Rotary Knob
3	Ultrasonic Working Indicator	4	Liquid Level Indicator
5	Front SUS Plate	6	Control Panel
7	Front SUS Plate	8	Front SUS Plate Buckle
9	Ventilation Hole	10	Drainage Valve
11	SUS Basket	12	Feet

## 2. Tank Inside



## 3. Function



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**Heater Rotary Knob.** The temperature set range is 0-80°C. The temperature will increase at clockwise rotation and decrease at anticlockwise rotation. If set value is higher than liquid temperature in the tank, the machine will start heating automatically until reach to set value. The temperature can be also set during working. You will hear “pop” sound when heater is started or stopped. That’s the sound from electrical components connected and released which is normal phenomenon.



**Timer Rotary Knob.** Ultrasonic is off at “0” and ultrasonic starts working for 0-15min. When knob is rotated clockwise and work continuously anticlockwise. The time can be also set during working. Ultrasonic will be shut down if you rotate it to “0”.



**Ultrasonic/Timing Indicator.** The light is on when ultrasonic is started and off when ultrasonic is stopped.



**Heating Indicator.** The light is on when heater is started and off when heater is stopped.



**Power/Liquid Level Indicator.** The light is on when liquid level sensor is immersed and off at low liquid level or power failure.

Basket Top Holder. Used for water draining after cleaning.

Basket Bottom Holder. Used for placing the basket during cleaning.

## Operations

### 1.Fill In Liquid

Fill in suitable liquid according to your cleaning process. The liquid must immerse liquid level sensor. Otherwise, the machine cannot be started.

### 2.Power On

Open the breaker and power/liquid level indicator shall be on.

### 3.Heating

Set the temperature as your need.

### 4.Put In Basket With Workpiece

Put the basket on the holders, the liquid should immerse the workpiece 5cm higher. The workpiece shall be placed loosely. Don’t stack up or put full, otherwise, that may affect cleaning effect.

### 5.Start Ultrasonic

Set the time and ultrasonic starts working.

### 6.Draining

Put the basket on the top holders to drain the water.

### 7.Power Off

Power off the machine after cleaning

### 8.Drainage

The waste liquid shall be treated and drained according to local rules.

## Troubleshooting

No.	Trouble	Troubleshooting
1	Liquid Level Indicator Not On	<ul style="list-style-type: none"> <li>▶ Check if power is supplied</li> <li>▶ Check if low liquid level</li> <li>▶ Open front SUS plate and check if liquid level sensor can sense the liquid level</li> </ul>
2	Ultrasonic Started, But Indicator Not On	Check if liquid level indicator is on, if not, please fill in liquid
3	Heater Started, But Indicator Not On	Check if liquid level indicator is on, if not, please fill in liquid
4	Indicator On, But Ultrasonic Cannot Be Started	<ul style="list-style-type: none"> <li>▶ Open front SUS plate and check if AUX indicator on ultrasonic generator is on.</li> <li>▶ If AUX is not on, please check if ultrasonic generator is working well under professional technician's guidance</li> <li>▶ Check if ultrasonic transducer is well under professional technician's guidance</li> </ul>
5	Indicator On, But Heater Cannot Be Started	<ul style="list-style-type: none"> <li>▶ Open front SUS plate and check if contactor is attracting</li> <li>▶ Check if heaters are broken under professional technician's guidance</li> </ul>
6	Leakage	Power off the machine and confirm the leakage position and contact us immediately.

## Maintenance

The routine maintenance is necessary to ensure the device to work properly, the user must be aware of the importance of routine maintenance.

The design of R series ultrasonic cleaning system can minimize the maintenance job. However, the user still needs daily checks and regular maintenance to keep the device in good condition.

- The machine should be cleaned after workpiece cleaning. Use a soft material such as sponge to clean the tank body and bottom. Please rinse the tank again after residue is cleared. Please attention that water cannot flow to the control panel and front SUS plate, otherwise, it may damage inside components and circuit.
- Clean the front SUS plate regularly. Use a wet cloth to remove the stains, please don't rinse it directly.
- The ultrasonic radiating surface may be corroded by ultrasonic cavitation during working. It is normal phenomenon.
- Open the front SUS plate every 6 months to clear the dust on components, fans and air inlet with brush.

## Warranty

We guarantee quality of the products for a period of 1 year from the date of device accepted. Please leave your company name, contact person, phone number, email address and device serial number for quick checking and response if any problem.

## Service Hotline

If you still have questions after reading this instruction manual, please call our customer service at any time. In order for us to answer your questions more quickly, please provide the equipment model, customer information and specific issues.

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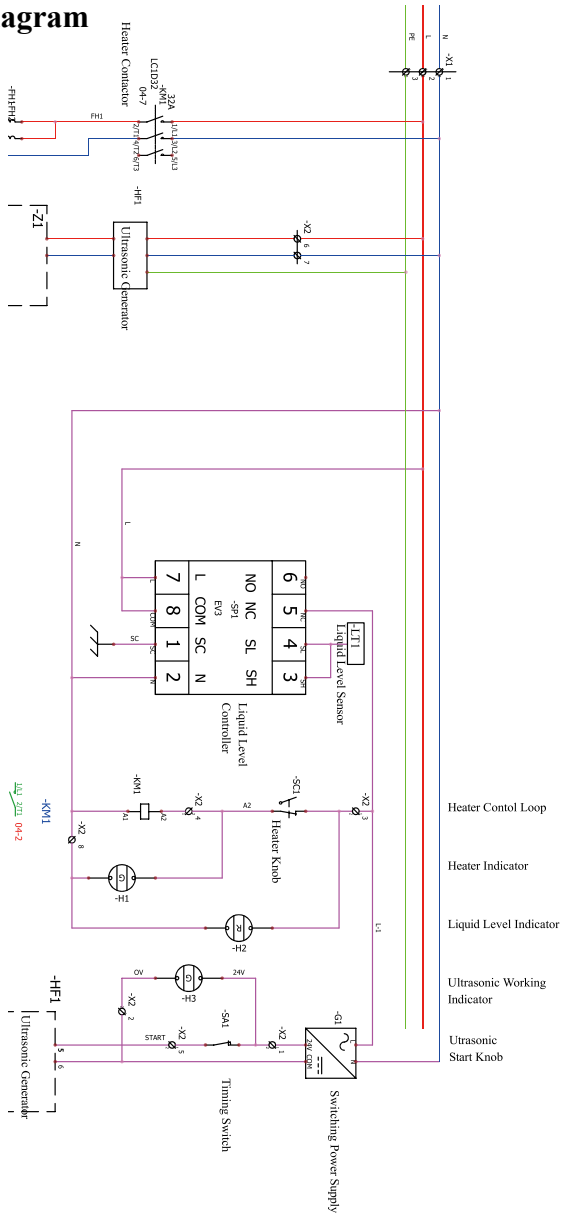
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# Circuit Diagram



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