

Reeco

ULTRASONIC CLEANER REECO US-100/200/300



OPERATIONAL MANUAL



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INTRODUCTION

Reeco ultrasonic cleaners are modern, microprocessor controlled devices that use ultrasonic vibrations energy in cleaning process.

Ultrasonic vibration causes creation of series effects in the cleaning liquid. Cavitation is one of them – this is creation and decay microscopic gas bubbles. Bubbles forms across whole liquid volume and cause removal of impurities from surface of cleaning objects, also from hard reach areas (where conventional methods are useless). Influence for the cleaning process has physical – chemical washing agent properties and temperature of the bath.

Using ultrasonic cleaner in fusion with proper cleaning liquid (impurities resolving) guarantee hard reach areas surfaces clearance (unreachable object areas in conventional way of cleaning), for example: complicated shape openings, under installed BGA or CSP components.

SYSTEM SPECIFICATION

	US100	US200	US300
Supply Voltage:	230 V/50Hz	230 V/50 Hz	230 V/50 Hz
Max. Ultrasonic Generator Power:	150 W	300W	600W
Max. Heater Power:	350 W	500 W	1000 W
Cleaning Chamber Capacity:			
- maximum	7.3	12	26
- optimal	6	10	22
Work Frequency:		39kHz +/- 5%	
Device External Dimensions:			
(length/width/height):	360 x 200 x 340	360 x 280 x 340	580 x 360 x 340
Chamber Inner Dimensions:	325 x 176 x 200	325 x 265 x 200	530 x 325 x 200

DEVICE ELEMENTS

Complete Reeco US cleaner includes:

1. Stainless casing
2. Stainless cleaning chamber
3. Stainless lid
4. Power cord of 1.8m
5. Basket made of rust-less wire (optional)

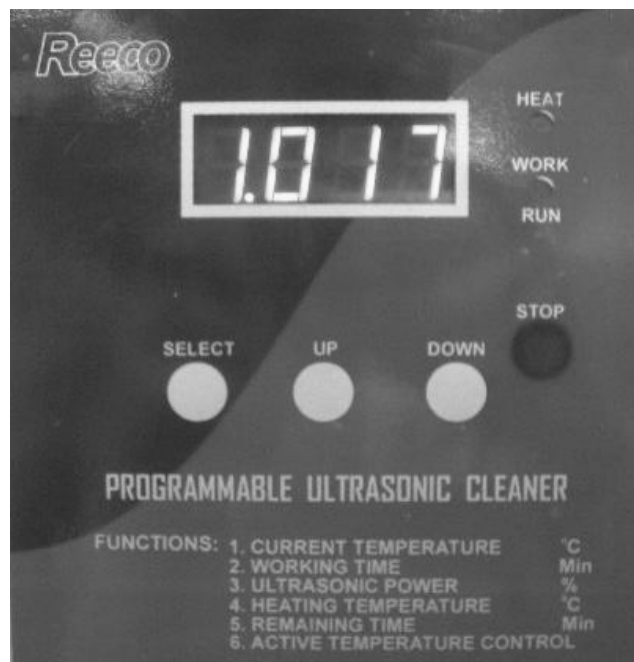
SAFETY GUIDELINES

1. Before starting your work with the cleaner, read the operational manual carefully.
2. To power supply device it is necessary to use grid with efficient safe grounding.
3. High voltage appears in the device. It's not allowed to turn on device after case opening.
4. Any repairs or servicing can be made by trained personnel.
5. It is not allowed to apply flammable preparation for cleaning.
6. Ultrasonic vibrations created in device are not harmful for human health. To some persons it can exert an effect of discomfort. It is necessary to use device with lid put on.
7. After the transportation of device at low temperatures it is necessary to leave it for about 1 hour at room temperature in order to compensate the temperature.
8. During operation the device should be set on a flat, hard surface.
9. It is not allowed to start on device when it is not filled any cleaning liquid.
10. Personnel operating Reeco US cleaner must be trained in respect of safe operation of the device.
11. If the bath is harmful US cleaner should be placed under a fume extractor.
12. Do not dip hands in a bath during ultrasound operation.
13. With longer ultrasound working time, hearing protection such as sound attenuators TD-1 should be used.
14. Do not use active solutions in reference to stainless steel.
15. The device is not intended to be used by people (including children) with limited physical, mental or sensual abilities or people without any experience or knowledge of

the equipment unless it is supervised, or arranged with accordance of the operational manual provided by people responsible for their safety.

16. It is necessary to make sure the children do not tamper with the device.

CONTROL PANEL



Pic. 1

Control panel of the US cleaner is equipped with red LED display (Pic. 1)

The first digit represents the current position of the menu, the next digits describe the set values.

Device status is indicated by two signal LEDs, one red (heating) and one green (work of ultrasound).

Navigating through **MENU** is done by holding down or pressing the **SELECT** button, and change of settings is made by **UP** and **DOWN** buttons.

In order to run the device press **RUN** button and the interruption of work is done by pressing the **STOP** button.

Description of menu:

1. Current value of temperature (°C)
2. Unit work time (in minutes)
3. Ultrasound power.
4. Heating temperature (set point).
5. Remaining time to complete the process.
6. Active temperature control.

Once you switch option No. 6 (set to 1 ON, set to 0 OFF) when the temperature in the bath reaches a higher temperature by 10 °C from the set point, process will stop until bath will cool down to a temperature higher by 5 °C from the set point.

When option No 6 will be switched off during cooling down process, operator should confirm the switching back on device by pressing the WORK button again.

Once the bath temperature will reach 85 °C cleaning process will be interrupted and acoustic signalling will indicate overheating (sound pulses with a fixed duration and interval).

CLEANING

1. Fill the tub with appropriately selected cleaning solution.
2. Place the object to clean in the cleaning tub.
3. Turn the power switch ON.
4. Using the buttons on the control panel, set the appropriate parameters of the controller.
5. If the bath temperature is below set point, cleaner will start heating, it will be signaled on panel by flashing red light with the word **HEAT**.
6. After reaching the proper temperature device will automatically start a cleaning cycle.
7. The cycle can be interrupted at any time by pressing the **STOP** button on the control panel.
8. The process of washing is most effective when on the surface of detergent, there are clear waves.
9. Optimum clearing temperature should be in between 30 - 50 °C.
10. To achieve highest effectiveness of ultrasonic cleaning the best is to use a clean washing liquid in the cleaning process.
11. Cleaning time depends on amount and degree of contamination of washed items.
12. During ultrasonic cleaning, you can apply the same solvents as for the cleaning using conventional ways but their concentration should be smaller, so there will be no foaming phenomenon.

MAINTENANCE

1. Equipment bath is made of stainless steel and when acid baths are used, periodically (e.g., 2 times a month) surface should be neutralize.
2. Each time after work is completed it is necessary to remove iron filings from the bottom of the bath (if any). Do not carrying out this recommendation will result in the formation of primary cells, which leads to damage and loss of the bath unit warranty.
3. Kept clean surface of ultrasonic cleaner.