

## Manual Ultrasonic Cleaner PCE-UC Series



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## 1 Introduction

### 1.1 General

Thank you for purchasing an ultrasonic cleaner of the PCE-UC series from PCE Instruments. Our PCE-UC series ultrasonic cleaners have a resilient industrial-grade tank made of stainless steel, which is equipped with a circuit board that is insulated against humidity. If handled properly, this device will render good service for many years.

Ultrasonic cleaners work on the basis of the phenomenon called cavitation which means that pressure fluctuations inside the cleaning liquid are created by means of ultrasound. These fluctuations in pressure cause small cavities filled with vapour. As the pressure returns to normal, the bubbles collapse and the liquid suddenly returns to the cavity. Note that extreme pressure surges may occur during a short period of time. The ultrasonic cleaner uses these pressure surges to clean surfaces.

Ultrasonic cleaners can be used for various purposes, e. g. for cleaning

- spray guns
- calligraphy brushes and tips
- surgical and dental instruments
- geological and metallurgical samples
- printer cartridges
- laboratory glass instruments and appliances
- metal / fibre filters
- micro-electronic circuits and components
- spray nozzle
- watches
- vehicle / plane components
- plotter pens / tips
- injection nozzles
- injection needles
- lenses and other optical components
- metal and rubber seals
- scientific instruments
- spectacle frames and lenses
- circuit boards
- jewellery

### 1.2 Delivery content

- 1 x PCE-UC device
- 1 x cover
- 1 x mains cable
- 1 x outlet filter
- 1 x mesh basket

Take the ultrasonic cleaner out of the packaging and check whether the appropriate mains cable and the listed accessories are included. Keep the packaging for storage of the device or for the unlikely case that you have to send the product back for repair.

## 2 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. There is no warranty of damages or injuries caused by non-observance of the manual.

- The device may only be used in approved temperature ranges.
- The case should only be opened by qualified personnel of PCE Instruments.
- The instrument should never be placed with the user interface facing an object (e.g. keyboard side on a table).
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth / use only pH-neutral cleaner, no abrasives or solvents.
- Never operate the ultrasonic cleaner for longer than one complete cleaning cycle (99 minutes) as this might cause damage to the device.
- Never use the device without any liquid in the cleaning tank. Always make sure that the level of liquid is between the minimum and the maximum marking.
- Be careful when you place the products in the cleaning tank and always use the basket, if possible, as otherwise the cleaning tank might be damaged.
- Ensure that the products in the cleaning tank are non-contacting as this would deteriorate the result substantially.
- Keep the cover closed during cleaning to avoid splashing and evaporation.
- Disconnect the device from the circuit before filling it.
- Make sure that the fan on the bottom side of the cleaner is not covered.
- Always turn off the heater after cleaning in order to avoid evaporation of the cleaning liquid.
- Never operate the device when your hands are wet.
- Only use this device with PCE accessories or equivalent.
- Before use, check the case for visible damage. In case any damage is visible, do not use the device.
- Do not use the device in explosive atmospheres.
- If you do not observe these safety notes, this might cause damage to the device or injury to the user.

This manual is published from PCE Instruments without any guarantee.

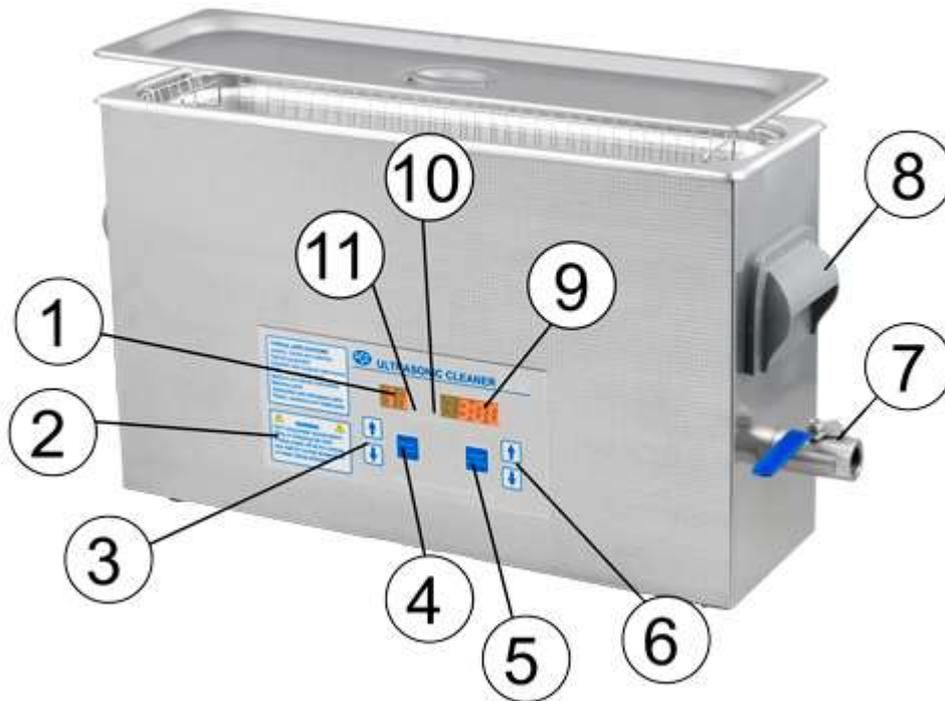
We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments.

### 3 Specifications

Model	PCE-UC 20	PCE-UC 100	PCE-UC 270
<b>Cleaning capacity</b>	50 W	200 W	500 W
<b>Heating capacity</b>	100 W	400 W	500 W
<b>Volume</b>	2 l	10 l	27 l
<b>Temperature</b>	0...80 °C (0 ... 176 °F)	0...80 °C (0 ... 176 °F)	0...80 °C (0 ... 176 °F)
<b>Time settings</b>	1 ... 99 min	1 ... 99 min	1 ... 99 min
<b>Frequency</b>	40 KHz	40 KHz	40 KHz
<b>Dimensions</b>			
<b>Cleaning tank</b>	150 x 140 x 100 mm (≈5.90 x 5.51 x 3.94")	505 x 135 x 150 mm (≈19.88 x 5.31 x 5.90")	500 x 300 x 200 mm (≈19.68 x 11.81 x 7.87")
<b>Device</b>	180 x 165 x 230 mm (≈7.09 x 6.50 x 9.05")	530 x 165 x 310 mm (≈20.89 x 6.50 x 12.20")	530 x 330 x 380 mm (≈20.89 x 12.99 x 14.96")

#### 4 System description



- 1 LED display / heating temperature indication
- 2 safety precautions
- 3 temperature setting
- 4 heater on / off
- 5 cleaner on / off
- 6 timer setting
- 7 drain valve
- 8 lifting handle
- 9 LED display / timer
- 10 LED / cleaner
- 11 LED / heater

right



left



rear



bottom



## 5 Instructions

### 5.1 Getting started

1. Make sure that the ultrasonic cleaner is placed on a clean and even surface.
2. Ensure that the mains cable is correctly connected to the ultrasonic cleaner and that there is no liquid at the junction.

### 5.2 Starting the ultrasonic cleaning function

1. Fill the cleaning tank with water, at least half full.
2. Connect the ultrasonic cleaner to the power supply system.
3. Set the cleaning time by means of the “timer setting” keys.  
**Up:** increase time  
**Down:** decrease time
4. Press the “cleaner on / off” key to start cleaning. The remaining cleaning time is displayed in the timer display in minutes and seconds.

### 5.3 Starting the heating function

1. Set the temperature by means of the “temperature setting” keys.  
**Up:** increase temperature  
**Down:** decrease temperature  
Press the “heater on /off” key to start the heating function.

### 5.4 Finishing the cleaning process

1. When the device is on, press the “cleaner on / off” key to finish the cleaning process.
2. When the heater is on, press the “heater on / off” key to finish the heating function.
3. Disconnect the device from the power supply system.
4. Empty the cleaning tank.
5. Clean the inside as well as the outside of the device thoroughly with a dry cloth.

### 5.5 Cleaning options

#### 1. Standard cleaning

Use only tap water at a temperature of more than 50 °C (122 °F).

#### 2. Improved cleaning

Add a few drops of “non-acid” cleaning agent to the water (e. g. liquid soap).

#### 3. Extensive cleaning

If you wish to clean stubborn dirt accumulations extensively, we recommend to add a special ultrasonic cleaning solution to the water bath. Check our website for appropriate cleaning solutions.

**Warning:** The use of high-acid or alkaline cleaning liquids will cause corrosion and damage to the cleaning tank and other components of the device.

## 6 Disposal

For the disposal of batteries, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

If you have any questions, please contact PCE Instruments.

## 7 Contact

If you have any questions about our range of products or measuring instruments please contact PCE Instruments.

### 7.1 PCE Instruments UK

**By post:**

PCE Instruments UK Ltd.  
Units 12/13 Southpoint Business Park  
Ensign Way, Southampton  
Hampshire

United Kingdom, SO31 4RF

**By phone:**

02380 987 035

### 7.2 PCE Americas

**By post:**

PCE Americas Inc.  
711 Commerce Way  
Suite 8  
Jupiter  
33458 FL  
USA

**By phone:**

561 320 9162

