



Ultrawave  
Ultrasonic Precision Cleaning



Neon Series

# Ultrasonic Cleaning System



## Operator Manual



**Contents**

Safety Instructions ..... 2

Quick guide ..... 3

Administrator instructions..... 4

Screen 1: Setting the time ..... 4

Screen 2: Setting the date ..... 5

Screen 3: Setting the temperature..... 6

Screen 4: Setting the cycle time ..... 7

Operator instructions ..... 8

Cycle abort messages.....11

Draining the tank.....12

Changing/Inspecting the filters ..... 13

Ultrasonic cleaning detergents..... 15

Technical information..... 16

Compliance with the Control of Noise at Work Regulations ..... 17

Troubleshooting ..... 18

Maintenance ..... 19

After Sales Service ..... 19

Warranty ..... 20

Service record ..... 23

Notes ..... 25



Ultrawave equipment is manufactured in the United Kingdom.

Ultrawave equipment conforms to the relevant international standards.

## Safety Instructions

### Electrical

Your **Neon Series** must be connected to a 230Vac supply.

Your unit is supplied with either a 3-pin Plug top (BS1363) or a 3-pin blue BS4343 plug as follows:

|          |            |
|----------|------------|
| Neon 35  | 13A BS1363 |
| Neon 60  | 13A BS1363 |
| Neon 90  | 16A BS4343 |
| Neon 125 | 32A BS4343 |

A suitably rated 230Vac supply socket should be used to supply the unit.

*It is dangerous to operate your ultrasonic cleaning system without a connection to mains earth.*

Ensure that excess mains cable is stored neatly.



### General use

Ensure that the tank contains liquid before you switch it on.

Always use a basket to support items to be cleaned.

*Not doing so may damage the **Neon Series** and invalidate your warranty.*

Do not place hands, fingers or other body parts in the tank when in operation.

Care should be taken when operating the ultrasonic cleaning system at higher temperatures as external surfaces may become hot.

Consult Ultrawave before using any detergents, solutions or chemicals not approved by Ultrawave.

Do not move the **Neon Series** when it is full of water.

Read the whole of these instructions. Safety may be impaired if they are not followed. Ultrawave will not be responsible for damage or injury caused by incorrect use of the equipment.

### WEEE Compliance

Ultrawave are complying with the WEEE regulations by contracting our obligations to a Producer Compliance Scheme. Once it is deemed that this **Neon Series** is no longer effective, please contact Ultrawave to arrange collection by our compliance scheme provider, who will pick up the machine from your premises.

## Quick guide

Place the **Neon Series** in its final working position.

Fill the tank with fluid until it overflows into the overflow-weir. Fill the weir to at least half way before use, but ensure that it is not completely full.

When filling the **Neon Series** prior to its first use or after a complete system drain, it may be necessary to top up the weir after the pump first runs, to ensure there is fluid in the system.

Add the required dose of detergent (see page 16).

Switch on the machine via the switch at the front of the **Neon Series** case.

To operate the **Neon Series**, please refer to the appropriate instructions on the following pages.

Change the cleaning fluid at regular intervals. Your cleaning process will determine how often the fluid needs changing - the more soiled your items, the more often you will need to change the fluid.

The pump & filter system is supplied with filter cartridges that must be routinely inspected and replaced if there are any signs of reduced liquid flow or the visible state of the filter cartridge deems it necessary (see page 14).

### **REMEMBER**

- Always ensure the fluid is above the level sensor when in operation.
- Do not put excessively hot water into the tank.
- Always use the basket supplied.
- Never expose hands or other body parts to cleaning solutions.
- Contact Ultrawave before using any solutions, detergents or chemicals which are not specifically approved by Ultrawave.
- Never breathe the fumes from strong solutions.

Once the cleaning cycle has finished, remove the cleaned items and rinse them in clean water.

Subjecting the ultrasonic cleaning system to improper treatment or misuse will invalidate the warranty.

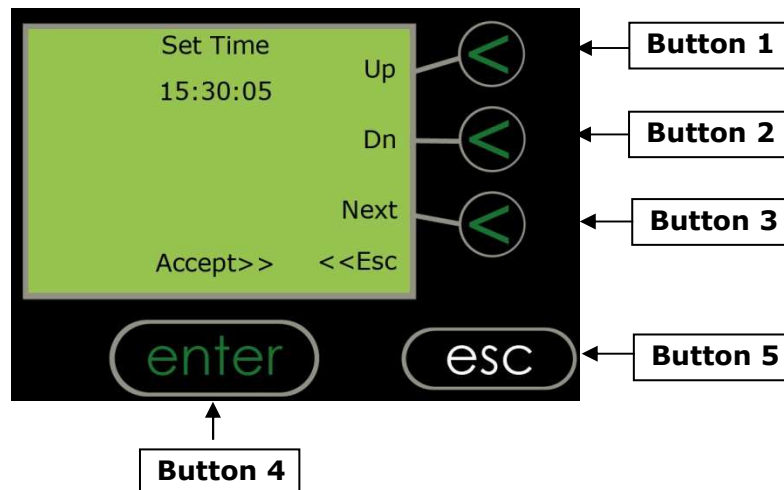
## Administrator instructions

The **Neon Series** has a Split Level Security function. Cycle programming can only occur in Administration mode.

To enter Administrator mode:

- Ensure the mains supply is switched off.
- Press button 4 (Enter) and button 5 (Esc) simultaneously.
- Keep both buttons depressed whilst you turn the **Neon Series** on at the mains switch on the front of the unit.

### Screen 1: Setting the time



The **Neon Series** is factory pre-set with United Kingdom time, and automatically changes from GMT to BST on the designated days.

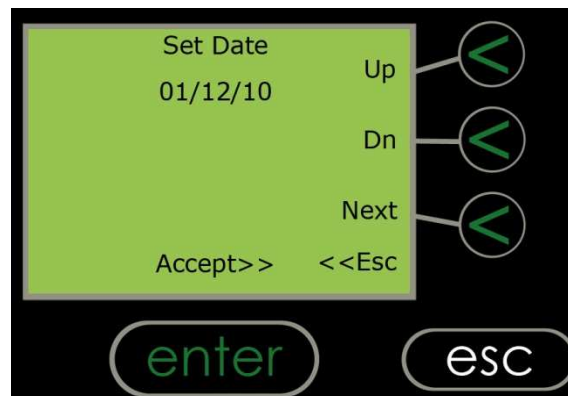
If the time should be incorrect, use this screen to amend it.

Use the “Up” and “Down” buttons to scroll through the numbers.

When the correct number has been selected, use the “Next” button to move to the next character.

Once the correct time has been entered, press the “Accept” button to save the settings.

## Screen 2: Setting the date



The **Neon Series** is factory pre-set with the correct date. If the date should be incorrect, use this screen to amend it.

At the position of the flashing cursor use the use the “Up” and “Down” buttons to scroll through the numbers.

When the correct number has been selected, use the “Next” button to move to the next character.

Once the correct date has been entered, press the “Accept” button to save the settings.

### Screen 3: Setting the temperature



The **Neon Series** has three process temperature settings:

**Min temperature:** this is the minimum temperature at which the bath will operate. If the liquid falls below this temperature, the bath will not operate until the liquid rises to the min. temperature again. The **Neon Series** automatically starts heating the liquid if it is below the min. temperature.

**Normal temperature:** this is the optimum operating temperature. If the liquid temperature falls more than 2°C below “normal”, the electrical water heater will switch on until the liquid reaches the “normal” temperature.

**Max temperature:** this is the maximum temperature at which the bath will operate. If it rises above this temperature it will not operate. To overcome this problem, drain the tank and refill with cooler liquid.

The **Neon Series** is factory pre-set with the following:

- **Minimum temperature**                      **15°C**
- **Normal temperature**                        **40°C**
- **Maximum temperature**                      **70°C**

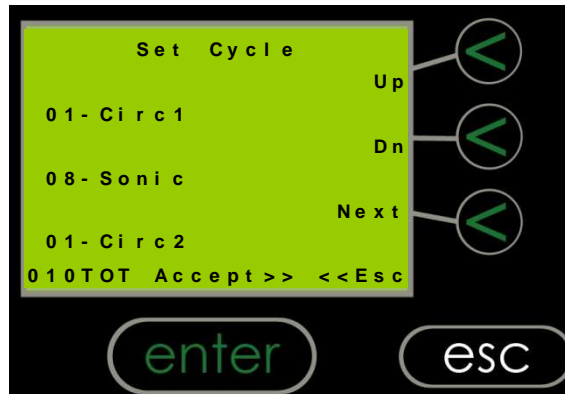
Use the “Up” and “Down” buttons to scroll through the numbers. When the correct number has been selected, use the “Next” button to move to the next character.

Pressing ‘Enter’ saves the current set temperatures and advances to the ‘Set Cycle’ screen.

Pressing ‘Esc’ returns to the ‘Set Date’ screen without saving.



## Screen 4: Setting the cycle time



The **Neon Series** has three cycle stages:

**Circ 1:** this is the time that the pump will operate for, before the ultrasonics operate.

**Sonic:** this is the time that the ultrasonics will operate for.

**Circ 2:** this is the time that the pump will operate for, after the ultrasonics operate.

**Total cycle time is the sum of all three individual set times.**

The pump operating at the start of the cycle will flush and filter excess contaminants before the ultrasonic cleaning process begins.

The main cleaning action occurs during the ultrasonic cleaning process.

The pump operating at the end of the cycle will flush and filter contaminants that have been removed from the component during the cleaning process and minimise the effect of “drag through” (contaminants resting on the component), when it is removed from the tank.

Use the “Up” and “Down” buttons to scroll through the numbers in order to increase or decrease the time.

Each stage can be programmed from 0-240 minutes, as long as the total maximum cycle time is no more than 240 minutes. If any of the stages are not required, then these can be programmed to 0 minutes.

When the correct number has been selected, use the “Next” button to move to the next character.

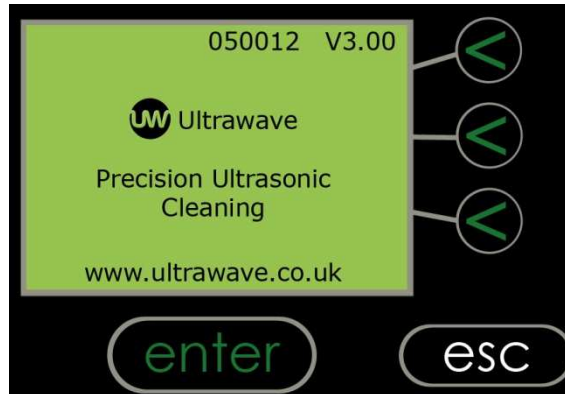
Once the correct cycle time has been entered, press the “Accept” button to save the settings.

This completes the Administrator programming of the **Neon Series**.

Power down the **Neon Series**, using the switch at the front of the case, to exit ‘Admin’ mode. When the **Neon Series** is then powered up, “Operation” mode will be in use.

## Operator instructions

When the **Neon Series** is first switched on, the following screen will appear for approximately 3 seconds:



While this screen is displayed, the buttons are inoperative. This is normal as the **Neon Series** is running through its start-up routine and checking all internal systems are working correctly.

The top line of the display indicates the serial number and software version number, uniquely identifying the machine.

After 3 seconds, the ultrasonic cleaning system is ready for use.

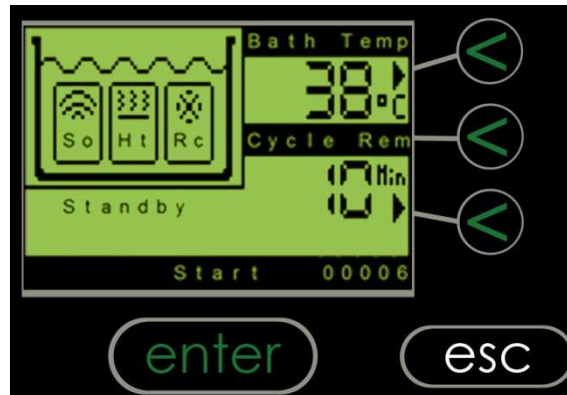


The symbols on the display indicate the following:

|    |        |   |
|----|--------|---|
| So | Sonics | When this symbol is flashing, the sonics are in operation       |
| Ht | Heat   | When this symbol is flashing, the heaters are in operation      |
| Rc | Recirc | When this symbol is flashing, the recirculation is in operation |

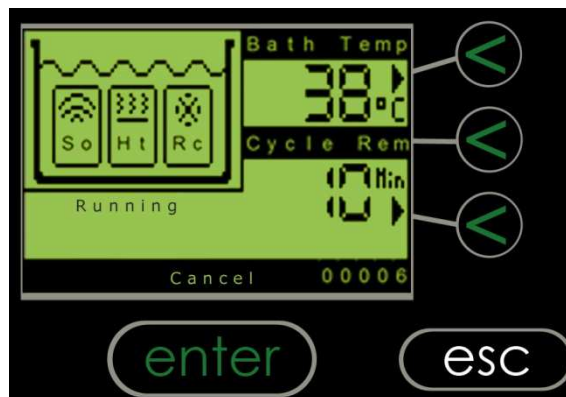
(missing symbols indicate that function is not available)

The **Neon Series** is fitted with a liquid temperature sensor. If this temperature is below the minimum set temperature, the heaters will operate and begin to heat the cleaning fluid once the machine is turned on.



When the heaters are in operation, the symbol above Ht will oscillate showing the heaters are in operation.

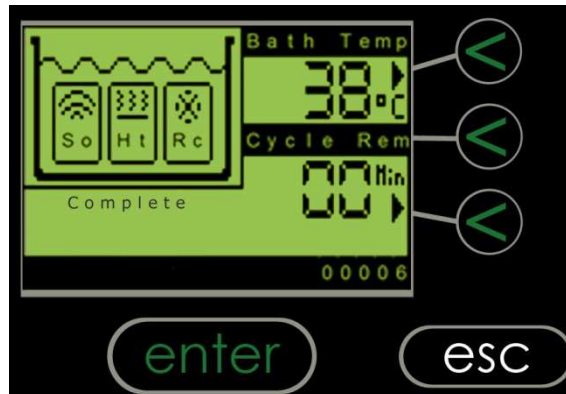
Pressing the 'enter' button (under the flashing Start) will start a pre-set cycle, as long as the recorded temperature of the cleaning fluid is above the minimum programmed temperature.



The **Neon Series** cycle will now begin, indicated by the 'Running' message on the display. The ultrasonic cycle will run for the programmed time and any re-circulation will also run once at the cycle start point, and once at the end of the cycle.

The display will illustrate the temperature of the bath during operation and the cycle time remaining.

On successful completion of the cycle, the following message will be displayed.



The user must acknowledge the complete cycle, by pressing the enter button, before the screen will return to the start ready for another cycle to be started.

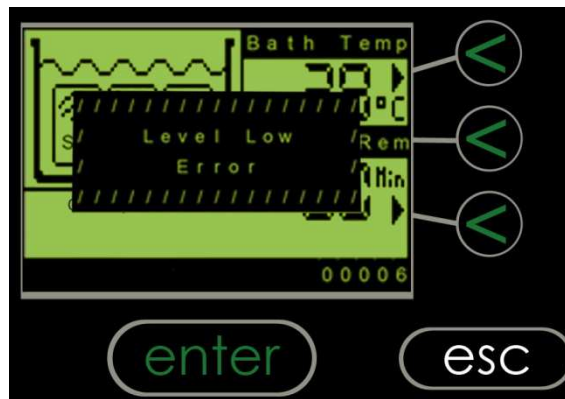
## Cycle abort messages

The Neon Series software has fault modes which will abort the cycle if the programmed parameters are not met or if any fault occurs.

If the cycle aborts, the reason will be displayed on the screen. An audible warning will sound to signal a process fail.

**To stop the audible warning, press and hold the “enter” button until the warning stops.**

If a fault occurs, the Neon Series will display a message on screen and the cycle will abort:



The cycle may abort for the following reasons:

|             |  |
|-------------|--|
| Level Low   | The liquid level is too low                    |
| Under Temp  | The fluid is below the minimum set temperature |
| Over Temp   | The fluid is above the maximum set temperature |
| Operator    | The operator has aborted the cycle             |
| Sonics Low  | The ultrasonic power is too low                |
| Sensor fail | The temperature sensor is faulty               |
| Power fail  | There has been a power failure during a cycle  |

Press and hold the ‘enter’ button to acknowledge the fault and return to operation mode.

## Draining the tank

The tank is drained via a valve on the underside of the unit, shown here in the “off” / “closed” position. This will need to be “on” / “open” to drain the main tank:



There is also another drain valve situated lower down on the pump (shown here in the “off / normal position”). This is used to drain any remaining fluid in the pipework along with the pump drain plug for a complete drain-down of the system:



**Step 1** - Ensure that the drain (on rear of unit) is connected to a suitable drain outlet or container.

**Step 2** - Turn the valve 90 degrees to the “on / “open” position to drain the unit.

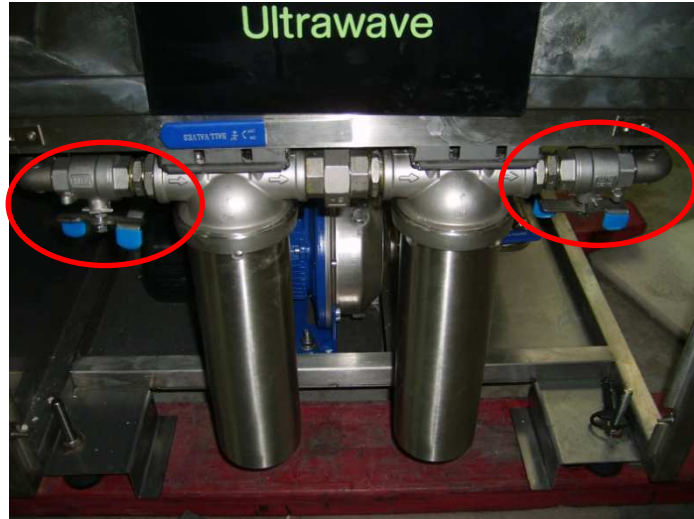
**Step 3** - Allow the liquid to drain.

**Step 4** - Close the valve when the tank is completely drained

**Step 5** - Wipe or flush the inside of the tank to remove debris and/or residual fluid

## Changing/Inspecting the filters

There are two more valves used as isolation devices when changing the filters on a pump & filter stand and also as a flow control throttle for the re-circulation system, shown here in the normal open position:



**Note: Do not shut off both valves when the Neon Series is in operation as this will damage the pump.**

The main tank/weir does not need to be emptied to change the filters.

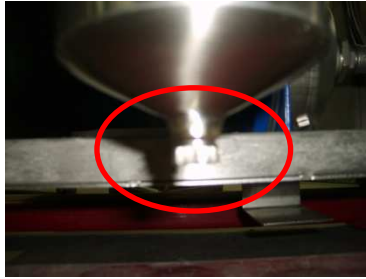
**Step 1** - Ensure that the bund tray is in place below the filter housings:



**Step 2** - Turn both valves 90 degrees to the “off / “closed” position to isolate the tank fluid:



**Step 3** - Open the filter housing bleed valve on the bottom of one of the housings:



**Step 4** - Dispose of all fluid in the filter housing.

**Step 5** - Repeat the same process with the second filter housing.

**Step 6** - Remove each filter housing using the tool provided, by turning the housing locking ring left/anti-clockwise:



**Step 7** - The filter can now be inspected and replaced if necessary.

**Step 8** - Repeat the same process for the second filter.

**Before returning the isolation valves to their normal working positions make sure that filter housings are replaced and re-tightened.**

Return the two isolation valves to their original "on / open" positions



## Ultrasonic cleaning detergents

Detergents are a vital component in the ultrasonic cleaning process, aiding in the removal and loosening of debris from the surfaces of items placed in the tank while also intensifying the power of the ultrasonic activity.

Ultrawave offer a range of specially formulated ultrasonic detergents for use in applications including medical and heavier industrial cleaning requirements.

Ultrawave recommend using 2-5% of detergent by volume (if unsure, start with 2%). The required dosage will depend on your cleaning application and the level of contamination. Items should be rinsed with water and dried immediately after processing.

**Ultraclean SA:** A general purpose cleaning detergent suitable for use on aluminium and other soft metals.

**Ultraclean M2:** A general purpose cleaning detergent for all plastics, glass and metals (except aluminium and other soft metals), which is also suitable for use on medical instruments.

**Ultraclean CS:** Moderate grease and heavy contaminant removal for industrial cleaning applications. Not suitable for use on aluminium and other soft metals.

**Ultraclean CBX:** An alkaline detergent for heavy grease and carbon removal. Not suitable for use on aluminium and other soft metals.

**Ultraclean SPX:** A strong alkaline detergent for removal of tough grease and heavy carbon deposits. Not suitable for use on aluminium and other soft metals.

**Ultraclean PH:** A strong acidic based detergent for heavy descaling, light rust removal and metal brightening. Not suitable for use on aluminium and other soft metals.

**Ultraclean CTA:** An acidic based detergent for descaling, degreasing and brightening of metals. Fair compatibility with aluminium.

**Ultraclean RI:** Rust inhibitor for corrosion prevention of ferrous metals.

**Ultraclean Test Kit:** A sample pack of 1L each of the Ultraclean: SA, M2, CS, CBX, SPX and PH.

The Safety Data Sheet for these detergents are available on the Ultrawave website [www.ultrawave.co.uk](http://www.ultrawave.co.uk) . [Visit the Downloads section of the Product Support area of the site]

For more information, contact us via e-mail at [admin@ultrawave.co.uk](mailto:admin@ultrawave.co.uk) or call on: +44 (0)845 330 4236.

## Technical information

**The need to degas:** gases are present in tap water. In order to allow optimum ultrasonic activity, these gases need to be driven out of the cleaning solution.

The time needed to degas the liquid varies depending on the amount of gas present in the liquid. Ultrawave recommends a degas period of 5 minutes.

Increased “cold-boiling” at the liquid surface indicates that the liquid is degassed. Once the liquid is degassed, the bath is immediately useable.

**Cleaning fluids:** Ultrasonic baths require the presence of a cleaning detergent to work effectively. Ultrawave have several cleaning fluids which have been specifically formulated for ultrasonic cleaning of industrial items.

Consult Ultrawave before using any detergents, solutions or chemicals not approved by them

**The effect of heat:** Heating the liquid in the bath will aid the cleaning process. Normally a temperature of 20-50°C is sufficient to accelerate the process.

Ultrasonic activity itself will heat up the liquid at a rate of approximately 5-10°C per hour. If the unit is operated continuously, it may eventually reach the ‘over temp’ state and set off the audible alarm because the liquid is too hot.

**Cleaning time:** The time required to clean components will vary depending on the nature and level of contamination to be removed.

## Compliance with the Control of Noise at Work Regulations

The Control of Noise at Work Regulations 2005 (the [Noise Regulations](#)<sup>[1]</sup>) came into force for all industry sectors in Great Britain on 6 April 2006. The Control of Noise at Work Regulations 2005 replaces the Noise at Work Regulations 1989.

The aim of the Noise Regulations is to ensure that workers' hearing is protected from excessive noise at their place of work, which could cause them to lose their hearing and/or to suffer from tinnitus (permanent ringing in the ears)

The level at which employers must provide hearing protection and hearing protection zones is now 85 decibels (daily or weekly average exposure) and the level at which employers must assess the risk to workers' health and provide them with information and training is now 80 decibels. There is also an exposure limit value of 87 decibels, taking account of any reduction in exposure provided by hearing protection, above which workers must not be exposed.

To help you calculate your workers' exposure, Ultrawave publish the noise generated by your ultrasonic cleaner on the Certificate of Test. The figure is that experienced by a worker standing in the operating position.

The full text of the [Control of Noise at Work Regulations 2005](#)<sup>[2]</sup> and the full text of the [Noise at Work Regulations 1989](#)<sup>[2]</sup> can be viewed online.

Guidance on the 2005 Regulations can be found in the free HSE leaflet '[Noise at Work \(INDG362 \(rev 1\)\)](#)<sup>[4]</sup> and in HSE's priced book 'Controlling Noise at Work' (L108) (ISBN 0 7176 6164 4) available from [HSE Books](#)<sup>[5]</sup> or from bookshops.

[1] <http://www.hse.gov.uk/noise/regulations.htm>

[2] <http://www.opsi.gov.uk/si/si2005/20051643.htm>

[3] [http://www.opsi.gov.uk/si/si1989/Uksi\\_19891790\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1989/Uksi_19891790_en_1.htm)

[4] <http://www.hse.gov.uk/pubns/indg362.pdf>

[5] <http://www.hsebookds.co.uk>

## Troubleshooting

Ultrawave have a dedicated After Sales team who are able to resolve any problems that occur with your Neon Series. However, on many occasions, it is possible that the problem can be rectified by the operator.

|   |  |
|---|--|
| The <b>Neon Series</b> fails to turn on (no display is shown) | Check that the machine is plugged in and that mains electricity is present.  |
| The screen displays:<br>"Level Low"                           | Fill the tank with liquid so that it is above the float switch inside the tank.<br>If the screen still displays "LEVEL LOW", there is an internal fault and the <b>Neon Series</b> will need to be serviced. |
| The screen displays:<br>"Power Fail"                          | The <b>Neon Series</b> had lost power during a cycle, this will be indicated at next power-up. This is just a notification to the user that the last cycle may not have completed.                           |
| The screen displays:<br>"Sonics Low"                          | The liquid may have not degassed yet or there is an internal fault and the bath will need to be serviced.  |
| The screen displays:<br>"Under temp"                          | Allow the <b>Neon Series</b> to reach the minimum set temperature before starting the cycle.   |
| The screen displays:<br>"Over temp"                           | Allow the <b>Neon Series</b> to cool, or remove some of the hot liquid and replace with cold liquid.   |
| The screen displays:<br>"Sensor Fail"                         | Switch the <b>Neon Series</b> off and then back on again. If the screen still displays "Sensor Fail", there is an internal fault and the machine will need to be serviced.                                   |

If any of these problems persist, the Ultrawave After Sales Department can be contacted on:

Tel: +44 (0) 845 330 4238  
E-mail: [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk)

**There are no user serviceable parts inside the Neon Series.**

## Maintenance

It is important to keep your **Neon Series** clean. Not only will contaminated liquid reduce the performance of the ultrasonic cleaning system, it may also damage it.

Change the cleaning liquid regularly. Your cleaning process will determine how often to change the liquid - the more soiled your items, the more often you will need to change the liquid.

Before cleaning the **Neon Series** always switch it off and disconnect it from the power supply and allow it to cool down to less than 40°C.

Clean the **Neon Series**, by opening the drain valves and flushing with clean water. If necessary, use a non-abrasive cloth to clean the tank and other surfaces.

Transducers, bonded to the base of the tank, generate ultrasonic activity by vibrating at very high speeds. If any contaminants are in contact with the tank, they can act as an abrasive, and will cause wear on the metal surface. In extreme cases, the tank can develop holes and start to leak.

Reduced flow in the recirculation system or decreased cleanliness of the fluid will indicate that the filter cartridges need to be replaced. The pump and filtration system should therefore be checked regularly to determine when these need to be replaced. See the 'Draining the tank' section for more information on page 13.

Portable Appliance Testing should be conducted with water in the tank.

## After Sales Service

Ultrawave recommend that your **Neon Series** is serviced and tested by an Ultrawave approved engineer on an annual basis.

More regular periodic testing can be done by the operator to ensure that your ultrasonic bath is operating at optimum efficiency.

There are no user serviceable parts inside the unit. All service and repair must be conducted by suitably trained and qualified engineers approved by Ultrawave.

Service contracts for your **Neon Series** are available from Ultrawave.

For more information on Ultrawave Service Contracts, Annual Validation Testing and any maintenance, contact the Ultrawave After Sales department on:

Tel: +44 (0)29 2083 7337

E-mail: [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk)

## Warranty

**Ultrawave Industrial Cleaning Systems and Equipment, when used in accordance with the instructions, are covered by the following warranty:**

Ultrawave Ultrasonic Generators and all electrical, electronic and mechanical components are made of the highest quality materials and are guaranteed for 12 months from the date of commissioning on site by our engineer but no greater than 13 months after shipment date, against failure caused by genuine defective material or workmanship, unless otherwise agreed.

Ultrawave Ultrasonic PZT transducers are guaranteed not to crack, deteriorate or become detached from the radiating surface (bonding process), for five years from date of shipment. If exposed to liquid or chemicals the warranty will be invalidated.

Within the warranty period Ultrawave will repair or replace free of charge, Ex Works, all defective parts in the system/equipment but Ultrawave shall not be liable for costs for removing (disassembling) or installing (assembling) parts.

For repairs and replacements effected under these warranty conditions, same warranty conditions are applicable. The warranty period for such repairs and replacements shall, however, be only until the end of the warranty period valid for the originally delivered system/equipment.

**Damage caused by improper handling or misuse is not covered by warranty and costs may be incurred.**

The warranty does not cover normal wear and tear of e.g. motors, pumps, cavitation erosion of vibrating surfaces and such like, so far as this wear is not caused by structural failures. The warranty does not cover defects or failures arising out of non-observance, improper or faulty maintenance or faulty repair or by alterations carried out without Ultrawave's consent in writing. Additionally, any damage caused by the use of toxic, flammable, acidic, caustic or corrosive chemicals or fluids not recommended by Ultrawave will invalidate the warranty. If in any doubt, contact Ultrawave to ensure compatibility in the first instance.

The warranty excludes consumable items such as filters, seals and detergents which would need to be replaced as part of any routine maintenance. Furthermore any external services to and from the system/equipment shall be excluded, which may be subjected to external forces outside the control of Ultrawave.

### **Extended Warranty**

An Extended warranty on the system/equipment is offered with two options:

Option 1 - for a period of 36 months from the date of commissioning on site by our engineer but no greater than 37 months after shipment date;

Option 2 - for a period of 60 months from the date of commissioning on site by our engineer but no greater than 61 months after shipment date.

The warranty will remain in force for the stated period of the option taken out above, provided always that any system/equipment which includes the extended warranty is serviced at regular intervals as part of a separate Planned Preventative Maintenance Service (PPMS) agreement. All PPMS functions under any PPMS agreement must be performed by Ultrawave personnel or organisations authorised by Ultrawave.

Services under any PPMS agreement must be carried out at intervals of a minimum of once per year or more for the full term of the extended warranty, as designated by Ultrawave for each individual system/equipment.

Warranties will not apply if any fault has been caused by failure of the Customer to carry out routine maintenance, in addition to any PPMS carried out by Ultrawave as part of the extended warranty, or the Customer fails to ensure the required services are maintained.

Ultrawave will accept no liability for any loss of production or business interruption resulting from any system/equipment failure whether or not any such failure is covered by any Ultrawave warranty.

Warranties are not transferrable to other users in the event of the system/equipment being sold or otherwise transferred to third party users. Warranties will become void in the event of the system/equipment being moved in any way from any location where the system/equipment was originally commissioned by Ultrawave unless Ultrawave are notified in writing prior to any such move.



## Service record

Ultrawave recommend that your **NEON** ultrasonic system is serviced at least once every 12 months. This record must be maintained by the engineer conducting the service.

There are no user serviceable parts inside. All service and repair should be referred to qualified Ultrawave engineers only.

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |

|                  |  |             |  |
|------------------|--|-------------|--|
| Date             |  | Cycle count |  |
| Engineer         |  |             |  |
| Details          |  |             |  |
| Next service due |  |             |  |









# Ultrawave

**Ultrasonic Precision Cleaning**

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Ultrawave equipment is manufactured in the United Kingdom.

Ultrawave equipment is manufactured to exacting standards and conform to international standards.

[www.ultrawave.co.uk](http://www.ultrawave.co.uk)