Ultrawave
Ultrasonic Precision Cleaning

Sanitiser Series
Operator Instruction Manual

Contents

Safety instructions & general use

Use of products

The following products are covered by this operating manual:
- Sanitiser 5, Sanitiser 9 and Sanitiser 13

The products listed above are a series of ultrasonic cleaning baths designed for indoor use by a professional user.

When used to clean surgical/medical instruments, the products listed above are classed as medical devices.

Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

 Electrical Safety

Connect to a 230VAC fully earthed supply via a 3pin plug.

It can be dangerous to operate an ultrasonic bath without an earth connected.

The Sanitiser Series machines are rated at up to 500W maximum.

The detachable mains lead is rated at 250V 6A. **NEVER FIT A LEAD WITH A LOWER RATING.**

The mains plug is fitted with a 5A fuse. **NEVER FIT A FUSE OF A HIGHER RATING.**

The IEC electrical socket on the rear of the unit is fitted with 2x T5A (time-lag) fuses. **NEVER FIT A FUSE OF A HIGHER RATING.**

The detachable mains lead is the disconnect device and should remain accessible while the machine is in use.

Ensure that excess mains cable is stored neatly.

General use

Do not place fingers, hands, or other parts of the body in the liquid in the bath when it is sonicating.

Fill the Sanitiser Series with cold water. This will ensure that the machine runs its automatic de-gas cycle (see page 25 for the importance of degassing).

Always ensure the liquid is above the level sensor when in operation.

Do not place parts or containers directly on the bottom of the cleaning tank. Always use a basket or instrument cassette to support items to be cleaned. Not doing so may damage the bath and invalidate your warranty.

Never use toxic, flammable, acidic, caustic, or corrosive chemicals or liquids not recommended by Ultrawave.

Ensure the electrical supply is disconnected before moving/emptying.

Before cleaning, drain the bath. Clean by wiping with a clean non-abrasive cloth.

The user should familiarize themselves with this user manual before operating the equipment. 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.

The user should apply to Ultrawave or its agent for advice on cleaning techniques or detergents.

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

Temperature

Care should be taken when operating the bath at temperatures higher than 54°C as external surfaces may become hot.

Safety Symbols

Danger
Indicates an imminently hazardous situation which will result in serious or fatal injury. This symbol is used only in the most extreme conditions.

Caution
Indicates a potentially hazardous situation which may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Equipment Alert
Indicates a potentially hazardous situation which could result in equipment damage.

	Proper shipping orientation		Keep dry
	Fragile	**REF**	Catalogue Number
	Date of Manufacture	**SN**	Serial Number
	Manufacturer	**MD**	Indicate the item is a medical device
	Country of manufacture	**UDI**	Unique Device Identifier

Installation

The following parts and accessories are included with the Sanitiser Series ultrasonic bath:

- 1x basket
- 1x lid
- 1x 2m length of drain hose
- 1x hose tail
- 1x Sample bottle of Ultraclean detergent
- 1x power cable

How to install?

Screw the hose connector into the drain valve at the rear of the unit.

Locate the Sanitiser Series ultrasonic bath close to a drain or sink.

Connect one end of the drain hose to the hose connector and locate the other end over a drain or sink.

Connect the mains lead into a suitable mains socket.

Ensure that the mains plug, and the switch are easily accessible.

Your Sanitiser Series ultrasonic bath is now ready to use.

Controls

Ensure your Sanitiser Series ultrasonic bath is plugged into a 230 VAC fully earthed supply.

Once plugged in, switch on your Sanitiser Series bath via the power on/off switch at the rear of the unit.

The switch will then illuminate.

The Sanitiser Series is operated through a menu driven control system:
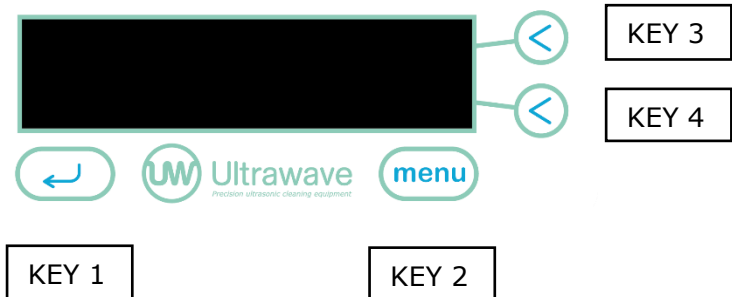
KEY 3

KEY 4

KEY 1

KEY 2

The different keys perform the following functions:

KEY 1: ↵ – Starts and ends the ultrasonic cycle

KEY 2: Menu – Scroll through the menu

KEY 3: Up/On – Adjust the settings in the options menu

KEY 4: Down/Off – Adjust the settings in the options menu

Quick guide

Pour cold water into the bath up to the "FILL TO" line (Do not overfill).

Add the required dose of detergent (see page 24).

Switch on the machine via the switch at the rear of the unit, just above the electrical mains lead.

Press the "START" key to accept the programmed cleaning cycle settings and start the cleaning cycle.

Liquid level sensor

At the end of the cycle, remove the basket from the bath and rinse the items under clean running water.

The lid can be inverted, and the basket placed on top to catch excess liquid as the items dry.
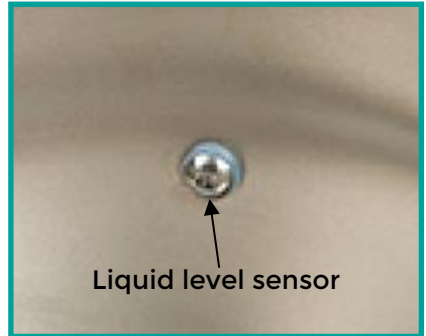
REMEMBER

-   Always ensure the liquid is above the level sensor when in operation.
-   Do not put hot water above 50°C into the bath.
-   Always use the basket.
-   Never expose hands to cleaning solutions.
-   Never use toxic, flammable, acidic, caustic or corrosive solutions.
-   Never breathe the fumes from strong solutions.
-   Rinse the items in clean water once the cycle is complete.

Subjecting the bath to improper treatment or misuse will invalidate the warranty.

Operating instructions

When the power is turned on and the bath is full of liquid, the following screens will display alternately.

```
Ultrawave
START          MENU
```

```
Water Temp      18°C
START           MENU
```
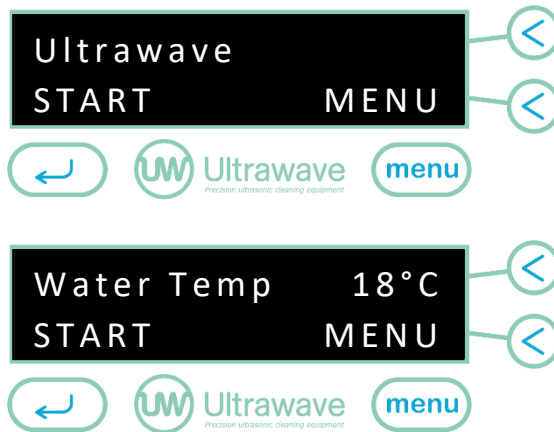
When the water temperature is at or above the temperature set, the message "Temp OK" will display.

```
Water Temp       18°C
Temp OK
```
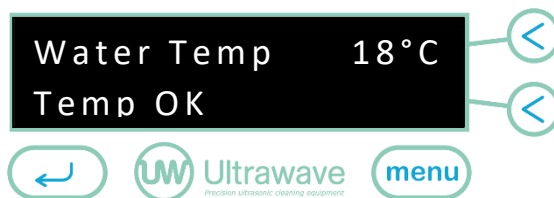
The actual temperature in the bath will vary and will be different to the value shown in the screen above.

To immediately start the cycle using the already set cleaning parameters, press the ↵ key.

Your Sanitiser Series remembers the set parameters from the previous cycle. If the operator wants to run the same cleaning cycle, it is therefore not necessary to run through the menu each time.

When the power is turned on and the liquid level is too low, the following screen will display.

```
Liquid Level Low          <
                          <
  ↵    UW Ultrawave    menu
```

The level sensor can be disabled for specialist cleaning applications where deionised (DI) water is used (see page 21).

When the bath is filled with liquid to the correct level, you will be given the option to degas. (The need for degassing is explained on page 25).

```
Degas?           YES      <
                 NO       <
  ↵    UW Ultrawave    menu
```

You will need to degas the liquid to ensure good cleaning efficacy.

By choosing YES, your Sanitiser Series ultrasonic bath will run an automatic de-gas cycle. The following screen will display.

```
Degassing                 <
SKIP                      <
  ↵    UW Ultrawave    menu
```

The degassing process is to remove all bubbles from the water as these impede the cleaning performance. Once all of the bubbles have come to the surface, complete the degassing cycle by pressing the ↵ key.

Note: If the machine detects low liquid level for more than 5 seconds, it is assumed that the bath has been filled with fresh water, and you will be given the option of running another degas cycle.

Operator menu

A number of the Sanitiser Series cleaning parameters can be altered.

To access the options menu and scroll through the various changeable parameters, press the MENU key, when the following screen is displayed.

To scroll through the menu, press the MENU key. To exit the MENU at any time, press the ↵key.

Your Sanitiser Series remembers the set parameters from the previous cycle. If the operator wants to run the same cleaning cycle, it is therefore not necessary to run through the menu each time.

Setting the temperature

Your Sanitiser Series is fitted with a thermostat and heaters to ensure the temperature of the cleaning liquid is maintained at the set temperature.

```
Temp          UP     <
25            DOWN   <
```
↵   UW Ultrawave   menu

Use the UP and DOWN keys to accurately set the desired temperature of the cleaning liquid between 5°C and 70°C.

During normal use, the water heaters in your Sanitiser Series ultrasonic bath will switch on if the cleaning liquid temperature is lower than the set temperature.
[As a safety feature, the heaters and ultrasonics in your Sanitiser Series ultrasonic bath will only operate when the bath is full of liquid.]

Please note that during normal operation, ultrasonic energy will heat the cleaning liquid by up to 15°C per hour.

Your Sanitiser Series ultrasonic bath cannot cool the cleaning liquid. If the liquid temperature becomes too hot, you must either let it cool down, or refill the bath with cooler water.

When the correct temperature is selected, use the MENU key to move to the next screen.

SAFETY NOTICE: When the temperature is set to 54°C or above, the case of the Sanitiser Series will become hot, and care should be taken when touching the case.

A risk assessment should be conducted – see BS EN ISO 13732-1:2008 for full details.

When the desired temperature has been selected, use the MENU key to move to the next screen.

Setting the cycle time

Your Sanitiser Series ultrasonic bath is factory preset with a cycle time of 15 minutes. Use this screen to amend the cycle time.

```
TIME          UP
15            DOWN
```

Use the UP and DOWN keys to scroll through the numbers in order to increase or decrease the time of up to 99 minutes.

When the desired cycle time has been selected, use the MENU key to move to the next screen.

Screen 3: Setting the power level

Your Sanitiser Series ultrasonic bath allows the power level of the ultrasonic activity to be adjusted. This allows the cleaning cycle to be accurately tailored to the specific cleaning application.

```
Power         UP
100%          DOWN
```

Use the UP and DOWN keys to scroll through the numbers between 50 and 100%.

When the desired power level has been selected, use the MENU key to move to the next screen.

Degas

Your Sanitiser Series ultrasonic bath is factory pre-set with the degas function to ON.

This function is automatically offered when the machine is first turned on, allowing you to run a degas cycle whenever a cleaning cycle is initiated.

Use the ON and OFF keys to select the required option. (See page 25 for the importance of degassing.)

If you turn the degas function ON, your Sanitiser Series ultrasonic bath will run a degas cycle every time the cycle start key is depressed.

If you turn the degas function OFF, your Sanitiser Series ultrasonic bath will run a degas cycle only when the machine is first switched on, or when it is refilled with fresh water.

Once the correct option is selected, press the MENU key to move to the next screen.

Frequency Leap

Your Sanitiser Series ultrasonic bath is equipped with Frequency LEAP technology to provide more homogeneous ultrasonic cleaning activity throughout the whole tank.

Using advanced software and generators, the Sanitiser Series uses Frequency LEAP to create a pseudo-random leaping action between a wider frequency range, reducing standing waves and improving the cleaning action.

For different cleaning applications the operator can choose between Frequency LEAP and traditional ultrasonic activity.

Use the ON and OFF keys to select the required option.

Once the correct option is selected, press the MENU key to move to the next screen.

When you exit the Operator Menu, DO NOT SWITCH THE MACHINE OFF; you must start a cycle for the new settings to be saved. Once saved, the new settings will be used each time the machine is switched on.

Starting the cycle

Once all the Operator Menu options have been selected, the following screen will display.

```
Ultrawave
START              MENU
```
<   <   ↵   UW Ultrawave   menu

The Sanitiser Series is now ready for use.

Press the ↵ key to begin the cleaning cycle.

When the Sanitiser Series is in operation, the following screen will display.

```
15Mins            25°C
ABORT
```
<   <   ↵   UW Ultrawave   menu

(This screen is only an example. The actual time and temperature shown will be the time as set by the operator and the actual liquid temperature.)

The operator can abort the cycle at any time by pressing the ↵ key.

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

```
Cycle Complete
```
<   <   ↵   UW Ultrawave   menu

Cycle abort modes

If the cycle is aborted, the reason for the failure will be displayed.

If the operator aborts the cycle, the following screen will be displayed.

```
User Cycle Abort
```

If the Level sensor is set to ON (see page 21), and the liquid drops below the required level during operation, the cleaning cycle will stop and the following screen will be displayed.

```
Liquid Level Low
```

The Sanitiser Series will not operate again until the tank is filled to the correct level.

If the power to the ultrasonic generator should fall below a certain level during operation, the cleaning cycle will stop, and the following screen will be displayed.
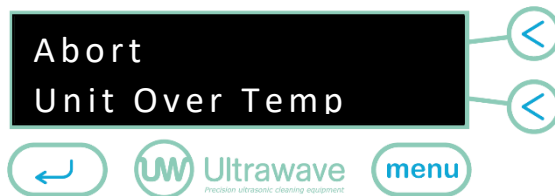
```
Sonics Low
```

If the liquid temperature exceeds the allowed maximum of 70°C, the following screen will be displayed.

```
Abort
Over Temp
```

If the internal heater exceeds its allowed maximum temperature, the following screen will be displayed.

```
Abort
Heater Over Temp
```

If the unit overheats due to prolonged use, the following message will be displayed.

```
Abort
Unit Over Temp
```

In each instance of a cycle abort, the cycle count in the Advanced Menu will still log the cycle as complete.

Advanced menu

The Advanced Menu allows different settings to be specified which may not require regular changes and allows the usage history of the individual Sanitiser Series ultrasonic bath to be seen.

To access the advanced menu, press and hold Keys 3 and 4 together.

The following screen will then appear:

```
Advanced Menu              <  — KEY 3
Exit            Menu       <  — KEY 4
     ↵    UW Ultrawave    menu
```

In order to scroll through the settings available in the Advanced Menu, press the MENU key.

You may exit the Advanced Menu at any time by pressing the ↵ key.

Screen 1: Serial Number

The first screen shows the unique serial number of your Sanitiser Series ultrasonic bath and the version of software. [The software version implemented on your bath may be different to that shown.]

```
Serial Number              <
000001      V.1.0.3        <
     ↵    UW Ultrawave    menu
```

Press the MENU key to move to the next screen.

Screen 2: Time used

This screen shows the total time your Sanitiser Series ultrasonic bath has been in use in days, hours and minutes; i.e. the sum of all the cleaning cycle times since new.

```
Time Used
2   5   27
```

For example, the screen above shows that the bath has been in use for a total of 2 days, 5 hours, and 27 minutes.

Screen 3: Clock

The Sanitiser Series is fitted with a real time clock. This is factory set to the correct time and date but can be changed by the operator.

```
10:22:07
30/06/20
```

To change the time and date, scroll through the settings by pressing the MENU key and amend by pressing the UP and DOWN keys. When all the settings are correct, press the MENU key to move to the next screen.

Screen 4: Cycle Count

The second screen shows the number of cycles which the Sanitiser Series ultrasonic bath has run since new.

```
Cycle Count
150
```

The cycle count shows all cycles which the bath has begun and includes those cycles which are not completed; i.e. those cycles aborted by the operator or because the liquid level was low.

Screen 5: Low power

In its factory pre-set mode, the Sanitiser Series ultrasonic bath will maintain the set liquid temperature. This means that it is consuming power when sitting idle (ie. when the sonics are not running).

The Sanitiser Series can be set to save power when not in use.

```
Low Power          ON
ON                 OFF
```
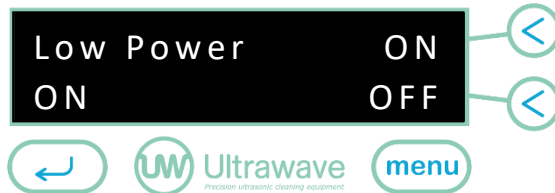
Setting Low Power to ON means that after five minutes of inactivity, the Sanitiser Series ultrasonic bath will enter its SLEEP mode – the screen illumination will power down, and the internal water heater will not operate.

The Sanitiser Series ultrasonic bath uses less than 10Watts of power whilst in SLEEP mode.

By setting Low Power to OFF, the Sanitiser Series screen will maintain the set liquid temperature; i.e. when the liquid temperature falls below the specified setting, the heaters will automatically switch on, meaning the bath is immediately ready for use when required.

When the desired option is selected, use the MENU key to move to the next screen.

Screen 6: Liquid level sensor

The Sanitiser Series is fitted with a liquid level sensor to ensure it is not under-filled prior to or during the cycle. This ensures that the optimum cleaning process can occur and potential damage to the tank is minimised.

The level sensor is a resistive device, so will not detect liquids with very low conductivity such as pure deionised (DI) water.

The level sensor can be disabled for specialist cleaning applications where deionised (DI) water is used.

Use the ON and OFF keys to set the Low Level function. When the desired option is selected, use the MENU key to move to the next screen.

When the OFF button is pressed and the ↵ key is selected to continue, a message will appear to check that the operator has filled the tank up to the level indicated (see page 5).

When the level sensor is disabled the liquid set temperature is automatically reduced to 5°C. The set temperature may be increased by entering the MENU system – see page 11.

If 'NO' is selected an instruction will appear requesting the tank be filled to level before use.
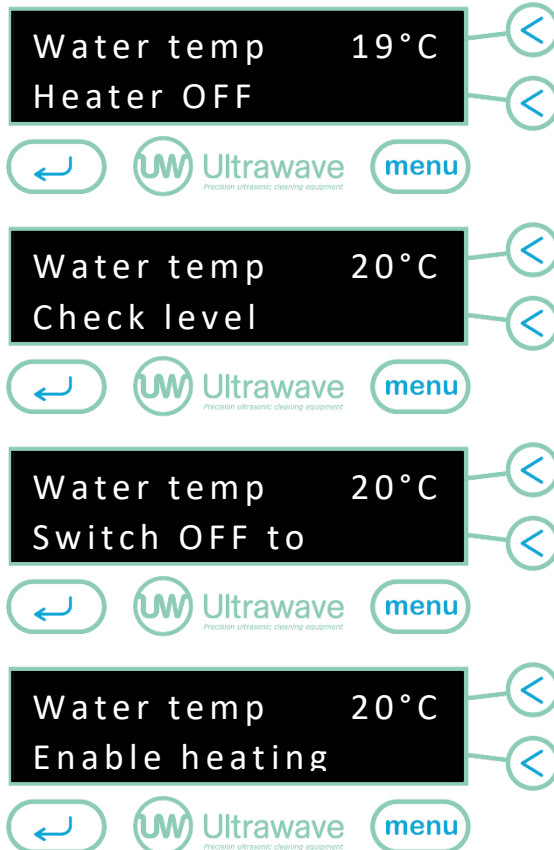
WARNING

Setting the liquid level sensor to OFF means that the Sanitiser Series ultrasonic bath will operate as if the bath were full of liquid.

This means that without water, the heaters will continue to operate and the surface inside the bath will become extremely hot. It is therefore the operator's responsibility to ensure that the tank is filled with sufficient water when the liquid level sensor is disabled.

If the Sanitiser Series ultrasonic bath operates with insufficient liquid, the heaters will be disabled as a safety feature and the following screens will be displayed:

```
Water temp      19°C
Heater OFF
```

```
Water temp      20°C
Check level
```

```
Water temp      20°C
Switch OFF to
```

```
Water temp      20°C
Enable heating
```

To continue using your Sanitiser Series ultrasonic bath, refill with liquid up to the level sensor, switch the unit off and on again.

If the bath is run dry this will invalidate the warranty on your Sanitiser Series ultrasonic bath.

Screen 7: Portable appliance testing

The Sanitiser Series ultrasonic bath is provided with this screen to make portable appliance testing easier.

```
PAT                ON      <
ON                OFF      <
```

When the ON button is pressed, both the heater and the ultrasonic generator will turn on, irrespective of any other programmed settings.

You will then be sure that the Sanitiser Series ultrasonic bath is operating in the mode required for accurate portable appliance testing.

Portable appliance testing <u>must</u> be conducted with water in the bath. Only a trained, qualified electrical engineer must perform a PAT test.

Once you have completed your tests, press the OFF button.

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

Sonozyme: A poly-enzymatic detergent for cleaning surgical instruments.
Ultraclean M2: A general purpose detergent for plastics, glass, and metals (except aluminium and other soft metals).
Ultraclean SA: A general purpose cleaning detergent for aluminium and other soft metals.
Ultraclean CS: For removal of moderate oil, grease, and other contaminants (except aluminium and other soft metals).
Ultraclean CBX: A heavy oil and carbon remover for non-ferrous metals (except aluminium and other soft metals).
Ultraclean SPX: A strong alkaline detergent for cleaning of mould, tools and dies (except aluminium and other soft metals).
Ultraclean PH: For rust and limescale removal, and rebrightening agent for non-ferrous metals (except aluminium and other soft metals).
Ultraclean RI: Rust inhibitor for corrosion prevention of ferrous metals.
Ultraclean CTA: An acidic detergent for use in metal degreasing, descaling and brightening.

Dosing Matrix (ml of detergent per tank)

	Detergent dose (ml)	
	2%	5%
Sanitiser 5	90	225
Sanitiser 9	180	450
Sanitiser 13	260	650

Each of these detergents is available from Ultrawave. The required detergent dose may vary depending on the component being cleaned and the level of contamination. Ultrawave recommends a dosage of between 2 and 5% for all detergents other than Sonozyme which is recommended at 0.5% by volume.

Technical information

The need to degas

In order to allow optimum ultrasonic activity, the gases present in ordinary tap water 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 and the quantity of water in the tank. Ultrawave recommend a degas period of at least 10 minutes.

During the degas cycle, you will see bubbles of gas forming on the inside of the bath, and slowly rising to the surface. Degassing is complete when you can no longer see these bubbles.

Another indication of increased "cold-boiling" at the liquid surface indicates that the liquid is degassed.

Once the liquid is degassed, the bath is immediately useable and will run the cleaning cycle.

The effect of heat

Heating the liquid in the bath will aid the cleaning process.

Normally a temperature of between 30 to 70°C is sufficient to accelerate the process. You will see from the graph opposite that optimum cleaning will be obtained at 60°C
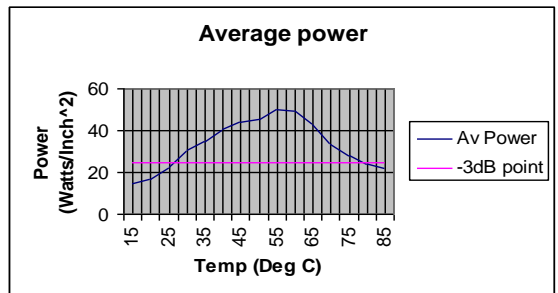
If you are using your bath to clean medical equipment, it is recommended to limit the liquid temperature to 45°C. This will avoid the coagulation of protein and other bio burden which can then bake onto the equipment.

Ultrasonic activity itself will heat up the liquid at a rate of approximately 10-15°C per hour if in continuous use.

Cleaning time

The Sanitiser Series ultrasonic bath is factory preset with a cleaning time of 6 minutes. Some components may take longer to clean effectively depending on the contaminants and the level of contamination.

Specifications

Ambient Temperature	5 to 40°C
Maximum relative humidity	80% R.H. in room temperatures up to 31°C decreasing linearly to 50 % R.H. at 40°C
Altitude above sea level	Up to 2,000 m (6,500 ft)
Operating Environment	Indoor use only
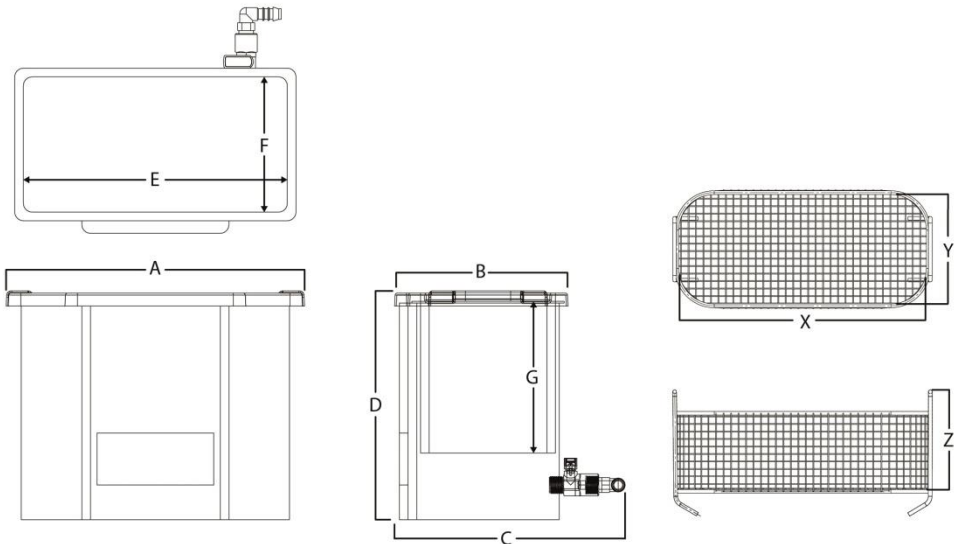
	External Dimensions (mm)				Tank Internal Dimensions (mm)			Basket Internal Dimensions (mm)		
	A	B	C	D	E	F	G	X	Y	Z
San 5	340	255	325	265	300	150	150	265	115	110
San 9	345	355	435	265	300	240	150	260	200	110
San 13	375	410	490	265	330	300	150	295	260	110

Electrical details

Mains supply:	230V @ 50Hz
Pollution degree:	2
Installation category:	II

Note: Mains supply voltage fluctuations are not to exceed ±10% of the nominal supply voltage

Ultrasonic frequency:	32 to 38kHz *Frequency Leap*
Heater range:	Ambient to 70°C

	Working capacity (litres)	Tank capacity max. (litres)	Ultrasonic power (W)	Heating power (W)	Total Power (W)
Sanitiser 5	4.5	5	100	150	250
Sanitiser 9	9	10.5	100	150	250
Sanitiser 13	13	15	200	300	500

Troubleshooting and Problem Solving

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

The unit fails to turn on (no display is shown)	Check that the unit is plugged in and that mains electricity is present.
The screen displays: "Liquid Level Low"	Fill the Sanitiser Series with water so that it is above the fill line indicated inside the tank. If you are using "normal" water ensure that the detergent has been added. If the water in your area is "hard", slightly more detergent may be required. If "pure" water (e.g. De-I or RO) is being used, the level sensor can be disabled in the advanced menu (see page 19).
The screen displays: "Sonics Low"	The Sanitiser Series is fitted with an ultrasonic power detector, which monitors the ultrasonic activity in the bath during a cleaning cycle. If the ultrasonic power drops below a certain point, the cycle will be incomplete and this message will display. This is not necessarily caused by a problem with the machine. Excessive amounts of parts to be cleaned can cause the power level in the bath to drop. If this message displays, run another cycle to see if the problem persists.
The screen displays: "Heater OFF" "Check Level" "Switch Off to" "enable Heating"	The Sanitiser Series bath has detected that the heaters operated above their rated temperature and has disabled the heating function. This also disables a cycle from starting. The most likely cause is the liquid evaporating when the level sensor is switched off. Switch the unit off, top up the liquid above the level sensor and switch the unit back on.

The screen displays: "Unit Overheat" "Please Wait" "Switch Off to" "reset" "menu"	The Sanitiser Series has detected that the ultrasonic generator on the unit has operated above the rated temperature and has disabled the ultrasonic function. This also disables a cycle from starting. The most likely cause is the liquid evaporating when the level sensor is switched off. Switch the unit off, allow the unit to cool for a few minutes, top up the liquid above the level sensor and switch the unit back on.
The screen displays: Over Temp	The Sanitiser Series has detected that the water in the bath is above 75°C and has aborted the cycle. Please allow the liquid to cool or drain some fluid and replace with cooler liquid.

If your problem persists, it may be possible to rectify any issues over the telephone. Our dedicated service and product support personnel may be able to troubleshoot your problem remotely, thus causing minimal disruption.

Contact our After Sales Department: +44 (0) 29 2083 7337
                                                                        service@ultrawave.co.uk

Please have to hand your model and serial number together with information on the problem prior to contacting us.

If we are unable to solve your problem over the phone, we may suggest returning your product to the distributor where purchased or directly to Ultrawave. Where appropriate, we operate a Return to Base (RTB) warranty and repairs policy.

Returning equipment to Ultrawave

All equipment being returned for service, repair or other reason MUST BE FULLY DECONTAMINATED prior to return and include a certificate of decontamination.

Failure to do so may result in additional charges or the equipment being returned to the user/sender at Ultrawave's discretion.

Ultrasonic baths which have been used in medical/healthcare applications should be decontaminated/packaged in accordance with MHRA guideline document DB2003 (5) 'Management of Medical Devices prior to Repair, Service or Investigation'. This can be found at www.mhra.gov.uk.

This policy is designed to protect the health and safety of Ultrawave employees, reducing the risk of potential injury or infection.

If you require further information, please call the Ultrawave After Sales Department on +44 (0) 29 2083 7337 or email service@ultrawave.co.uk.

Maintenance

It is important to keep your bath clean. Not only will contaminated liquid reduce the performance of the bath, 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 equipment always switch off and disconnect it from the power supply and allow it to cool down to less than 40°C. Clean by wiping with a damp soapy cloth.

The base of the bath generates the ultrasonic activity by vibrating at very high speeds. If any contaminants are in contact with the bath, they act as an abrasive, causing wear on the metal surface. In extreme cases, the bath will develop holes and start to leak.

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

Service

Ultrawave recommend that your Sanitiser Series ultrasonic bath 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 Q-Series ultrasonic bath are available from Ultrawave.

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

Tel: +44 (0) 29 2083 7337
e-mail: service@ultrawave.co.uk

Warranty

Ultrawave Sanitiser Series Ultrasonic Baths, 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 sale, against failure caused by genuine defective material or workmanship. If the Ultrasonic Bath is registered online with us, within 30days of purchase, then the warranty is extended to 36months – see link www.ultrawave.co.uk/servicingrepair/ warranty-registration

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 sale. 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 original date of sale.

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

The warranty does not cover normal wear and tear e.g. cavitation erosion of vibrating surfaces (i.e. tank) 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.

Furthermore, any external services to and from the Ultrasonic Bath shall be excluded, which may be subjected to external forces outside the control of Ultrawave.

WEEE Compliance

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

Compliance with the Control of Noise at Work Regulations

The Control of Noise at Work Regulations 2005 (the Noise Regulations[1]) 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[2] and the full text of the Noise at Work Regulations 1989[3] can be viewed online.

Guidance on the 2005 Regulations can be found in the free HSE leaflet 'Noise at Work'(INDG362 (rev 2)[4] and in HSE's priced book 'Controlling Noise at Work' (L108) (ISBN 0 7176 6164 4) available from HSE Books[5] or from bookshops.

[1]   http://www.hse.gov.uk/noise/regulations.htm
[2]   http://www.opsi.gov.uk/si/si2005/20051643.htm
[3]   https://www.hse.gov.uk/noise/regulations.htm
[4]   https://www.hse.gov.uk/pubns/indg362.pdf
[5]   https://www.hse.gov.uk/pubns/books/l108.htm

The Great Britain noise regulations are based on the EU Environmental Noise Directive requiring similar basic laws throughout the EU.

Service record

Ultrawave recommend that your Sanitiser Series ultrasonic bath 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	
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Date		Cycle count	
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Ultrawave
Ultrasonic Precision Cleaning
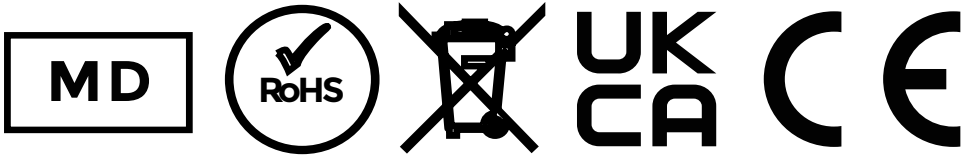
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