



# hygea 2850VM Ultrasonic Cleaner



## Operator Instruction Manual

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## Safety instructions & general use



### 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 hygea 2850VM is rated at up to 1500W maximum.

The mains plug is fitted with a 13A fuse. **NEVER FIT A FUSE OF A HIGHER RATING.**

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

Ensure that excess mains cable is stored neatly.



### General use

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

Always fill with cold water. This will ensure that the hygea 2850VM always runs its automatic de-gas cycle (see page 28 for the importance of degassing).

Always use a basket or instrument cassette and basket carrier to support items to be cleaned.

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

Do not place fingers or other parts of the body in the bath.

For best cleaning results use a detergent, at a suitable dose, recommended for use in ultrasonic cleaning baths. Never use toxic, flammable, acidic, caustic, or corrosive solutions in the bath.

Refer to this manual for full guidance on the correct use of the bath.

The user should familiarise themselves with this manual before operating the equipment and should apply to Ultrawave or its agent for advice on cleaning techniques or detergents.

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.

## Other Symbols



Proper shipping  
orientation



Keep dry



Fragile



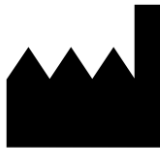
Catalogue  
Number



Date of  
Manufacture



Serial Number



Manufacturer



Unique Device  
Identifier



Country of  
manufacture

## Installation

The following parts and accessories are included with the hygea 2850VM:

- 1 x hygea 2850VM ultrasonic bath
- 1 x stainless steel basket
  - 2 x basket carrier
  - 6 x instrument basket trays
- 1 x 2m length of drain hose
- 1 x hose connector elbow
- 2 x Sonozyme 3 detergent sample bottles (250ml)
- 1 x USB card reader
- 1 x Certificate of Test
- 1 x Declaration of Conformity
- 1 x Warranty Registration card
- 1 x hygea 2850VM Administrator instruction manual
- 1 x hygea 2850VM Operator instruction manual

### How to install?

Screw the hose connector into the drain valve located on the right-hand side of the unit.



Locate the unit close to a drain or sink.

Connect the mains lead into a suitable mains socket.

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

The hygea 2850VM is now ready to use.

## Quick Guide

Pour cold water into the bath so that it reaches the minimum tank fill line (but does not go over the maximum fill line).

Add the required dose of detergent. Ultrawave recommend **Sonozyme 3** detergent - dosage of 150ml is required. **Ultraclean M2** is also suitable - dosage range of 600 to 1500ml.

Switch on the machine via the switch at the rear of the unit, on the left-hand side, above the electrical mains lead.

If the water is below the minimum temperature, the hygea 2850VM will automatically start degassing and heating the liquid.

Once the water is heated to the minimum operating temperature, the hygea 2850VM is ready to use, although an extra degas cycle may be required.

Press the "ENTER" key to accept the cleaning cycle settings.

Select your operator identification.

Press the "ENTER" key to start the cleaning cycle.

At the end of the cleaning cycle, remove the basket holder from the hygea 2850VM, allow it to drain over the bath, then rinse the instruments under clean running water.

### **REMEMBER**

- Always keep the bath full of liquid when in operation.
- Do not put hot water into the bath.
- Always use the baskets or instrument cassettes and holder.
- Never expose hands to cleaning solutions.
- Never use toxic, flammable, acidic, caustic, or corrosive solutions.
- Never breathe the fumes from strong solutions.
- Rinse the instruments in clean water once the cycle is complete.

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

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

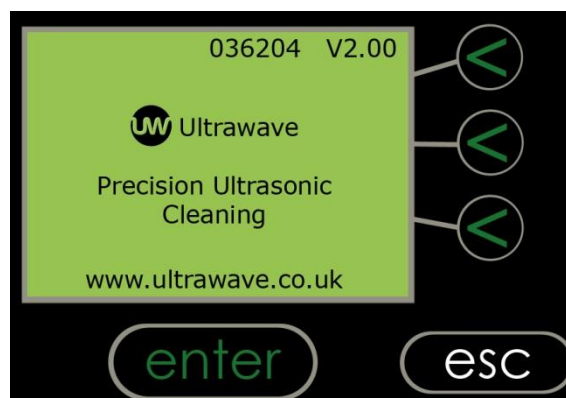
## Operator Instructions

Ensure you hygea 2850VM ultrasonic bath is plugged into a 220-240V fully earthed supply.

Once plugged in, switch on your hygea 2850VM via the power on/off at the rear of the unit.



When the hygea 2850VM is first switched on, the following screen will appear for approximately 5 seconds.



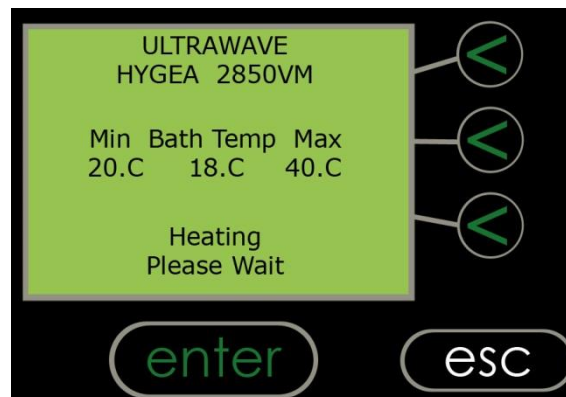
While this screen is displayed, the buttons are inoperative. This is normal as the hygea 2850VM is running through its start-up routine and checking all internal systems are working correctly.

The top line of the display indicates the hygea 2850VM serial number and software version number. This uniquely identifies the machine.

After 5 seconds, the hygea 2850VM is ready for use.

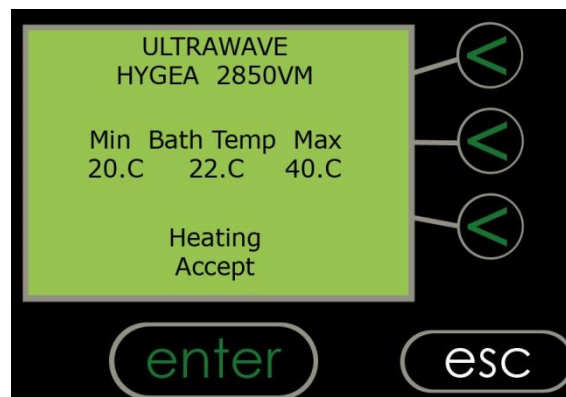


The hygea 2850VM is fitted with a liquid temperature sensor. If this temperature is below the minimum set cleaning temperature (20°C), the following screen will display.



The hygea 2850VM will automatically start heating and degassing the liquid.

When the liquid reaches the required temperature, the following screen will be displayed and the hygea 2850VM will be ready to use. (The actual min. and max. temperatures may be different from those indicated below.)



Press the "Accept" button to continue.

## Starting a Cycle

### Step 1 – Selecting the Operator

The following screen will be displayed:

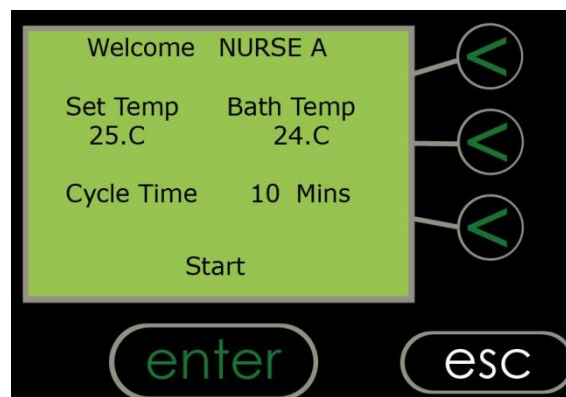


Press the “Up” and “Down” buttons to scroll through the list of operators. The “<” symbol will move up and down the list, indicating which name is selected.

Press the “Next” button to show the next group of four names. Up to 20 names can be stored in the operator list. When the correct operator is selected, press the “Accept” button.

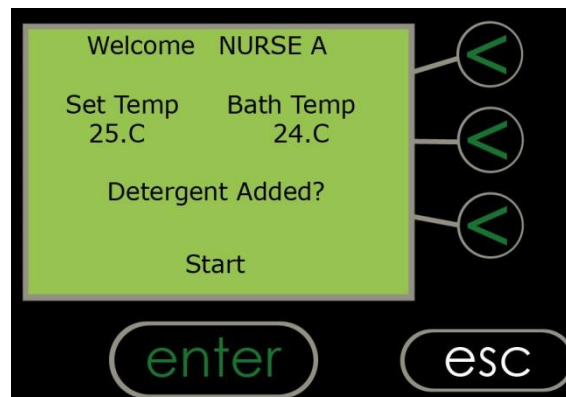
### Step 2 – Starting the process

Once the operator is selected, the following screen will be displayed:



To begin the cleaning cycle, press the “Start” button.

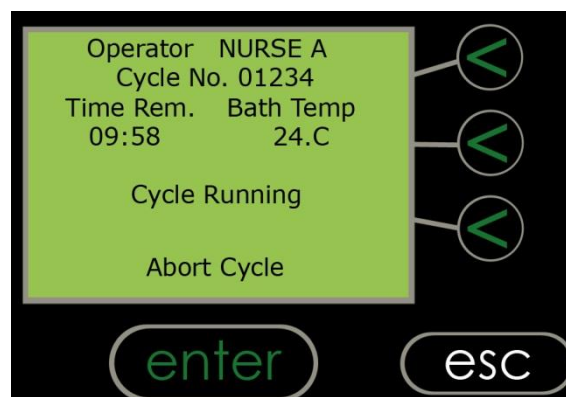
After first switching the bath on, or after emptying and refilling the tank, the following screen displays to confirm that detergent has been added:



Press the “Start” button to confirm that the liquid contains detergent (see page 29 for information about detergents).

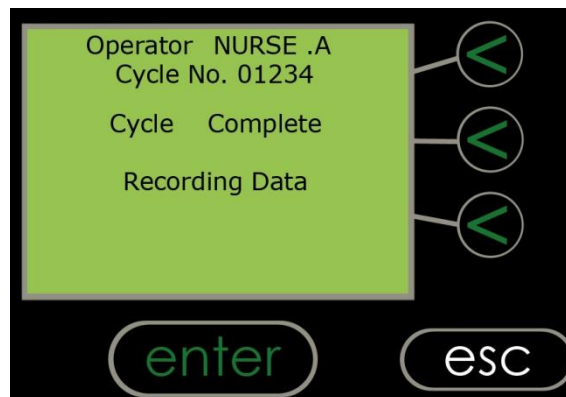
Ensure the lid is closed, and the hygea 2850VM will then begin the cleaning cycle. During the cycle, if the lid is opened at any time, then the cycle will be aborted.

During the cleaning cycle, the following screen will be displayed. The time remaining will count down and the actual bath temperature is displayed.

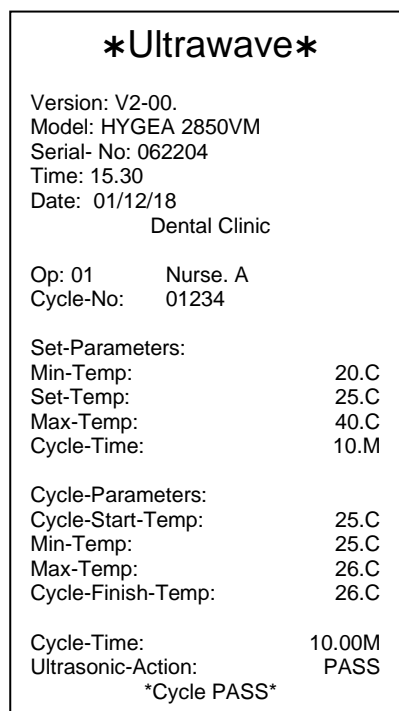


The cycle can be aborted at any time by the operator, by pressing the “Abort Cycle” button.

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



If the print option is chosen, then at the end of each cycle, the integral printer in the hygea 2850VM will print a ticket showing the details of that cycle:



Once the ticket is printed, simply tear off and store as necessary.

If the cycle validation mode is set to save to the MC card (either as well as or instead of the hard copy ticket), a digital record can be saved to the supplied MC card.



The digital cycle traceability will save the information of each cycle (as shown on the ticket on page 11) to the MC card.

This information can then be transferred to a PC and an electronic copy saved, using the Ultrawave Cycle Validation software supplied on the MC Card. It is recommended that the MC Card is removed, and the information transferred to the PC at the end of each clinical session (twice a day).

**Note:** in order for the data to save to the card, the MC card must be inserted into the MC port on the control panel before your hygea 2850VM is switched on.

When the data recording is complete, the following screen is displayed:

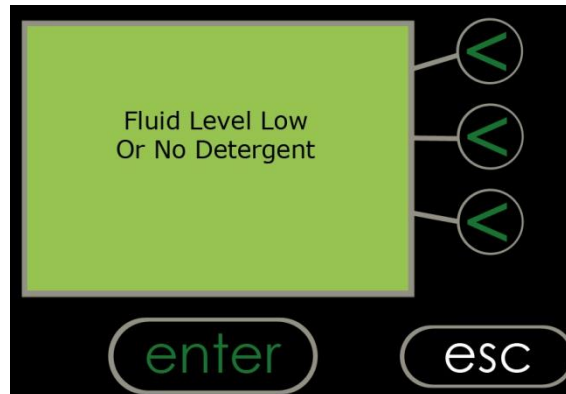


To print another copy, press the “Yes” button. This can be done as many times as needed.

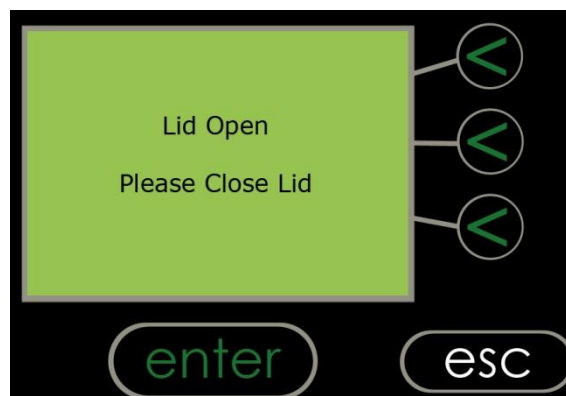
If a copy of the print-out is not required, press the “ESC” button.

## If the Cleaning Cycle does not Start

If the screen displays a “Low Fluid” warning as below, the bath will not operate until the unit is filled to the correct level and the detergent dose added.



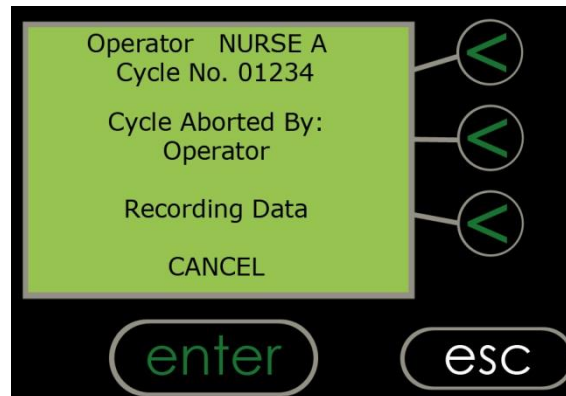
If the screen shows a “Lid Open” warning, the cycle will not start until the lid has been closed.



## Cycle Abort Messages

If the cycle aborts, the reason will be displayed. The print-out will record a process fail and give the reason, and an audible warning will sound to signal a process fail. ***To turn off the audible warning, press and hold the “enter” button at the bottom of the screen until the warning stops.***

If the operator aborts the cleaning cycle, the following screen will be displayed:

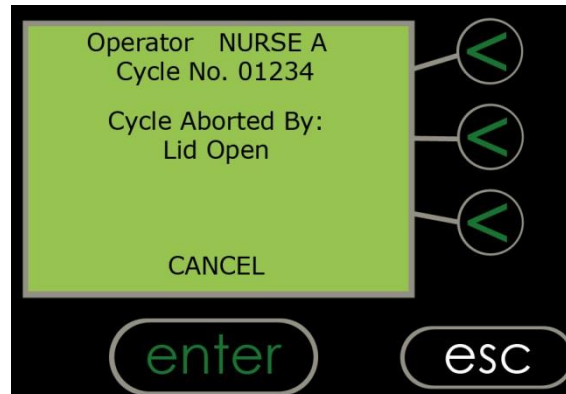


If the fluid level drops below the required level during operation, the cleaning cycle will stop, and the following screen will be displayed:



**Important:** The operator must acknowledge this by pressing and holding the “ENTER” button to complete the aborted cycle

If the lid is opened during operation, the cleaning cycle will stop, and the following screen will be displayed:



It is important that you do not turn off the main electricity supply to your hygea 2850VM when it is running a cleaning cycle.

Your hygea 2850VM recognizes when the main electricity supply fails during a cycle and prints a report (and/or creates a record on the MC card) when the machine is next switched back on.

The cycle will be recorded as an aborted cycle.

If the cycle fails due to a power failure, the following screen is displayed when the power is restored:

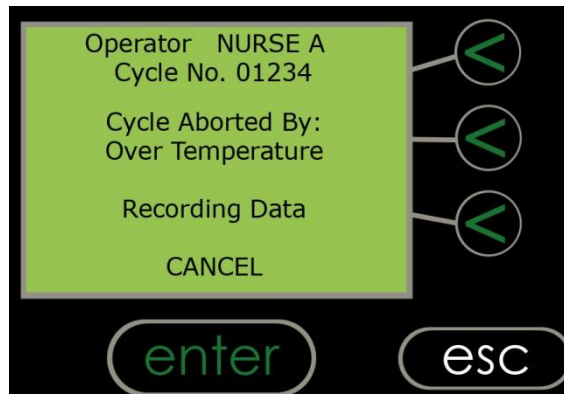


**Important:** the operator must acknowledge this by pressing and holding the “ENTER” button to complete the aborted cycle.

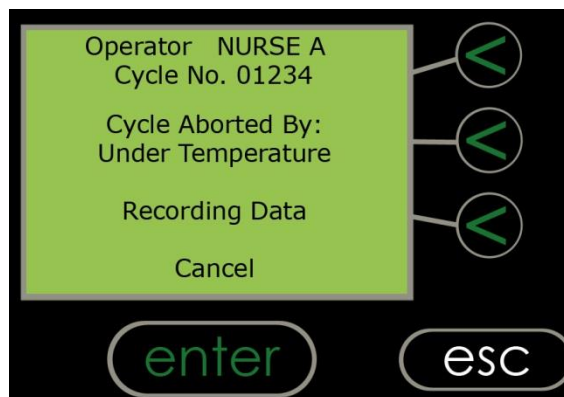
If the MC Card is not present, and “MC Card Only” is selected as the validation mode, then you will not be able to run another cycle until an MC card is inserted. A message of “Please insert MC Card” will appear on the above screen.



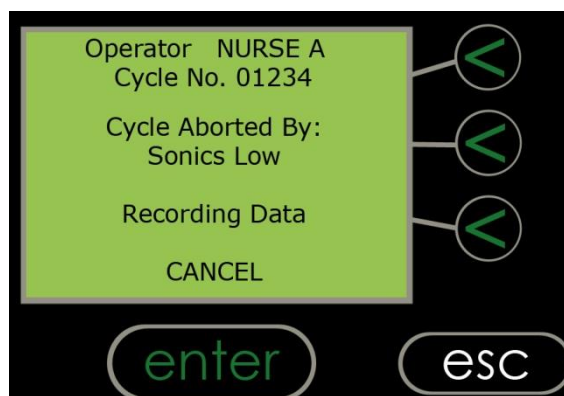
If the liquid temperature rises above the pre-set maximum during operation, the cleaning cycle will stop, and the following screen will be displayed:



If the liquid temperature drops below the pre-set minimum temperature during operations, the cleaning cycle will stop, and the following screen will display:



If the ultrasonic power drops below a certain point during a cycle, the cycle will stop, and the following screen will be displayed:



If the cycle aborts, an audible alarm will sound until the Enter button is pressed by the operator.

In all instances of an aborted cycle, a "Cycle Aborted" ticket will be printed to invalidate the cycle.

**Important:** The operator must acknowledge this by pressing "CANCEL" to complete the aborted cycle.

## Draining the Tank

The tank is drained via the tap on the right-hand side of the unit.



DRAIN TAP SHOWN CLOSED

**Step 1** - Ensure that the drain is either directly over a sink or is connected to a tube, which is placed into a sink.

**Step 2** - Turn the tap until open.



DRAIN TAP SHOWN OPEN

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

**Step 4** - Close the tap when the tank is completely drained.

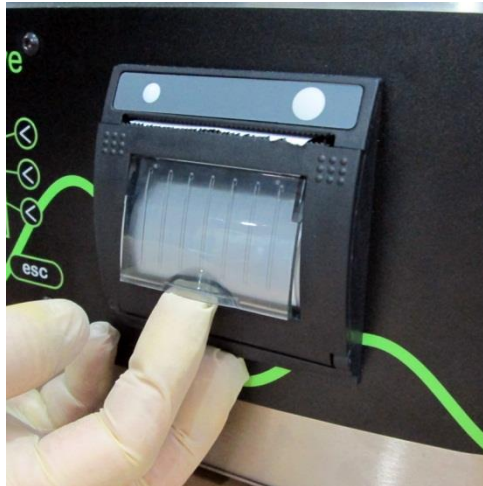
**Step 5** - Wipe the inside of the tank to remove debris and/or residual fluid.

## Changing Printer Paper

The hygea 2850 will automatically detect when the printer paper has run out. Use the paper feed button to feed through the last few centimetres of paper and fit a new roll.

**Note:** hygea 2850VM will only print on thermal paper roll and this must be inserted correctly.

**Step 1** - Open the printer cover by pulling the clear cover towards you:



**Step 2** - Hold the cover up with one hand and remove the empty paper.

**Step 3** - Insert a new thermal paper roll as shown in the below picture:



The paper must unroll from the top for easy feeding.

**Step 4** – Close the cover.



**Step 5** – Feed a small amount of paper through the printer by pressing the paper advance button on the right-hand side of the printer.

The hygea 2850VM is now ready to use.

When the paper roll is coming to an end, a red stripe will appear on the paper indicating that new paper rolls need to be ordered.

## Periodic Testing and Validation

It is a requirement of decontamination guidelines that the hygea 2850VM ultrasonic bath is periodically tested and validated to ensure optimum performance as outlined in HTM01-05 and HTM2030.

The following pages outline Ultrawave (the manufacturer's) guidelines for the periodic testing of the hygea 2850VM ultrasonic bath. The frequency and nature of these tests are recommended as the minimum protocols that should be followed to ensure optimum performance of the bath and to adhere to applicable regulations and guidelines. In some cases, more frequent testing schedules may be stipulated.

### 1. **Weekly tests** (carried out by the operator)

Cleaning efficacy test using the Brownes STF Load Check Indicator strips and holders (available from Ultrawave).

### 2. **Monthly tests** (carried out by the operator)

Ultrasonic activity test using the hygea Ultrasonic Energy Meter (available from Ultrawave). If there is no access to the Energy Meter, this test should be replaced by the aluminium foil ablation test.

### 3. **Quarterly tests** (carried out by the operator/Estates department)

Ultrasonic activity test using the aluminium foil ablation test (available from Ultrawave).

### 4. **Annual Validation Tests** (carried out by Ultrawave approved engineer)

A combination of tests ensuring correct and accurate operation of all components of the hygea 2850VM (including automatic control tests, cleaning efficacy, ultrasonic activity tests, electrical safety test, diagnostic test etc.)

Note: Each test should also include the test(s) itemised above as the less frequent tests. Eg. When conducting the quarterly test, the weekly and monthly tests should also be carried out as part of the same routine.

Contact the Ultrawave After Sales Department on +44 (0) 29 2083 7337 or email [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk) to discuss Service Contract and periodic testing options.

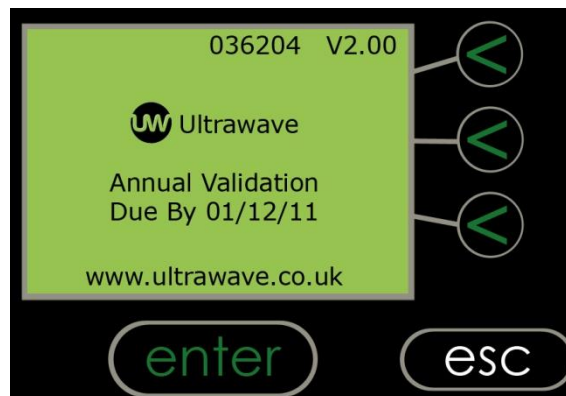
All components needed to carry out periodic testing, including a complete **Validation Kit**, can be purchased from Ultrawave.

## Validation Testing Reminder

The hygea 2850VM ultrasonic bath is installed with software which provides a reminder when the annual **Validation Testing** is due.

This **Validation Testing** should occur at least once every 12 months. Therefore after, 11 months in operation, a reminder will appear on the LCD display warning that the annual validation testing is due.

The **Validation Testing** reminder will display as below:



When this reminder appears, simply contact Ultrawave or its agent to schedule this **Validation Testing**. It is a requirement of National guidelines and recommendations that this complete **Validation Testing** is done at least once every 12 months.

## hygea 2850VM Cycle Validation

The hygea 2850VM provides validation and traceability of every cleaning cycle. Validation can be achieved by two means:

- Hard copy print out to integral printer
- Digital copy to supplied MC Card

Screen 1 in Administrator mode, allows the Administrator to specify what means of Validation is required (see page 7 on the *Administrator Instruction manual*).

If the hard copy print out is chosen, then at the end of each cycle, the integral printer in the hygea 2850VM, will print a ticket showing the details of that cycle:

<b>*Ultrawave*</b>	
Version: V2-00.	
Model: HYGEA 2850VM	
Serial- No: 062204	
Time: 15.30	
Date: 01/12/18	
Dental Clinic	
Op: 01	Nurse. A
Cycle-No:	01234
Set-Parameters:	
Min-Temp:	20.C
Set-Temp:	25.C
Max-Temp:	40.C
Cycle-Time:	10.M
Cycle-Parameters:	
Cycle-Start-Temp:	25.C
Min-Temp:	25.C
Max-Temp:	26.C
Cycle-Finish-Temp:	26.C
Cycle-Time:	10.00M
Ultrasonic-Action:	PASS
*Cycle PASS*	

Once the ticket is printed, simply tear off and store as necessary.



## Using the Ultrawave Cycle Validation Software

If the MC card Validation mode is selected, cycle information is saved to the inserted MC card and data can be saved in an electronic format. The following pages explain how to use the MC card and the Ultrawave Cycle Validation Software.

### 1. Setting the Validation Mode

This is done in Screen 1 of the *Administrator Instruction* menu (see pg. 4). To enable digital cycle validation, set the Validation Mode to MC Card only or Printer & MC Card.

### 2. Inserting the MC Card

For data to save to the MC card, the card must be inserted into the port located on the left-hand side of the control panel before your hygea 2850VM is switched on.



Insert MC  
card here

The digital cycle traceability will save the information of each cycle (as shown on the ticket on page 22) to the MC card. This information can then be transferred to a PC and an electronic copy saved, using the Ultrawave Cycle Validation software supplied on the MC Card.

If the MC card is not inserted, then a message will display on the screen in Operator mode "MC Card not present". If MC Card only is selected as the Validation mode, and the MC card not present, then the cycle will not run.

If no MC card is available, then the chosen Validation Mode will have to be amended in the Administrator mode menu.



### 3. Installing the Ultrawave Cycle Validation Software

Ultrawave recommend that the cycle data saved on the MC Card is transferred to a PC at the end of every clinical session (twice a day).

The supplied MC Card is already installed with the Ultrawave Cycle Validation Software. Cycle data should be saved to this where it can be stored as a digital record.

Note: Please ensure that you have user rights to install the software. If not, please contact your network or IT administrator.

Also ensure that 'Microsoft .Net 3.5 Framework' is installed as well as the associated updates.

To install the Software, the MC Card should be inserted into the PC using the USB card reader. Insert the MC Card into the applicable port on the reader and then insert the reader into a USB port on your PC.



When the MC Card is first inserted, the Autorun program should start, allowing installation of the Cycle Validation Software.

If the Autorun software does not start, simply go into My Computer, find the applicable drive containing the MC card and run Setup.exe.

Follow on the on-screen prompts to install the Ultrawave Cycle Validation software.

#### 4. Using the Ultrawave Cycle Validation Software

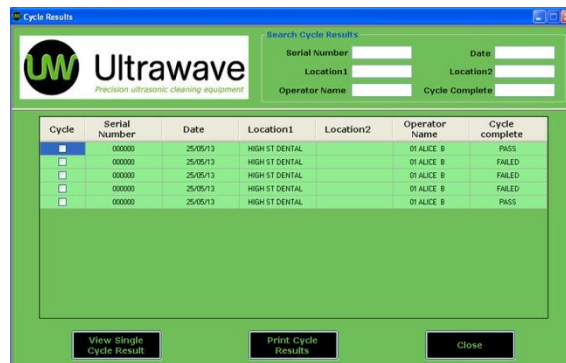
When the Cycle Validation Software is installed and opened the below screen will display:



There are two options available:

1. View the Cycle Results stored on the PC (this allows the operator to see previous cycle data that has already been saved to the program)
2. Copy Cycle Results from MC Card (this allows the operator to copy the data from the MC Card to the PC)

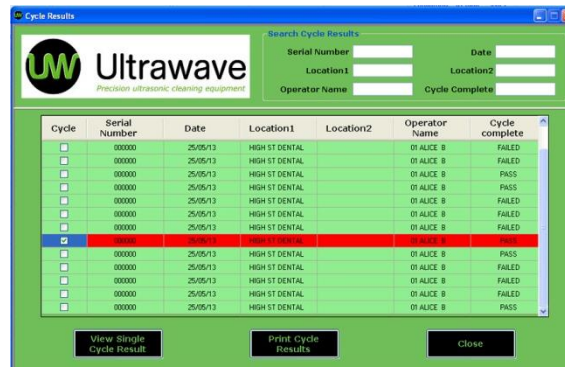
If option 1 is chosen, and data is already saved to the PC, the data will display in the below format.



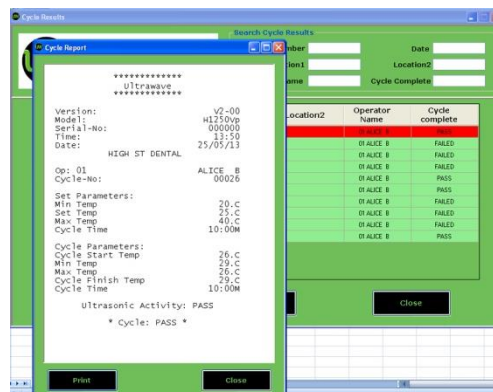
If you wish to copy new cycle data to the software, click on the Copy Cycle Results from MC Card button. You will need to ensure that the MC card is inserted into the card reader, and then inserted into the USB port on your PC.

When the button is pressed, a pop up will display asking if you wish to delete the cycle data off the MC card. Ultrawave recommend that this data is deleted to prevent duplication.

When the data is stored in the programme, the individual cycle information results can be viewed. Select one cycle by clicking the tick box in the Cycle column on the left-hand side.

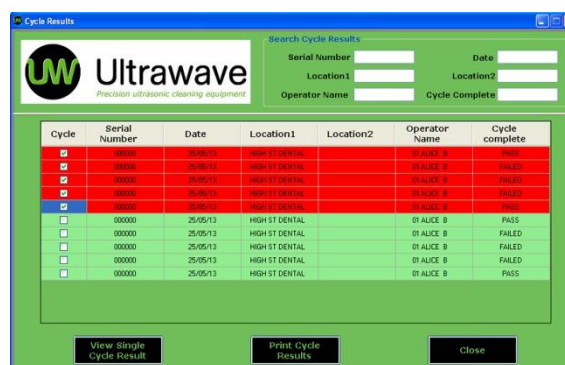


Then press the View Single Cycle Result button to see a ticket showing the data associated with this cycle.

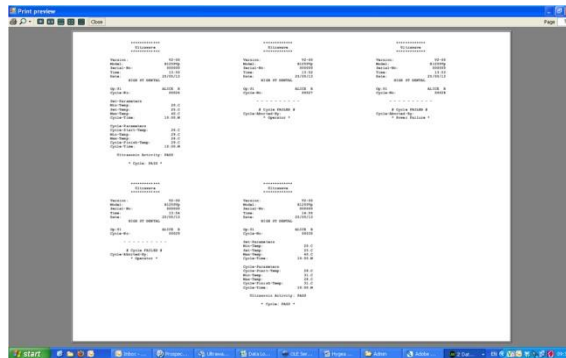


If required, this can then be printed by pressing the print button.

It is also possible to print data from multiple cycles. This can be done by clicking on multiple cycles in the left-hand column.

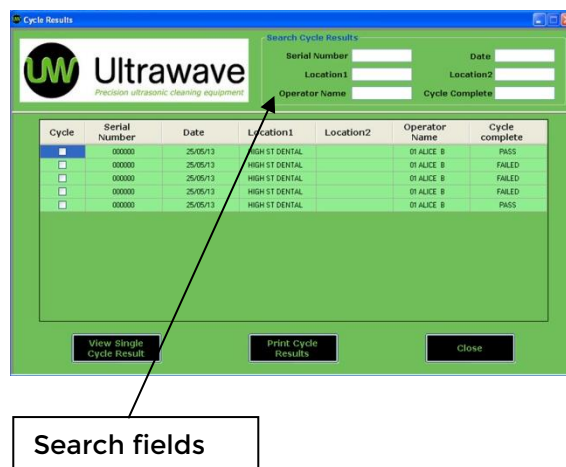


To print the data from multiple cycles, click the Print Cycle Results button. The following print preview page will then display from which a hard copy of the cycle data can be printed:



The Ultrawave Cycle Validation Software allows the operator to search for individual cycle data.

To use the Search function, simply type the search field in the applicable search box located in the top right of the screen.



The following fields can be used to search for cycle data:

- Serial Number of the machine
- Location/Clinic/Practice
- Operator name
- Date
- Cycle complete (PASS or FAIL)

When you have finished using the Cycle Validation Software simply press the Close button and then Exit and the cycle date will be stored.

## hygea 2850VM Good Practice

**The need to degas:** 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 recommends 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 60°C is sufficient to accelerate the process. However, when cleaning medical instruments, the **maximum temperature should be set to 40°C**. Setting the Max above 40°C may cause proteins to coagulate and “bake on” to the instruments.

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

**Baskets and Instrument Cassettes:** Instruments should be placed in a hygea 2850VM basket and/or instrument cassettes.

**Detergents:** Ultrasonic baths require the presence of a cleaning detergent to work effectively. Ultrawave recommends **Sonozyme** or **Ultraclean M2** for use with the hygea 2850VM.

**Cleaning time:** The hygea 2850VM cycle time is preset to 10 minutes. This can be changed by the machine administrator. Independent tests have shown that a cycle of this length is sufficient to clean heavily contaminated instruments.

If the instruments are not clean at the end of a cycle, then repeat the cleaning cycle, or increase the cycle time as explained on page 14 of the *Administrator Instruction Manual*.

**Rinsing:** After the instruments are removed from the hygea 2850VM they should be rinsed with clean running water prior to the next stage in the decontamination process.

Rinsing the instruments ensures that any contaminants present in the water at the end of the cycle do not re-adhere to the instruments when the baskets are removed from the hygea 2850VM.

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

## Detergents

To provide the best cleaning results, a cleaning detergent must be used with the ultrasonic bath.

Ultrawave recommend two detergents for use in the hygea 2850VM:

### **Sonozyme 3**

**Sonozyme 3** is a tri-enzymatic detergent for cleaning and pre-disinfection of surgical instruments. Specifically designed for use in the hygea 2850VM, **Sonozyme 3** is packaged in boxes of 3 x 2 Litre bottles with dosing cap for easy application.

150mL of **Sonozyme 3** should be added to the hygea 2850VM every time the bath is filled. It is recommended that this occurs twice daily.

### **Ultraclean M2**

**Ultraclean M2** is a general purpose, non-enzymatic detergent suitable for use on all medical instruments.

Packaged in a 1 litre bottle, between 600ml and 1500ml of **Ultraclean M2** should be added to the hygea 2850VM every time the bath is filled. It is recommended that this occurs twice daily.

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

For more information, please call the Ultrawave After Sales Department on +44 (0) 29 2083 7337 or email [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk).

## **Cleaning the hygea 2850VM**

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. Change the cleaning liquid at least daily.

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.

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

Service contracts for your hygea 2850VM ultrasonic bath are available from Ultrawave or its agents.

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

## 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>\[3\]</sup>](#) can be viewed online.

Guidance on the 2005 Regulations can be found in the free HSE leaflet '[Noise at Work](#)'(INDG362 (rev 2)<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.

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

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

<sup>[3]</sup> <https://www.hse.gov.uk/noise/regulations.htm>

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

<sup>[5]</sup> <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.



## Warranty

**Ultrawave hygea 2850VM 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 30 days of purchase, then the warranty is extended to 36 months – see link [www.ultrawave.co.uk/servicingrepair/warranty-registration](http://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 may 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 is complying with the WEEE regulations by contracting our obligations to a Producer Compliance scheme. Once it is deemed that this **hygea 2850VM** is no longer effective, please contact Ultrawave to arrange collection by our compliance scheme provider, who will pick up the machine from your premises.

## Troubleshooting

Ultrawave have a dedicated Service team who can resolve any problems that occur with your **hygea 2850VM**. 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: "FLUID LEVEL LOW OR NO DETERGENT"	Fill the hygea 2850VM with water so that it is between the MIN and MAX level indicated inside the tank. If you are using "pure" water (eg. De-I or RO) ensure that the detergent has been added.
The screen displays: "LID OPEN Please Close Lid"	Close the lid. If the lid is already closed, there may be a problem with the lid sensor. Attempt to run another cycle to see if the problem reoccurs.
The screen displays: "SONICS LOW"	The hygea 2850VM is fitted with an ultrasonic power feedback circuit, which monitors the ultrasonic activity in the bath during a cleaning cycle. If the ultrasonic power drops below a certain level, the cycle will abort, and this message will display. This is not necessarily caused by a problem with the machine. If this message displays, run another cycle to see if the problem persists.
The screen displays: "OVER TEMP"	Drain and refill with fresh cold water. The hygea 2850VM is fitted with a temperature sensor that automatically sets off an audible alarm if the liquid gets too hot. Ultrasonic activity itself will heat up the liquid at a rate of approximately 10-15°C per hour. If the hygea 2850VM is operated continuously, it may eventually set off the audible alarm because the liquid is too hot.
The screen displays: "UNDER TEMP"	The cleaning solution is not yet at the minimum temperature. Wait until the cleaning solution has reached the minimum operating temperature.
The screen displays: "NO MC CARD PRESENT"	If the Validation Mode selected is to write to the MC Card, then the hygea 2850VM will detect if the card is present. If the MC Card is not present, and "MC Card Only" is selected as the Validation Mode, then the cycle will not begin. If "Printer & MC Card" is selected, then the cycle will run, but data will only be stored on the printed validation ticket. Refer to the Administrator Instruction Manual for information on adjusting the Validation Mode.

If any of these problems persist, please call the Ultrawave After Sales Department on +44 (0) 29 2083 7337 or email [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk).

## 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](http://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](mailto:service@ultrawave.co.uk).

## hygea 2850VM Accessories

The following items are available from Ultrawave or its agents for use with the hygea 2850VM.



### **Sonozyme 3 detergent**

Tri-enzymatic detergent packaged in boxes of 3 x 2 Litre bottles.



### **Ultraclean M2 detergent**

A non-enzymatic detergent packaged in boxes of 6 x 1 Litre bottles.



### **Hygea Ultrasonic Validation Kit**

A complete Validation kit, providing all the material required for weekly, monthly, and periodic testing.



### **Hygea Ultrasonic Energy Meter**

An Energy Meter which indicates the level of ultrasonic activity in the tank. Ideal for monthly performance measurement.



### **hygea Valet instrument cassettes**

Dental instrument cassettes for easy transfer and storage of dental examination instruments.



### **Aluminium foil**

Aluminium foil for quarterly validation of the hygea 2850VM.



### **Load check indicator test strips and holders**

Brownes strips and holders for weekly testing of the hygea 2850VM.



### **Service Contracts and Validation Testing**

Ultrawave can offer full Service and Validation packages for the hygea 2850VM, to ensure the machine is performing at the optimum level and the testing requirements as stipulated in guidelines and recommendations are met.

For information on any of these products or services please call the Ultrawave After Sales Department on +44 (0) 29 2083 7337 or email [service@ultrawave.co.uk](mailto:service@ultrawave.co.uk).

## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



# Ultrawave

**Ultrasonic Precision Cleaning**



**UK  
CA**



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