SLS Lab Pro Digital Ultrasonic Baths

Operator Manual

SCIENTIFIC
LABORATORY
SUPPLIES

Contents

SLS Lab Pro ultrasonic baths are manufactured in the UK and conform to exacting international standards.

Safety instructions & general use

Safety Instructions

The SLS Lab Pro digital ultrasonic baths are intended to be used to clean laboratory equipment.

The SLS Lab Pro digital ultrasonic baths are designed for indoor use by a professional user.

Electrical

Connect to a 230 VAC fully earthed supply via a 3pin plug.
It can be dangerous to operate an ultrasonic bath without an earth connected.

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

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

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

Always use a basket to support items to be cleaned.
Not doing so may damage the bath and invalidate your warranty.

Do not place hands or fingers in the bath.

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

Never use toxic, flammable, acidic, caustic, or corrosive solutions in the bath.

Do not move the bath when it contains water.

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

The user should familiarise themselves with this *Operator Instruction* manual before operating the equipment and should apply to SLS for advice on cleaning techniques or detergents. We will not be responsible for damage or injury caused by incorrect use of the equipment.

Installation

The following parts and accessories are included with your SLS Lab Pro ultrasonic bath:

- 1x basket
- 1x lid
- 1x memory card
- 1x USB card reader
- 1x 2m length of drain hose
- 1x hose tail
- 1x power cable

How to install?

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

Locate your 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 ultrasonic bath is now ready to use.

Controls

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

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

The switch will then illuminate.

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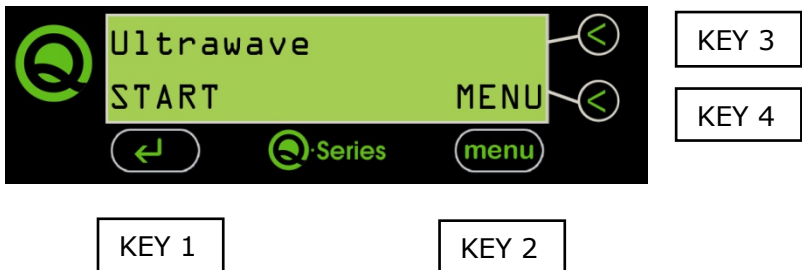
KEY 3

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 so that it submerses the level sensor (Do not overfill).

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

To save the cycle data to the memory card, ensure that the memory card is installed in the port prior to turning the machine on (see page 22).

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.

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.

Liquid level sensor
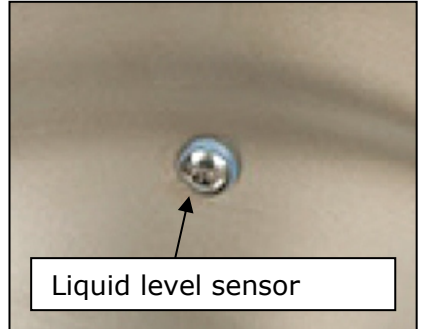
REMEMBER

- 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.

Operator instructions

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

```
Ultrawave        <
START      MENU  <
   ↵    Q·Series  menu
```

```
Water Temp  18°C  <
Heating           <
   ↵    Q·Series  menu
```
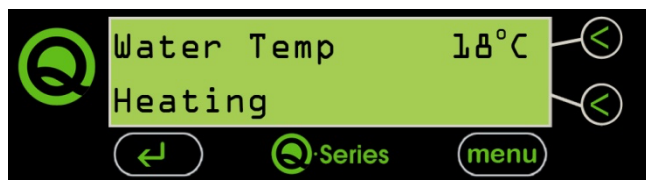
When the water temperature is at or above the temperature set, the message "Temp OK" will display.

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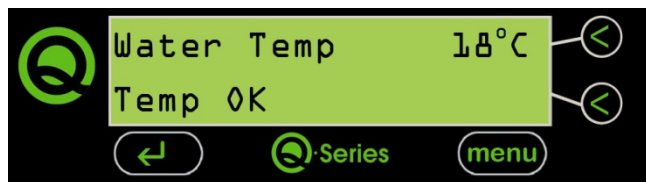
The actual temperature in the bath will vary and will be different to the value shown in the screen above.

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

Your SLS Lab Pro ultrasonic bath 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

The level sensor can be disabled for specialist cleaning applications where deionised (DI) water is used (see page 19).

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**

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

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

**DEGASSING
SKIP**

The degassing process is to remove all bubbles from the water as these impede the cleaning performance. Once all 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

Several of the 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 SLS Lab Pro ultrasonic bath 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.

Screen 1: Setting the temperature

Your SLS Lab Pro ultrasonic bath is fitted with a thermostat and heaters to ensure the temperature of the cleaning liquid is maintained at the set temperature.

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 SLS Lab Pro 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 SLS Lab Pro 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 SLS Lab Pro 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 your SLS Lab Pro ultrasonic bath 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.

Screen 2: Setting the cycle time

Your SLS Lab Pro ultrasonic bath is factory pre-set with a cycle time of 15 minutes. Use this screen to amend the cycle time.

Use the UP and DOWN keys to scroll through the numbers 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 SLS Lab Pro 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.

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.

Screen 4: Degas

Your SLS Lab Pro 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 SLS Lab Pro ultrasonic bath will run a degas cycle every time the cycle start key is depressed.

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

Screen 5: Frequency Leap

Your SLS Lab Pro 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 SLS Lab Pro ultrasonic bath 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
```

Your SLS Lab Pro ultrasonic bath is now ready for use.

Press the ↵ key to begin the cleaning cycle.

When the bath is in operation, the following screen will display.

```
15Mins            25°C
 ABORT
```

(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
```

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.

If the Level sensor is set to ON (see page 19), and the liquid drops below the required level during operation, the cleaning cycle will stop, and the following screen will be displayed.


The SLS Lab Pro ultrasonic bath 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.

Cycle abort modes

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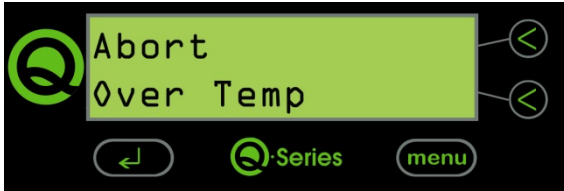
If the internal heater exceeds its allowed maximum temperature, the following screen will be displayed

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

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 SLS Lab Pro ultrasonic bath to be seen.

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

The following screen will then appear:
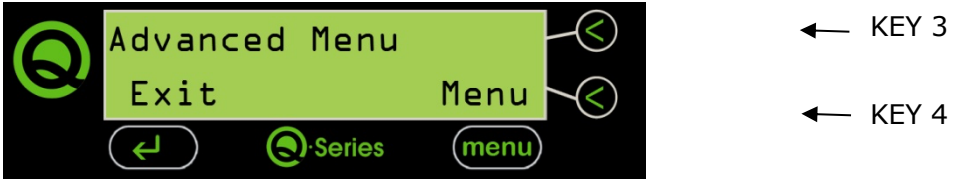
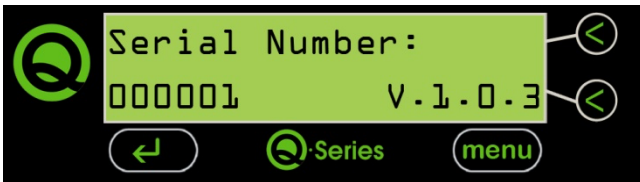In order to scroll through the settings available in the Advanced Menu, press the MENU key.

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 SLS Lab Pro ultrasonic bath and the version of software. [The software version implemented on your bath may be different to that shown.]

Press the MENU key to move to the next screen.

Screen 2: Time used

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

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

Your SLS Lab Pro ultrasonic bath is fitted with a real time clock. This is factory set to the correct time and date but can be changed by the operator.
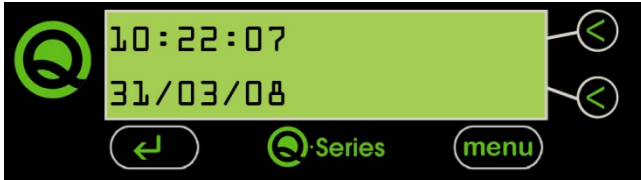
To change the time and date, scroll through the settings by pressing the MENU key and amend by pressing the UP and DOWN keys. When all the settings are correct, press the MENU key to move to the next screen.

Screen 4: Cycle Count

The second screen shows the number of cycles which the SLS Lab Pro ultrasonic bath has run since new.

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 SLS Lab Pro ultrasonic bath will maintain the set liquid temperature. This means that it is consuming power when sitting idle (i.e., when the sonics are not running).

The SLS Lab Pro ultrasonic bath can be set to save power when not in use.

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

The SLS Lab Pro ultrasonic bath uses less than 10Watts of power whilst in SLEEP mode.

By setting Low Power to OFF, the SLS Lab Pro ultrasonic bath 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 SLS Lab Pro ultrasonic bath 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).
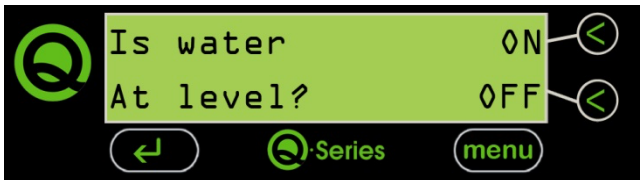
When the level sensor is disabled the liquid set temperature is automatically reduced to 5°C. The set temperature may be increased by entering the MENU system – see page 9.

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 SLS Lab Pro 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 SLS Lab Pro ultrasonic bath operates with insufficient liquid, the heaters will be disabled as a safety feature and the following screens will be displayed:
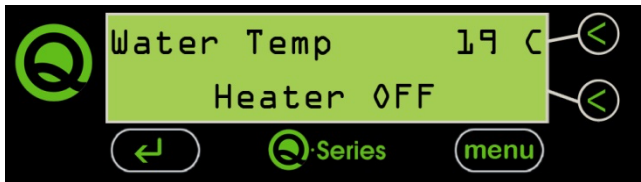
To continue using your SLS Lab Pro ultrasonic bath, refill with liquid up to the level sensor, switch the unit off and on again.

If the bath is run dry this will invalidate the warranty on your SLS Lab Pro ultrasonic bath.

Screen 7: Portable appliance testing

The SLS Lab Pro ultrasonic bath is provided with this screen to make portable appliance testing easier.

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 SLS Lab Pro ultrasonic bath is operating in the mode required for accurate portable appliance testing.

Portable appliance testing must 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.

Using the memory card

The SLS Lab Pro ultrasonic bath is fitted with a memory card slot which allows digital validation of every cleaning cycle.

Simply insert a memory card into the slot located at the front of the unit to ensure that information on each cycle is saved.

The memory card must be inserted before your SLS Lab Pro ultrasonic bath is turned on.

Your SLS Lab Pro ultrasonic bath is supplied with a memory card to USB reader which allows easy transfer of the cycle information from the machine to a PC.

The memory card can be connected to a PC, using this memory to USB card reader to give a permanent electronic record of the cleaning parameters of the cycle.

The information is saved as a CSV file. This is automatically saved as cycles.csv on the memory card and will open in Microsoft Excel.

The information saved includes cycle number, cycle time, cycle temperature and validation of the ultrasonic activity achieved during the cycle.

Should you need to format the memory card, ensure that it is formatted to FAT rather than FAT32 settings.

Recording the data

System Requirements:

- Windows 2000 SP4; XP SP2;Vista SP2' 7

- Microsoft Excel

- Mac OS 10.1.2+

- USB High Speed Hub Port (500mA)

- One available USB port

To record the saved data:

Always ensure the memory card is inserted into the SLS Lab Pro ultrasonic bath prior to turning the power on.

The results of each cycle will be saved to the card until the card is removed.

Once you are ready to record the information, remove the Memory card from the SLS Lab Pro ultrasonic bath. Insert the supplied memory to USB card reader into a USB port on the PC and insert the memory card into the relevant port on the card reader.

There is a file on the memory card which is already set up to provide a template for recording the data – Ultrawave.xls. Open this file and the data will display in spreadsheet format.

The file will show information of every cycle run while the memory card has been in place in the SLS Lab Pro ultrasonic bath.

To ensure that the next cycle information is recorded on the memory card, switch off the unit and reinsert the card before switching the bath on again.

The data will only be saved to the card, if it is inserted before the machine is switched on. If the Memory card is inserted after the unit is a switched on, the data will not be recorded.

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.

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

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

Ultraclean SA: A general purpose cleaning detergent for aluminium and other soft metals.

Ultraclean CBX: A heavy oil and carbon remover for non-ferrous metals. (except for aluminium and other soft metals)

Ultraclean CS: A carbon and heavy contaminant remover. (except for aluminium and other soft metals.

Ultraclean PH: A rust removal detergent and brightening agent for non-ferrous metals. (except for aluminium and other soft metals)

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

Sonozyme: A poly-enzymatic detergent for cleaning surgical instruments. Dose 5ml per litre.

Dosing Matrix (ml of detergent per tank)

	Detergent dose (ml)		
	0.5%	2%	5%
SLS2030	25	90	225
SLS2038	50	190	475
SLS2040	60	250	625
SLS2042	70	300	725
SLS2044	80	350	875
SLS2046	125	500	1250

Each of these detergents is available from SLS. The required detergent dose may vary depending on the component being cleaned and the level of contamination. We recommend a dosage of between 2 and 5% for all detergents other than Sonozyme.

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. We 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 60°C is sufficient to accelerate the process. You will see from the graph below that optimum cleaning will be obtained at 60°C
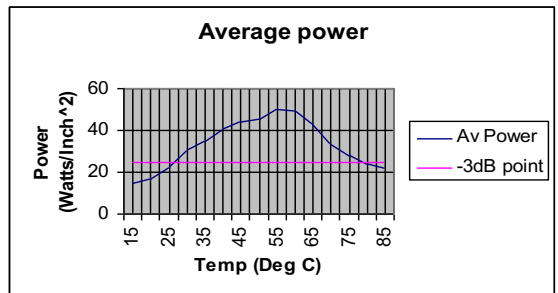
If you are using your bath to clean medical equipment, it is recommended to limit the liquid temperature to 40°C. This will avoid the coagulation of protein and other bio burden which can then bake onto the equipment.

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

Cleaning time

Your SLS Lab Pro ultrasonic bath is factory preset with a cleaning time of 15 minutes. Some components may take longer or shorter 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
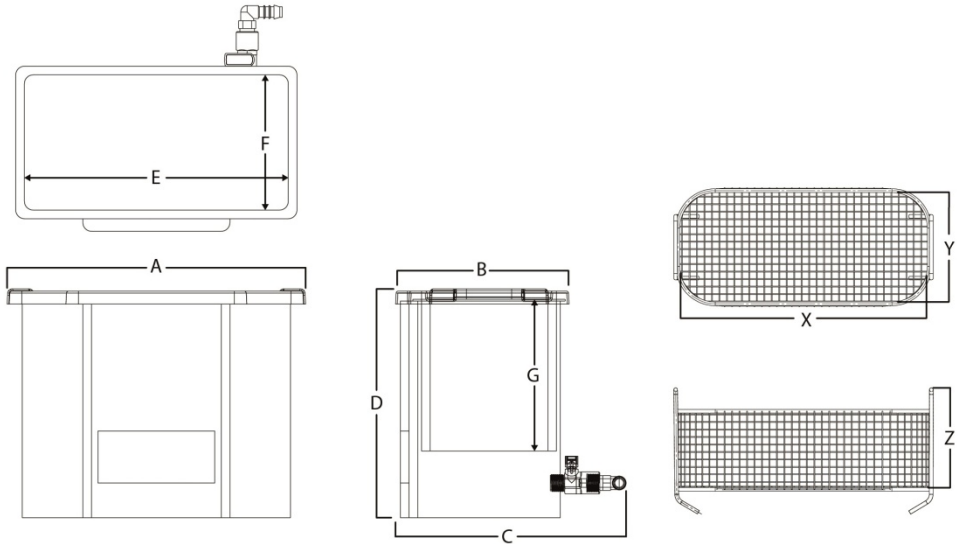
	Tank External Dimensions (mm)				Tank Internal Dimensions (mm)			Basket Internal Dimensions (mm)		
	A	B	C	D	E	F	G	X	Y	Z
SLS2030	340	255	325	265	300	150	150	265	115	110
SLS2038	545	245	315	265	505	140	150	465	100	110
SLS2040	345	355	435	365	300	240	200	260	200	160
SLS2042	375	410	490	265	330	300	150	295	260	110
SLS2044	375	410	490	365	330	300	200	295	260	160
SLS2046	550	410	490	365	505	300	200	465	260	160

Electrical details

Mains supply:	230V @ 50 Hz
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
Heater range:	5 to 70°C

	Working capacity (litres)	Tank capacity max. (litres)	Total Power (W)	Ultrasonic power (W)	Heating power (W)
SLS2030	4.5	5	250	100	150
SLS2038	9.5	10.5	450	200	250
SLS2040	12.5	14	500	200	300
SLS2042	13	15	500	200	300
SLS2044	17.5	18.5	750	300	450
SLS2046	25	28	1050	400	650

Troubleshooting and Problem Solving

SLS have dedicated After Sales teams who are able to resolve any problems that occur with your SLS Lab Pro digital ultrasonic baths. 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 unit 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 unit 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 software 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 software 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 software has detected that the water in the bath is above 75ºC 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 the SLS After Sales Department:
E: slsaftersales@Scientific-labs.com T: +44(0)115 982 1111

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 SLS. Where appropriate, we operate a Return To Base (RTB) warranty and repairs policy.

Returning equipment

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 our 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 Grant employees, reducing the risk of potential injury or infection.

More information on decontamination guidelines, as well as copies of decontamination certificates can be found at www.ultrawave.co.uk.

If you require further information, please contact the SLS After Sales Department by emailing slsaftersales@Scientific-labs.com or calling +44(0)115 982 1111.

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

We recommend that your SLS Lab Pro ultrasonic bath is serviced and tested by an 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.

Service contracts for your SLS Lab Pro ultrasonic bath are available.

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

E: slsaftersales@Scientific-labs.com T: +44(0)115 982 1111

Warranty

The warranty on SLS Lab Pro ultrasonic bath s applies to defects appearing within **36 months** of the date of sale, or **6000 hours usage** (whichever comes first) because of faulty material or manufacture. Genuine defective items returned to SLS will be replaced or repaired free of charge at discretion.

The warranty does not apply to:

- normal wear and tear
- damage caused by misuse
- non-observance of maintenance, service or connection instructions
- damage caused by the use of toxic, flammable, acidic, caustic or corrosive chemicals or liquids not recommended by SLS.

The user should familiarise themselves with this instruction booklet before operating the equipment and should apply to SLS for advice on cleaning techniques or chemicals.

SLS will not be responsible for damage or injury caused by incorrect use.

Statutory rights are not affected.

WEEE Compliance

SLS are complying with the WEEE regulations by contracting-our obligations to a Producer Compliance scheme. Once it is deemed that this Q-Series model is no longer effective, please contact SLS 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, we 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.legislation.gov.uk/uksi/1989/1790/contents/made
[4]   https://www.hse.gov.uk/pubns/indg362.pdf
[5]   https://books.hse.gov.uk

Service record

We recommend that your SLS Lab Pro 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 engineers only.

Date		Cycle count	
Engineer			
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Next service due			

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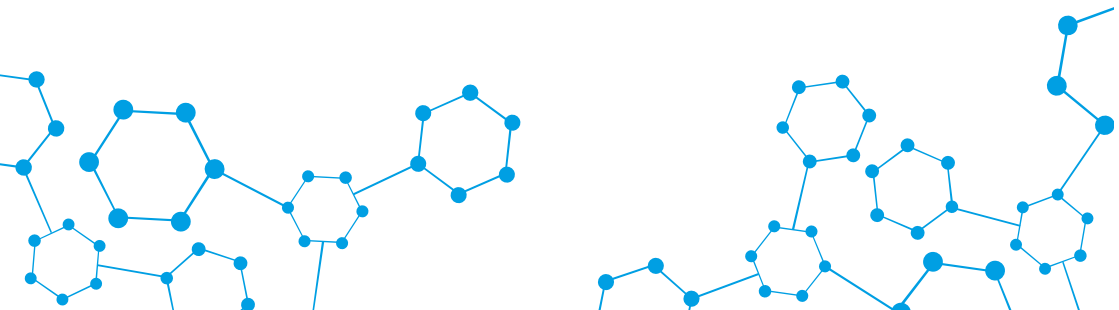www.scientificlabs.co.uk

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