



SLS Lab Pro Analogue Ultrasonic Baths



Operating Manual



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SLS Lab Pro baths are manufactured in the United Kingdom and conform to exacting international standards.

Safety Instructions



Electrical

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

The mains plug is fitted with a 5A fuse. **DO NOT 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.



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

When the temperature is set to 54°C or above, the unit 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



WEEE Compliance

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



General use

Ensure that the bath is at least $\frac{3}{4}$ full of 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 the warranty.

Do not place hands or fingers in the bath.

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

When emptying baths with no drain outlet, disconnect the detachable mains lead from the mains supply and tip the bath AWAY from the electrical connector.

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

REMEMBER

- Always ensure the liquid is at or above the crease in the tank when in operation.
- Do not put hot water above 50°C into the bath.
- Always use the basket to support items in the bath.
- Never expose hands, fingers or other body parts 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.

Installation – SLS2004, SLS2016 & SLS2018

The following parts and accessories are included with your ultrasonic baths:

- 1 x basket
- 1 x lid
- 1 x Operator Instruction manual

How to install

Connect the mains lead into a suitable mains socket.

Fill the bath with water and the correct dose of detergent. The bath is now ready to use.

Installation – SLS2020, SLS2022 & SLS2026

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

- 1 x basket
- 1 x lid
- 1 x 2m length of drain hose
- 1 x hose tail
- 1 x Operator Instruction manual

How to install

Locate the bath close to a drain or sink to allow easy drainage of the tank.

Connect the mains lead into a suitable mains socket.

Screw the hose connector into the drain valve located on the side of the unit. Connect one end of the drain hose to the hose connector and locate the other end over a drain or sink.



Fill the bath with water and the correct dose of detergent. The bath is now ready to use.

Quick Guide

Pour water into the bath until it is at least $\frac{3}{4}$ full or the fluid level reaches the crease in the tank. To reduce the process preparation time, fill your bath with water at the temperature required for your process. The water you pour in must not exceed 50°C.

Add the required dose of detergent (see page 11).

Operate the ultrasonics by turning the timer dial to the required time and pressing the SONICS button (where applicable).

Operate the heater, if the bath has a heating function, by turning the heater dial to the required temperature and pressing the HEAT button.

Turn on the ultrasonics for approximately 5-10 minutes to degas the cleaning liquid. (See page 10 for more details on degassing).

The bath is now ready to use.

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 fluid as the items dry.

Please refer to the following pages in this manual for more detailed instructions.

Change the cleaning liquid at regular intervals. 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.

SLS recommends changing the cleaning liquid at least on a daily basis.



Manual I Control Panel Instructions (SLS2004 & SLS2016)

To switch on the ultrasonics:

Turn the Timer dial to the desired time, and then press the SONICS button.

The SONICS button and the SONICS light will glow. Ultrasonic activity will then commence in the liquid inside the tank and the Timer dial will be heard ticking.

At the end of the timed period, the Timer will click off, the SONICS light will go out, and the ultrasonic activity in the liquid will stop.

To stop the ultrasonic activity at any time, press the SONICS button while in operation.



Manual II Control Panel Instructions (SLS2006)

To switch on the ultrasonics:

Turn the Timer dial to the desired time, and the ultrasonics will automatically begin.

The SONICS light will glow. Ultrasonic activity will commence in the liquid inside the tank and the Timer dial will be heard ticking.

At the end of the timed period, the Timer will click off, the SONICS light will go out, and the ultrasonic activity in the liquid will stop.

To stop the ultrasonic activity at any time, turn the Timer dial to 0 while in operation.



To operate the heater:

Press the HEAT button to turn on the heater.

The HEAT switch will glow, and the liquid will start warming up. No indication is given when the preset maximum temperature of 70°C is reached.

To turn off the heater at any time, press the HEAT button while in operation.

NOTE: Ultrasonic activity will raise the liquid temperature by 5°C per hour. If in doubt, check actual temperature with a thermometer.

Manual III Control Panel Instructions (SLS2018, SLS2020, SLS2022 & SLS2026)

To switch on the ultrasonics:

Turn the Timer dial to the desired time, and then press the SONICS button. The SONICS button and the SONICS light will glow. Ultrasonic activity will then commence in the liquid inside the tank and the Timer dial will be heard ticking.

At the end of the timed period, the Timer will click off, the SONICS light will go out, and the ultrasonic activity in the liquid will stop.

To stop the ultrasonic activity at any time, press the SONICS button while in operation.



To operate the heater:

Turn the HEATER dial to the desired temperature and press the HEAT button.

The HEAT button and the HEAT light will glow, and the liquid will start to heat up.

When the set temperature is reached, the HEAT light will go out.

To stop the heater at any time, press the HEAT button while in operation (ie. when the HEAT light is already on).

NOTE: Ultrasonic activity itself will heat the liquid by 5°C per hour. This means that the liquid temperature may rise above the level indicated on the temperature dial.

The temperature dial only controls the heater cut-out temperature.

If in doubt, check the actual temperature with a thermometer.

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. SLS recommends a degas period of at least 10 minutes.

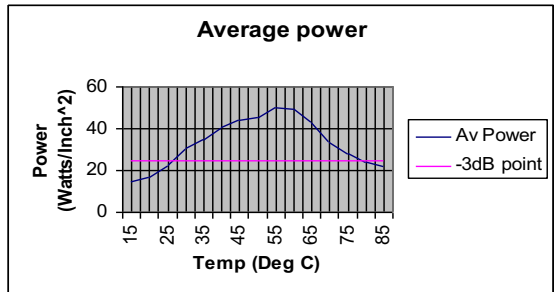
During the degas cycle, you will see bubbles of gas forming on the inside of the bath, and slowly rising to the surface. Degassing is complete when you can no longer see these bubbles. Another indication of increased “cold-boiling” at the liquid surface indicates that the liquid is degassed.

Once the liquid is degassed, the bath is ready for use.

The effect of heat

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

Normally a temperature of between 30 to 65°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 fluid temperature to 45°C. This will avoid “baking” proteins.

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

Cleaning time

Cleaning time will depend on application, type and amount of contamination. General light contamination should be removed in less than 10 minutes.

An indication of cleanliness is when stains are no longer visible, and contamination no longer appears in a stream from the item being cleaned.

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.

SLS offer 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. 5ml sachet per litre.

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: A carbon and heavy contaminant remover. (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: An alkaline detergent for heavy carbon and tough grease. (except aluminium and other soft metals)

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

Dosing Matrix (ml of detergent per tank)

| | Tank capacity (L) | Detergent dose (ml) | | |
|---------|-------------------|---------------------|-----|------|
| | | 0.5% | 2% | 5% |
| SLS2004 | 1.5 | 8 | 30 | 75 |
| SLS2006 | 1.5 | 8 | 30 | 75 |
| SLS2016 | 2.5 | 12 | 50 | 125 |
| SLS2018 | 2.5 | 12 | 50 | 125 |
| SLS2020 | 4.5 | 25 | 90 | 225 |
| SLS2022 | 12.5 | 60 | 250 | 625 |
| SLS2026 | 25 | 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. SLS recommends a dosage of between 2 and 5% for all detergents other than Sonozyme.

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. 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 (PAT) should be conducted with water in the bath.

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

Disposal of this ultrasonic bath

At the end of its useful life, please ensure that you dispose of this product in accordance with national regulations.

Returning equipment

All equipment being returned for service, repair or other reason **MUST BE FULLY DECONTAMINATED** prior to return and include a copy of the 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 employees reducing the risk of potential injury or infection

If you require further information please contact the After Sales Dept. on: Tel: +44 (0)1159 821111 or E-mail: slsaftersales@scientific-labs.com

Warranty

The warranty on this SLS Lab Pro ultrasonic bath applies to defects appearing within **36 months** of the date of sale because of faulty material or manufacture. Genuine defective items returned will be replaced or repaired free of charge at their 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 fluids 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.

Troubleshooting

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

| | |
|--|--|
| The unit fails to turn on and no lights illuminate | Check that the unit is plugged in and that mains electricity is present. Check the mains plug fuse. |
| The unit does not sonicate. | Check that the indicators illuminate when the unit is switched on. If the indicators fail to illuminate, check the mains supply and fuse in the mains plug. If the indicators illuminate but the bath does not sonicate, please contact our After Sales team. |
| The unit sonicates but does not clean effectively | Have you added the correct amount of cleaning fluid? Have you overloaded the basket? |
| The unit sonicates but does not heat. | Does your unit have heaters? – there will be an “H” in the description line on the rating plate. Check that the heater indicator illuminates when the unit is switched on. Is the heater dial turned to the desired temperature? If the heater indicator illuminates but the bath does not heat, please contact our After Sales team. |

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.

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 1))^[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] http://www.opsi.gov.uk/si/si1989/Uksi_19891790_en_1.htm

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

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

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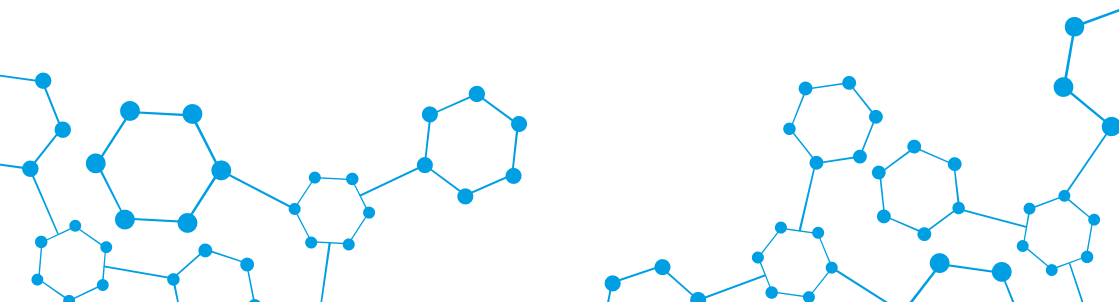
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