
# Analogue Ultrasonic Bath

EN

## xuba Series

Operating Manual

If you have any feedback on Grant products or services, we would like to hear from you. Please send all feedback to:

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UK

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## Contents




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Grant ultrasonic baths are manufactured in the United Kingdom.

Grant ultrasonic baths are manufactured to exacting standards and conform to international standards.

## Safety instructions

### Use of products

The following products are covered by this operating manual:

- xuba1, xuba3

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

### Electrical

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

The unit is supplied with a removeable mains lead rated at 5A. Do not use a power lead rated less than 5A.

The removeable mains lead is the disconnect device and should remain accessible while the unit is in use.

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

Ensure that excess mains cable is stored neatly.

### General use

Ensure that the bath is at least ¾ 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. 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.

Where the bath is fitted with a detachable mains lead disconnect the bath from the mains supply before emptying. When emptying baths with no waste outlet, tip the bath AWAY from the electrical connector and lead.

Read the whole of these instructions. Safety may be impaired if they are not followed. Contact to Grant or its agent for advice on cleaning techniques and detergents.

Grant will not be responsible for damage or injury caused by incorrect use of the equipment.

## Installation

The following parts and accessories are included with the Grant analogue ultrasonic baths:

- 1 x basket
- 1 x lid
- 1 x Grant M2 detergent sample

**How to install**

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

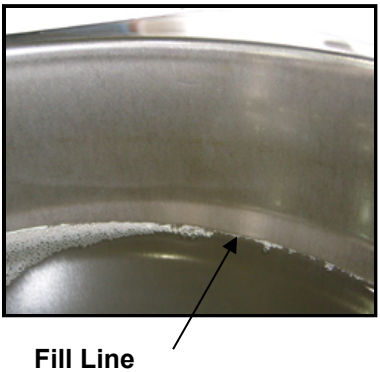
Connect the mains lead into a suitable mains socket.

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

Fill the bath with water and the correct dose of detergent. The bath 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).



**Fill Line**

Add the required dose of detergent (see page 10).

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 8 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.

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

***REMEMBER***

- Always keep the bath full of liquid 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.

## xuba1 Control panel instructions


***To switch on the ultrasonics:***

Turn the TIME 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 TIME dial will be heard ticking.

At the end of the timed period, the TIME 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.

## xuba3 Control panel instructions


***To switch on the ultrasonics**:*

Turn the TIME dial to the desired time, and the 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 TIME 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.

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***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. 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. Grant recommends a degas period of at least 10 minutes.

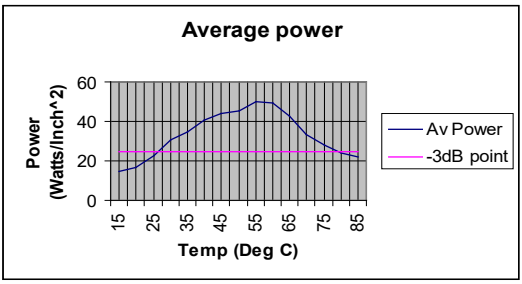
During the degas cycle, you will see bubbles of gas forming on the inside of the bath, and slowly rising to the surface. Degassing is complete when you can no longer see these bubbles. Another indication that the liquid in the bath has degassed is an increase in the appearance of 'cold boiling' at the liquid surface.

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 60°C is sufficient to accelerate the process. You will see from the graph 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 35°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. In order to heat the fluid in the tank at a faster rate, it is recommended to run the ultrasonics as well as turn on the heating.

### 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.

## 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 |

| | Working capacity (litres) | Tank capacity max. (litres) | Unit external dimensions (mm) | Tank internal dimensions (mm) | Basket internal dimensions (mm) |
|---|---|---|---|---|---|
| **xuba1** | 1.5 | 1.75 | 180x160x190 | 150x140x100 | 120x96x55 |
| **xuba3** | 2.5 | 2.75 | 270x170x210 | 240x140x100 | 200x108x55 |

### Electrical details

Mains supply: 230V @ 50-60 Hz
Pollution degree: 2
Installation category: II

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

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| | Operating Freq. (KHz) | Heater Range (°C) | Total Power consumption (W) | Ultrasonic power (W) | Heating power (W) | Mains voltage (Vac) |
|---|---|---|---|---|---|---|
| **xuba1** | 44 | ambient +5 to 70 | 115 | 35 | 80 | 230 |
| **xuba3** | 44 | ambient +5 to 70 | 185 | 35 | 150 | 230 |

## Ultrasonic detergents

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

Grant offers a specially formulated ultrasonic detergent for use in many applications.

**Grant M2** is a general purpose detergent for all plastics, glass and metals (expect aluminium and other soft metals) which is also suitable for use on medical instruments.

## Dosing matrix (ml of detergent per tank)

Grant recommends a dosage of between 2 and 5% for all detergents.

| | **Detergent dose (ml)** | |
|---|---|---|
| | 2% | 5% |
| **xuba1** | 30 | 75 |
| **xuba3** | 50 | 125 |

**Directions for use:** Add 25-50ml of M2 per litre of water in the ultrasonic bath.

**Warning: Grant M2** may cause etching to aluminium and other soft metals.

**Shelf life:** 6 months when stored in a cool, dark environment.

**Precautions for use:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed, seek medical advice immediately and show the bottle label. Keep out of reach of children.

Refer to safety data sheets available from Grant.

**Grant M2** is biodegradable

## 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 should be conducted with water in the bath.

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

Service contracts for your ultrasonic bath are available from Grant. Contact us for more information (+44 (0) 1763 260811).

## Compliance

### WEEE directive

Grant Instruments complies fully with the Waste Electrical & Electronic Equipment (WEEE) regulations 2013. We are a member of the B2B compliance scheme (Scheme Approval Number WEE/MP3338PT/SCH), which handle our WEEE obligations on our behalf. Grant Instruments have been issued with a unique registration number by the Environmental Agency, this reference number is WEE/GA0048TZ.

For information regarding WEEE collections in the UK please contact our B2B Compliance Scheme directly on 01691 676 124.
For other countries please contact your equipment supplier.

For General WEEE information please visit: www.b2bcompliance.org.uk

### RoHS directive

All the products covered by this manual comply with the requirements of the RoHS Directive (Directive 2011/65/EC including 2015/863).

### Electrical safety and electromagnetic compatibility

All the products covered by this manual comply with the requirements of the Low Voltage Directive (2014/35/EC) for electrical safety and the EMC directive (2014/30/EC) for electromagnetic compatibility.

### REACH Regulation

This product does not contain any SVHCs at greater than 0.1% that have to be identified in accordance with Regulation (EC) No 1907/2006 and therefore does not have an entry in the SCIP database.

## Returning equipment to Grant

All equipment being returned to Grant 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 Grant's discretion.

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

This policy is designed to protect the health and safety of 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.grantinstruments.com.

If you require further information, please contact the

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Cambridgeshire
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Email: service@grantinstruments.com

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## Warranty

The warranty on this Grant ultrasonic bath applies to defects appearing within 36 months of the date of sale because of faulty material or manufacture. Genuine defective items returned to Grant or its agent's premises will be replaced or repaired free of charge at their discretion.

The warranty is extended to 5 years on transducer assemblies and to 5 years on the bonding process. If the transducers or bonding material are exposed to liquid or cleaning chemicals, the warranty will be invalidated.

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 Grant

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

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

Statutory rights are not affected.

## Troubleshooting

Grant has a dedicated service 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 (no display is shown) | Check that the unit is plugged in and that mains electricity is present. |
| The unit stops working | Check that the indicators illuminate when the unit is switched on.<br><br>If the indicators fail to illuminate, check the mains supply and fuse in the mains plug, as well as the fuses in the mains socket (if fitted) on the rear of the bath.<br><br>If the fuses and mains electricity supply are OK, and the unit fails to operate, the bath should be returned to your supplier for service. |

If any of these problems persist, the Grant Service Department can be contacted on +44 (0) 1763 260811 or service@grantinstruments.com.

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## Fuse ratings

The xuba1 and xuba3 are fitted with a 5A fuse in the UK mains plug.

Should these fuses need to be replaced, the replacement fuses should ALWAYS be 5A.

| Model number | Fuse rating |
|---|---|
| **xuba1** | 5A |
| **xuba3** | 5A |

The IEC electrical socket on the rear of the unit is fitted with 2 x 20mm T2A (anti-surge) fuses. Never fit a fuse of a higher rating.

Fitting fuses of the incorrect rating in the plug will invalidate the warranty. If you have any doubt, please contact the Grant Service Department

## Temperatures of touchable hot surfaces

BS EN 13202:2000 gives the recommended maximum surface temperatures for different materials at various exposure times (see below)

Your Grant ultrasonic cleaning bath can be set so that the cleaning fluid is up to 70°C. This means that parts of your ultrasonic cleaner will be above the recommended maximum temperature.

If you operate your ultrasonic cleaner at temperatures above the recommended maximum, then Grant advise that you conduct a risk assessment, and if appropriate fix a “Caution – Hot” warning label to your machine.

The following limit values are based on the harmonized standards -

- BS EN 13202:2000 Ergonomics of the thermal environment - Temperatures of touchable hot surfaces - Guidance for establishing surface temperature limit values in production standards with the aid of -
- EN 563: 1994 Safety of machinery - Temperatures of touchable surfaces - Ergonomics data to establish temperature limit values for hot surfaces

| Materials/time-temp* | 1 sec | 4 sec | 10 sec | 10 min | 8 hr |
|---|---|---|---|---|---|
| uncoated metal | 65°C | 58°C | 55°C | 48°C | 43°C |
| painted metal | 83°C | 64°C | 55°C | 48°C | 43°C |
| enamelled metals | 74°C | 60°C | 56°C | 48°C | 43°C |
| ceramics, glass, stone | 80°C | 70°C | 66°C | 48°C | 43°C |
| plastics | 85°C | 74°C | 70°C | 48°C | 43°C |
| wood | 110°C | 93°C | 89°C | 48°C | 43°C |

| Time | Contact | Part |
|---|---|---|
| 1 sec | accidental contact | Outer case, tank flange |
| 4 sec | parts held for short periods | knobs, switches |
| 10 sec | parts continuously held in normal use | handles |
| 10 min | prolonged use | handles |
| 8 hr | continuous use | handles |

## 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, Grant 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.hsebooks.co.uk

## Service record

Grant recommends that your 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 Grant engineers only.

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

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

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