Soniclean
Benchtop Ultrasonic Cleaners

User Manual

For models: 80TD, 120TD, 160TD/HD, 250TD/HD, 500TD/HD, 800TD/HD, 1000TD/HD, 2000TD/HD, 3000TD/HD & 3800TD/HD

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Safety Precautions

Membrane keypad

The touch sensitive keypad is waterproof with an easy wipe down surface. Do not operate keys with sharp objects. If water enters under the fascia, send the unit to an authorised Soniclean service centre for repair.

Aerosols

Do not switch the ultrasonic cleaning function on without the lid. This prevents possibly dangerous aerosols being emitted from the unit. Keep lid and tank edge dry to reduce aerosol emission. Models with an interlock lid prevent the unit operating without the lid.

Ultrasound pressure

Ensure the lid is in place during the cleaning operation to minimise the emission of ultrasonic sound pressure. Do not position ears directly over bath. Noise from ultrasonic energy is rated around or below 85 dBA. At high power the unit can generate very high frequency pitch which is irritating to some people and may be harmful.

Power supply

Check that your mains supply is adequately earthed before use and ensure that the voltage is correct.

No user serviceable parts inside

Do not attempt to open the unit when connected to a mains supply. This can cause an electric shock. Opening the unit will void the warranty unless authorised by Soniclean. The unit is sealed to International Protection Standard IP66/67.

Insulation tests

Insulation resistance tests can not be performed at 500 Vdc due to an internal 275 Vdc surge arrestor. Tests should be limited to 250 Vdc. Please refer to AS/NZS 3551-2012 "Management programs for medical equipment" for more information.

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1. Introduction

Thank you for purchasing a Soniclean benchtop ultrasonic cleaner. Your cleaner is designed to provide a consistent clean using ultrasonic activity and detergent. It is intended that the instruments shall be gross-cleaned prior to loading into the cleaner, and be sterilised in the usual manner after ultrasonic cleaning

Soniclean provides many models of benchtop cleaner to suit different capacity requirements.

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2.   Safety Instructions

The ultrasonic vibrations produced by these cleaners are transferred to the water by means of a ceramic transducer which is bonded to the underside of the tank. These transducers are brittle and can easily be damaged through incorrect use. However, with proper care they can give many years of reliable service. Following these directions will prolong the life of your unit and increase the effectiveness of the cleaner.

DO NOT:

- Subject unit to *mechanical* or *thermal* shocks.

- Immerse your unit.

- Drop or place heavy or sharp objects directly in tank.

- Place objects into tank while ultrasonic cleaning is in progress.

- Overload tank as this can damage parts and reduces cleaning efficiency.

- Subject tank to thermal shock, such as sudden temperature changes.

- Add hot water to a cold tank, or cold water to a hot tank.

- Use external or immersion heater or pour excessively hot or cold liquid into the tank. This will damage your unit. Note that the temperature will rise slightly when the ultrasonic cleaning is underway.

- Operate without adequate liquid in the tank.

- Allow cleaning solutions to become excessively contaminated.

- Use dangerous liquids. Soniclean Pty Ltd does not accept responsibility for accidents arising from the use of toxic, flammable or corrosive liquids.
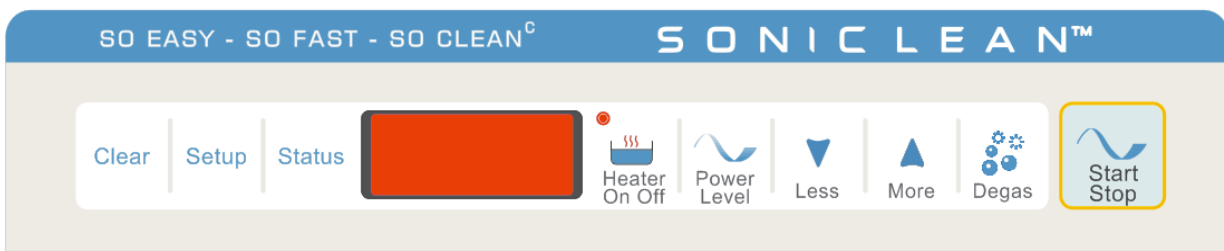
DO:

- Operate in normal room temperatures of around 25 °C.

- Use correctly earthed mains electricity supply with your ultrasonic cleaner and make sure the voltage is correct. *Check with qualified electrician if in doubt.*

- Fill at least ⅔ full (¾ full for heater models).

- Use a basket/tray/rack to prevent contact between objects and the tank.

- Ensure all splash marks and spillages are cleaned off the unit immediately

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3. Operation

3.1. Control panel

3.2. Prior to Operation

1. Set the unit on level surface to enable liquid to drain out completely.

2. Confirm that the mains voltage is correct (see back label on the unit). Plug in your ultrasonic cleaner and switch on at the power point.

3. Close the drain valve and fill the tank with cold room temperature or tepid water to ⅔ full (¾ full for heater models).

3.3. Basic settings

1. Simply press **Start** or **Degas** keys to commence these cycles. To cancel cycles press **Stop** key.

2. To change the timing cycle press **More** or **Less** keys to increase or decrease cycle time. Factory default is 15 minutes for clean and 5 minutes for degas.

3. Once cycle times are optimised simply press **Start** or **Degas** and display shows the selected optimised time cycles during countdown.

3.4. Degas

1. Add a specified amount of recommended detergent to the ultrasonic tank. For the best results first start the machine and then sprinkle the detergent along the insides of the tank.

2. Press **Degas** to expel air bubbles from the water. This takes 1-5 minutes, depending on water quality. Degassing is complete when cavitation surface ripples become evident.

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3. Adjust time using **More** or **Less** keys if necessary. Then press **Start**.

4. Adjust down **Power Level** if required. Default is 100% maximum power. These optimised basic settings will be retained so long as the unit is powered on.

5. Leave unit to complete the operation or press **Stop** to cancel.

6. Operate with the lid on where possible.

7. After cleaning, rinse parts using clean running water.

3.5. Tray maintenance

Soniclean benchtop cleaners are supplied with a tray to hold items as they are being cleaned. The tray is fitted with foam tape to prevent friction between the tray and the ultrasonic cleaner. With repeated use this tape will wear out. It is recommended that the user replace the foam tape on the tray when it shows signs of wear and tear to avoid friction damage to the tray and the ultrasonic cleaner.

3.6. Considerations for heater models

1. Complete steps in section 3.2 ("Prior to Operation") and 3.3 ("Basic settings") *before* switching on heater.

2. Press **Heater On**. The heater temperature can be changed using **More** or **Less** keys to increase or decrease the temperature. Factory default is 50 °C. Place lid on the unit to prevent heat loss and evaporation. Press **Heater Off** to switch off the heater.

3. The LED display blinks when the liquid reaches the set temperature.

4. Ensure that minimum liquid level is maintained to prevent heater shut down.

5. If the heater shuts down, top up liquid before pressing **Heater On** again.

3.7. Ultrasonic performance

To ensure your unit is working effectively, a daily aluminium foil test (compliant with Australian Standard AS2773-2019 or equivalent) is recommended.

Soniclean recommends the use of 0.025 mm thick aluminium foil. Thicker foil will not work. For consistent results, the use of Soniclean detergents are recommended.

Soniclean's detergents have been specially formulated by Soniclean to give the best results in Soniclean machines. Be aware that certain chemicals or excessive amounts of certain chemicals affect the performance or damage unit. Check with your supplier if in doubt.

Soniclean produces an Ultrasonic Performance Meter (UPM, model UPM260) which can assist with performance measurements. Please contact Soniclean for pricing.

Check the Soniclean web site (www.soniclean.com.au) for further information.

Soniclean's Ultrasonic Performance Meter

Soniclean's detergents

3.8.   Advanced Settings

Press **Status** key repeatedly to scroll through various settings on the unit. The **Status** key displays information such as tank temperature, clean time, degas time, power level and software version.

The **Setup** keys have other functionalities. At present these enable/disable buzzer and lids.

Prolonged operation of the ultrasonic cleaning function will increase the temperature of the water in the tank. Power duty cycle helps maintain preset temperature under these conditions. Use **Setup** to scroll to power duty cycle *P.dc*. Factory default power duty cycle is off. Press **More** key to turn on showing *dc.On* or press **Less** key to *d.OFF* to restore to factory default.

To save optimised settings when the unit is powered press **Setup** and scroll through display showing *U.SEt* . Press **More** or **Less** keys to *U.On* confirm saved user setting.

If optimised settings are not saved they will be retained until the unit is powered off.

To return to factory setting, simply press **Setup** and scroll through display showing *F.SEt*. Press **More** or **Less** keys to *F.On* to confirm factory setting.

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3.9.   Reference Tables

The following tables summarise the displays shown when each front panel button is pressed and the functions available. We encourage users to familiarise themselves with the advanced functionalities of keys which are shown in **bold** text.

Start Stop

Display	Description
P.On	Power On for ultrasonic cleaning.
End	End of cleaning cycle.
MM.SS	Cleaning time in *MM.SS* where *MM* in minutes and *SS* in seconds. The cleaning time is preceded by degassing cycle.
XXOC	Water temperature updated every 5 sec. *XX* is the temperature in degrees Celcius.
100.P *80.P* *60.P*	Power levels (100%, 80%, 60%).

Degas

Display	Description
dGAS	Degas displays every 5 sec.
MM.SS	Cleaning time. The display is in *MM.SS* where *MM* in minutes and *SS* in seconds. Degas cycle is: H,3-M,1-L,1-OFF,1 SEC

Power Level

Display	Description
100.P *80.P* *60.P*	Press repeatedly to scroll through and select **Power levels** when unit is in standby or operating

Heater On, Off

Display	Description
H.On	Heater is on. Display shown when heater is enabled. The LED will blink when the set temperature is reached. Without ultrasonics the *H.On* display will flash after one minute to indicate that the heater is on.
H.OFF	Heater is off. Display shown when heater is disabled.
XX.C	Use **More** or **Less** to set temperature. Max 60 °C. *XX.C* LED lights up when heater is active.

Status

Display	Description
XXOC	Water temperature updated every 5 seconds.
XXO.C	Heater temperature set. Dot before *C* indicates heater set temperature.
MM.SS	Cleaning time. The display format is *MM.SS* where *MM* is minutes and *SS* is seconds. Total cleaning time includes degassing time.
100.P *80.P* *60.P*	Power level set. Display *100.P*, *80.P*, *60.P*.
XX.ct	Cleaning set time where *XX* is from 1 to 99 minutes.
XX.dG	Degas time set where *XX* is from 1 to 99 minutes.
XX.dc	Duty cycle factory default set is 50% showing *50.dc*. Use **More** or **Less** key to change the values. When activated in **Setup** this functionality will be activated when the bath temperature is close to the set temperature.
Sxxx	Software Version

Setup

Display	Description
BEEP *b.OFF* *b.On*	Enable or disable audible key press. Press **Less** key to silent operation using *b.OFF* Press **More** key *b.On*.
F.SEt F.On	Load factory values. The display shows *F.SEt*. Press **More** or **Less** key to toggle *F.On* The factory values are: Ultrasonic power: 100%.

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Display	Description
	• Clean Time: 15.0 minutes. • Degas Time: 5.0 minutes. • Heater Temperature: 50 OC. • Duty cycle disabled. • Lid disabled • Beep enabled
U.SEt *U.On*	User setup. Use **More** or **Less** key to toggle *U.On*
Lid *L.On* *L.OFF* *Lid.o* *PAUS*	Lid interlock option Use **More** to enable lid interlock Use **Less** to disable lid interlock When lid interlock is enabled and the lid is open. When the lid interlock is enabled and the lid is opened the ultrasonics will pause When lid is replaced press **Start** to continue.
P.dc	Power set to enable or disable Duty cycle. Default value is 50% of 5 sec period. See status key for the Duty cycle set.
d.On	Enable Duty Cycle with **More** key – factory default 50% power.
d.OFF	Disable Duty cycle with **Less** key and ultrasonic is set to continuous 100% duty set operation.

Clear

Display	Description
. *0.0*	Press **Clear** to Switch off heater Remove error message without starting up ultrasonics. Restore user setting. Reset factory setting. Press **Status** key and scroll through to check status on user or factory setting.
.0.0	During Setup or Status key presses use Clear to exit routines

More, Less

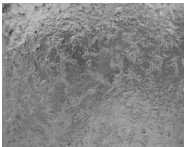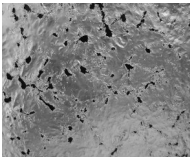| Mode	Description
Heater On Off	Set Heater On from 0 °C to 60 °C. First key press displays set temperature. Set temperature with **More** and **Less** key.
Start Stop	Set Cleaning from 1 to 99 minutes. Press **Start** to clean with countdown timer. **More** or **Less** key changes timer to a new value. The next Start will continue with the new set time. Software version S.d 08 limits were 1-60.
Degas	Set Degas 1-99 minutes. **More** or **Less** key changes degas time. The next Degas will continue with the new set time. Software version S.d 08 limits were 1-60.

Power Level

Mode	Description
Setup	**More** or **Less** key toggles Enable or OFF states as displayed. Preset Degas and Cleaning time using **More** or **Less** key.
Status	**More** or **Less** key is used in most functions. Also see **Status** key description.
Clear	Not applicable.
Degas	Not applicable.

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4.   Troubleshooting Guide

4.1.   Fault diagnosis

Foil test examples: Poor Good	In the event of a poor foil test result: 1. Check power level set – should be set to High 2. Does the unit have recommended amount of detergent? Is the detergent approved by Soniclean? 3. Has the unit degassed properly? Whilst in the degas mode look for suspended bubbles in water. There should not be any. 4. Is the water too hot? If so remove some (not all) and replace with cold water. Replenish the detergent to bring to the correct concentration. 5. Is the aluminium foil too thick – should be 0.025mm thickness 6. Is the water too dirty? If so replace with fresh water. Note water quality can vary from day to day and from place to place. Degas again. 7. Remove trays and instruments/part during foil test Note: Good foil test ● Very fine indentations and holes at shorter test duration ● Longer foil test causes perforations
If the unit stops while operating. Cause could be thermal cutout.	To clear the condition: 1. Allow unit to cool down, unplugging/switch off at wall. 2. If bath water is hot, empty out bath. 3. Wait for at least half an hour before switching on the unit again. 4. If unit still does not work, contact your supplier or Soniclean.
Screeching noise	If unit makes a screeching noise, switch off and try letting unit sit for a few minutes to degas again.

4.2. Error messages

Display	Description
t.OL	Water over temperature when unit is above max 70 °C and the unit will cut out, allow unit to cool down and press **Start** to continue.
P.OL	Ultrasonic power overload or over current or electronics over temperature, allow unit to cool down and press **Start** to continue.
Lid.o	When Lid is enabled and lid is open.
PAUS	When the lid interlock is enabled and the lid is opened the ultrasonics will pause. When lid is replaced press **Start** to continue.
LEAG.	Moisture detected inside the unit from by leakage or condensation, the unit will cut out. This error message may be reset with any key press.

Appendix A. Warranty

Note: For goods purchased in Australia after 1 January 2012.

Soniclean goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The benefits under our warranty described below are in addition to other rights and remedies under a law in relation to the goods.

Our Soniclean benchtop ultrasonic cleaner is guaranteed for 12 + 12 months from date of purchase. The additional 12 months is valid when the machine is registered online within 30 days of purchase date.

As a Medical Device, it is essential your machine is validated and calibrated at least once every 12 months to meet the cleaning performance, subject to mandatory compliance to AS2773-2019, AS4187, HTM01-05 and HTM2030. See the services page on our website for more information.

We undertake to repair or exchange FREE OF CHARGE any part found to be damaged due to a manufacturing fault. This warranty is not transferable and does not cover damage caused by misuse, neglect, failure to observe operating instruction, failure to keep the unit clean, accident, use of incorrect power supply or attempts to repair by unauthorised personnel.

The ultrasonic bath/tank is not covered against chemical and/or cavitation/ultrasonic erosion. Damage to the transducer caused by excess thermal shock or by other mechanical stresses or attempts to switch on the unit without water/liquid is also not covered by this warranty.

The purchaser agrees to undertake the cost and responsibility of packing and dispatch for safe and timely transportation of the unit to the manufacturer via the premises of the distributor or authorised sales agent.

This warranty is not transferable and does not cover damage caused by the following: inappropriate installation, misuse, neglect, failure to observe operating instructions, failure to keep the machine clean, accident, use of incorrect power supply, use of incorrect water supply and use of incorrect or non-approved cleaning chemicals.

A.1. Warranty Registration

The purchaser agrees to undertake the cost and responsibility of transportation of the machine to and from the premises of the distributor, authorised service agent or manufacturer.

This form, photocopy or facsimile must be returned within 30 days of purchase to qualify for the additional 12 month warranty period.

Personal details collected by Soniclean are treated as confidential and in accordance with our privacy policy.

Retailer / Place of Purchase _____

Model _____ Serial No. _____

Date of Purchase _____

Return warranty registration form to:

> Soniclean Pty Ltd
> ABN 89 057 730 917
> 12B Islington Court
> Dudley Park, SA 5008
> AUSTRALIA
> Tel: +61 8 8234 8398
> soniclean.com.au / sales@soniclean.com.au

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Appendix B. Further Enquiries

Technical Support

Nominated Service Provider

or

Soniclean Pty Ltd
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Sales Enquiries

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To arrange a service, contact our Customer Care Team on +61 8 8234 8398.

All services are provided subject to our Standard Service Terms and Conditions.

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Appendix C. Maintenance and Repair

Users in certain industries (particularly medical practices) are now required to have their equipment tested regularly in accordance with the relevant standards.

Soniclean offers validation, calibration and performance qualification services for all Soniclean products. Should you or your organisation require these periodic services please contact us for a quotation. Your equipment will be re-validated and calibrated and you will be issued with a certificate of conformance. In line with appropriate standards, we recommend this be done on an annual basis to ensure your machine continues to meet our original specifications.

Twelve month service contracts are also available which provide planned preventative maintenance services to ensure the equipment is performing at its peak. Please contact Soniclean for details.

Should your equipment require any repairs, Soniclean will provide a free quotation for the work. Please contact Soniclean with your model number, serial number and as much detail as possible about the problem. A quotation will be provided along with any other information required to facilitate the repair.

Please contact us by phone (+61 8 8234 8398) or email (sales@soniclean.com.au) to arrange any of these services or for further information.