

Thank you for purchasing a *Soniclean Ultrasonic Washer*. Soniclean washers are designed to improve the quality and consistency of cleaning instruments using ultrasonics and clean water rinsing. It is intended that the instruments shall be gross-cleaned prior to loading into the Washer, and be sterilised in the usual manner after ultrasonic cleaning.

This manual will guide you through the safe and effective operation of your device. Please also ensure you have familiarised yourself with specific instructions for *installation* and *first use* to avoid damage to the device and/or instuments or harm to operators.

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1 Requirements

Note: The customer shall ensure the following requirements are met prior to installation. This is essential for the machine to perform at optimum level and to fulfil Australian Standards. If the customer fails to provide this information, Soniclean will provide the information for a fee.

1.1 Environmental

- i. Use hot and cold water.
- ii. A tap or inlet must be dedicated to the Washer.
- iii. Water Quality for cleaning as per AS/NZS 4187:2003 shall be used. (Water hardness will determine the type of detergent to be used. It will also determine the amount of detergent to be used in the cleaner.)

1.2 Plumbing

- i. Maximum water pressure 150 psi, minimum water pressure 50 psi.
- ii. Flow rate 10 litres/minute (minimum) to 20 litres/minute (maximum).
- iii. This is a High Hazard application and the inlet mains supply shall be fitted with an approved Reduced Pressure Zone Device and a line filter. (Please check with your local Water Authority for the correct installation information for your area.)
- iv. Mains inlet connection with ½" male BSP fitting within 600mm from the machine.
- v. Do not use any aeration devices in the mains water supply.
- vi. Outlet pipe of 25mm diameter for waste water within 600mm from the machine.

1.3 Electrical

- i. Wall power socket 240 VAC 50-60 Hz rated at 10 amps.
- ii. Wall power socket located within 600mm from the machine.
- iii. Power supply circuit shall not be shared with life threatening or life support electrical systems.
- iv. Power supply circuit shall not be shared with computer electrical system or other excessively large power devices, e.g. steriliser/washer disinfectors.
- v. Earth leakage protection shall be provided by user.

Note: The unit contains MOV surge arrestor—when carrying out insulation resistance test, MUST carry out test at 250v as per ASN/NZ3760:2003 (page 14) for Class 1 equipment with MOV surge arrestor.

1.4 Machine Reporting System (MRS models only):

i. Local Area Network (LAN) outlet 1000mm from the machine.

Printer (optional)

Allow room on the left hand side of the machine for the printer unit.

1.5 Detergent Container

- i. The detergent bottle is supplied with your machine.
- ii. The detergent bottle shall be positioned in the compartment in the front of the machine.
- iii. When bottle is empty replace with the same brand of detergent. It is important that identical detergent is used, as this is critical to the total cleaning process. If other detergent is used the machine shall require re-programming.

2 Installation

2.1 Plumbing

Inlet Mains Supply

- i. Screw supplied braided hoses on to the machine and inlet mains water supply.
- ii. Hot connects to top inlet, cold to bottom inlet.
- iii. Hand tightened only.

Outlet Waste Supply

- i. Screw and hand tighten supplied black sink hoses onto the machine and insert into drain.
- ii. Ensure that the black sink hoses fall evenly away from the machine to the drain.

2.2 Electrical

- i. Plug machine into mains supply. Socket is on RHS of unit near rear.
- ii. Switch on when ready to operate.

Note: The unit contains MOV surge arrestor—when carrying out insulation resistance test, MUST carry out test at 250v as per ASN/NZ3760:2003 (page 14) for Class 1 equipment with MOV surge arrestor.

2.3 Machine Reporting System (MRS models only):

- i. LAN connection; take the LAN cable provided and push the black plug into the MRS socket provided on the Washer (just above mains socket). Plug the other end (RJ45) into the LAN wall outlet.
- ii. Contact your IT department and hand them the Machine Reporting Manual. The appropriate information for connecting the machine to the Local Area Network is found on page 10 "Network Hardware and Configuration" of the Machine Reporting System Manual.
- iii. PC Connection direct (no LAN): take the PC cable provided and push the black plug into the MRS socket provided on the Washer. Plug the other end (RJ45) into the appropriate outlet on the PC.

Caution: Only use designated cables for accessing data from the Washer.

The cable marked 'PC' should be used for direct connection to computers ethernet port.

The cable marked 'LAN' should be used for connection to a LAN wall outlet.

2.4 Printer (optional)

- i. Plug the machine into mains supply and turn on at the switch.
- ii. Plug the printer cable into the machine (just above MRS socket) and the printer.
- iii. Press the feed button to progress the paper.

2.5 Detergent Container

- i. Open door on front of wash unit.
- ii. Place filtered end of detergent hose into container.
- iii. Place detergent container into compartment.
- iv. Ensure there is sufficient detergent in container at all times.
- v. Check level of detergent regularly.

3 Operation

Note: Always ensure that strainer is fitted in drain hole of wash tank to prevent small parts entering drain and blocking valve.

3.1 How to operate:

3.1.1 Start Process

- i. Turn on at power point.
- ii. The machine will display 8.8.8.8, then SCx.x
- iii. The machine will automatically open lid, drain, close lid, flush, drain the flush, fill with water and detergent and perform a de-gassing cycle.
- iv. When the degassing cycle is complete, the machine is ready for use.
- v. During the above cycle, the machine with display the following:

Display	Function
8.8.8.8	Internal program.
SCx.x	Internal program process.
Lid	Lid is being raised.
Drn	Draining the water.
Lid	Lid is closing.
Drnf	Tank is flushing. (Drain is open.)
Drn	Tank is draining the flush.
FILL	Tank is filling with water and detergent is automatically added at the programmed quantity. (0.5%)
De-gas	The solution is degassing. (This takes approximately 10 minutes.)
	The machine is ready to be loaded with instruments.

vi. It is recommended that you perform a foil test daily to check the performance of your Washer. (Refer Section 4, Foil Test.)

3.1.2 Confirm Parameters

To check or change the settings or parameters of your washer:

- i. Press the "Shift" and "Clean (Values)" keys together and hold for 3 seconds.
- ii. Beep will sound when command has been recognized.
- iii. The machine will display the "Clean Time" or "ct".
- iv. Scroll through the parameters using the "Enter" keys.
- v. The parameters may be changed as required. (Refer Section 7, Program Mode Section.)

3.1.3 Loading the Machine

- i. Instruments may be loaded into tray with the tray located on a bench top.
- ii. Dismantle the instruments and insert the nozzle end of the cannulated instrument (standard sizes 2, 5 and 10mm) into the connector provided.
- iii. With the ports vertical, place the connector, with instrument loaded, into the port.
- iv. Gently lay the instruments down and rest them on the moveable plastic rack.* (Adjust the rack to support the instruments). The other parts of the instruments may be placed on the bottom of the tray or in the instrument holders provided.
- v. The unused ports should be left in vertical position (when the irrigator function is turned off to that port).
- vi. Place the tray onto the lifter carriage and push backwards firmly.
- vii. Ensure that the spigot on the carriage docks into the instrument tray.
 - *Note—with twin manifold baskets it is important to load the lower of the two manifolds first with the lower of the two instrument supports in place. The taller of the instrument supports can now be fitted and the higher manifold can be loaded.

3.1.4 Start Cleaning Cycle

- i. Close the lid and press "CLEAN".
- ii. The machine will perform a cleaning cycle according to its program.
- iii. The following table explains the various parameters of the clean function, which are displayed during cleaning and are programmable to suit your requirements.

Cleaning Activity	Display	Parameters*	Explanation
Clean No.	C-01	10	Current clean cycle no.
Ultrasonics	P-03	3	Displays poer level.
Time Remaining	03.48	5 minutes	**Time remaining to complete current clean.

^{*}As set by the manufacturer. **Displayed in minutes and seconds (mm:ss).

3.1.5 Stop Cleaning Cycle

- i. Press "CLEAN" again during cycle. This will stop the cycle and clear current clean.
- ii. To start new cycle, press "CLEAN" again.

3.1.6 Completion of Single Clean Cycle

i. The machine will emit five (5) beeps and display '----'.

3.1.7 Automatic Drain and/or Shutdown

The Washer can be programmed to automatically drain after a selected number of cleaning cycles.

- i. Manufacturer's programmed number of cleans between draining is ten (10).
- ii. When the tenth clean cycle is completed the machine will display "END".
- iii. The tank will automatically drain.
- iv. To refill the tank press 'shift' & 'refill' together for three (3) seconds.
- v. Washer will be ready for reuse when '--.--' is displayed.

3.1.8 De-gas Function

- i. The machine will automatically de-gas as programmed when started.
- ii. If further de-gassing is required, press the "DEGAS" key.
- iii. The red indicator light will light, indicating the machine is de-gassing.
- iv. To stop de-gassing, press the "DEGAS" key again, the red indicator light will extinguish, indicating the machine has stopped de-gassing.

3.1.9 Draining the Tank

- i. Press the "SHIFT" key and "DRAIN" key together and hold for three (3) seconds.
- ii. The machine will emit a beep.
- iii. Release the keys and the machine will drain.
- iv. Lid will park in topmost position.
- v. When drain complete display will show "off".

3.1.10 Draining and Refilling the Tank

- i. Press the "SHIFT" key and "REFILL" key together and hold for three (3) seconds.
- ii. The machine will emit a beep.
- iii. Release the keys and the machine will drain and then refill with water and detergent and perform de-gas cycle.

3.1.11 Manual Shutdown Procedure

This enables the machine to be shut down at any time. It is recommended that this procedure be done at the end of each day.

- i. Press "SHIFT" and "DRAIN" together, and hold for 3 seconds.
- ii. The machine will drain.
- iii. The machine will display "OFF".
- iv. Turn off the power at the power point.
- v. Wipe down surfaces of machine with detergent or disinfectant.

4 Foil Test

Tip: Remove tray to ensure foil test is accurate.

4.1 Performing a Foil Test

- i. Complete the usual start process.
- ii. Use a strip of 'home' brand aluminium foil about 150mm long x width of roll
- iii. Suspend foil from wire stretched between tray handles.
- iv. Press TEST Key to switch on ultrasonic and unit will run for 30 sec as programmed.
- v. Remove the foil and compare the number and distribution of perforations with the sample foil test provided with your machine.

Refer Australian Standard AS/NZ 2773.1-1998, page 16 for more details.

NOTE: It is important to always use the same type of foil. It is suggested that a test is performed, on receipt of the machine, of such duration as to give a result similar to the sample provided. This will then become the foil test time for that type of foil.

4.2 Foil Test Problem Solving

If you are having difficulty getting a foil test to perform to standard, work through the following items, then try foil test again.

4.2.1 Machine may require further degassing.

4.2.2 Detergent Type and Dilution

Tip: Check detergent bottle is full, check that same brand is being used, and check bottle and hose are connected and that there are no kinks in the line.

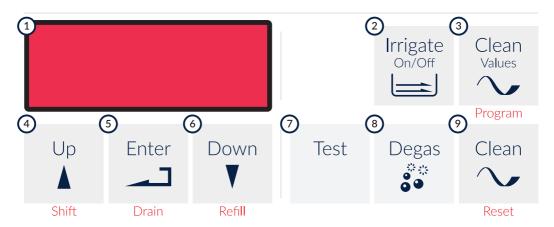
- i. Always use a pH neutral or slightly alkaline detergent (pH 8 to 10.8) that is made specifically for ultrasonic machines.
- ii. Extra detergent may be added to overcome water quality issues.

4.2.3 Contact your service agent if you cannot achieve a satisfactory foil test.

N.B. As per AS/NZ 2773.1-1998, it is acceptable to use alternative methods of testing the performance of your ultrasonic machine. Examples such as aluminium disc and pencil test, Soniclean Ultrasonic Performance Meter (UPM) must be used as per manufacturer's instructions.

5 Keypad Description

Item	Function
1. 7 segment display	Provides feedback, incl. error messages, clean status, etc.
2. Irrigate (🛋)	Initiates irrigation.
3. Clean Values ()	Lid is being raised.
Program	Initiates "program" mode, enables user to change operation parameters.
4. Up (A)	Increases values in "program" mode.
Shift (hold)	Secondary function key. Hold, then press required key, eg. Drain.
5. Enter ()	Comfirms changes to parameters in "program" mode. Initiates machine in "operate" mode.
Drain (secondary)	Drains machine (press while holding shift).
6. Down (▼)	Decreases values in "program" mode.
Refill (secondary)	Drains machine, then refills with fresh water. (press while holding shift).
7. Test	Tank is draining the flush.
8. De-gas (🐝)	Removes gas from solution. Press again to cease degassing.
9. Clean (\sumsymbol{\sumsymbol{\subsymbol{\sin}\simbol{\sin}\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\sin\simbol{\sin\simbol{\sin\simbol{\sin\simbol{\sin\sin\sin\sin\sin\sin\sin\sin\sin\sin	The solution is degassing. (This takes approximately 10 minutes.)
Reset (secondary)	Immediately aborts current operation (press while holding shift).
	Initiates "program" mode, enables user to change operation parameters.



6 Programmable Features

When you receive your Soniclean Washer it will be set to function automatically. The parameters are set in the factory. The features described below may be altered as you require. The list includes the display you will see on the machine when you are programming.

Item	Function
Ct	Length of cleaning times.
PO	Ultrasonic power levels.
Cn	Clean number. This determines the number of cleaning cycles your machine will perform before automatically draining.
F°	Wash fill temperature.
SP	Detergent concentration.
G1	Start up degassing time.
G2	Pre-wash degassing time.
tt	Test time. Set time for foil test.
Id	Irrigation default - 1= irrigation on at start up.
Ir	Number of (5 second) rest periods between flushes.

To alter these parameters see Section 7, "Program Mode."

7 Program Mode

The parameters can be altered by entering the program mode; there are three (3) methods to enter this mode.

7.1 Program Entry Points

7.1.1 Alternative 1 - Program at Start Up

- i. Press the "Clean Values" key then turn on the machine.
- ii. Hold the "Program" down until the machine displays "Ct.nn".
- iii. Release the "Program" key.

7.1.2 Alternative 2 - Program during Operation

- i. The machine will display "- . -".
- ii. Hold down the "SHIFT" key and then press the "Program" key and hold for three (3) seconds.

7.1.3 Alternative 3 - Program during Operation

- i. The machine will display "- . -".
- ii. Hold the "Program" key for three (3) seconds.
- iii. Ct, PO & rt parameters may be reset.
- iv. Values will be held until changed or until machine is restarted.

7.2 Program Parameters

To program the parameters, enter program mode per 7.1 above, then:

- i. The machine will display a variety of parameters that you may reconfigure.
- ii. Press the arrow "UP" key to increase the parameter and the arrow "DOWN" key to decrease the parameter.
- iii. To accept a value press "ENTER". The display will scroll through the parameters.
- iv. Refer the table on the next page for parameters and default values.

7.2.1 Default Parameter Values

i. Key to Programming Display

Parameter	Display	Unit	Min	Max	Default
Clean time.	Ct	mins	1	99	5
Ultrasonic power level.	PO		1	6	3
Clean number.	Cn		0	99	10
Fill temperature.	F°		0	2	0
Detergent concentration.	SP	%	0.0	5.0	0.5
Start-up degas time.	G1	mins	0	99	5
Pre-wash degas time.	G2	mins	0	99	1
Test time.	tt	sec	0	99	30
Irrigation default.	Id		0	1	1
Irrigation rest.	lr		4	99	5

ii. Ultrasonic Power Level

Parameter	Power
1	low
2	medium
3	full
4	full power 25% duty cycle
5	full power 50% duty cycle
6	full power 75% duty cycle

iii. Fill Temperature

This parameter determines the temperature of the wash water; the table below shows the temperature for each setting.

Parameter	Temperature
0	cold
1	warm
2	very warm

8 Display Messages

These messages are displayed on the keyboard at various times. This table explains their meanings.

Display	Explanation
	Together with 5 beeps indicates that a process has been completed. (The operator does not need to wait for the beeps to complete before starting another process.)
04:58*	Shows the time remaining of the function that is currently operating, i.e. clean/de-gas.
C-01*	Indicates the current cleaning cycle number.
P-03*	Indicates power level selected, e.g. P-02, P-03, etc.
dGAS	Indicates the machine is de-gassing.
drn	Machine is draining.
drnf	Bottom of the wash tank is flushed with clean water, and then drained.
FILL	The machine is filling the wash tank.
OFF	The machine has completed operation and needs to be turned off at power point.
END	End of final clean.
Lid	Lid is in motion.
tESt	When the lid is open to maintain ultrasonic (foil/UPM) performance test.
Drnb	This indicates sensors detect liquid when wash tank supposed to be empty.
FAIL	Indicates that the operator programmed values have been lost and will need to be re-programmed.
HOT	Indicates an excessive heat condition.
LO	Indicates a low level in the wash tank.
OFLO	Indicates that liquid has been detected in an area of the machine that should always be dry.
rtc	Indicates the Real Time Clock (RTC) date/time in the system is considered invalid. (MRS function only.)
P-UP	Indicates a clean process was interrupted and did not complete the full cycle.
H2OL	Indicates a water leak in the system or circuit/wiring failure.
IP-?	Indicates the configuration of the machine is not known. (MRS function only.)
SLid	Lid has been opened during operation.

N.B. Displayed when cleaning.

9 Error Diagnosis

9.1 Program Values Lost: (FAIL)

This message indicates the operator programmed values have been lost and will need to be re-entered. This error occurs when the machine loads the programmed values stored in memory and an error is detected in the data. This error may be caused by:

- iv. The memory device has not been programmed or programming has been erased.
- v. An error in the memory device.
- vi. Electrical "noise" causing corruption of data.

Corrective Action

- i. Press the "Shift" and "Program" keys to re-program the machine.
- ii. If the "FAIL" message is displayed again it may a faulty memory device.
- iii. Contact service agent.

IMPORTANT: When the following messages are detected, they are flashed on the display together with rapid intermittent beeps.

9.2 Low Level in Tank: (LO)

- i. This message may occur after a Fill Wash Tank Operation has completed and a low level is detected in the wash tank (below minimum level).
- ii. This fault may be caused by a leaky drain valve or faulty minimum level sensor.
- iii. This error will not be detected while the wash lid is up as the operator may cause wave action in the wash tank causing a false indication.

Corrective Action

- i. Turn off at power point.
- ii. Contact service agent.

9.3 Drain Blocked: (drnb)

- i. This message occurs if the top, minimum, or empty level sensors detect liquid.
- ii. This may be caused by a blocked drain, or a faulty level sensor.
- iii. This may be caused by an incorrectly installed drain hose.

Corrective Action

- i. Turn off at power point.
- ii. Check for blocked drain.
- iii. Remove blockage if found.
- iv. Re-start machine.
- v. Check drain hose installation
- vi. If no blockage present contact service agent.

9.4 Overflow Detection: (OFLO)

- i. This message occurs when liquid is in danger of overflowing tank.
- ii. When this condition occur all power to the machine shall be shut down.

Corrective Action

- i. Drain valve not working.
- ii. Contact a service agent.

9.5 Ultrasonics Overheating: (HOT)

i. This message occurs when the ultrasonics board indicates an excessive heat condition.

Corrective Action

- ii. Turn off the machine at power point.
- iii. Allow to cool for at least one hour.
- iv. Re-start machine.
- v. If "HOT" display persists, contact a service agent.

9.6 Real-Time Clock: (rtc)

- i. This message occurs if the Real Time Clock (rtc) date/time in the system is considered invalid.
- ii. This may be caused by the machine not being used for a long period of time.

Corrective Action

- i. Replace the backup battery for the clock if discharged.
- ii. Reset the date/time through the Web interface. (Read the Machine Reporting Manual).
- iii. Contact a service agent.

9.7 Power-up warning: (P-UP)

- i. This message occurs at boot up time if a clean process was interrupted and did not complete its cycle. This alerts the operator that instruments being cleaned in the machine may not be completely clean.
- ii. Power failure.

Corrective Action

i. Press enter and continue with the clean cycle.

9.8 Water leak: (H2OL)

i. Water may have entered the internal red control box or blue ultrasonic box, or there may be a circuit/wiring failure.

Corrective Action

ii. Contact a service agent.

9.9 Setting default IP values. (IP-?)

Only for MRS models and IT staff use.

Corrective Action

- i. Contact the facilities IT department.
- ii. Refer to the Machine Reporting Manual.
- iii. Contact a service agent.

9.10 Slid—lid lifted during operation

Corrective Action

i. Restart unit.

Α

Operating Instructions Summary (Washer)

Typical Operation

- 1 Remove tray.
- 2 Turn on at power point.

Machine will display 8.8.8.8, then SC4.1. Machine will automatically drain, flush, drain the flush, fill, & degas (approx. 2+3+20=25 minutes).

- 3 Machine will display - -
- 4 Check program settings.

The machine is now ready for use.

- 5 Load the machine.
- 6 Press clean.

Display shows C-01 (number of cleans), degas, 01.52 (time remaining), then C-01 (number of cleans), P-03 (power level), 09.48 (time remaining)

- 7 To stop cleaning at any time, press *clean* again.
- 8 When cleaning cycle is complete, machine will display - -
- 9 Remove trav.

Automatic Shutdown

- i. When the programmed number of cleaning cycles are completed the machine will automatically drain, and display END.
- ii. Press and hold **Shift** and **Refill** to continue cleaning or;
- iii. Turn off at power point.

Manual Shutdown

- i. Press **Shift** and **Drain**.
- ii. When machine has drained display will show Off.
- iii. Turn off at power point.



Specification

Soniclean Ultrasonic Washer UW-3000LI

Item	Function
Model	UW-3000
Tank Size	620mm (W) x 500mm (D) x 300mm (H)
Tank Capacity	93L
Ultrasonic Power	600W (typical)
Overall Size	760mm (W) x 760mm (D) x 1000mm (H)
Weight	~55KG
Benchtop Footprint	760mm (W) x 700mm (D)
Overhead Clearance	1500mm



Warranty

This warranty applies to Soniclean Irrigated Ultrasonic Cleaner (Washer) UW-3000/LI, UW-3800/LI, and Soniclean Rinser model R-3000/LI and R-3800/LI.

Your Rinser/Washer is guaranteed for 12 months from date of purchase. We undertake to repair free of charge or exchange (at our discretion) any part found to be defective due to a manufacturing fault.

This warranty is not transferable and does not cover damage caused by the following:

- iv. misuse:
- v. neglect;
- vi. failure to observe operating instructions;
- vii. failure to keep the machine clean;
- viii. accident:
 - ix. use of incorrect power supply;
 - x. use of incorrect water supply;
- xi. use of incorrect or non-approved cleaning chemicals.

This warranty does not cover the ultrasonic tank against:

- i. chemical and/or cavitations/ultrasonic erosion:
- ii. damage to transducers caused by excess thermal or mechanical shock.

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.

For the warranty conditions to apply, the Washer must be installed and commissioned by personnel approved by the manufacturer. Any faults or possible doubts arising concerning the effective operation of the machine must be reported to your supplier or manufacturer in writing within 3 working days.

This form, photocopy or facsimile must commissioning the machine.	be returned within 1 month from date of
Retailer/Place of Purchase	
	Serial No
Date of Purchase	
Date of Commisioning	
Commisioned By	
Position	
Details (plumbing license, etc. Hospital Staff in Attendance	
Customer Representative	
Position	
Soniclean Representative	X
Position	

Warranty Registration



Notes					