

Feature		Description
Dimensions	Width	370 mm
	Height	280 mm
	Length	460 mm
	Weight	20 Kg
	Chamber diameter	150 mm
	Chamber length	230 mm
	Chamber volume	4 litres
Clearances	Top and sides	50 mm
	Rear	None required
Trays	Number	3
	Width	125 mm
	Length	225 mm
	Maximum loading per tray	1 kg
Cycle type	S-type vacuum	For solid, hollow or tubular instruments, unwrapped or pouched.
Cycle time	10 to 15 minutes*	Includes drying
Sterilising	Temperature	134°C to 138°C
	Time	3 minutes
Limits	Design pressure	-1 to 3 bar
	Design temperature	2 to 144°C
Electrical	Voltage	230 V ac
	Current	Variable up to 13 A
	Power	Variable up to 3 kW
	Frequency	50 Hz
	Plug top fuse	13 A
	Internal fuse	1 A
	Energy used per cycle	0.13 kWh approximately*
Water	Water used per cycle	100 ml approximately*
	Clean water reservoir volume	1 litre
	Used water reservoir volume	1 litre
Printer	Type	Thermal
	Ribbon	None required
	Paper	Thermal 57 mm wide x 30 mm diameter roll
Note*	Cycle time and exact electrical and water usage per cycle is dependent on cycle start temperature and steriliser loading.	



Sterling Sterilisers

Acuatic Vacuum



User Instructions



CE
0086

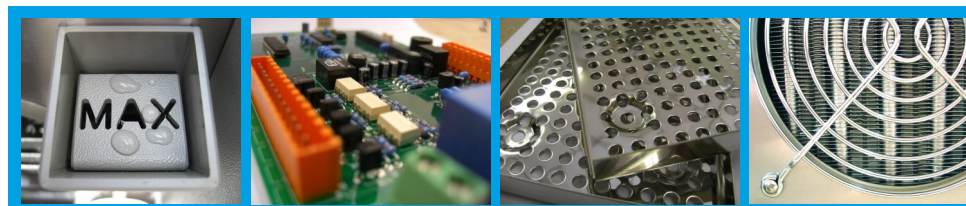


Sterling Sterilisers

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Colne Way
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020 3289 9916
www.sterlingsterilisers.com

Registered in England No. 06446747

VAT No. 925 6148 16



Read these Instructions before using the Steriliser

Please take time to read these instructions before using the steriliser for the first time, then keep them in a safe convenient place for future reference.

After Sales Service

Sterling Sterilisers staff are available to provide verbal advice and assistance by phone during normal office hours and to answer written queries by post or email. For further information visit www.sterlingsterilisers.com

Symbol Explanation



This symbol confirms that the Acuatic Vacuum steriliser complies with Council Directive 93/42/EEC as amended concerning medical devices. 0086 indicates that the Notified Body employed to check conformation with the above is BSI, Kitemark House, Maylands Avenue, Hemel Hempstead HP2 4SQ.



This symbol is used to highlight the fact that there are specific warnings or precautions associated with the steriliser that the reader should be aware of.



This symbol indicates that the number next to it is the serial number of the steriliser.



This symbol indicates that the information next to it is the date of manufacture and the name and address of the manufacturer.



This symbol indicates that the user should read the User Instructions.



This symbol indicates that in order to comply with EU Directive 2002/96/EC for Waste Electrical and Electronic Equipment (WEEE) the steriliser should be returned to Sterling Sterilisers or disposed of at an appropriate facility at the end of its working life in order to enable recovery and recycling in an environmentally sound manner.



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Troubleshooting

Problem	Remedy
No power, blank display.	Check that the fuse in the mains plug has not blown. Replace if necessary.
Error message	Press the "Reset" button on the display. If the steriliser is hot it will ask you to wait whilst it cools down. Once cool open the door, clean the door seal and run another cycle.
Printer feeding but not printing	Ensure that the paper is installed correctly so that the paper feeds from the top of the roll.

If you have a problem that you are unable to rectify, contact your local service engineer or Sterling Sterilisers Ltd. See inside front page.

Guarantee

No other steriliser manufacturer offers the security and assurance of a guarantee quite like the one supplied by Sterling Sterilisers. We're so confident in the quality and reliability of our sterilisers that we offer a one year parts and labour guarantee and a five year, fully transferable, unlimited usage parts guarantee. For full details of the guarantee see www.sterlingsterilisers.com.

Pressure Vessel

The parts of the steriliser that are subject to steam pressure comply with the Pressure Systems Safety Regulations 2000.

Introduction

Features	1
Illustration	2
Parts supplied	2

Safety

General safety	3
Safety features	3

Limitations of Use

Location	4
Conditions	4
Processing	4

Water

Quality	5
Filling	5
Draining	5

Operation

Getting started	6
Stand-by	6
Instrument Preparation	6
Starting a cycle	6
Processing	7
Cycle completion	7
Printout	7
Error messages	7

Cycle Description

Pressure/Time graph	8
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Printer

Description	9
Paper	9

Maintenance

Daily	10
Monthly	10
Six Monthly	10
Annually	10
Parts	10

Additional Information

Troubleshooting	11
Guarantee	11
Pressure Vessel	11

Introduction

acuatic vacuum steriliser

Thank you for choosing the Acuatic Vacuum steriliser from Sterling Sterilisers. We are confident that you have purchased the finest steriliser of its type which will provide you with many years of efficient, reliable service.

Features

- **Small** - takes up less space than a traditional steriliser but is still equipped with three trays
- **Fast** - takes 12 to 15 minutes from start to finish with drying
- **Simple to use** - easy to understand graphical touch screen display
- **Easy close and easy open door** - push to close, touch button opening
- **Inbuilt printer** - to record cycle details with easy load paper and no ribbon
- **Separate internal clean and used water reservoirs** - water is only used once for the sterilisation process to ensure cleanliness
- **Easy to service and maintain** - keeps downtime and maintenance costs to a minimum
- **No internal heating element** - makes for easy cleaning of the chamber
- **Suitable for solid, hollow and/or pouched instruments** - all types of instrument commonly used in dental and chiropody surgeries
- **Low energy consumption per cycle** - keeps running costs to a minimum
- **Low water consumption per cycle** - keeps water production or purchase costs to a minimum
- **No rust construction** - even non pressure parts like the chassis are manufactured from stainless steel
- **Tough ABS casing** - corrosion proof, scratch resistant and thermally insulating
- **Impossible to overheat** - innovative engineering eliminates downtime due to overheating
- **Easy water fill** - just pour into the filling spout
- **Easy water drain** - simple plug in drain hose
- **Self monitoring** - an automatic control system continuously monitors cycle parameters to ensure effective and complete sterilisation

Parts Supplied with the Acuatic Vacuum steriliser

- These instructions
- Three trays and tray handle
- Helix tester
- Drain tube
- Logbook
- Printer paper

Maintenance

acuatic vacuum steriliser

Daily

- Clean the door seal using a lint free cloth and soapy water.
- Check the door seal for any signs of damage and replace if necessary.
- Clean the face of the chamber that the door seal closes onto.
- Drain both reservoirs at the end of each day and leave empty overnight.
- Include a TST test strip in the Helix tester in the first cycle of the day.



Only use chlorine free cleaning products

Monthly

- Remove the tray rack and clean the chamber internally.
- Clean the chamber filter which may block with paper fibres from steriliser pouches or debris from improperly cleaned instruments. The filter can easily be removed and refitted by hand. Take care not to allow any debris to fall down the hole when the filter is removed.



Six Monthly

- Arrange to have the steriliser serviced by a trained service engineer. Service contracts are available which provide breakdown cover in addition to routine servicing.

Annually

- In order to comply with Health and Safety legislation arrange to have the steriliser inspected for pressure safety by a "competent person" as defined by the Health and Safety Executive.

Parts

<u>Part Number</u>	<u>Description</u>
012	Door Seal
130	HEPA Air Intake Filter
197	Chamber Filter
221	Printer Paper
305	Drain Hose
034	Tray
223	Tray Rack
224	Tray Handle
301	Helix Tester



Do not permit any person other than qualified personnel to supply parts for, service or repair your Acuatic Vacuum steriliser.

Printer

acuatic vacuum steriliser

Description

The printer is a quiet ribbon free unit with drop in easy loading paper and is used to record cycle details. Each printout will record a cycle as passed or failed and can be kept as a permanent record.

Paper

To change the paper roll, proceed as follows:

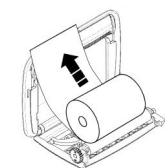
Use standard till roll type thermal paper.

57 mm wide by 30 mm diameter.

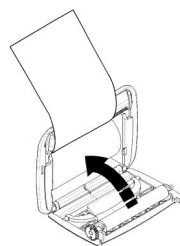
- 1) Open the printer door.



- 2) Position the paper roll making sure the paper feeds out from the top of the roll.



- 3) Close the door.

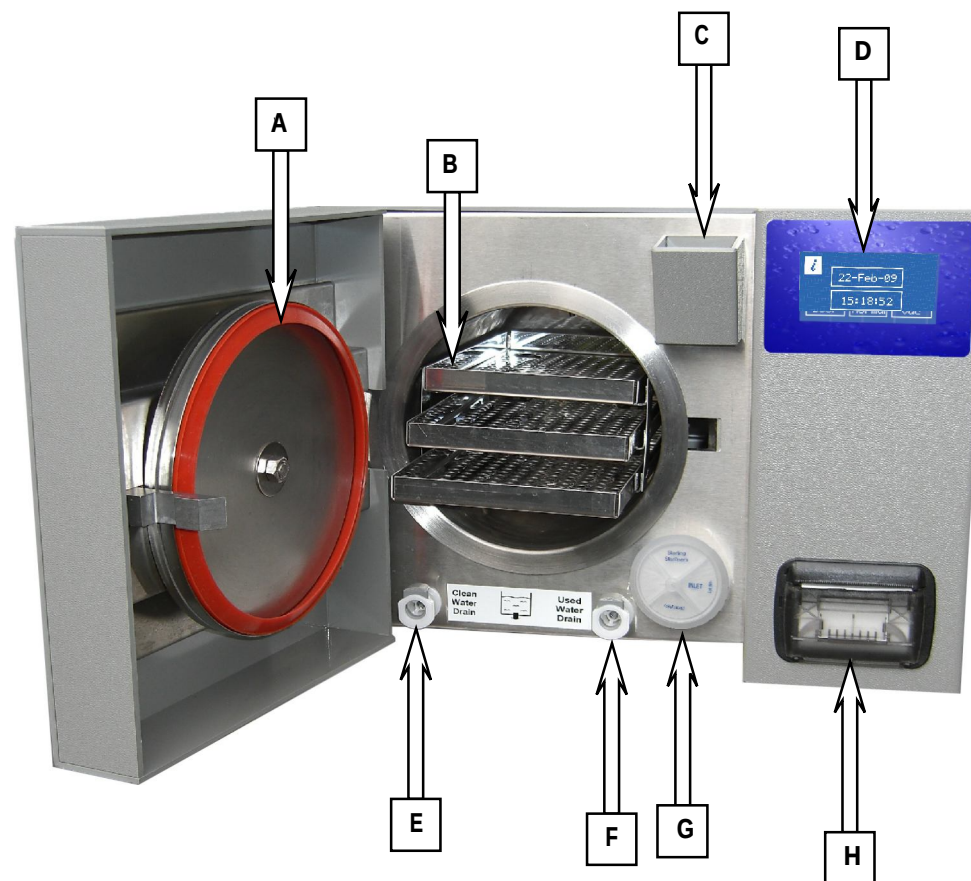


- 4) The printer is ready for use.



Illustration

acuatic vacuum steriliser



- A** - door seal
- B** - chamber with tray rack and three trays
- C** - water filling spout
- D** - touchscreen display
- E** - clean water drain
- F** - used water drain
- G** - microbiological air intake filter
- H** - printer

General Safety

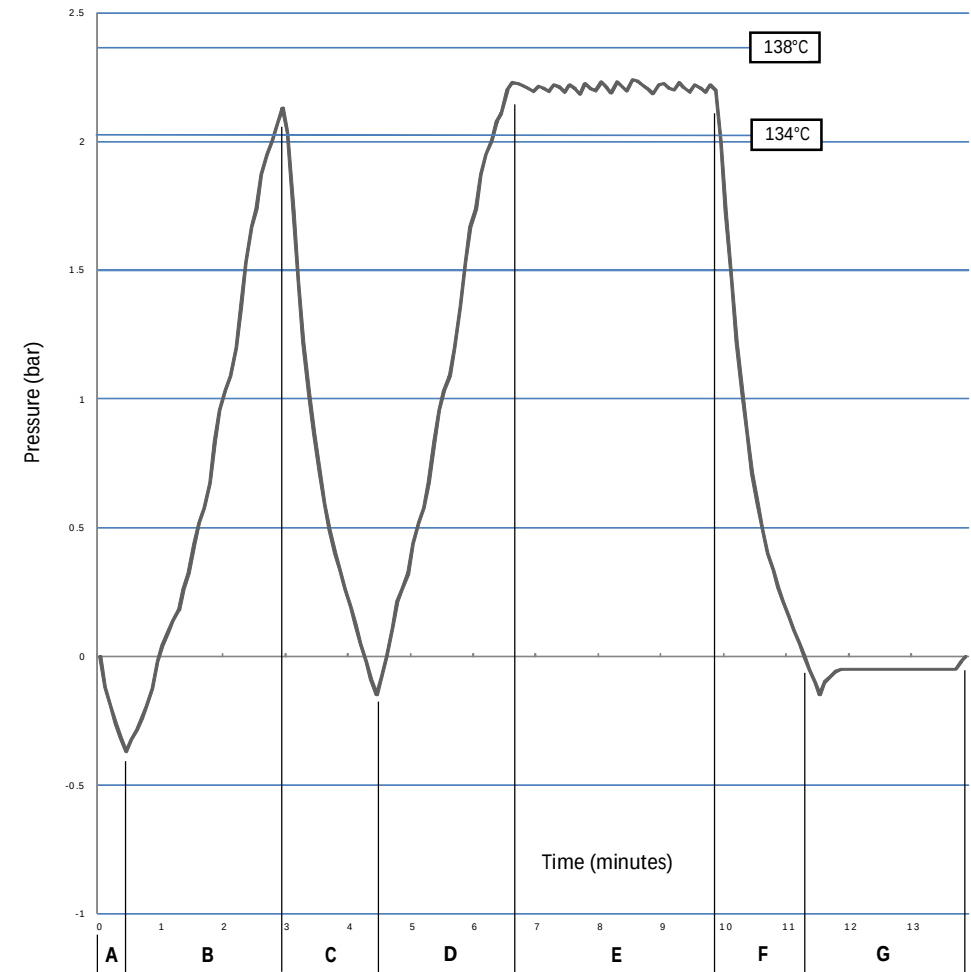
- On completion of a cycle the sterilised instruments and the internal surfaces of the steriliser may be hot. Do not touch internal surfaces until cooling has taken place and exercise care when handling just sterilised instruments. The tray lifter should always be used to remove trays from the steriliser.
- Be aware that prior to starting a cycle the internal surfaces of the steriliser may be hot due to preheating of the steam generators.
- There are no user serviceable parts internally. Never remove the steriliser casing or try to insert objects through holes or openings.
- The steriliser is heavy (20 kg). Exercise caution and seek assistance when lifting, moving or carrying the steriliser.
- Do not stack anything on top of the steriliser.
- Ensure that nothing rests on the steriliser mains lead and that the mains lead is not located where it can be stepped on or tripped over.
- Do not attempt to service the steriliser yourself. This should only be carried out by a properly trained service engineer.
- If you drop or damage the steriliser arrange to have it checked by a qualified service engineer before you use it again.



Safety features

- **Electric door lock** - door opening is disabled during a cycle..
- **Pressure door lock** - door opening is disabled at all times when the pressure in the steriliser chamber is greater than atmospheric pressure.
- **Pressure relief valve** - prevents over pressurisation of the steriliser.
- **Control** - the steriliser is fitted with sophisticated control software. All parameters are constantly monitored and satisfactory completion of a cycle is impossible unless sterilisation has taken place.
- **Door switch** - prevents a cycle from being started unless the door is closed properly.
- **Overheat protection** - the heating elements are self-controlling and cannot overheat.

Cycle Pressure/Time Graph



- A** - warming up
- B** - pressurising
- C** - venting
- D** - pressurising
- E** - sterilising (holding at between 134 and 138°C for 3 minutes)
- F** - venting
- G** - drying

Operation

acuatic vacuum steriliser

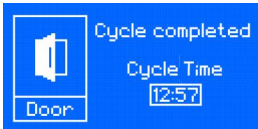
Processing

- When a cycle is running the display will show the cycle time elapsed, the operating temperature and pressure and the cycle status.
- Once a cycle has started it can only be interrupted by switching the steriliser off.



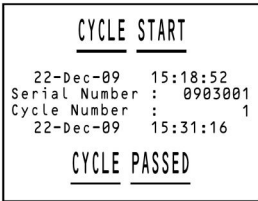
Cycle Completion

- When the cycle has finished the display will show the total cycle time and will print a record of the cycle details. The door can be opened at this point by pressing the door icon.



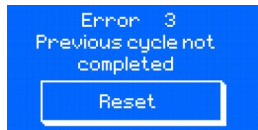
Printout

- On completion of a cycle, the steriliser printout will show the time and date of starting and finishing, the steriliser serial number, the cycle number and confirmation that the cycle has completed satisfactorily.
- To achieve sterilisation, a temperature of between 134°C and 138°C needs to have been held for a minimum of three minutes.
- Various other parameters are monitored during the sterilisation process, but to aid simplicity they are not recorded on the printout.



Error Messages

- If the cycle should fail to complete for any reason an error message will be displayed. Each error message is numbered, explained and printed. See "Troubleshooting" on page 11.



Limitations of use

acuatic vacuum steriliser

Location

The steriliser should be located:

- Indoors
- Not in a zone of risk associated with flammable anaesthetics
- At any altitude

Conditions

The steriliser is limited to use under the following conditions:-

- At an ambient temperature of between 2 and 40°C
- At a maximum relative humidity of 80% up to 31°C increasing linearly to 50% at 40°C.

Processing

The steriliser should not be used to process:-

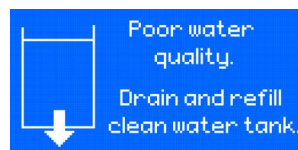
- Paper except for pouches specifically designed for sterilising.
- Fluids.
- Porous items.
- Items that are not suitable for sterilising at 134°C.

Water

acuatic vacuum steriliser

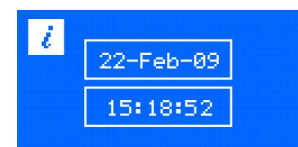
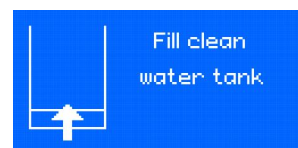
Quality

- The steriliser should be filled with distilled, reverse osmosis or purified water.
- If the water used is low in dissolved solids it will be acceptable to the steriliser. The steriliser will not allow a cycle to be run with poor quality water.
- If poor quality water or tap water is used to fill the steriliser the display will ask for the clean water tank to be drained and then refilled with good quality water.



Filling

- To fill, pour water into the filling spout. The steriliser will be ready for use as soon as the minimum water level in the clean water tank has been reached. This will be indicated by the "Fill clean water tank" display being replaced by the date and time display.
- Filling of the clean water tank can be continued until the water level reaches the "MAX" filling indicator.



Draining

- When the used water tank is full the display will ask for it to be drained. This will need to be done before the steriliser will allow the next cycle to be run.
- It is recommended that both water tanks are drained at the end of each working day and left to dry overnight in order to keep the microbiological count in them as low as possible. The clean water tank should then be filled at the start of the next working day.
- Both water tank drains are located on the front of the steriliser. To drain either tank, plug the drain pipe into the appropriate drain connector and allow the water to drain into a sink or suitable container.

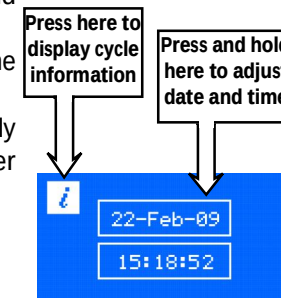


Operation

acuatic vacuum steriliser

Getting Started

- Place the steriliser on a flat, level, strong, heat resistant and water resistant surface.
- Ensure a clearance of 50 mm to the top and both sides of the steriliser for adequate ventilation.
- Plug into the mains. The mains plug should be easily accessible should it be necessary to disconnect the steriliser from the mains electrical supply for any reason.
- Switch the power on. The steriliser is now ready for use.



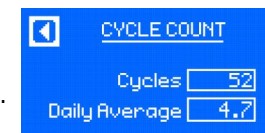
Stand-by

- With the door open the steriliser is in stand-by mode and will display the date and time. Pressing and holding the time display will enable adjustment of the date and time using the appropriate arrows.
- Pressing "i" will display cycle count information.



Instrument Preparation

- Ensure instruments are cleaned and rinsed before sterilising. The use of a washer disinfectant or ultrasonic bath is recommended.
- The perforated trays supplied with the steriliser should always be used. Paper or tray liners that could block the tray perforations should never be used as this will restrict steam flow around the instruments and may result in unsatisfactory sterilisation.
- Do not overload trays and ensure that pouches or instruments do not touch each other or the chamber walls.



Oil lubricated handpieces must be pouched in order to prevent oil from entering the steriliser.

Starting a Cycle

- Load the steriliser with the instruments to be sterilised.
- Close the door.
- The steriliser is now in "ready" mode and the display will show "Door" and "Start" options.
- Pressing "Door" will open the door.
- Pressing "Start" will start a cycle.

