

SX-B

Epilator Manual

Sterex Electrolysis International Ltd

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Introduction

Thank you for buying the Sterex
SX-B Blend epilator.

It is essential that you read the following pages of this manual and work through the practical CD, which is included with your SX-B Blend epilator, before you operate this unit. (Video available on request)

Technical Data Sheet

- **ADDRESS:** Sterex Electrolysis International Ltd
174 Kings Rd
Tyseley
Birmingham
B11 2AP
U.K.
Tel : 0121 708 2404 Fax: 0121 707 0028

- **EQUIPMENT CLASSIFICATION:**

Class 1 Type B Applied Parts.

The equipment is designed for continuous operation.

The equipment is not protected against ingress.

Do not use the equipment near flammable anaesthetic gases.

Type B Equipment

No other electrical equipment may be connected to the patient simultaneously when using this epilator equipment.

- **SYMBOLS**



Applied parts Type B



Potentially Hazardous Output

The manual must be read before using this equipment.

- **E.M.C. DIRECTIVE**

The EUT (Equipment Under Test) complies with European Electromagnetic Compatibility requirements. However, the EUT may emit electromagnetic radiation, which may interfere with other equipment in the vicinity. Likewise other equipment may interfere with the EUT. If such effects are to be minimised, increasing the distance between equipment and reducing cable lengths where relevant should help.

It is advisable not to use such equipment on people fitted with pace makers and to take medical advice if fitted with any electrical devices.

It is not recommended to use epilators within 3 metres of sensitive electrical appliances such as computers, medical equipment etc.

- **MEDICAL DEVICES DIRECTIVE**

The SX-B conforms to the Medical Devices EN60601 – 1:1990: Notified Body number = 0120

- **FUNCTION**

The function of the epilator is to remove body and facial hair using Thermolysis/Diathermy and Galvanic or a combination of the two techniques called “Blend”.

- **MAINTENANCE**

The exterior of the epilator should be cleaned regularly with a dusting brush/cloth. Dirt, which is difficult to remove, can be cleaned off with a moistened cloth (99% water 1% mild detergent). The equipment must be wiped dry with a lint free cloth. Under no circumstances must the cleaning fluid get into the equipment. The use of other cleaning agents may attack the plastic and paint surface.

Safety/Preventative Maintenance

The equipment operates according to safety Class 1 (three-conductor power cord with protective earth contact). The mains/line plug shall only be inserted into a socket outlet protected with a protective earth contact. The protective action must not be negated by the use of an extension cord without a protective conductor.

The ground accessible metal parts (case, sockets, jacks) and the mains/line supply contacts (line/live, neutral) of the epilator have been tested against insulation breakdown.

Whenever it is likely that protection has been impaired, the equipment shall be made inoperative and be secured against any unintended operation.

The protection is likely to be impaired if, for example, the equipment/mains cable:

1. Shows visible signs of damage
2. Fails to perform the intended user operation
3. Has been subjected to prolonged storage under unfavourable conditions e.g. in an open or moist environment
4. Has been subjected to severe transport stress

- **SERVICING OF EQUIPMENT**

Servicing of the equipment may only be carried out by Sterex Electrolysis International Ltd or by persons authorised by them.

- **SPECIFICATIONS**

Operating Temperature	10 degrees C to 50 degrees C
Lines/Mains Voltage	230/240V ac
Mains Frequency	50/60 Hz
Power Consumption	35 Watts approx.
Maximum Ambient Temperature	-10 degrees C to + 40 degrees C
Protective System	Class 1 Type B
Weight	2.75 kilos approx.
Maximum available Thermolysis/RF Output Power	0-2 Watts measured using a 5 K Ω non-inductive Load Resistor
Thermolysis/RF Output Frequency	13.56 MHz
DC/Galvanic Output	0-15 Volts at a maximum current of 1 mA

- **RANGE & ACCURACY OF DISPLAYED VALUES**

	Meter		Accuracy	Available Output Power
Thermolysis/RF	0-100%	In	1% steps	0-2 Watts
Galvanic/DC	0-100%	In	1% steps	0-15 mW
Timer	0-9.95 secs	In	0.5 second steps	

- **ENVIRONMENTAL & STORAGE CONDITIONS**

The permissible ambient temperature range for storage or transportation is -40 degrees C to +70 degrees C. The maximum operating altitude is up to 15000M.
The maximum relative humidity is up to 80%.

- **OPERATING CONDITIONS**

The equipment has been designed for indoor use. The permissible ambient temperature range during operation is -10 degrees C to +40 degrees C. If condensed water exists in the instrument it should be acclimatised before switching on. The epilator should be kept in a clean dry room, and must not be operated in explosive, corrosive, dirty or moist environments.

- **WARRANTY**

Sterex Electrolysis International Ltd warrants to its customers that the epilator it sells will be free from defects in materials and workmanship for a **period of 2 years**. This warranty shall not apply to any defect, failure or damage caused by improper use or inadequate maintenance and care. Sterex Electrolysis International Ltd shall not be obliged to provide service under this warranty to repair damage resulting from attempts by personnel other than Sterex Electrolysis International Ltd representatives to repair, service or modify this epilator.

- **FUSES**

There are two fuses supplied with the SX-B. A 5 amp fuse in the plug and a 1 amp fuse in the rear of the unit.

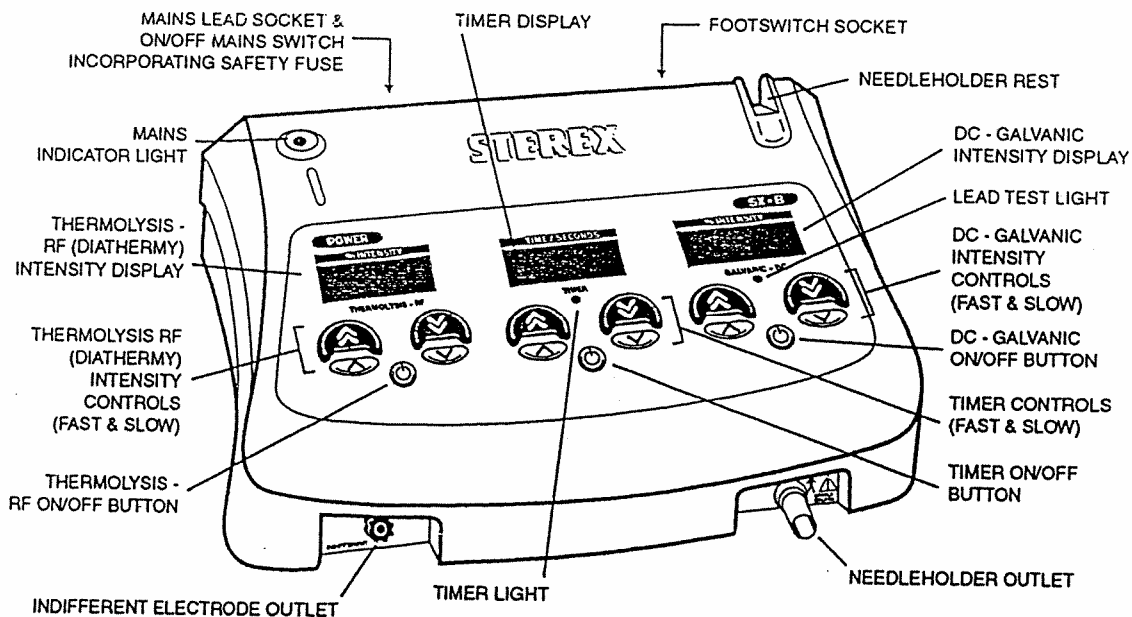
Accessories and Controls

Accessories

Your SX-B Blend epilator is supplied with the following accessories:

- 1 x Unswitched Needle holder
- 1 x Indifferent electrode and lead
- 1 x Spare indifferent lead
- 1 x Footswitch
- 1 x Sterex badge
- 1 x CD (Video available on request)
- 1 x Instruction manual, also incorporated in CD
- 1 x Box of Sterex needles
- 1 x Tube of Apres after care cream
- 1 x Sharps box
- 1 x Client aftercare leaflets

Controls



WARNING!

This epilator must not be placed on any soft surface such as towels or paper towel when in use, this interferes with the component cooling process as it inhibits or prevents air being drawn into the underside of the machine. This epilator should ideally be placed on a hard trolley surface.

Theory

Galvanic was the first method of electrical epilation dating back to 1875. It was first used by Dr Charles Michel of Missouri U.S.A. He was an ophthalmologist or eye specialist and using Galvanic, or direct current he permanently removed in-growing eyelashes.

In 1916, Professor Paul Kree invented the multiple needle epilator and technique. He still used galvanic current but the difference was that instead of using one needle at a time he used ten. All the needles were inserted one after the other and then left for several minutes. The client had to lie extremely still! The benefit of this technique was it allowed far more follicles to be treated in a given time compared to the single needle method. It was this invention that gave the electrolysis profession the boost it needed.

The use of high frequency, diathermy or Thermolysis as the Americans call it, for the removal of unwanted hair, was first written about in 1924 by Dr. Henri Bordier of Paris. The first diathermy machines were unreliable but soon gained in popularity, particularly in America where it was much quicker in the follicle than the pioneering galvanic.

By the mid to late 1930's American electrologists were using both techniques; the slower but more effective galvanic and the quicker but less effective diathermy.

In San Francisco 1945, after seven years of experiments and research, an electrologist called Henri St. Pierre and his engineer friend, Arthur Hinkel applied for a patent for their combined current or Blend epilator. By combining the currents, the benefits of both techniques were utilised.

Blend was born.

When the two currents are combined or blended together you will achieve the greater effectiveness of the Galvanic but speeded up by the Thermolysis/diathermy.

Galvanic:

Galvanic current destroys by a chemical action in the follicle. When the current comes into contact with the moisture of the follicle it causes a chemical reaction to take place; the atoms and ions that make up the salt and water in the follicle separate, then reform to make sodium hydroxide (lye), hydrogen gas and chlorine gas. The caustic lye is the destructive action of Galvanic, which dissolves or decomposes the dermal papilla.

Galvanic is more effective than diathermy because:

- Lye is always attracted to the area of greatest moisture, which is the dermal papilla.
- Lye is fluid and can reach all parts of the follicle.
- Distorted and curved follicles are effectively treated.
- The moisture gradient of the skin ensures the action is kept where you want it, down at the dermal papilla.

The only disadvantage to Galvanic is that it is slow.

Blend:

When you blend the two currents together (using very low levels of Thermolysis/diathermy) the warmth increases the temperature of the lye, which makes it work quicker. When blended the lye also becomes more turbulent, so it gets into all the nooks and crannies of the follicle. The warmth of the diathermy makes the tissues surrounding the dermal papilla more porous, this allows the caustic lye to diffuse into it, making the treatment much more thorough.

Contra Indications:

Exactly the same for diathermy and other galvanic treatments with the addition of the following:

1. Do not work on or near areas that contain metal plates or pins.
2. Pregnant women should not be treated below the neckline.
3. Diabetic conditions - the same rules apply as for diathermy.

Treatment:

The setting at which the hair will epilate depends on the moisture present in the lower follicle and what is suitable for one client may be too high or too low for another. When using the Blend it should be noted that mostly, the diathermy/Thermolysis setting achieves adequate 'warming' on the lower setting of 4. However, there are occasions where the Thermolysis will need to be set higher to a maximum of 12. These circumstances include where the hair is strong and coarse and where the client's skin is cold and therefore may require more warming in order to achieve successful epilation. It is advised that the Thermolysis intensity should be increased by 1 or 2 digits at a time.

Treatment Techniques

With the Sterex SX-B Blend epilator there are four main treatment techniques that are available and also a combination of those four to enable you to tailor the treatment to suit the client.

Treatment Technique Number 1

1. Prepare your client as for diathermy.
2. Give your client the indifferent electrode to hold, you may wrap a damp tissue around it if your clients hands are dry. It is preferable your client is wearing the least amount of jewellery possible.
3. Seat yourself comfortably, and ensure you have easy access to the footswitch.
4. Use Sterex needles appropriate to the size and length of the follicle.
5. Attach all accessories.
6. Switch on the SX-B at the back of the epilator ensuring there is nothing in the way of the fan underneath, i.e. towels or tissue.
7. Switch on the Thermolysis/diathermy, Galvanic and timer sections, the digital readouts will register 01 or 00.
8. Using the slow up button increase the timer to 5.0 seconds.
9. To alter the Thermolysis/diathermy intensity, depress the foot pedal and using the slow up button increase to 04. Do not be concerned if the numbers fluctuate up or down a number this is normal with digital readouts it does not mean the current is fluctuating.
10. To alter the Galvanic intensity, depress the foot pedal and using the slow up button increase to .15. Do not be concerned if the numbers fluctuate up or down one.
11. When you remove your foot from the foot pedal the digital readouts for the currents will go back to 00 or 01.
12. Insert the needle into a typical follicle in the area you wish to treat and depress the foot pedal. When you hear the “beep”, after 5 seconds, remove your foot from the foot pedal and then remove the needle from the follicle.
13. Test the hair to see if it will remove, if not check the client’s level of sensation and increase the Galvanic current. If they feel nothing increase by 10 digits, if they can feel something increase by 5 digits.
14. Increase the Galvanic in this manner a follicle at a time until you have reached the working point then record it on the clients record card.
15. The level of Galvanic current will vary on every client, don’t worry if you seem to be turning it up “high” as long as the client is comfortable you cannot over treat the skin.
16. The level of Galvanic current required will vary between clients, whereas the level of diathermy will stay the same; normally 04 when blending. Remember the Thermolysis/diathermy is there not to epilate with but as a catalyst to increase the action of the more effective Galvanic.
17. There may be more erythema and even oedema than associated with diathermy, this is a normal galvanic reaction that goes down very quickly.
18. After care is the same as for Thermolysis/diathermy.

Technique Number 1 is the main technique and is always the one you try first but if your client feels uncomfortable, one of the other three techniques should be used. You should ask your client after each increase if she is happy with the sensation but do not inform her you have just increased the current! Do discuss the sensations felt by your client, as you can offer other techniques and combinations of techniques to suit each client.

Treatment Technique Number 2

This is known as the “Lower for Longer” technique as the intensity is lowered but the time is lengthened. This technique is used if your client feels uncomfortable with the higher current and shorter time of technique number 1.

If when using technique number 1, your client says she is finding it too uncomfortable then reduce the Galvanic current by 5 digits and increase the time by 1 second, or reduce by 10 digits and increase time by 2 seconds.

Technique number 2 will not treat as many hairs as the main technique as you will be in the follicle for longer, but the sensitive client may prefer it. If the treatment area is the face, however, your client may decide to have the main technique as it will remove more hairs even though she may prefer the sensation of the second. Whichever treatment technique is chosen is ultimately down to the client.

Treatment Technique Number 3

This is known as the “Treat and Leave” technique as you treat a group of hairs, but do not remove them immediately. If the client is sensitive but anxious to have as many hairs removed as possible, this technique is a useful and popular one to offer.

If your client says she is finding technique number 2 too uncomfortable then reduce the time back to 5.0 seconds. Treat a group of at least 10 hairs, then treat a further group of at least 10 hairs, after treating the second group go back to the first group with your tweezers and remove the hairs, then go back to the second group and remove those hairs.

The action of the lye continues for a brief period of time, even though the current is switched off and the needle is withdrawn, in this technique we specifically utilise the “carry on effect” of the lye.

The benefits of this technique are lower levels of current but with a quick treatment time and the fact that the hairs are removed en masse saves time too.

It is worth noting that with all techniques if the occasional hair does not want to release do not attempt to treat it again or force it, let the carry on effect work. Return and remove the hair at the end of the treatment.

Treatment Technique Number 4

This technique is rarely used as it takes so long, technique 4 is Galvanic only. Some clients prefer the sensation of the Galvanic only technique but few are happy with the longer treatment time of 10 seconds per follicle.

It is an option though for the very sensitive client or those with just a few hairs.

If your client really finds all the Blend techniques too uncomfortable then turn off the Thermolysis and increase the time to 10.0 seconds.

Within the fourth technique, if the client is not comfortable, you can decrease the current and increase the time thereby having a “lower for longer” method or offer “treat and leave” as a method of increasing the number of hairs treated.

Treatment Techniques In Brief

Technique Number 1

1. Prepare your client as for Thermolysis/diathermy
2. Choose the size of needle as for Thermolysis/diathermy
3. Set the Thermolysis to 04
4. Set the timer on to 5.0 seconds
5. Set the Galvanic to .15
6. Insert the needle and depress the footswitch
7. Wait for the “beep” and then remove your foot
8. Try the hair to see if it will release... If not
9. Increase the Galvanic intensity by 5/10 digits
10. Insert into another follicle and depress the footswitch
11. Increase Galvanic intensity 5/10 digits at a time until you reach the working point.

Technique Number 2

1. Turn the Galvanic intensity down 5 digits
2. Increase the time by 1 second (to 6 seconds)

Technique Number 3

1. Decrease the time back to 5.0 seconds but leave the Galvanic intensity as it is.
2. Treat a group of approx. 10 hairs
3. Do not remove the hairs
4. Treat another similar size group of hairs
5. Remove the hairs from the first group of follicles with your tweezers
6. Remove hairs from the second group of follicles

Technique Number 4

1. Increase the timer to 10.0 seconds
2. Switch off the Thermolysis
3. Leave the Galvanic intensity where it is
4. Treat the follicle and remove hair
OR lower the intensity and lengthen the time OR treat and leave.

Technique No 1 = Higher for Shorter

Technique No 3 = Treat and Leave

Technique No 2 = Lower for Longer

Technique No 4 = Galvanic Only

Hints and Tips

Reactions can be the same as diathermy, worse than diathermy or better than diathermy, but all reactions will go quicker than diathermy.

Erythema (redness) and even oedema (swelling) are not unusual around the follicle opening, nor is skin whitening. The skin whitening is a classic reaction to Galvanic and should not be confused with the blanching of the skin seen when the diathermy is too high.

Frothing - This is something you may see at the follicle opening from time to time. Frothing is merely the hydrogen gas escaping from the follicle, mixed with lymphatic fluid.

Hairs not coming out:

- Turn up the Galvanic.
- Leave the intensity but increase the time.
- Leave the intensity, leave time but treat and leave.

Diathermy/Thermolysis Only Operation

1. Attach unswitched needle holder and footswitch.
(Or attach switched needleholder, not supplied, if you prefer but do not use footswitch)
 2. Plug in and switch on epilator.
 3. The mains light will come on and you will hear the internal fan.
 4. Switch on the Thermolysis on/off button.
 5. Using the up and down buttons to set the Thermolysis intensity to the level required whilst depressing the footswitch.
 6. If working on a new client start at between 15 and 18 and increase by 1 or 2 digits at a time, working on a different follicle each time, until you have reached the working point. (The working point is reached when the hair removes without traction.)
 7. Using the single arrowed, smaller up and down buttons the numbers go up and down very slowly. These buttons are for slower minor adjustments, you need to press continuously on the button until the desired level has been reached.
 8. Using the double arrowed, larger up and down buttons the numbers go up and down very quickly. These buttons are for fast major adjustments, you need only press for a short time on the button to reach the desired level.
 9. All clients are different, they have different tolerance levels and current intensity requirements but as a rough guide the average working range is 20-30. Some clients will need lower levels some, higher.
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Testing Procedure

1. Attach indifferent electrode and needleholder to the epilator (not the footswitch).
 2. Plug in and switch on epilator at the rear of the unit.
 3. Does the mains light come on?
 4. Yes. Go on to number 9.
 5. No. Try the epilator in another plug socket.
 6. Still no mains light? Replace fuse in plug.
 7. Still no mains light? Replace fuse in rear of machine.
 8. Still no mains light? Return for repair.
 9. Can you hear the internal fan?
 10. Yes. Continue to number 12.
 11. No. Return for repair.
 12. Switch on the three on/off buttons.
 13. Firmly press the fast up and fast down buttons on all three sections. Do the numbers go up and down quickly?
 14. Yes. Continue to number 16.
 15. No. Return for repair.
 16. Firmly press the slow up and slow down buttons. Do the numbers go up and down slowly?
 17. Yes. Continue to number 19.
 18. No. Return for repair.
 19. Set the Galvanic side to a minimum of 15.
 20. Remove the chuck cap from the needle holder and place the exposed metal chuck against the metal needle holder attachment on the machine.
 21. Does the green test light glow? If green light comes on during tests and the Galvanic has a read out, then the Galvanic current is flowing.
 22. Yes. Shake the needle holder lead vigorously. If the green light stays constant i.e. does not fluctuate the needle holder is O.K. Go on to number 24.
 23. No. If there is no green light the needle holder lead is faulty and needs replacing. If the green light fluctuates there is an intermittent fault and it needs to be replaced.
 24. Place the exposed metal chuck against the indifferent electrode.
 25. Does the green test light glow?
 26. Yes. Shake the red lead vigorously. If the green light stays constant i.e. does not fluctuate the red lead is O.K. Go on to number 28.
 27. No. If there is no green light the red lead is faulty and needs replacing or if the green light fluctuates there is an intermittent fault with the lead and a new one needs to be purchased.
 28. Put the Thermolysis side on 10-15, the Galvanic on 15-20.
 29. Insert the footswitch.
 30. Do the Thermolysis and Galvanic digital readouts go back to 00 or 01?
 31. Yes. The footswitch is O.K.
 32. No. The footswitch is faulty and needs to be replaced.
 33. Set the timer to 05.0 and depress the footswitch. After 5 seconds is there a “bleep”?
 34. Yes. The timer is O.K.
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35. No. The timer may be faulty, first check the footswitch is being depressed correctly.
36. If timer still doesn't work and you are certain that the footswitch is O.K. then the machine needs to be returned for repair.
37. To test the Thermolysis turn off the Galvanic. Remove chuck cap and any needle from chuck, set Thermolysis to 25, depress foot pedal and place point of exposed metal chuck against the inside of your wrist, can you feel current, no increase Thermolysis by 5 digits and try again if you do not feel a warming or a slight sting by the time you reach 60/65 and your accessories are ok on previous tests. Your machine needs to be returned for repair.

N.B. You will need to depress the footswitch to alter the Thermolysis and Galvanic current intensities; the timer can be altered without the depressing footswitch.

** Spares of all accessories should be kept i.e. needleholder and lead, indifferent lead and footswitch.