



TheGlobalBeautyGroup
Technology for Beautiful Business

HairLASE User Manual



LUX*Series*

supplied by The Global Beauty Group,
experts in aesthetic technology

For support and enquiries please contact:
P - 03 8555 2246 E - info@theglobalbeautygroup.com
W - www.TheGlobalBeautyGroup.com.au

Join the conversation



Contents

Introduction	3
System Principle.....	3
The working principle of a diode laser system	3
Intended Use.....	3
The Operator.....	3
System Configuration.....	4
Safety Instructions	4
Definition of Warning and Caution Symbols	5
Safety Hazards and Precautions	6
Overview	6
Ocular hazards	6
Electrical hazards	9
Fire hazards.....	10
Safety Features	11
Key switch	11
Safety interlocks.....	12
Footswitch and handpiece triggering	12
Audible emission indicator	13
Emergency stop switch	13
Safety Protection Measures.....	13
Clinical Application.....	14
Indications.....	14
Contraindications.....	14
Possible side effects.....	14
Potential risks.....	15
System Description	15
Clinical effects	15
Main components	15
Power system.....	16
Microprocessor control system	17

Operation display system	18
Cooling system	18
Installation	19
Filling the water system for first use	20
Operation	21
System Initialisation	21
Treatment selection menu	22
Fitzpatrick skin type 1-5	22
Stamping mode	22
Sweeping mode	22
Treatment duration	22
Fluence	23
Frequency	23
Cooling temperature	23
Session counter	23
Total counter	23
Treatment	24
Status button	25
The Laser Handpiece	26
Device Accessories	27
Operator Maintenance	28
Maintenance of the System	28
Maintenance of Cooling System	28
Replacing water and filters	29
Warnings / Errors / Troubleshooting	32
Other errors	34
Ordering the Machine Accessories	34

Introduction

System Principle

The HairLASE Diode Laser System adopts a high energy, continuous wave diode laser module to convert electricity to monochromatic light. Controlled delivery of this light combined with controlled cooling may be used for physiological treatments. This laser is a therapeutic product that integrates laser technology, electronic technology, computer and medical science.

The working principle of a diode laser system

Under the control of a microprocessor, the laser power supply provides adjustable constant current for the laser module. The high-power laser diode in the laser module transforms the electric energy into light, generating a continuous laser beam with a wavelength of 808nm. The light is guided through a crystal optic which is placed in contact with the skin. The laser beam can irradiate through the external layer of skin and penetrate to the base of hair follicles, where the light energy is absorbed and converted into thermal energy, damaging the hair follicles thus resulting in hair loss and destruction of the follicle's regeneration capacity.

Parameters required during the treatment, such as laser energy density etc, should be set by the operator according to the actual conditions of the treatment area.

Intended Use

HairLASE Diode laser system is intended to be used for:

Hair removal

Permanent hair reduction

The Operator

HairLASE should be operated by professionally trained doctors, nurses, and technicians.

System Configuration

HairLASE Diode laser system is composed of system box, control panel, footswitch, and treatment handpiece, as shown in the figure below.

The system box includes the main control module, laser constant-current drive power module, temperature and humidity control module, light indicator, water filtration system and associated power supplies

The control panel includes an LCD touch screen, key switch, emergency stop switch and a status indicator light.

The treatment handpiece contains electromechanical devices that generate and control the delivery of laser light and provide cooling to the skin.



Safety Instructions

Definition of Warning and Caution Symbols

To prevent accidents, indicators (symbols and/or signs) which show the degree of danger are used on our products and manual.



Indicates an immediate hazard to patients, operators, staff or damage to the machine.



Indicates a potential hazard to patients, operators, staff or damage to the machine.



Indicates a possible mistake that could result in injury or damage to the machine.



Be sure to follow the instructions when you operate the machine



If the machine is operated or maintained incorrectly there is a risk of electric shock.



Indicates possibility of exposure to hazardous laser radiation that could result in serious injury to the operator, patient, or staff.



Take care to avoid igniting flammable material with the laser



This symbol Indicates prohibition.



This symbol indicates a requirement that must be followed.



Be sure to connect an earth terminal to the ground



Wear eye protection



Disconnect mains plug from electrical outlet



Refer to the instruction manual, booklet

Safety Hazards and Precautions

Overview

HairLASE Diode Laser System emits high-intensity infrared laser radiation which is capable of causing ocular or skin injury. In order to avoid injury by accidental exposure to the laser beam, all doorways and windows in the treatment room should be shielded from laser transmission with high-density shading materials. There must be warning signs outside the treatment room. The diode laser system focuses on two aspects: functionality and safety. Considering the high-intensity and high-energy output of laser during operation, all relevant staff must abide by the following precautionary measures. Before use, check that the accessories are installed correctly and that the power cable is in good condition.

Ocular hazards

The laser system is to be operated only in an enclosed room. All personnel must wear protective eyewear. Direct eye exposure is not safe at any distance within the room. All windows in the laser room must be covered with opaque material, and measures should be taken to prevent unauthorized access to the room. A remote interlock is provided which may be connected to the treatment room doors to disable laser output if the door is opened during a procedure. In addition, compliance with ANSI Z136.3 and EN 60825-1 requires that laser safety signs be posted at all entrances whenever the laser is in use. An approved sign is provided with each system along with protective eyewear. Additional eyewear or safety signs may be obtained from Customer Support.

This system is the class IV laser product. To avoid eye damage, do not look directly at the laser beam, even while wearing protective eyewear. During normal operation, the nominal ocular hazard distance (NOHD) of the system is 30.1m.



DANGER



HairLASE diode laser system emits high-intensity infrared laser radiation. In order to protect the eyes, All personnel in the treatment room, including the patient and operator, must wear appropriate eye protection whenever the main power and key switch are on. Protective eyewear must have an optical density (OD) of 5 or greater at the wavelength of 790-830nm. For users outside the U.S., the appropriate standard is EN 207, in which case the safety eyewear must have a protection class of L5.



DANGER



The light emitted by this laser can cause serious eye damage or blindness and serious burns to the skin.

Do not point the laser at the eyes or skin

Do not look directly at the laser or the reflected / scattered laser light. Both the direct and reflected / scattered laser output contains energy which can cause serious eye injury.

Before, during and after operation, all personnel within the treatment area will be at risk of radiation from the laser system if the control devices and regulating devices are not used or operated in accordance with the instructions.





DANGER



While operating the laser system, never look directly into the laser aperture at the distal end of the handpiece, even if you are wearing laser safety glasses. Serious eye injury or blindness could result.

Avoid directing the laser beam anywhere other than the intended treatment area. Stray laser light and reflection is always a potential hazard and may cause serious injury.

Do not treat eyebrows, eyelashes, or other areas within the bony area surrounding the ocular orbit. Light emitted by the laser can cause serious eye damage or blindness. For maximum safety, metal eye goggles should be worn by the patient for all facial treatments.



WARNING



Ocular safety considerations :

Identify the laser room clearly by posting approved laser safety signs in prominent locations.

Cover all windows to prevent laser light from escaping the laser room.

Restrict entry to the laser room when the laser is in use. Allow access only to those personnel both essential to the procedure and well trained in laser safety.

Never direct the laser beam at anything other than the intended treatment site.

Ensure that the laser footswitch is clean and working properly. Place the footswitch where it will not be confused or mistaken for another device.

Never look directly into the laser aperture at the distal end of the handpiece.

All persons in the treatment room must wear approved laser safety eyewear with an optical density of 5 or greater at the laser wavelength of 790-830nm. For users outside the U.S., the appropriate standard may be EN 207, in which case the safety eyewear must have a protection class of L5. This includes the operator, patient, nurses, and any other persons in the room.

Do not attempt to remove the protective covers on the handpiece, which could allow exposure to high-intensity laser light.



Electrical hazards

The unit is grounded through the grounding conductor in the power cable. This protective grounding is essential for safe operation.

 WARNING	
	To avoid the risk of electric shock, this equipment must only be connected to a supply main with protective earth.

The diode laser system uses high-voltage internal components which may cause serious injury or electrocution. It is possible for the high voltage components to retain a charge for some period even after the laser has been turned off. No part of the exterior housing should be removed, except by trained and authorized service engineers.

Become familiar with structures and specifications of the instrument before use.

 WARNING	
 	Opening the exterior housings may cause exposure to hazardous, optical radiation and electrical voltage, even after the laser has been turned off. No portion of the exterior housing should be removed by anyone other than trained and authorized service engineers. Keep all covers and panels of the laser closed. Removing the covers creates a safety hazard. Never leave the unit turned on, open or unattended during system maintenance. Do not operate the unit if the power cord is frayed or otherwise damaged. Do not soak or spray the laser console, handpiece or touchscreen with fluids as this can result in damage to the equipment and electrical shock. Clean the touchscreen only when the laser system is turned off.

Fire hazards

The potential for fire hazards exists because the absorption of laser energy may raise the temperature of any material. While this principle is the basis of many useful medical and surgical applications, it requires that precautions be taken against igniting combustible materials. For the diode laser system, the following precautions should be taken:

 WARNING	
	Fire hazards considerations : Certain materials such as cottonwool, when in oxygen-rich condition, can be ignited by the high temperature generated by the laser equipment in normal use. Allow any flammable liquids used for cleaning the skin or handpiece tip, such as alcohol, to fully evaporate before treatment. Anaesthetics administered topically or by inhalation must be approved as non-flammable. Exercise particular care in the use of oxygen, which can accelerate the combustion of any flammable material. Avoid using combustible materials, such as gauze and drape in the treatment area. When required, these materials should be made more fire resistant by keeping them moist with water. Clothing should be kept well away from the area of treatment. Do not operate the laser with any cover or drape over the laser. Ensure the capacity of mains power supply is high enough when installing the appliance. <u>The equipment room must be equipped with fire extinguishers.</u>

 DANGER	
	Do not operate the laser system in the presence of flammable liquids (such as alcohol or acetone), flammable gases (such as ether) or oxidizing gases, such as nitrous oxide (N₂O) and oxygen. Do not place flammable or explosive articles in the optical path or any area where the laser beam may be present. laser beam may ignite flammable or explosive items, resulting in fire or even explosion.

Safety Features

The HairLASE diode laser system has been designed to be safe and convenient for both the operator and patient. The most important safety related features are described below.

Key switch

To prevent unauthorised use, the laser system is equipped with a key switch. The key cannot be removed except in the “off” position and the laser will operate only with the key in the “on” position. The key should be removed when the laser system is not in use.

 WARNING	
	When the system is not in use, remove the key and keep it in a safe place in order to prevent the unauthorized use of the laser system.

Safety interlocks

The laser system contains a comprehensive monitoring system that allows operation only when numerous safety conditions have been met. A fault must be corrected, and the system reset before laser operation is re-enabled.

The monitoring system includes the following:

- ☞ Remote interlock: Allows laser emission only when electrical continuity is made across the contacts of the remote interlock connector located on the rear of the console. The laser system is shipped with a remote interlock jumper already connected, providing electrical continuity and allowing the laser to operate. The remote interlock may be connected to a remote interlock switch on the treatment room door or other controlled access area. This will cause the system to be temporarily disabled if the door is opened during laser operation. Please contact customer support for installation details.
- ☞ System time out: Disables the laser if it has not been used for 15 minutes. This feature is designed to help prevent unintended exposure and reduce mechanical wear.
- ☞ Energy monitoring: Verifies that the laser output is within specific energy tolerances for every laser pulse. If abnormally low or high laser current (indicative of optical energy) is detected, a system fault is triggered, and the user is notified.
- ☞ Temperature monitoring: Disables system operation if the diode temperature or chill tip temperature is outside the operating range.

Footswitch and handpiece triggering

“Footswitch” is the foot operated switch for enabling the system. It is covered by a shield to prevent inadvertent operation, the fluid ingress protection grade for the shield is IPX1. Do not splash liquids on the footswitch or use it in a humid environment.

To help prevent unintended laser emission, laser output occurs only when both the footswitch and the handpiece trigger are depressed. The operator must first hold the footswitch down and press the handpiece trigger. With the footswitch depressed, the laser can be fired repetitively by either pressing and releasing the handpiece trigger for each pulse, or keeping the trigger continuously depressed, in which case the laser will fire repetitively for as long as both the handpiece trigger and the footswitch are depressed.

Audible emission indicator

For operator feedback and safety, each laser pulse is accompanied by an audible beep. No attempt should be made to disable or impair this emission indicator, and in the unlikely event that emission occurs without an audible beep, use of the system should be discontinued until proper performance is established.

Emergency stop switch

Releasing the footswitch or handpiece trigger will stop all laser emission. In the event of an emergency the laser can be shut down immediately by pushing the emergency stop button located near the key switch on the console. To restore operation, rotate the button clockwise until it pops out again, then follow the standard start-up sequence. The emergency stop switch is not intended for routine shutdown use.

Safety Protection Measures

Set up a special working area. Place appropriate laser warning signs in prominent locations. Operation of this device should be restricted only to personnel who have undergone training in its safe use. The key should be removed from the key switch when the machine is left unattended. Operators should wear protective goggles that conform with the laser wavelength and power of the appliance. Never project or reflect laser beams toward eyes.

Clinical Application

Indications

Diode laser system (hereinafter referred to as the system), is applicable for long term reduction of hair anywhere on the face and body, such as hairline, lip area, beard, armpits, arms, legs, breast and bikini area.

Contraindications

- Pregnant women
- Clients with skin disease or history of infections in the treatment areas or herpes simplex
- Post hair removal via other methods in the previous two months
- Psychosis
- Photosensitive skin
- History of keloids
- Allergy to hydroquinone or other bleaching agents
- Clients with malignant tumour
- Clients with a history of taking Isotretinoin within 6 months

 CAUTION	
	The system has no significant effect on the white hair. Clients with suntanned skin require extra caution.

Possible side effects

The basic working principle of the system is based on its biological effect. This product uses a laser with the wavelength of 808nm. This wavelength is well absorbed by the melanocyte of hair follicles with good transmission through normal epidermis. The light absorbed by the melanin in the hair shaft and hair follicles is transformed into heat, thus increasing the hair follicle temperature. When the temperature rises sufficiently, the hair follicle structure becomes irreversibly damaged. The damaged hair follicles will then be removed after a natural physiological process, achieving permanent hair removal.

Potential risks

The most common complications when using the system are postoperative local erythema and follicular edema, which usually resolves after a few hours. Rare complications are local scabbing, purpura, blisters, pigmentation or hypopigmentation and increased sebum secretion. The occurrence of adverse reactions after laser hair removal, mainly relates to the energy density (fluence) and the epidermal melanin content (Fitzpatrick skin type). There is also a relationship between the seasonal changes, treatment sites and solar radiation. Adverse reactions can be minimized by abiding by the preoperative and postoperative guidance and the correct operation of the device.

System Description

Clinical effects

This product is stable with a novel design. The irradiation time is short with lasting effects. It is easy to operate and has good clinical efficacy with a high safety factor.

Safety: 808nm Diode laser has stable performance, long service life. The system adopts an intelligent microprocessor for real-time control.

Fast: Utilizing a square laser spot of 12 mm x 12mm, allows large-area hair removal with high efficiency.

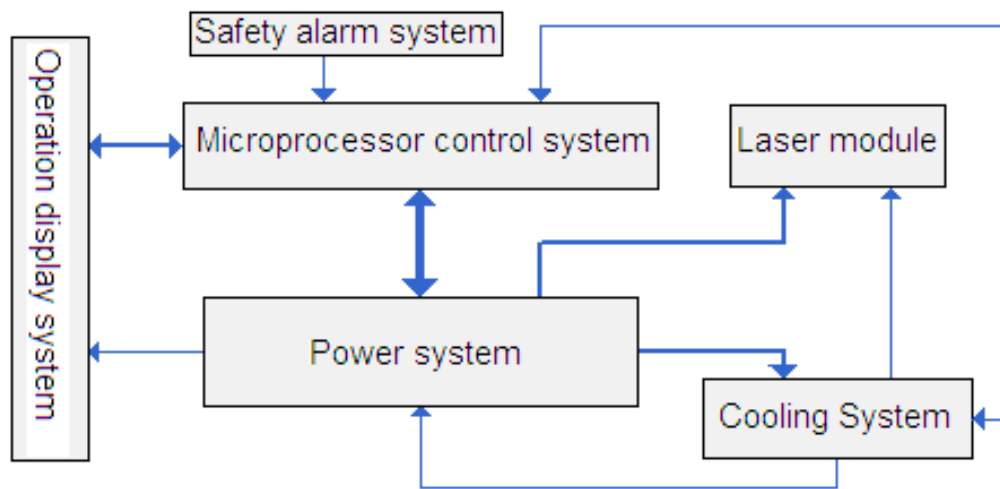
Effective: The laser wavelength of 808nm has good melanin absorption and can penetrate deep into the dermis and subcutaneous adipose tissue acting on different sites and depths of hair.

Painless: The sapphire cooling window cools the epidermis to 0~4°C and provides adequate cooling for the duration of treatment. This provides effective analgesia for the client.

Convenient: The user interface is via an LCD display with touch screen providing intuitive and easy-to-use control making its operation simple and convenient.

Main components

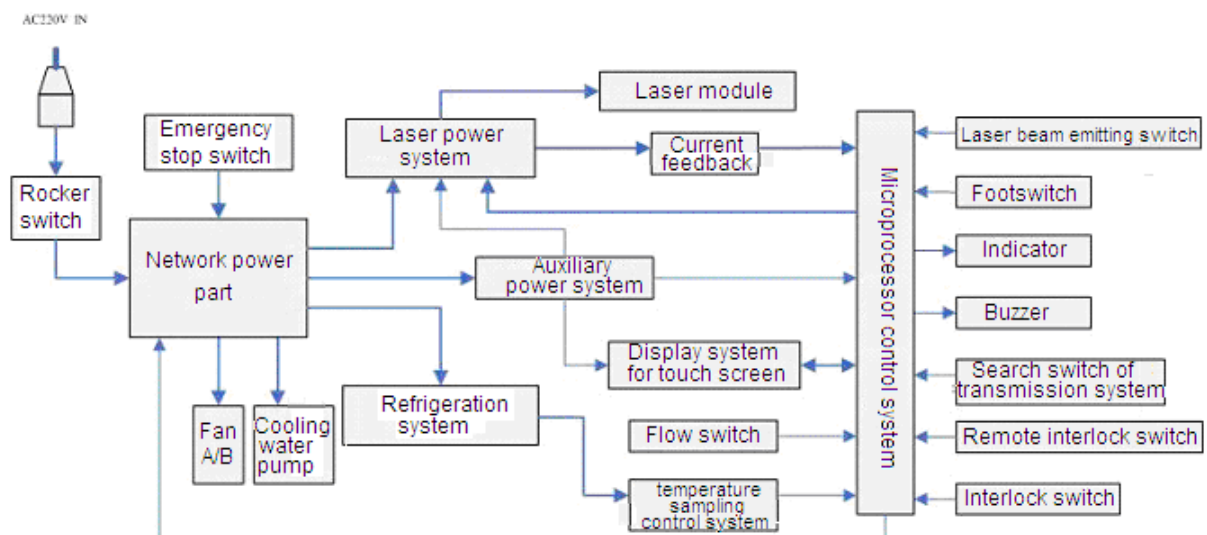
The system is composed of the power system, microprocessor control systems, operation display systems, cooling systems, laser module and the security alarm system, as shown in the figure below.



System block diagram for Diode Laser System

Power system

Power system including network power supply, laser power supply system, refrigeration power supply system and auxiliary power supply system, as shown in the figure below. These are used to control the operation of the network power circuit, providing mains power to the auxiliary power supply which in turn provides appropriate low voltages to the microprocessor



Circuit block diagram

The safety switch is also the main power control for the system. It may be used to isolate the main power supply from the rest of the system. The key switch and emergency stop switch control system, touch screen operation display system and other functional components. Meanwhile, the on-off of power system for refrigeration and laser are activated by the pick-up and switching off of the relay controlled by micro - processor. The power-on , energizing and the light emission process of the main unit are subject to microprocessor control, so that the appliance operation is stable and reliable.

Laser power system is used to control the current through the diode laser, A current sensor provides feedback to the control system to continuously monitor the condition of the diode laser.

Various power supply components from the power system of laser system utilise safe and reliable switching power supplies to achieve AC-DC conversion. With these components passed through CE- certification, the safety and effectiveness of the system is at the highest possible level, i.e. not only the personal safety of user, but also the long-term and reliable work of the devices itself are ensured.

The power system has a self-protection function. It continuously feeds important signals back to the microprocessor in the event of an error, the microprocessor will notify the operator through the user interface (Touch Screen) and take automatic protection measures. After the error signal is cleared, the power system will automatically return to normal state.

Microprocessor control system

The system adopts a microprocessor control system which is composed of a microprocessor, control loop and detection circuit. Control of the system is highly automated. The user just needs to turn on the key switch. After turning on, the system will automatically perform a self-check for the control system (including all the pre-set checks against possible damage to the device) and recalling of treatment parameters.

If an error occurs during self-check, the fault information will be displayed on the touch screen at the completion of the start-up sequence.

Operation display system

The operation display system is composed of a touch screen, indicator and buzzer.

The touch screen is connected directly to the host microprocessor. The operator uses it to control the microprocessor through information that is displayed on the screen to understand the main unit state and the relevant parameters.

An LED indicator is used to display the working state of the main unit. A buzzer is used as the prompt for laser output and fault alarm.

Cooling system

The cooling system consists of a cooling fan, cooling water recirculation system and water temperature regulation system.

After the laser system is started, the cooling system initializes and adjusts the water temperature to the pre-set temperature. The cooling fan gives air cooling for the electric parts and radiator in the main unit, the internally generated heat is extracted via forced air flowing through the appliance.

When the laser is running, internal circulating water displaces heat generated by the laser diode via the water temperature regulation system. The displaced heat is then dissipated into the air via the radiator. The cooling water temperature is continuously monitored and adjusted to keep the temperature within a suitable range. If the temperature exceeds a pre-set level, the system will automatically disable the laser output and give alarm so as to avoid damage to the laser.

Installation

The HairLASE console weighs 48Kg. Two people are required to remove it from the transport container. Use proper lifting techniques. Remove the protective bag and place the laser on a sturdy table or trolley designed to support this weight.

Attach the handpiece holder to the side of the console using the supplied Philips screwdriver

Screwdriver
Handpiece holder
Screws



Place handpiece in holder

Push handpiece plug on to the front panel connector socket

Ensure both yellow buttons are fully engaged in the respective holes

Ensure safety switch is in the UP position

Plug yellow interlock plug into the yellow interlock socket

Plug green footswitch connector into the green footswitch socket

Plug Orange power cord into the IEC power receptacle



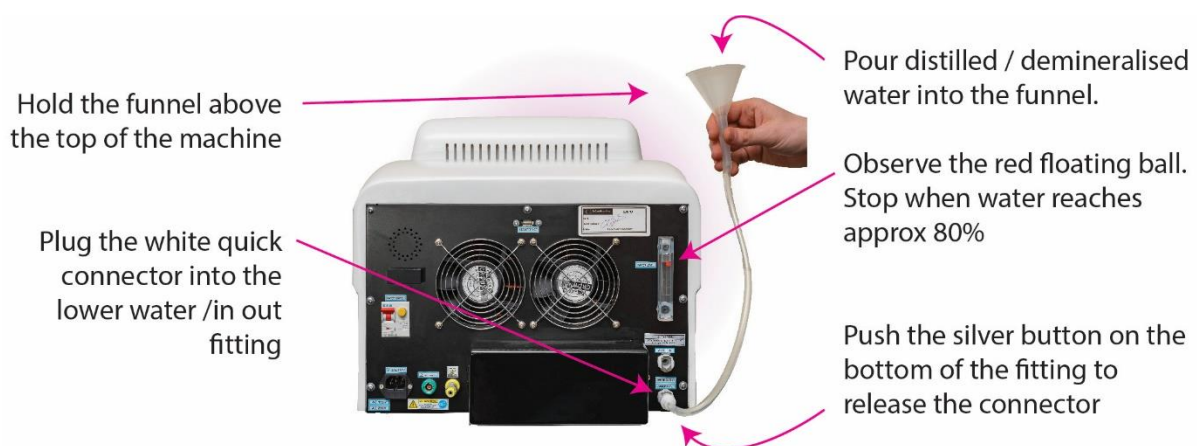
Filling the water system for first use



To prepare the water fill pipe, insert the funnel into one end of the silicone tubing and the white “quick connector” into the other end.

Insert the quick connector into the water inlet fitting while holding the funnel above the top of the machine (to prevent water from draining out)

Slowly fill the machine with high quality distilled or demineralized water. Add water until the water level reaches approximately 80%. Approximately 1l of water is required Remove connector.



Check that the emergency stop button is disengaged by turning it clockwise. Check that safety switch on the back of the machine is in the up position. Check that the power cord is connected, and power is available.

Place the key in the key switch and turn clockwise to turn on the machine. After a few seconds, the lasers water pump will start, circulating water through the filters, cooling system and handpiece. This may cause the water in the tank to drop significantly. Turn off the key switch and add more water as above and restart machine. This process may need to be repeated several times until the water level stabilizes and air bubbles are flushed out of the system

Operation

System Initialisation

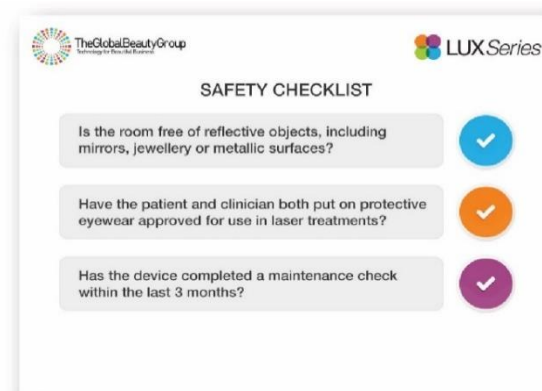
Turn on the key switch. The system will commence initialisation and after a few seconds the following logo will appear.



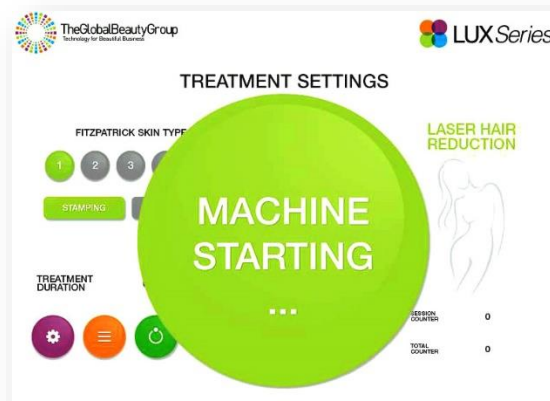
After the system has initialized, the following checklist will appear. Carefully read the information and touch the question mark to confirm the check has been performed.



Each question mark will be replaced with a tick symbol after confirmation, as per the following illustration.

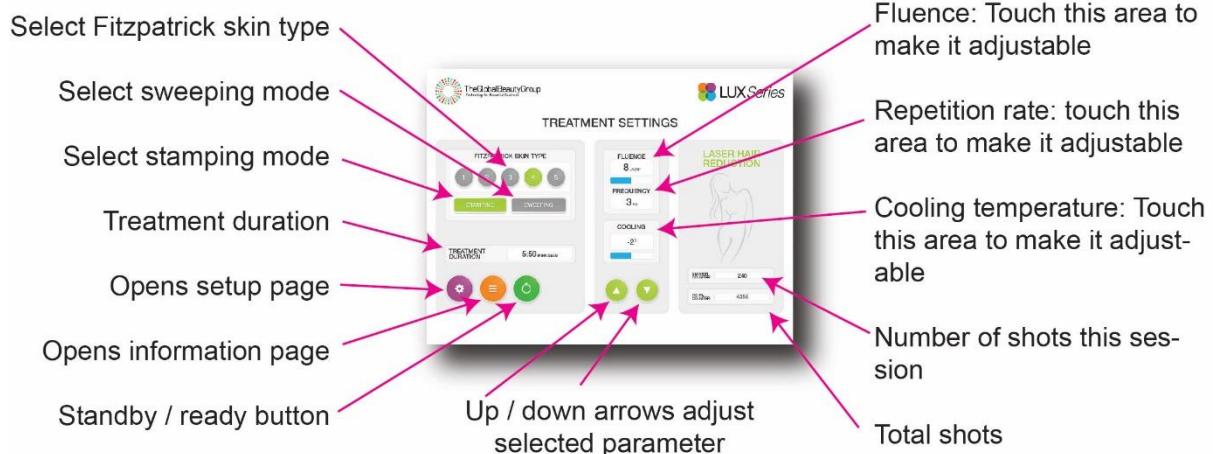


After the safety check has been completed, the treatment menu will appear with an overlay indicating the system is starting:



Once the system is ready for use, the overlay will close, and the treatment selection menu will be available

Treatment selection menu



Fitzpatrick skin type 1-5 sets the optimal laser pulse width, fluence and repetition rate for the skin type selected.

Stamping mode sets default parameters for stamping, i.e. applying a single pulse per treatment area, with minimal overlap.

Sweeping mode sets default parameters for sweeping i.e. repeatedly sweeping over the same area, delivering multiple pulses (At reduced energy) over the same area (also referred to as SHR).

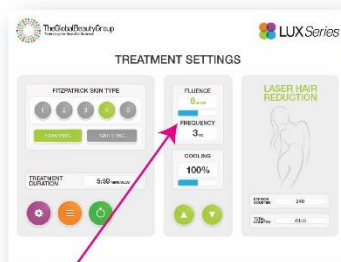
Treatment duration displays the total time the laser has been in ready mode for this session.

Fluence displays numerically and graphically the energy delivered per unit area for each pulse. Touching this area will allow the setting to be changed with the up and down arrow keys

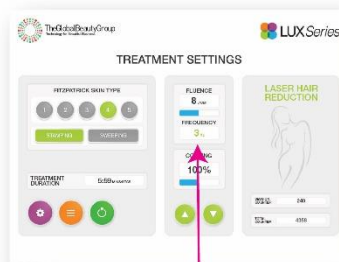
Frequency displays the rate at which laser pulses are delivered when the trigger button remains pressed. Touching this area will allow the setting to be changed with the up and down arrow keys

Cooling temperature displays the set operating temperature of the laser handpiece tip. Touching this area will allow the setting to be changed with the up and down arrow keys.

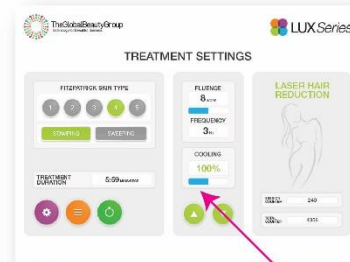
The selected parameter display font changes colour to green to indicate it is selected for adjustment



Treatment menu showing Fluence selected for adjustment



Treatment menu showing Frequency selected for adjustment

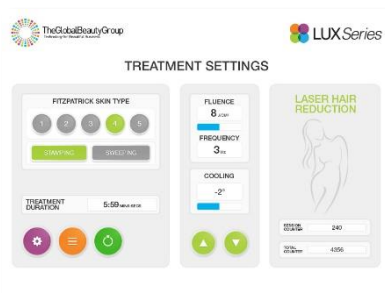


Treatment menu showing Cooling selected for adjustment

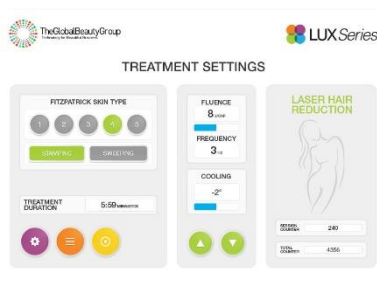
Session counter displays the number of laser shots for the current treatment session

Total counter displays the total number of laser shots for the life of the machine

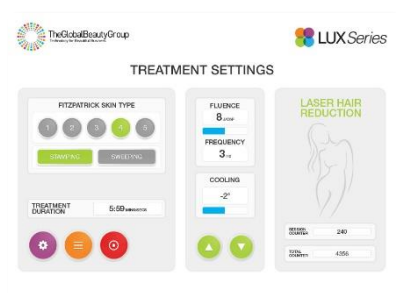
Parameters can only be changed while the laser is in standby. Attempting to change a parameter will cause the system to revert to standby. The standby / ready button appears green while in standby. Once pressed it changes to yellow while the laser performs self-checks then becomes red when the laser is enabled and ready.



Laser in standby



Laser initialising



Laser ready

Treatment

Refer to treatment guide for recommended protocols and parameters

- Set the Fitzpatrick skin type
- Set the desired cooling
- Set the desired fluence
- Press the standby / ready button, wait for button to turn red
- Apply laser handpiece to area to be treated
- Depress the foot pedal/handpiece trigger button to fire the laser.

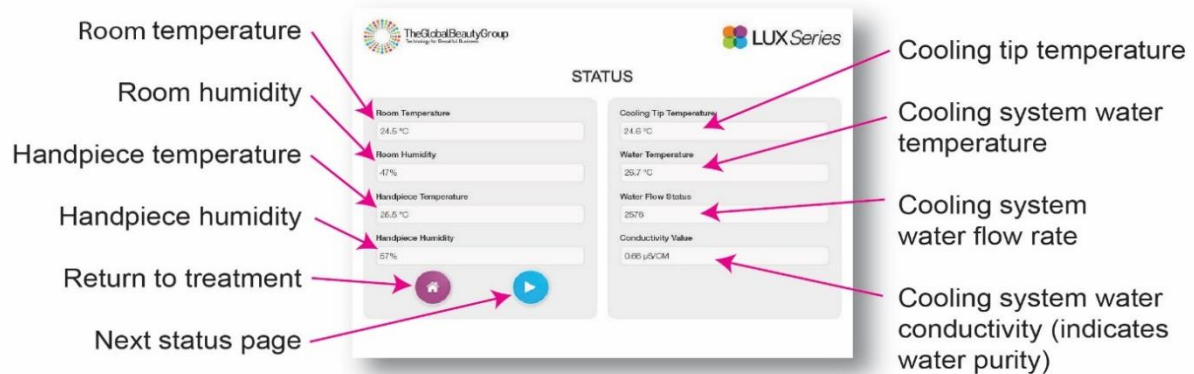
The handpiece tip must be kept clean by wiping during use.

It should be thoroughly cleaned and disinfected immediately after use.

Status button

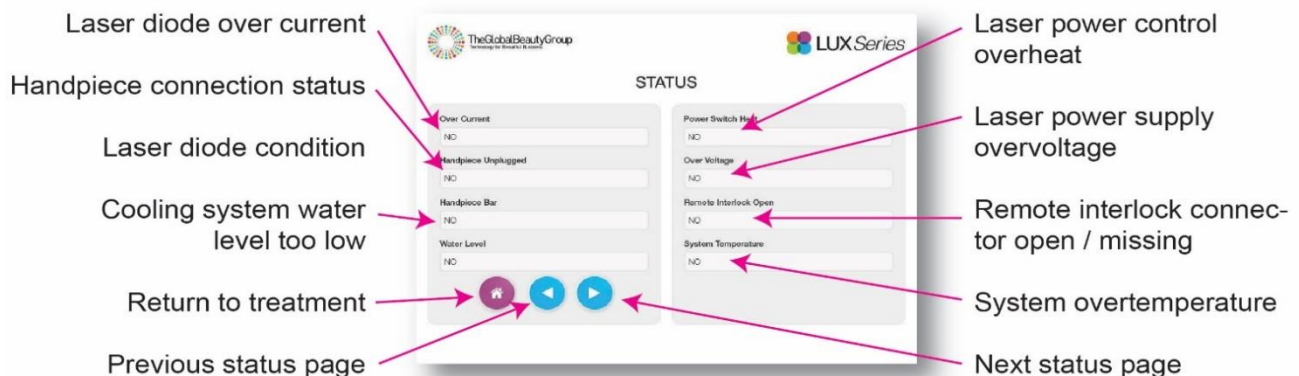
During treatment, or whenever a warning pop-up message appears, pressing the status button will open a status page which displays the conditions of the laser

Status information page one
This page displays system environment conditions



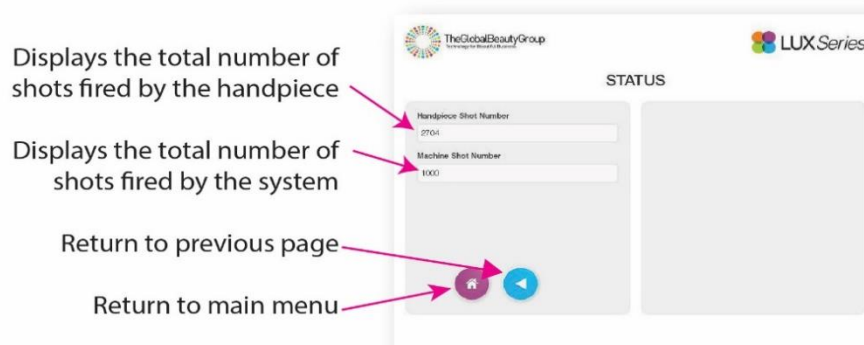
Note: displayed value will change colour to indicate it has caused an alert message

Status information page two
This page displays the status of safety monitoring systems



Note: displayed status will change from NO to YES and will change colour to indicate a fault condition has occurred

Status information page three
This page displays the lifetime usage of the laser system and handpiece

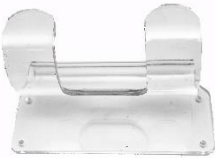


The Laser Handpiece

Several aspects of the handpiece design also contribute to the safety of the diode laser system. Firstly, since the laser emission originates in the handpiece itself and not in the console as in conventional lasers, there is no need for an articulated arm or other beam delivery system with inherent beam quality and alignment concerns. Instead, the laser handpiece has a one-piece light condenser that combines the emission from thousands of emitters to produce a uniform square beam, and because the laser emission is confined to the handpiece, there is no hazardous optical radiation in the console or umbilical. Secondly, the sapphire tip is placed against the patient's skin during system use, reducing stray light while increasing the therapeutic effectiveness.



Device Accessories

	Laser Handpiece
	Handpiece holder
	Client black-out goggles
	Operator safety glasses
	Footswitch
	D/I filter
	Particulate filter
	Funnel
	Silicone pipe
	"Quick Connect" Water fitting
	Key
	Replacement O rings (For handpiece connectors)
	Spare fuses (250V 10Amp 3AG Slow Blow)

Operator Maintenance

Maintenance is necessary to ensure that the system continues to work in a safe reliable manner.

Good care should be taken in maintaining the system as the laser is a precision medical device.

Maintenance of the System

A dust cover should be placed over the equipment if it is not intended to be used for a long period time. This helps prevent pollutants, dust and water vapor from entering the unit. These pollutants may lead to a reduction of laser output energy and may affect their normal operation.

It is recommended that the installation and storage site be kept clean, dry and dust-free. The ambient temperature during storage should be maintained between 4 ~ 40 °C. The unit should be stored away from direct sunlight as this can cause premature ageing of the housing materials. It should be installed and stored in a dry, ventilated place with no corrosive gases.

If the device is to be transported through, or stored in regions where the ambient temperature may fall below 0 °C, it is recommended that the cooling water in the main unit be emptied to prevent the water from freezing and causing damage to the related components in the equipment.

Test the electrical safety switch

Plug the system into an active power outlet. With the red safety switch in the on (up) position, press the adjacent yellow test button. The switch should immediately snap down to the off position. If it does not snap down, the switch may be faulty. Contact our service team.

Maintenance of Cooling System

Regularly check to ensure the cooling fan works normally. If the cooling fan or cooling module fails, the appliance may overheat, and the laser may fail to work normally or the system may become damaged.

Replacement of cooling water and filters

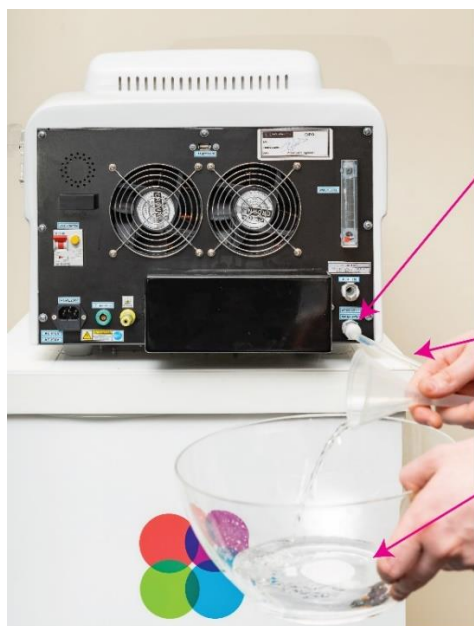
As the cooling water comes into direct contact with the electrical surfaces of the laser diode, it is essential that the water remains free from minerals and other contamination. Contaminated water will lead to corrosion and premature failure of the laser handpiece.

The system should only be filled with high quality distilled or demineralised water. Particulate and D/I (De-ionisation) filters are fitted to the machine to maintain the water in its purest condition.

It is recommended that water be drained and refilled, and the filters be replaced every 3 months

Replacing water and filters

Turn off power and remove power cord



Drain the cooling water

Plug the quick connect from the previously assembled filler pipe into the water in/out connector on the back of the machine

Lower the funnel below the bottom of the machine to allow all the water to drain into a bowl or basin

Dispose of water. Do not reuse in the machine



Remove screw to release filter cover. Unhinge cover to gain access to the water filters

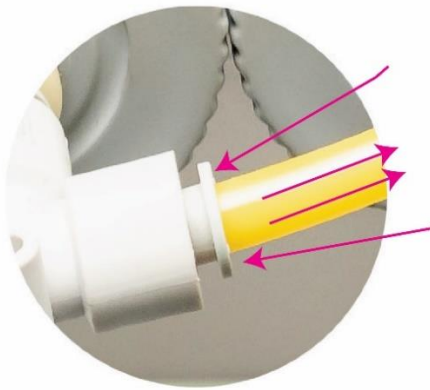
Particulate filter

Dioniser filter

Squeeze the locking rings to release the yellow hoses

Remove the filters from the recessed area





Remove filters from yellow tubes

Push release ring into connector body
(FIRM PRESSURE REQUIRED!)

Whilst maintaining pressure on the release ring, pull the yellow tube out of the fitting

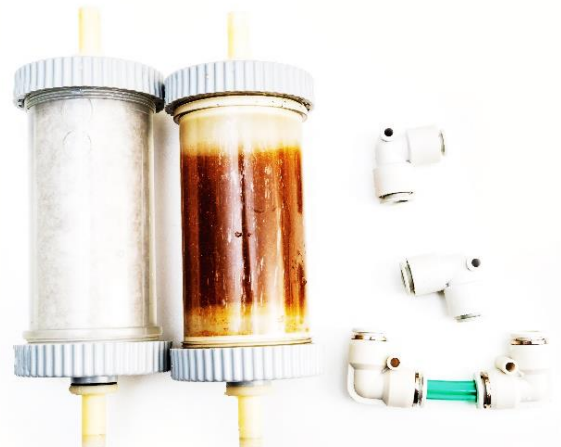
Repeat with the other filter



Filters after removal from machine

Squeeze release ring and pull fittings off filters
(FIRM PRESSURE REQUIRED)

Repeat for other two fittings

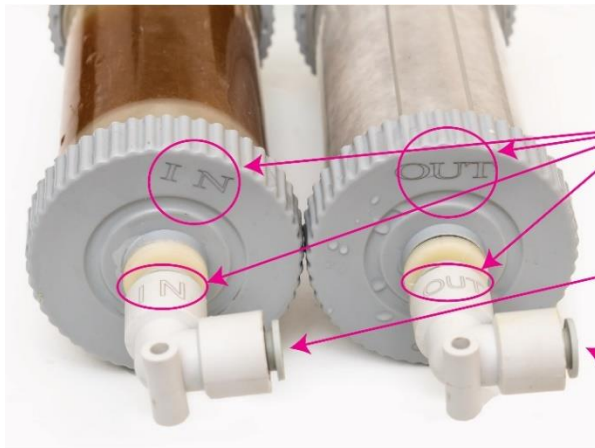


Filters and fittings after disassembly



New filters in packaging

Unwrap the new filters and reassemble in reverse order



Push the fittings firmly on to the filters.

Observe the orientation of the filters. It is important that the water flows in the right direction.

After reassembly, place the filters into the back of the machine. Push the upper yellow hose into the "IN" connector on the Deioniser (Brown) filter.

Push the lower yellow hose into the "OUT" connector of the particulate (white) filter

Refill the machine with distilled water as per installation instructions

The machine may need to be turn off-refilled-restarted several times as the filters retain some of the water.

Inspect all connections for any signs of water leaks. If water is leaking, ensure that hose or fitting is firmly pushed in place. Refit the black cover over the filters.

Warnings / Errors / Troubleshooting

If a condition occurs, which will prevent or delay the operation of the laser, a warning or explanatory message will appear as a circular overlay on top of the treatment menu. Following are examples of different messages

Pop-up warnings and messages

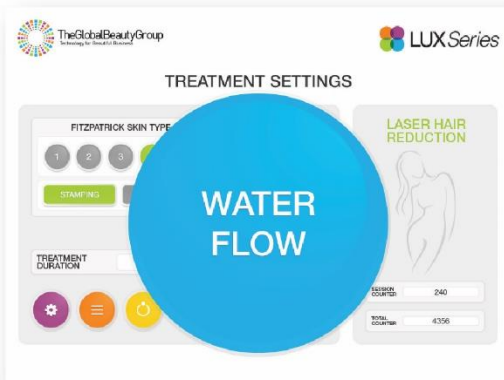
These messages will appear if a fault or condition occurs which may prevents the continuing operation of the laser



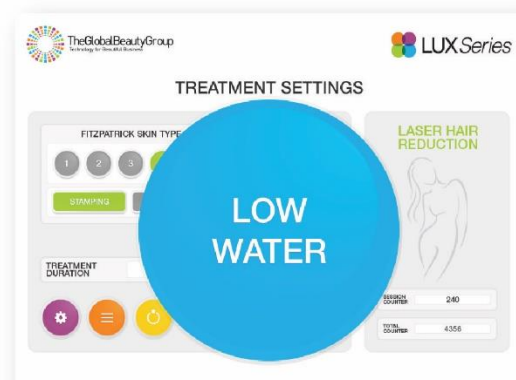
This indicates a fault with the water conductivity sensor. Contact service



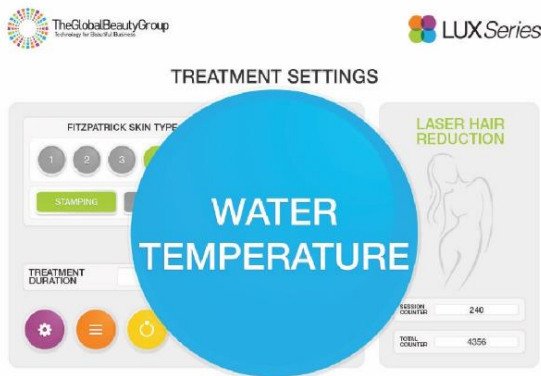
This indicates the remote interlock plug is removed from the machine or a monitored door is open



This indicates insufficient water flow through handpiece. Replace cooling water and water filters. Call service if fault persists



This indicates insufficient water in the cooling system tank. Check for water leaks around connector and filters. Top up water. Call service if fault persists



Indicates system cooling water temperature is too hot. Check that air can flow freely around the air inlet and outlet vents on the system console. Check that the room is cool. Allow system to cool down.



Indicates that one of the laser "bars" has failed. The system can continue to operate at reduced power but the handpiece should be repaired / replaced as soon as possible.



Indicates that the system cannot detect a handpiece attached. Turn off the power, remove and reattach handpiece then restart power. Call service if fault persists.



Indicates excessive humidity within the handpiece. (The laser diode is prone to damage if operated during high humidity). Allow the system time to ventilate in an airconditioned environment.

Other errors

Nothing happens when turning on machine	Is power available? Plug a lamp or other machine into the power outlet to confirm power is available. Is the power cord pressed firmly into the back of the machine? Is the safety switch on the back of the machine in the up position? Has the emergency stop button been depressed? Rotate it clockwise to release Has the protective fuse blown? The fuse holder is located directly below the power socket on the rear of the machine. Remove the power cord then use a screwdriver to prise the fuse holder out from the socket. Replace the fuse and reinsert the holder
Other pop up messages not listed above	Press the status button and check the information on each status page for further information. Contact our service team on (03) 8555 2246.

Ordering the Machine Accessories

Accessories can be ordered through The Global Beauty Group by emailing info@theglobalbeautygroup.com or by directly contacting us on (03) 8555 2246.