

# MANUAL

## Diode Laser Hair Removal Machine



# Basic Introduction

## THORY

The Golden Standard for laser hair removal machine - 755nm, 808nm & 1064nm integrate into one device.

- ❖ **The Alexandrite laser:** recommended for treating pale skin types (skin I-III) with fine hair. The 755nm laser is characterized by more powerful melanin absorption, making it suitable for the light-colored and thin hair. In this way, this wavelength aims to remove the hair on such areas as eyebrows, upper lip, etc.
- ❖ **The Diode laser:** recommended for treating all skin types, particularly patients with a great density of hair and first session. The 808nm laser can penetrate into the subcutaneous fat tissues as well as deep dermis so as to act on various body parts, making hair removal at any depth realized in an express and thorough way.
- ❖ **The Diode laser:** 940nm coagulates the microvessels around the hair follicle, cutting off the nutrient supply of hair follicles, sharply reducing hair regeneration power, and completely inhibiting hair regeneration.
- ❖ **The Nd.YAG laser:** indicated for treating dark skin types (IV-VI). With the features of lower melanin absorption yet deeper penetration in follicles. The 1064nm laser mainly provides solutions for dark hair color. In other words, this longest wavelength focuses on the treatment areas like scalp, armpits, bikini line, etc.



Sometimes we need diode or alexandrite laser. Compared with traditional machine, our laser hair removal equipment has not only the two options but the ND.YAG laser for your choosing. The diode laser hair removal has given way to the Four-wavelength laser hair removal machine!

## APPLICATIONS

- ❖ Permanent hair removal for all kinds skin types (I, II, III, IV, V, VI.)
- ❖ Apply for almost of body areas such as lip, beard, chest, armpit, back, arm, legs, etc.

### NOTE:

- *SKIN TYPE I: This is a very fair skin. The individual has light-colored eyes and blonde or reddish hair color. They are very sensitive to the sun and burn easily whenever exposed, but they never tan.*
- *SKIN TYPE II: This is a light complexion, light-colored eyes, blonde, reddish or light-brown hair color. They are very sensitive to the*

*sun, burn easily and it can gradually build a tan.*

- *SKIN TYPE III: This is a medium complexion light to dark eye color and usually brown or darker hair color. Sensitive to the sun, rarely burns and always tans well.*
- *SKIN TYPE IV: This is a darker complexion, dark eyes, usually dark brown to black hair color. Moderately sensitive to the sun, rarely burns and always tans well.*
- *SKIN TYPE V: This is a dark complexion, Middle Eastern, Indian skin. Dark eye color, usually black hair color. Minimally sensitive and always tans.*
- *SKIN TYPE VI: This is a black complexion, black eyes and black hair color. It is least sensitive to the sun and never burns.*



I



II



III



IV



V



VI



## CONTRAINDICATIONS

- ❖ History of keloids and photosensitivity disorders;
- ❖ A skin infection in the area to be treated or a history of herpes simplex;
- ❖ Those who have used other forms of hair removal within 6 weeks;
- ❖ Those who are allergic to hydroquinones or other bleaching agents;
- ❖ Women during pregnancy,
- ❖ Those with malignant tumours;
- ❖ Heart disease, hypertensive disorders prohibiting use;
- ❖ History of use of 13-cis-retinoic acid (Isotretinoin) within 6 months.

## ADVANTAGES

- ❖ Safe, efficient and permanent hair removal.
- ❖ Four wavelengths - 755nm, 808nm, 940nm, 1064nm integrate in the one device.
- ❖ Perfect for all skin types (I, II, III, IV, V, VI) and all hair types such as thick, thin, black, gray, blond, brown, etc.
- ❖ Treatment handle with adjustable UI screen



- ❖ 10 high-quality laser bars imported from "USA-COHERENT" provide enough and stable energy, ensuring good treatment effects.
- ❖ The laser generator can fire up to 50 million shots, long sever life.
- ❖ Cooling system: semiconductor + wind + microchannels water outlet + sapphire + TEC, guarantee no pain and comfortable hair removal experience.

## PARAMETERS

Wavelength	755nm, 808nm, 940nm, 1064nm
Spot size	Φ8, 5*5, 10*10, 12*20, 20*40 (optional)
Pulse duration	10ms ~ 400ms
Frequency	1Hz ~ 10Hz
Fluence	0~120 J/cm2
Laser intensity	5% ~ 100%
Cooling system	Air + Water + Semiconductor + TEC
Screen	13.3" touch LCD display
Voltage	220V/50Hz, 110V/60Hz
Package size	96*48*63cm
Package weight	41.2kg

# Installation Instruction

## ACCESSORIES

Picture	Description	Quantity
	Handle	1
	Protective glasses	1
	Protective goggles	1
	Water funnel, tube and connector	3
	Power line	1
	Filter	1
	Screws	3
	Foot pedal	1
	Keys	2
	Chain safeguard	1

## INSTALLATION STEPS

### Add water:

- Get some purified water (can be drink water) and don't stop injecting until there is water flowing out from "SPILT WATER".
- Change water about 1-2 months. Drain the water if the machine is not used for a long time.

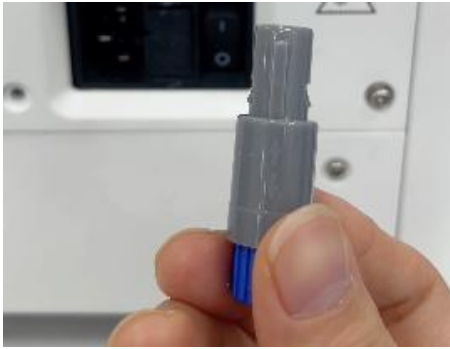


### Install handle:





### Install chain safeguard:

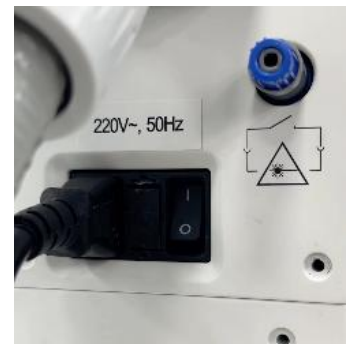


### Install foot pedal:



### Connect power line:

- Make sure the local voltage is well-matched with the tagged one.
- Put one end of the power line into power strip and the other one into the preset slot in the back of machine. Then put power button from “O” to “I” position.



# Operation Instruction

## BEFORE OPERATION

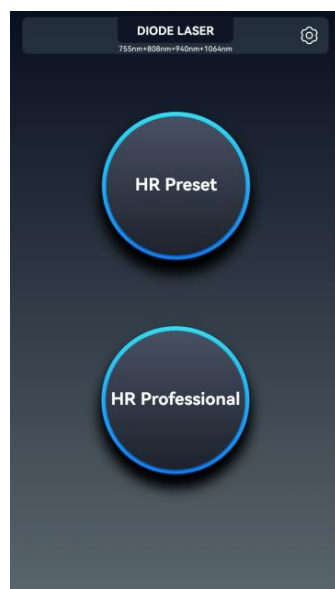
- ❖ It is necessary that users should read the manual carefully prior to the application of this machine.
- ❖ Consult patients on whether they have any of the contraindications mentioned previously.
- ❖ It is suggested that this machine is operated in a separate room.
- ❖ Make sure the handle and power line are well connected into the machine.
- ❖ Please do a physical examination to ensure treatment effect and prevent the anaphylactic reaction.
- ❖ Disinfect the probe and other therapeutic devices.
- ❖ Shave the treated area when doing hair removal and keep it clean.

## DURING OPERATION

1. Turn on the machine:
  - Lift the emergency button: If the red Emergency Switch is pressed down, the power will be shut off immediately. It should be released when you are trying to start the machine.
  - Turn the start key clockwise and then the machine start to work.



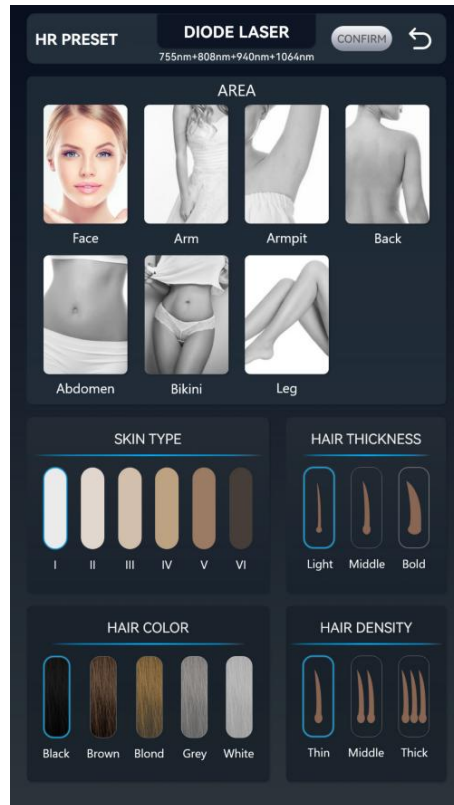
2. Ensure good water flow. Switch on and off the machine for two minutes respectively. Then repeat this cycle for 3 times to normalize the inside water circulation.
3. After turning on the machine, you will see the main screen. There are two working modes optional: "HR Preset", and "Hair Professional".



Main Interface



- Click “HR Preset” mode to enter into the responding interface.




HR Preset Interface

Adjust these parameters according to the actual treatment needs of the patient:

- Choose AREA: “Face”, “Arm”, “Armpit”, “Back”, “Abdomen”, “Bikini”, “Leg” optional
- Choose SKIN TYPE: “I”, “II”, “III”, “IV”, “V”, “VI” optional
- Choose HAIR COLOR: “Black”, “Brown”, “Blond”, “Grey”, “White” optional
- Choose HAIR THICKNESS: “Light”, “Middle”, “Bold” optional.
- Choose HAIR DENSITY: “Thin”, “Middle”, “Thick” optional
- Click the button “CONFIRM” to enter into the responding treatment interface.



HR Preset treatment Interface




- The system will automatically match the corresponding parameters and wavelengths according to the selection of the preset interface, without manual adjustment.
- Click the button  to return to previous interface.

5. Click “HR Professional” mode to enter into the responding interface.





HR Professional Interface

“FREQUENCY”, “PULSE WIDTH”, “LASER INTENSITY” needed to be adjusted, according to the actual treatment needs of the patient.

- “FREQUENCY”: Out of the light fast and slow, adjustment range 1-10hz.
- “PULSE WIDTH”: The width of the pulse, 10~400ms adjustable.
- “FLUENCE” is affected by pulse width, frequency and laser intensity. When any one of them changes, it will change automatically.
- The intelligent system automatically selects the working wavelength (755nm, 808nm 940nm or 1064nm) based on the parameter settings, no manual selection required.
- Click the button  to reduce the value and the button  to increase.
- Click the button  to return to previous interface.

*NOTE: Please refer to the recommended parameters in the next part*

6. Click the button  to start and the button  to stop working. At the same time, you can adjust the UI screen in treatment handle, it is easy to operate.



7. Put on protective goggles for operator and patient to protect their eyes from the laser.
8. Drawing a line in the treatment area, and apply cooling gel on the treatment area.



9. Make the treatment tip contact tightly with the skin, and then slide the handle at a constant speed backwards and forwards about 4 ~ 5 times.



10. After treatment, clear the gel on the handle and put it back into the machine.

*NOTE: Any sudden situations, please press the Emergency Button to stop working.*

## AFTER OPERATION

- ❖ After treatment, there may appear slight bleeding and scabbing which will fall off naturally in several days and shouldn't be torn up by hand.
- ❖ Avoid chemical or mechanical stimulation for 7 days before and after treatment.
- ❖ Avoid direct sunlight after treatment. When going out, please apply the sunscreen cream whose SPF is no less than 15 on the body.
- ❖ Hot baths, massage and aerobic exercises are prohibited within a week.
- ❖ Use natural moisturizing products instead of cosmetics.



## RECOMMENDED PARAMETERS

Skin Type	Treatment Areas	Frequency/Hz	Pulse duration/ms	Session/time	Interval/week
SKIN I	Abdomen	4	80-90	5	3
	Bikini	4	80-90	5	3
	Brow	4	75-90	5	3
	Cheek	4	75-90	5	3
	Moustache	4	75-90	5	3
	Beard	4	75-90	5	3
	Underarm	4	85-95	6	3
	Back	4	85-95	6	3
	Arm	4	85-95	6	3
	Leg	4	85-95	6	3
SKIN II	Abdomen	4	70-85	5	3
	Bikini	4	70-85	5	3
	Brow	4	70-85	5	3
	Cheek	4	70-85	5	3
	Moustache	4	70-85	5	3
	Beard	4	70-85	5	3
	Underarm	4	80-90	6	4
	Back	4	80-90	6	4
	Arm	4	80-90	6	4
	Leg	4	80-90	6	4
SKIN III	Abdomen	4	70-85	6	3
	Bikini	4	70-85	6	3
	Brow	4	65-80	6	3
	Cheek	4	65-80	6	3
	Moustache	4	65-80	6	3
	Beard	4	65-80	6	3
	Underarm	4	80-90	6	4
	Back	4	80-90	6	4
	Arm	4	80-90	6	4
	Leg	4	80-90	6	4

SKIN IV	Abdomen	3-4	70-80	6	4
	Bikini	3-4	70-80	6	4
	Brow	3-4	65-80	6	4
	Cheek	3-4	65-80	6	4
	Moustache	3-4	65-80	6	4
	Beard	3-4	65-80	6	4
	Underarm	3-4	75-90	7	4
	Back	3-4	75-90	7	4
	Arm	3-4	75-90	7	4
	Leg	3-4	75-90	7	4
SKIN V	Abdomen	3	70-75	7	4
	Bikini	3	70-75	7	4
	Brow	3	65-75	7	4
	Cheek	3	65-75	7	4
	Moustache	3	65-75	7	4
	Beard	3	65-75	7	4
	Underarm	3	70-80	7	4
	Back	3	70-80	7	4
	Arm	3	70-80	7	4
	Leg	3	70-80	7	4
SKIN VI	Abdomen	2	70-85	7	4
	Bikini	2	70-85	7	4
	Brow	2	70-85	7	4
	Cheek	2	70-85	7	4
	Moustache	2	70-85	7	4
	Beard	2	70-85	7	4
	Underarm	2	80-85	7	4
	Back	2	80-85	7	4
	Arm	2	80-85	7	4
	Leg	2	80-85	7	4

**NOTE:**

- The above parameters are for reference only! Please adjust parameters according to the patient's feelings.
- Laser intensity is recommended to be 90% ~ 100%.



# Other Information

## PRECAUTIONS

- ❖ Put the machine on the flat and stable surface.
- ❖ Check the main machine, accessory and the power cable are intact well before use.
- ❖ The machine is fragile, do not drop it.
- ❖ Clean the equipment with a wet cloth but make sure no liquid penetrates.
- ❖ Do not operate the machine with wet hands.
- ❖ Do not bend or turn the power cable and the wires.
- ❖ Before you clean or transport the machine, make sure that it is switched off and the power cable is unplugged.
- ❖ Put the equipment in a ventilated area. Do not cover the fan or the machine nor put any objects on it.
- ❖ Do not use the machine in the toilet or near a microwave or oven.
- ❖ Make sure that the power cable is not worn or broken before you plug it.
- ❖ The operator must be trained to be familiar with the structure and performance of the equipment and master the knowledge of the operating system.
- ❖ Users under 18 cannot use the equipment.
- ❖ The machine cannot be used on animals.
- ❖ Do not use the machine for other purposes than those described in this manual.
- ❖ The operating temperature should be in good control.
- ❖ The treatment button should always be pressed by hand.
- ❖ When there is an error, the system will show a message to the operator, at which time please stop any operation.
- ❖ The continuous working time of this machine is up to 12 hours per day.
- ❖ Turn off the power after the operation. When not in use, be sure to unplug the power line from the power outlet.
- ❖ Please take good care of the equipment. The power cord and accessories should be carefully inspected before operation. If there are any traces of damage, stop using them and replace them with a new one.

## WARRANTY

All products are strictly tested before sale. The guarantee of free repair is provided starting from the purchasing day, during which time the maintenance for any breakdown due to non-artificial factors will be performed free of charge. Accessories are not included in the warranty, so please contact us if they are needed.

The standard of the operation process and the environment should be in accordance with all the instructions above.

Malfunctions caused by the following factors are out of the warranty:

- ❖ Malfunctions caused by artificial factors like improper movement, collision, etc.
- ❖ Malfunctions caused by uncontrollable natural force.
- ❖ Abuse operation that is against the manual, like connecting wrong VAC input or using the machine for other purposes.
- ❖ Energy diminishing caused by wet environment or dust.

## TROUBLESHOOTING

Problem	Possible cause	Solution
The machine does not start	<ol style="list-style-type: none"> <li>1. It is not plugged correctly</li> <li>2. The power cable is not well connected</li> <li>3. The power button is off</li> <li>4. The fuse is damaged</li> <li>5. The electrical circuit is damaged</li> <li>6. The power cable is broken</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the plug</li> <li>2. Check the power cable</li> <li>3. Press the power button</li> <li>4. Change the fuse</li> <li>5. Contact the technical service</li> <li>6. Change the cable/contact the technical service</li> </ol>
The buttons do not work	Defective buttons or circuit damaged	Contact the technical service
The machine does not start and does not emit heat	<ol style="list-style-type: none"> <li>1. Defective connections</li> <li>2. Handle cable defective or badly connected</li> <li>3. Breakdown of electrical circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the connection</li> <li>2. Connect the cable correctly</li> <li>3. Contact the technical service</li> </ol>
The machine works, but the effectiveness has diminished	<ol style="list-style-type: none"> <li>1. Bad connection of handle</li> <li>2. Piezoelectrical transducer damaged</li> <li>3. Mechanical damages in handle or machine</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect the handle correctly</li> <li>2/3. Contact the technical service</li> </ol>