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## Section 1 Instructions



Please read the user manual carefully before operate the machine! Make sure the device is in normal status, avoid unnecessary harm. Please read the manual carefully if the operator wants to connect the device.

Don't operate the equipment in thunder weather

Don't put the equipment into a strong electric current and magnetic field, otherwise may cause fault.

Check whether the power supply voltage match the equipment. Don't use AC current more than 240V.

Don't operate the equipment in the high temperature or humidity place, avoid electric shock or fault.

Make sure that the equipment is connected with power supply before work.

Before work, make sure that connection is good between circuit and accessories.

Don't shake or strike the equipment during the operation.

Don't use the equipment if cable or connection are damaged, fall to the ground, water, other damage.

Don't put the cover board and electric wire to be used as carrying handle.

Electric wire and hose should get away from heat source.

It's better to operate the equipment in a dry place, don't use it outdoors.

Only use accessories our company provided.

Please turn off power supply after work/before cleaning / maintenance.

Don't clean it with detergent, solvent or chemicals.

Don't use machine with aerosol products.

Avoid water spraying on machine.

Children under age of 11, the disabled should not use the machine alone, there must be someone to guide them.

Children under the age of 7 should not use it.

Don't use the machine if skin feels uncomfortable or hurt.

Don't use it in the eye, glottis, genitals, oral cavity, ear, nasal mucosa and nipple etc.

Pregnant women are forbidden to use it.

Please consult a doctor before work with it if you have any questions.

Never use the modified or remolded equipment.

## 1.1 Safety

The device has self-testing function. When the device is turned on ,the system processor will self-test. Besides, during the working, the system processor will self-test ongoing and intervals.

When the emergency accident happened, please press the emergency button (red button) to turn off the device.

Note: Only personnel trained by the dealer have the right to maintain the internal facilities of the instrument. Any unauthorized handling may cause damage to the instrument and invalidate the warranty.

## 1.2 Operator training

Only personnel who have undergone professional training, understand the effects of treatment and possible risks can use the equipment. The operator must read the user manual carefully before operating the equipment. When the treatment room is in the process of treatment, the words "No non-related personnel are allowed to enter" should be marked. Before the operation, the operator must inform the treatment subject of the possible risks of the treatment, and the treatment subject must make a written agreement on the treatment. The success of treatment depends mainly on the experience of the operator and the understanding of professional knowledge.

## 1.3 Electrical and equipment safety

The power supply used by the equipment is 200V~240V (50/60Hz) single-phase power supply, international standards (120cV~260V, 50/60Hz); 20A (90~130V, 50/60Hz) single-phase three-wire socket.

The equipment is in contact with the ground through three wires. The ground wire must be reliably grounded. Only authorized personnel can repair the equipment, otherwise the warranty will become invalid.

Note: Avoid using flammable materials such as acetone and alcohol within the operating range. When disinfecting the equipment with alcohol-containing products, make sure that the alcohol has evaporated completely before operating the equipment.

## **Section 2 Electrical and equipment safety**

### 2.1 Features

DL-808S is a kind of semiconductor laser hair removal instrument. It adopts high-energy continuous semiconductor laser to realize the conversion of electricity, light and heat energy, and completes the treatment of diseases. It is a laser treatment product integrating laser technology, electronic technology, computer technology and medical technology.

Working principle: the microprocessor-controlled laser power supply provides an adjustable constant current for the laser module. The high-power laser diode inside the laser module converts electrical energy into light energy, and outputs a continuous laser with a wavelength of 808nm. The laser beam passes through the light guide. The crystal is irradiated on the tissue to be depilated and passes through the surface layer of the skin to reach the hair follicle. The light energy is absorbed and converted into heat energy that destroys the tissue of the hair follicle, so that the hair is shed and loses the regeneration ability, and the purpose of permanent hair removal is achieved.

## 2.2 Structure and performance



Picture 2-2-1

DL-808S is mainly composed of host, control module and handle. The control module includes an emergency stop switch, a key switch, and a control screen; the control screen is a 10.4-inch LCD screen, and the treatment head is a laser treatment head.

### 2.2.1 Structure

#### 2.2.1.1 Main machine

DL-808S main machine composition:

**Power module:** The power supply to the entire equipment system is the power source for the equipment to work.

**Control module:** as the control center of the device, through the acceptance and function of the input information, the output control device realizes the various functions required by the design and realizes the user's needs.

**Display module:** As a human-computer interaction interface, it displays various information of the system and accepts user instructions.

### 2.2.1.2 Control system

The operation of DL-808S is mainly completed by the control module, which mainly includes the following parts:

Key switch: turn on the device and connect it to the power supply.

Emergency stop switch: When an operation error or emergency failure occurs, press the power switch to stop the device and achieve the protection function.

Control screen: As a human-computer interaction interface, display operation settings and adjust system parameters.

Foot switch: Press the foot switch, the device starts to work; raise the foot switch, the device stops working.

### 2.2.1.3 Handle

The handle is the main body for operation and includes a bellows and a treatment head. The bellows are equipped with power lines and data lines; the treatment head is equipped with a control switch, as shown in picture 2-2-2.



### 2.2.2 Specifications

Specification	Data
Light source	Diode laser
Laser emitter	10bar/500W/50A
Wavelength	808,755,1064nm
Electrical current	15-50A
Energy density	1-140J/cm <sup>2</sup>
Frequency	1-10Hz
Width of light	10-400ms/±10%-40%

Light output size	1.4*1.4
Cooling system	Close-cycle water cooling; fan cooling and semi-conductor cooling
Operator display screen	10.4" TFT True Color LCD

### 2.3 Treatment application

DL-808S used for permanent hair removal

### 2.4 Accessories

Accessories list of DL-808S as below

Name	No.	Name	No.
Plastic pipe	1	Power cable	1
Handle	1	Pedal switch	1
screwdriver	1	Funnel	1
goggle	1	Protective eye cover	1

## Section 3 Installation

### 3.1 Procedure of Installation

The device should be installed in an environment free of corrosive gas, dust, and particles. Corrosive gas will damage the electronic and optical components and connecting wires of the device. More dust and particles in the air can cause damage to filters and electrical components. The temperature and humidity range of the equipment installation environment should meet the performance parameters of the equipment.

Equipment installation process:

Take out the device.

Leave the removed device for one day to avoid excessive humidity caused by long-distance transportation and damage to the device.

After the humidity of the device is appropriate, assemble the components of the device to ensure that the connections at each interface are stable.

Fill the water tank with distilled water.

Connect the handle of the device to the power supply of the device.

After all components and power connections are complete, turn on the device and test its performance and system parameters while ensuring that the device is connected correctly.

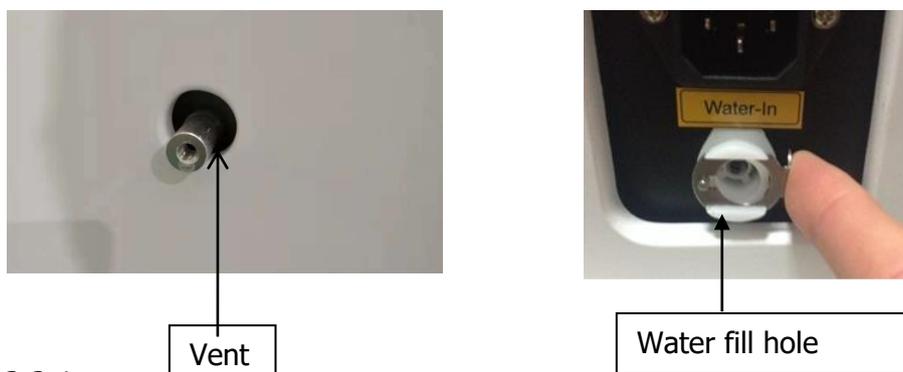
### 3.2 Installation Requirements & water input

When installing equipment parts, the first thing to do is the water injection operation of the equipment. Before each operation of the equipment, you must first check whether the water level of the water mark of the equipment accounts for more than 90% of the water column. If it does not reach, you must add distilled water

#### 3.2.1 Instruction of water input

The temperature of the environment should be 5°C~40°C; Humidity should lower than 80%, the Therapy room should be clean .

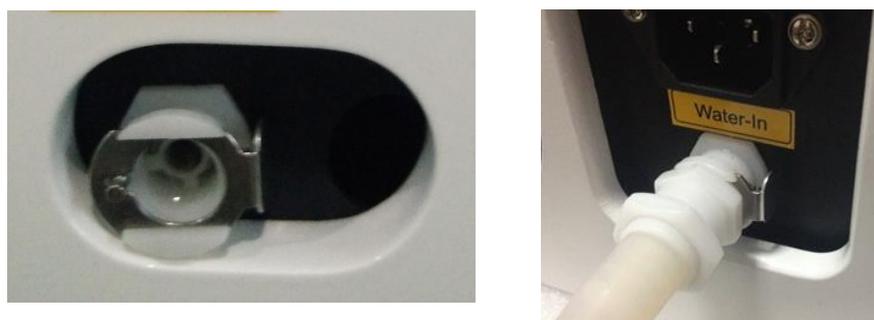
Before injecting water, make sure that the vent hole is open and the hand tool is intact (3.2.3 Installation of the therapeutic handle), otherwise water injection cannot be performed, as shown in picture 3-2-1



Picture 3-2-1

Insert the white connector port of the water injection funnel into the water injection hole, and inject water into the device through the funnel.

After the water injection is completed, press the iron piece on the injection/drain hole to remove the water injection device from the water injection hole. As shown in picture 3-2-4



Picture 3-2-4

#### 3.2.2 Water circulation testing

After the equipment is filled with water, connect the power cord and the pedal cord. After the connection is completed, perform water cycle debugging on the equipment.

The steps of water cycle operation debugging are as follows:

Before starting the equipment, you must ensure that the emergency stop switch is in the bouncing state. If the emergency stop switch is pressed, click the emergency stop button to make it pop up.

Turn the circuit breaker switch on the back of the device to the "ON" position.

Turn the key switch clockwise to automatically operate the water circulation cooling system inside the device.

Observe whether the water circulation of the equipment is normal.

If there is no water leakage, water flow alarm, etc., let the device run automatically for more than one minute before it can be used.

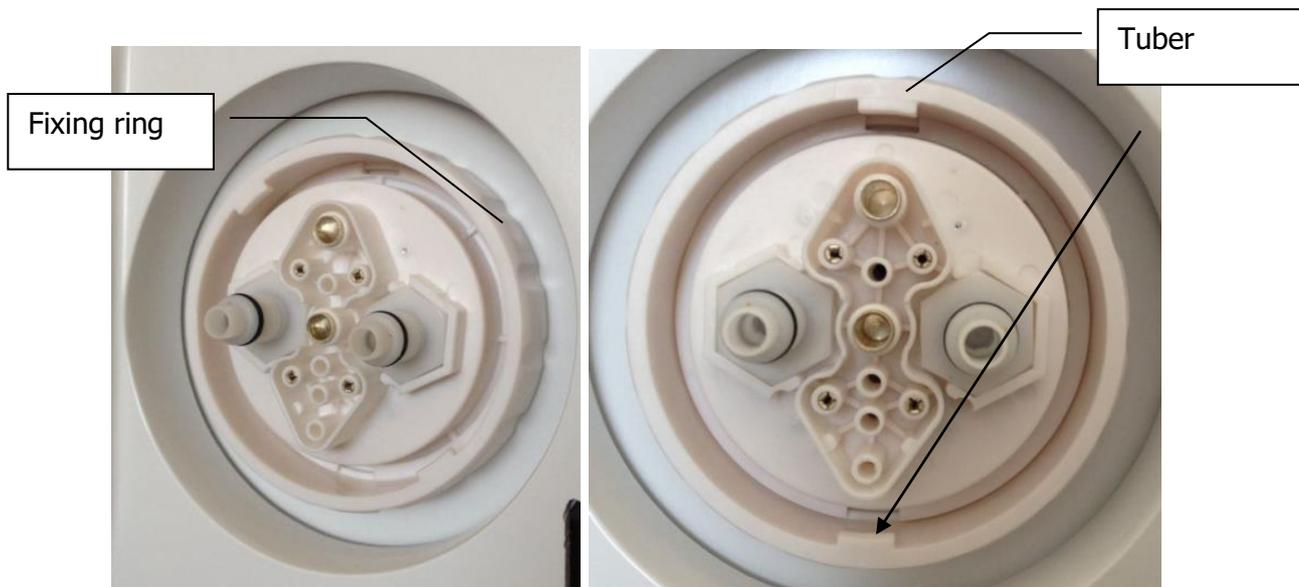
Note: Change the water every 2-3 months, and replace the filter when changing the water. Drain as much water as possible from the cooling system.

### 3.2.3 Installation of operation handle

When installing the therapeutic handle, the handle should be placed lower than the main unit, so that the air bubbles in the handle can be discharged. After the installation is complete, start the equipment and allow the water cycle to run for at least one minute before performing related treatments.

Install handle onto the machine

Rotate the Fixing ring and let the two Tubers on the Fixing ring up and down.

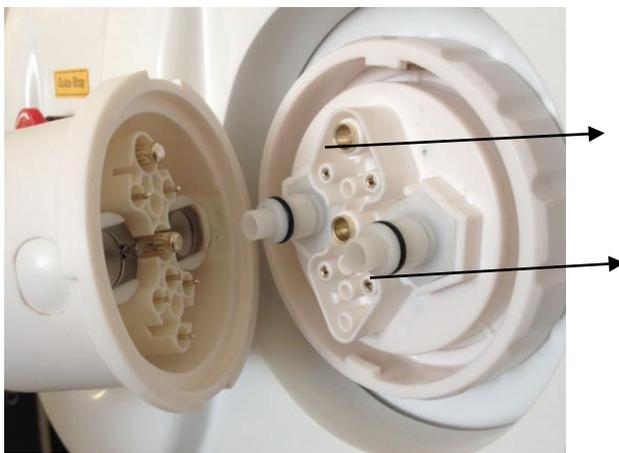


Push-in the two lock buttons on both side of the handle plug

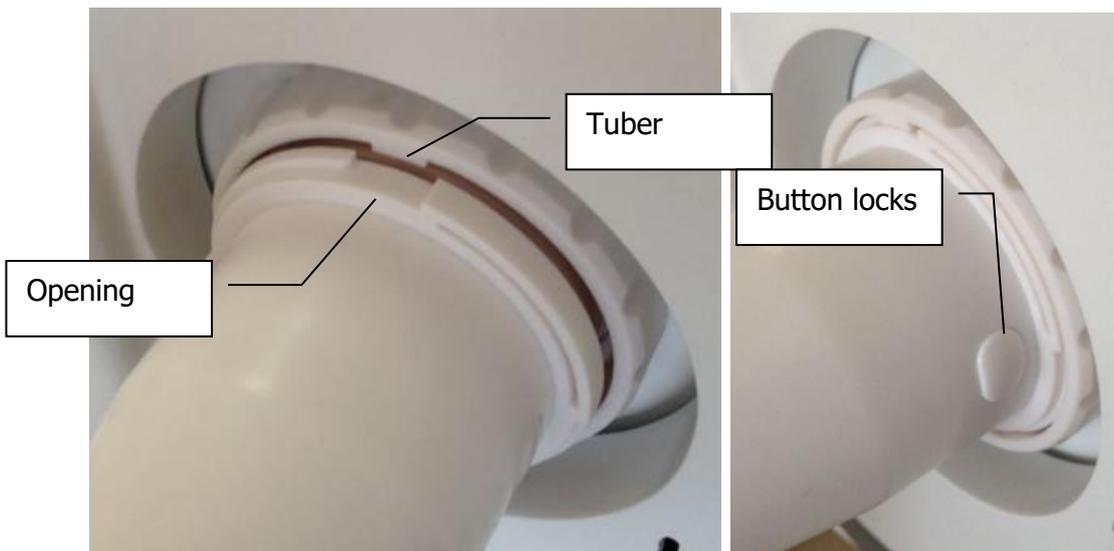


Push-in the two button locks on both sides of the plug

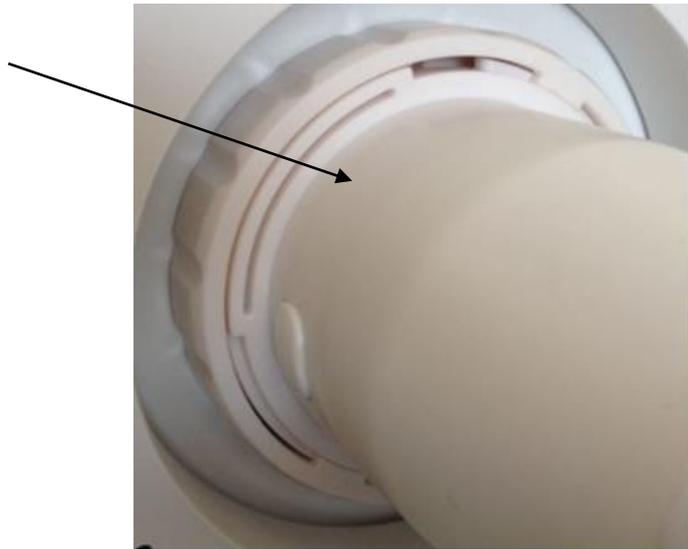
Pay attention to the direction of the handle plug onto the socket. Don't turn upside down.



Let the Opening on the plug faces forward to the Tuber on the ring and push for connection. The two button locks springs and you can hear it.



Rotate the Ring and let the Tuber deviates from the Opening, so that the handle is locked on the socket.



When you need to take down the handle from the machine, you need go backwards:  
 1. Tuber faces forward to the Opening; 2. Push-in the two button locks; 3. Take down the plug.

Picture 3-2-6

When you need to remove the handle, press and hold the upper and lower buttons of the plug to pull out. You can remove the handle.

## Section 4 Software instruction

### 4.1 Working display

#### 4.1.1 Instruction of working display

	Water level frame
	Energy density frame
	Sound icon
	Ready button
	Data save frame

Picture4-1-2

	<p>Water temperature alarm icon</p>
	<p>Handle temperature alarm icon</p>
	<p>Water flow alarming</p>

#### 4.1.2 Instruction of alarming indicator icon

##### 4.1.2.1 Water level alarming

When the water level alarming icon show red color ,and “! ” marker is appeared ,that is mean the water is too less .

Solution: please fill water in time.

##### 4.1.2.2 Water tank temperature alarming

Water tank temperature value is too high ,and the“! ”marker is appeared ,the system will switch to the standby status automatically .

Solution: Please check whether the water circulation component working normal or not, or whether there are any destroy or broken of the components. If all above problems are not seen, please contact the device producer or distributor.

##### 4.1.2.3 Handle water temperature alarming

Handle temperature value is too high ,and the“! ”marker is appeared ,the system will switch to the standby status automatically .

Solution: Please stop to use the handle and wait some time, then turn on the device again. If the handle temperature alarming continues, please contact after-service engineer or your distributor.

##### 4.1.2.4 Water flow alarming

When the water flow icon value smaller than “2”and the water drop icon is lighted, that is mean the water flow alarming, the device system will switch to the standby status automatically.

Solution: Check the water level to see whether there is enough water. Please check the handle connect well or not, whether there is water leaking. If all above problems are not seen. please contact the device producer or distributor.

## 4.2 The software interface introduction

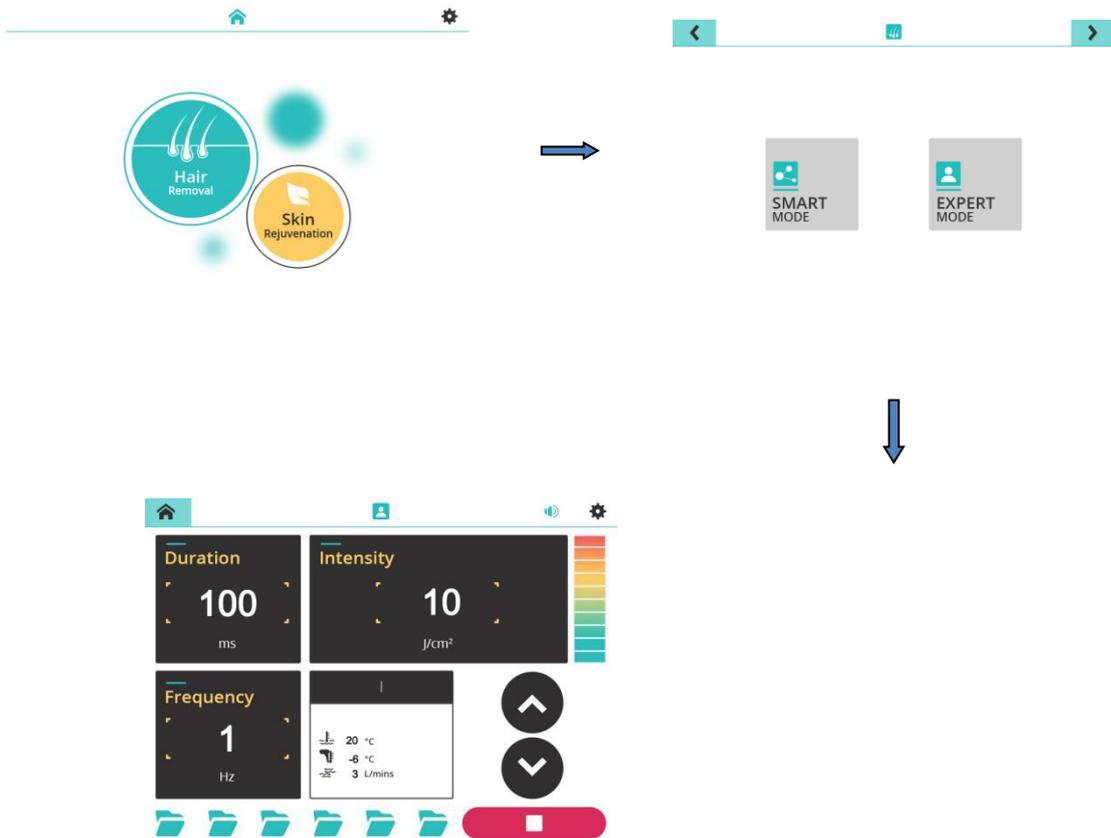
### 4.2.1 Hair removal (Smart Mode)



4-2-1

Click on hair removal, enter the mode selection, select smart mode, select male/female, perform part selection, enter, the system automatically generates the required parameters, click ready, you can work.

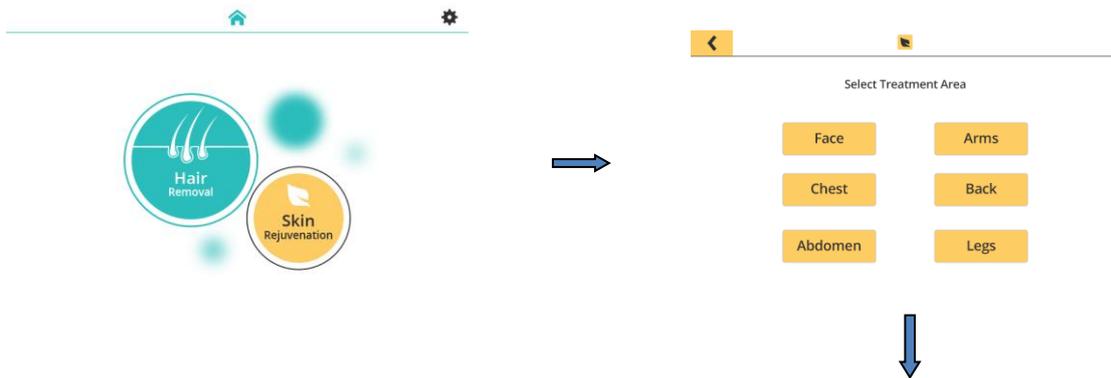
### 4.2.2 Hair Removal (Expert Mode)

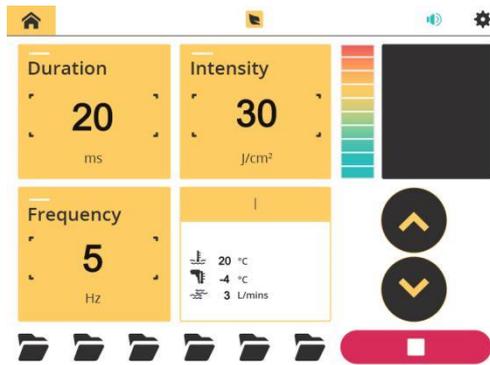


#### 4.2.2

Click to epilate, enter the mode selection, select the expert mode, click to enter, the operator needs to set the parameters according to the treatment situation of the person being treated, click to ready, then you can work.

#### 4.2.3 Skin Rejuvenation Interface





### 4.2.3

Enter skin rejuvenation, the clinic data will be auto generated, press ready.

### 4.2.4 Instruction of system setting display

Picture 4-2-1 Time date setting list

	language settings
	Value limitation
	Alarming record
	Safe setting

## 4.3 Operation Instruction

### 4.3.1 Parameter setting

When the system in Standby status ,press Ready button the device will switch to the Ready status . When the system in Ready status ,press Ready button the device will switch to the standby status .When the device is in the standby status, the handle [indicator light](#) will be in yellow color ,when the device is in the Ready status, the handle [indicator light](#) will be in green color .

### 4.4 Treatment procedure and How to operate the device

Before treatment, the operator communicates with the treatment subject in detail, cleans the treatment area with a mild cleansing milk, simply shaves and shaves the treatment area, and finally applies 1 to 2 mm of cold gel on the treatment area.

Start the system and enter the treatment parameter setting interface;

Select according to the actual situation of the treatment object, set the treatment parameters, click the standby/working button to enter the working state;

The indicator light of the hand tool is yellow in the standby state, green in the working pre-ignition state, and red in the working light emitting state.

During the treatment process, the operator should observe the treatment status of the treatment subject in real time, and adjust the treatment parameters according to the actual situation if necessary;

During the treatment process, the treatment head should avoid staying in the same treatment site for a long time; the operator and the treatment object should do protective work in real time to avoid injury;

After the treatment, turn off the power switch; wipe the cold gel at the treatment site and apply cold compress to it; cold compress can be performed in the standby state.

Clean the treatment head with a warm towel, then disinfect the treatment head with a cotton ball moistened with disinfectant;

Put the cleaned and disinfected treatment head into the transport box, unplug the power plug of the device, and the treatment process is over.

#### 4.5 Treatment parameter setting reference

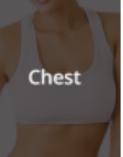
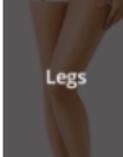
##### 4.5.1 Smart mode---hair removal (Male)

Smart Mode (Hair Removal)								
Area	HZ	Skin type	Energy reference	Area	HZ	Skin type	Energy reference	
 Male	 Face	2-4hz	Type I	30-40	 Chest	5-8hz	Type I	35-45
			Type II	28-38			Type II	33-43
			Type III	26-36			Type III	31-41
			Type IV	24-34			Type IV	29-39
			Type V	22-32			Type V	27-37
			Type VI	20-30			Type VI	25-35
	 Underarms	3-5hz	Type I	28-38	 Bikini	3-5hz	Type I	33-43
			Type II	26-36			Type II	31-41
			Type III	24-34			Type III	29-39
			Type IV	22-32			Type IV	27-37
			Type V	20-30			Type V	25-35
			Type VI	18-28			Type VI	23-33
	 Arms	4-7hz	Type I	45-55	 Legs	5-8hz	Type I	55-65
			Type II	42-52			Type II	52-62
			Type III	40-50			Type III	48-58
			Type IV	38-48			Type IV	45-55
			Type V	34-44			Type V	42-52
			Type VI	31-41			Type VI	39-49

##### 4.5.2 Smart mode---hair removal (Female)

	Area	HZ	Skin type	Energy reference	Area	HZ	Skin type	Energy reference
		2-4hz	Type I	35-45		5-8hz	Type I	40-50
			Type II	32-42			Type II	38-48
			Type III	30-40			Type III	36-46
			Type IV	27-37			Type IV	34-44
			Type V	25-35			Type V	32-42
			Type VI	22-32			Type VI	30-40
		3-5hz	Type I	33-43		3-5hz	Type I	38-48
			Type II	31-41			Type II	36-46
			Type III	28-38			Type III	34-44
			Type IV	26-36			Type IV	32-42
			Type V	24-34			Type V	30-40
			Type VI	22-32			Type VI	28-38
		4-7hz	Type I	50-60		5-8hz	Type I	60-70
			Type II	47-57			Type II	57-67
			Type III	45-55			Type III	53-63
			Type IV	42-52			Type IV	50-60
			Type V	39-49			Type V	47-57
			Type VI	36-46			Type VI	43-53

### 4.5.3 Skin rejuvenation

Skin Rejuvenation Mode		
Treatment area	Frequency	Energy reference j/cm <sup>2</sup>
	3-5hz	28-38
	4-7hz	32-42
	3-5hz	28-38
	5-8hz	35-45
	4-7hz	32-42
	4-7hz	35-45

### 4.6 Attention after treatment

During treatment, the residence time of the treatment head at the treatment site should not be too long;

After treatment, apply a cold compress to the treatment site for 5-10 minutes; the cold compress can be performed in the standby state.

For the treatment site, do not touch hot water for 24 hours, avoid sweating in sauna bath for 3 to 7 days;

Avoid high humidity and heat environment;

Prohibit eating spicy, seafood, irritating food; eat less sensitive vegetables (for example, celery, white radish, spinach, coriander, etc.)

Pay attention to sunscreen, apply sunscreen more than 30 times. If the UV is strong in summer, you can wipe it up a few times, wear a parasol or wear a sun hat;

The use of functional cosmetics on the treatment site is prohibited within the past month.

## Section 5 Device Maintenance

### 5.1 Main device cleaning

Please use soft wet cloth to clean the device, avoid liquid to get in .

### 5.2 Operate handle cleaning and replace

Regularly clean the lens of the handle (a small amount of pigment particles will splash on the treatment lens during the treatment process, affecting the laser output), and wipe the treatment lens with lens paper or a cotton ball moistened with absolute ethanol.

Each handle has a certain service life, it must be replaced after six months of use (about 100 million treatments), at this time you need to contact the dealer to buy again

### 5.3 System trouble shooting

#### 5-3-1 System trouble shooting

Fault	Solution
no display on screen	check the electric wire
	check the circuit-breaker, fuse
	check the power supplier switch
	contact the distributor or device producer
No reaction of the handle switch button,	Please check whether the power supply switch behind the device is on or not. If is on, the trouble is still ,please

and no reaction by key	contact the distributor or device producer
System cannot be initialized	Check the power supplier
	Please contact the distributor or device producer
The energy output lower or no laser output	The voltage is too lower result the handle cannot work normally
	Please check whether there are dirty things on the laser reflective mirror. If yes, clean it.
	The handle inner is destroyed, please replace new handle
	Disassemble the handle to check whether the head reflective mirror is destroyed or not.
	The handle is too hot, please turn off the machine, cool down around 30 minutes, then work again.
	Please check if the handle has water leaking.
Handle dropped out of the handle holder	Please check if the handle destroyed. If yes, please change by a new handle.
During the treatment, when press the handle button, there are "zizi" noise	The device is not turned on for too long time. It is hard to start.
	The treatment room temperature is too low, please raise the room temperature.
	Please check the electric of the device normal or not
	The humidity of the treatment room is too high. Please lower the room humidity.
Cooling system temperature is too	Turn off the device for minutes, then turn on again. If the cooling system is still abnormal, please contact distributor or device producer
The handle output energy is too lower	Please check whether there are dirty things on the reflective mirror. If yes please clean it.
	If the handle is hot, please turn off the machine 30minutes
	Please check if the head of the reflective mirror is good. if there are any damage, please contact your distributor or device producer.
The handle output energy is too lower	Treatment head working life is end. Please contact your distributor or device producer.
Laser emitter is broken	Please contact your distributor or device producer.

## Section 6 Standard

This Section describes the most important technical parameters and system categories of the treatment system.

### 6-1 System standard list

Specification	item
electrical connections data	
Electrical voltage	110/220VAC $\pm$ 10%
Electrical frequency	50/60Hz
Device type	
Harmful water invade type	Normal
Weather condition (during the operation)	
Temperature around	+15°C to +30°C
Relative humidity	30% to 80%
Atmospheric pressure	86.0 kpa to 106.0kpa
Weather condition (during the transport of device)	
Temperature around	+5°C to +55°C
Relative humidity	30% to 80%
Atmospheric pressure	86.0 kpa to 106.0kpa
Dimension and weight	
Device length/packing length	450mm /570mm
Device width/packing width	360mm/490mm
Device height/packing height	530mm/590mm
Gross weight/net weight	30Kg/48Kg