

# Laser Tattoo Removal Machine User manual



## Chapter 1

### Laser machine treatment system introduction

#### The first chapter principle parameters

##### 1. 1 treatment principle

Laser machine, using Q-mode, the use of high-energy laser laser effectively crush lesions in the pigment. Explosion principle is the principle of light: the use of laser instantaneous release of high energy, the irradiated pigment particles after absorbing energy expansion and rupture, part of the fission into smaller particles excreted, part of the human body through the lymphatic system to excrete, so as to remove the pigment . Since normal tissue does not absorb laser light at 1064 nm, thus maintaining the integrity of the cellular framework, there is absolutely no scar formation. This is unmatched by any other method so far. It is precisely because the laser eliminate the pigment does not destroy the normal tissue. Therefore, the greatest degree of security to ensure that customers will not be troubled by high-power postoperative complications.

##### 1.2 treatment range

Q-switched laser can effectively treat exogenous pigmentation and endogenous pigmented lesions formed by mixed pigment. Namely: the dark tattoos, eyeliner, lip line, remove tattoos, eliminate blue nevus, mole, freckles, age spots, nevus of Ota, bright red mole and so on. In addition can do black doll beauty, including shrink pores, acne India, improve the skin roughness and dark yellow; suitable for hospitals, clinics, beauty salons.

### 1.3 product performance indicators

1. Wavelength: 532 nm, 1064 nm dual wavelength Nd: YAG laser
2. Energy regulation: 10-2000
3. Output energy: single pulse 150-180mJ;  
Double pulse 300-600mJ;  
Multi-pulse> 1500mJ;
- 4 pulse width: 8-10ns.
- 5 repetition frequency: 1-10Hz.
- 6 Power supply: AC 220/110 V, 50/60 Hz.
- 7 power: 2000W.
- 8 Dimensions: 480 × 300 × 330 mm.
- 9 Packing Weight: 20Kg

## Chapter 2:Treatment system security

### 2.1 machine maintenance safety

1. The hand cavity is equipped with a sophisticated laser optical system, the process must be used in our damping packaging, otherwise it may lead to laser system disorders, affecting the laser output energy!
2. The operating chamber of this product is equipped with a precise and fragile laser device inside the housing.
3. Please debug the laser or wipe the laser lens must be turned off the instrument!

### 2.2 laser safety

1. Treatment system according to laser radiation safety classification are 4 types of laser products!
2. The laser is invisible infrared light, in which the wavelength of 532nm laser is green glare visible light, the operator should wear a wavelength of 532NM single-point all-anti-professional protective goggles!
3. The laser window is located at the end of the aiming head of the hand and must never look directly into the end port aimed at the hand and any reflected laser beam!
4. Flammable, explosive narcotic drugs, liquids, gases (such as alcohol, ether, nitrous oxide, oxygen, etc.) spots away from the laser radiation zone, and protective measures!
5. Metallic devices can cause laser reflection, the operator should avoid direct exposure to these devices, try not to use reflective devices!

6. Laser treatment room entrance should be affixed with laser radiation warning signs, laser access to the ban during the use of free access!

7. The company recommends that you equipped with a dedicated laser operating room, the indoor ban on the use of any reflective equipment, laser operation should be divided into the operator by the surgeon area, indoors should be affixed preoperative precautions.

### 2.3 Electrical Safety

1. Treatment system according to the classification of electric shock protection belongs to Class I B type ordinary equipment!

2. Treatment system using 220V power supply. Power capacity of not less than 200W!

3. Medical systems connected to the power supply must use an international, well-grounded single-phase three-wire power outlet, the size of 10A or more.

4. When the treatment system is out of operation, the high-voltage components in the machine may still have residual voltage. Unintentionally opening the protective cover of the chassis may cause the danger of high-voltage electric shock!

Note: Please ensure that the use of voltage stability!

### 2.4 Operational safety

1. The operator must ensure a good indoor environment and clean the operating room when using the instrument.

2. Patients must be provided with strict and effective eye protection. Such as using gauze cover, eyelid board protection and so on. Operators use gauze to mask the eye of the surgeon, the use of moist gauze to protect the eyes better, but the treatment site must be absolutely dry! When the operator must wash their eyes after the practice of my company can be treated before, such as the use of eyelids Plate, goggles to protect the eye, then the operator should have clinical experience in ophthalmology, the use of these devices must be strictly done disinfection.

3. Operating room lighting should be large enough.

4. The operator in the operating area is wearing a dedicated laser goggles, but the laser goggles can not completely protect the direct laser or the laser reflected by the glass, the mirror or the smooth metal surface. Therefore, it is forbidden to wear the goggles to look into the above direct laser light and reflected light .

5. The operator should wear white or light-colored overalls, as much as possible to reduce the laser radiation to the human body.

6. Non-laser irradiation is prohibited non-treatment area

Note: Large spot corresponds to smaller energy density. Small spot corresponds to a larger energy density!

Energy density = energy size / spot area

## Chapter 3 Installation & Use

### 3.1 installation process:

1. Place: open the instrument package, remove the instruments and accessories, place the instrument at room temperature 22-28 ~ C, humidity not more than 70% of the operating room or beauty salon.

2. Install the handle: the gunstock fixed on the host, and then the laser therapy head connected to the host, when installed on the host small black leather cap and handle the plastic tube removed, and then plugged into the host, with two A white screw fixed live. Then put the handle safely on the pendant.



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3.Choose the treatment of bald: According to the required choice of the corresponding wavelength bald mouth along the direction of thread tightening (1064nm bald used to get rid of blue, black, cyan pigmentation .532nm bald used to get rid of red, coffee, brown and other color pigment), black doll lens for black Face doll beauty.

4.installation: In ensuring leakage without leakage under the circumstances required to connect the power cord and foot switch.

A、 Foot switch installation: Be sure to make the gap at the switch up, aligned clockwise after tightening can be.

B、 Power outlet installation: one end of the socket according to the direction of alignment interface into the tail of the instrument, one end into a good grounding single-phase three-wire power outlet.

5.power ups: Connect the instrument according to the above requirements, first turn the red emergency stop switch in the direction of the arrow, and then use the key to turn right to the open position, the whole machine immediately energized.

Check: After powering on, you will hear the sound of fan and pump pumping in the instrument, which is normal performance.

### 3. 2Instrument operation method

Boot welcome screen (Figure 1), click to enter the treatment project interface;



(Picture 1)

Screen show:

According to need to select the need to treat the project, and then click to enter, to wash the tattoo as an example:



( Picture 2 )

(图三)




2、3、4、5  
state name

Operating interface screen display:

Current temperature




picture  Indicates the current temperature of the system circulating water. If the current temperature exceeds the temperature set in the background temperature protection item, this icon will blink and an alarm sound will be generated. At this time, all the keys on the screen are unavailable.

2. Current status:





3. picture  Said the system circulating water is normal;



4.  It means the system is abnormal in circulating water. When the system water flow is blocked or no water, this icon will be alternately displayed and an alarm tone will be displayed. At this time, all keys on the screen are unavailable.

3. Bald status:



picture  That bald has been lit. ; picture  That bald does not light; bald is lit, it can enter the charge state, such as five seconds did not light head, then return to standby.

4.charging:



Said charging success;



Charging is unsuccessful, the system can enter the state of treatment after the charging is successful and can be treated. , Such as five seconds charging is not successful, then return to standby.

5.Shimmering state:



After depressing the foot, there will be a laser output on the treatment head, which will be displayed on the screen at the same time, indicating no laser output at this time.




6.counter:

Count range 0 ~ 999999 cycle count, technician only record the number of operations, exit the system cleared.

Instructions for use:

After entering the treatment interface,   For energy regulation, The range is 10mj ~ 2000mj.

  Frequency adjustment, the range of 1HZ-10HZ. Click "work", xenon lamp pre-combustion,


pre-combustion after the success , Status bar indication  turn to  , picture  turn



That charging is successful, then step on the pedal can be fired pulse. Each time a pulse is emitted during work, the pulse count is incremented once.

Shutdown, press the "stop" button to stop working, you can turn off the power switch

Other function settings:

In the standby state of FIG. 2,click  Enter the system settings menu , The user can set special features of the instrument.



(picture4)

1. counter

This counter is a system counter, which counts up the number of treatments for all items.

## 2. Sound switch

Set the system's touch tone, can be set to open or closed.

## 3. Set the indicator light

The state of the control instrument's indicator light can be set to ON or OFF.

## 4. language selection.



(picture 5)

Click the corresponding flag to switch the system language.

## The fourth chapter : black doll nd yag laser laser treatment system operation

### 4.1 operating procedures

1. First ask the customer whether the scars of the body, whether the skin changed, whether it is allergic skin, whether it is covering the province or before using other methods to wash the eyebrows, tattoos, observe whether there is a scar exists, to explain to the patient remove the color After a period of time there may be pigmentation marks, these pigmentation traces of the sun after the former caused by thorns, a month and a half later can be treated again. If the patient had the original pigment for the composite pigment or chemical pigment, the pigment contains iron ions, aluminum ions, blue, melanin may be removed after the light-colored marks, one and a half months later

Times for treatment.

2. When using 1064nm laser to treat black and blue pigment, the operator briefs the patient on the principles of the treatment and the circumstances under which surgery can occur (as described below). Avoid unnecessary disputes as patients do not understand the operation, postoperative response and recovery process. Wash the eyebrows before Mei Mei shaved off for intraoperative observation. For large-area tattoo or Ota, it is recommended sub-graded treatment, so as not to post-operative wound is too large, causing discomfort, at the same time can use the obvious preoperative and postoperative contrast to help patients build confidence, sustained adherence to treatment.

3. With 1064nm laser treatment of black and blue pigments, strong darkening of the pigment may occur with strong acoustics due to the intense absorption of laser energy by melanin in the treatment of deeply textured tissues. The superficial pigment clusters break out of the epidermis due to energy absorption. A small number of stratum corneum prone to bleeding point. Laser treatment for the first time, when the organization's color will become very shallow, but after ten minutes will be some recovery, which is the organization's normal reaction. Macrophage phagocytosis and transport function will last a long time, during which the tissue will gradually



lighten the color. The second treatment is recommended after a month and a half of the first treatment. Eye wash line due to eye sensitivity prone to tears, tears will affect the results, generally do twice.

4. With 1064nm laser treatment of black and blue pigment, the hair bleaching and may fall off after surgery, but in about two weeks time to regain new hair and may be more dense than the original, will gradually become normal. Treatment site bleeding, slight edema. After the swelling may have itchy feeling, touching the tissue may be stiff, these are organizations of the normal reaction, all the bad feelings will be completely disappeared within two weeks to a month or so, the length of time varies from person to person.

5. 532nm laser treatment of brown, red pigment, due to the human body of hemoglobin 532nm wavelength absorption, so the laser irradiation after the skin surface whitish, epidermal necrosis and produce depigmentation or pigmentation.

6.532nm laser treatment of brown, red pigment, the subcutaneous capillaries and other organizations absorb 532nm laser will break down after the formation of subcutaneous congestion, "purpura" phenomenon, severe cases can lead to scab, the recovery time varies from person to person about 20-60 days about.

7. Within one to three days after surgery, it is forbidden to trace the brow, wash, touch, etc. in the bleeding site to avoid infection. Care should be taken to prevent sunburn to avoid causing pigmentation. More bleeding, more severe swelling, may be prescribed to take aspirin and other antibiotics. 72 hours after surgery topical erythromycin ointment, can also wipe the repair fluid, MEBO scald cream smear affected area to help heal. Avoid a lot of spicy food to eat within a week, deep color to avoid drinking.

4.2 Various types of case treatment reference table

| Time project              | The required course of treatment (The number of treatments) | Treatment interval (Second treatment interval) | Remarks (Intraoperative requirements)          |
|---------------------------|---|--|--|
| Tattoo eyebrow            | 1—3times  | 30—60days                                      | Squeeze eyebrows, protect the eye              |
| Tattoo (traumatic tattoo) | 3—5times  | 30—60days                                      | The affected area appears good bleeding effect |
| Freckles age spots        | 2—3times  | 15—30days                                      | The affected area appears good bleeding effect |
| Birthmark, Ota            | 3—7times  | 45—60days                                      | The affected area appears good bleeding effect |
| Black doll beauty         | 6-10times   | 7—14days                                       | The skin is not damaged                        |

4.3 Operating skills and operating practices

Preoperative requirements:

1)Beautician should preoperatively establish a file for the client (refer to the sample), fully understand the actual condition of the client before surgery to determine the choice of treatment of bald head and laser dose required; the same time, the beautician should be patient To explain the advantages of laser beauty (remove tattoos) to customers to relax and cooperate with the whole body.

2)Preoperative treatment of parts should be cleaned, disinfection of treatment equipment, such as washing eyebrows should be: regret eyebrows shaved clean: available saline wipe the affected area, eyewash medical gauze should be sterilized t treatment must ensure that the affected area is absolutely dry , Laser spots can not be irradiated with water, or the rapid decay of light energy, seriously affecting the treatment effect.

3)Intraoperative laser dose required for operation (energy setting reference table)

| Adapt to symptoms          | Energy    | Frequency | Distance From Tip to skin |
|----------------------------|-----------|-----------|---------------------------|
| Tattoo eyebrow removal     | 600-800   | 3-5       | 3-5cm                     |
| Eyeliner removal           | 600-800   | 3-5       | 3-5cm                     |
| Lip line removal           | 600-800   | 3-5       | 3-5cm                     |
| Skin Spot removal          | 800-1000  | 3-5       | 3-5cm                     |
| Tattoos removal            | 1000-1200 | 4-6       | 7-8cm                     |
| Birthmark remvoal          | 1000-1500 | 4-6       | 7-8cm                     |
| Black doll laser treatment | 1000-1500 | 5-8       | 7-8cm                     |

Note:

A. 1064nm (round head) bald used to get rid of blue, black, cyanine calm.

B. 532nm (square head) bald used to get rid of red, coffee, brown pigmentation.

C. At the time of treatment, the operator holds the laser gun grip as close as possible to the treatment site at a 90 degree angle. To ensure that the vertical laser light, reducing laser energy loss: eyebrow, eyeliner, lip line, the light spot should be superimposed on the formation of a straight line to move

Spotted straight to take a small area sub-divided treatment. Each treatment - a small part. It is required that the site be oozing.

The fifth chapter :introduces the operation of all kinds of cases

## 5.1 tattoo

### 5 .1. 1 Remove monochrome blue, black tattoo:

Operators should not open their eyes during surgery, the operator according to the depth of the affected area to choose the desired laser dose (adjust the energy appropriate), hand-held laser gun from the affected area near the normal skin slowly move near the affected area, so that the surgeon has a psychological acceptance process. At this point, the light speed can be set to 5HZ gun head distance from the affected area 1-2 fingers for treatment, from the brow or Mei Wei treatment can be 5 to 10 minutes after the anti-color if the phenomenon may be Wash the second time. At this point, the energy higher than the first pass 2-4 values, the gun head raised from the affected area 2-3 fingers

asked for treatment, further crushing the pigment to promote absorption of the body, one and a half months after the review, the pigment did not fade. The best can be the second treatment.

5.1.2 Remove cover tattoo (cover tattoo to be treated 2-3 times before they can be completely eliminated)

Can set the light speed of 3Hz, the energy value of the appropriate reference to the table, the first treatment with 1064nm bald, gun head distance from the skin 2-3 finger treatment, followed by 532nm bald for treatment. Because brown (brown) is a blending pigment. Usually need to be more than two times the treatment, the treatment interval of 45-90 days, the second treatment based on the remaining color selection treatment bald.

#### 5.2 Wash eyeliner

Can set the light speed is 5Hz, the light energy value is adjusted to the lowest (critical light spot). Gun tip away from the affected area 2-3 finger spacing, to see the light spot subject! Operators must use thick medical gauze or eye plate to the eye to be closely protected. First wash under the eyeliner, asked to close the eyes by the surgeon, while the eye up look, the operator with the index finger to suppress the upper eyelid pressed to push up, lower extremity peel middle finger exposed line with the speed of 5Hz for treatment: Wash the upper limit line by the surgeon eyes closed at the same time looking down, the operator with the middle finger to suppress the eyelid to suppress the press down, the index finger will push up the eyelids to reveal the upper eyeliner with a speed of 5Hz for treatment.

#### 5.3 Wash lip line

Can be set out of light speed 5HZ, energy value refer to the table, the gun head distance from the affected area 3-4 fingers. Get rid of black, brown, dark red, brown first wash with a 1064nm bald again, then 532nm bald wash two times: get rid of light 玳 color, red, light brown, light brown with 532nm bald wash.

Note: All lip lines, bleaching lips, lips must be leached half a year after treatment, or surgery failed. Treatment for 45-60 days, cycle treatment until washed.

#### 5.4 Wash tattoos

Can set the speed of light for the 3HZ / 5HZ, energy suitable reference to the table. Gun head from the affected area 3-4 means, as far as possible with the focus of high-energy treatment, hit the bleeding point is particularly effective. Common blue-black removal of choice 1064nm bald treatment, such as red, brown is the choice of 532 bald treatment, treatment interval 45-90 days, the cycle until the wash.

#### 5.5 Spotting mole

Can set the light speed of 3HZ / 5Hz, the energy value of the appropriate reference to the table, the gun tip 3-4 from the affected area, as far as possible with the focus of high energy value for treatment. Play a good point of bleeding, in addition to direct use of red pigmentation 532nm bald treatment, for the treatment of speckle are used 1064nm bald wash, if the treatment of dark stains is invalid, you can use 532nm bald wash. Treatment interval of 15-30 days, cycle treatment until washed.

#### 5.6 Birthmark, Ota

Can be set to the light speed of 3Hz / 5Hz, the energy appropriate reference to the table, the gun head from the affected area 3-4 means, as far as possible with the focus of high energy value for treatment, must make oozing, except red pigmentation with 532nm Bald wash, for the treatment of birthmarks suggested the use of 1064nm bald wash, if dark mole treatment is invalid, you can use 532nm bald wash. Treatment interval of 45-90 days, cycle treatment until washed.

## Chapter VI intraoperative reflect and postoperative recovery

Due to high energy laser instantaneous exposure, the lesion tissue mass rapidly broken into small particles can be phagocytosed by human macrophages, a part of the superficial epidermis immediately pop-up body, another part of the deep tissue is evenly arranged in the epidermis, So after a short period of time the color and have a reply; treatment of deep texture of the tissue layer, due to the strong absorption of melanin on the laser energy, may produce local swelling, blisters, and even the formation of bleeding point, which are Belongs to the normal inflammation of the organization, while the severity of local inflammation varies from person to person, the inflammation may ease the touch of the organization after itching, tissue stiff feeling. In general, after the harvest 3-7 days all do not feel electric will disappear, some individuals will continue for 1-3 months due to physical longer period of time.

After surgery, hemorrhage Miaomei, washing, exposure and other infections, and prescribed by the doctor with Taiwan dietary conditioning, 3-7 days can not eat spicy food, not drinking. In case of more bleeding, more severe swelling of sensitive customers, we suggest that after oral administration of antibiotics (acetylspiramycin), convalescent (after 72 hours) with ruby ointment applied to the affected area to help heal, can also be wiped Repair fluid repair.

### 6.1 Dispelling pigment the deciding factor of difficulty

1. Tricolor pigment texture is good or bad, pigment is divided into: plant pigment, composite color, chemical pigment. Get rid of easy to difficult. Usually composite pigment and chemical pigment contains iron, lead mineral deposits in the skin deep. Thus bringing difficulties to treatment.

2. Color shades. In general, deep color removal difficult, the treatment of more times, less difficulty removing the pale color, treatment less. However, encountered chemical color division tattoo, regardless of the depth of its treatment less than ideal.

3. Individual physical differences. This includes age, skin, body immunity and other factors.

### 6.2 eyebrow eyebrow knowledge set

1 first shampoo and second shampoo different:

Wash the eyebrows with the second time near the focus of energy to wash, that is far away from the first time, the energy than the first large.

2 wash coffee eyebrow will return black blue reasons:

This is a normal reaction because coffee brows are. A blend of color, iron, lead ions. Iron ions very easy to produce pigmentation in the epidermis of the skin, it is recommended to first wash with a wavelength of 1064nm, and then wash with 532nm wavelength. After one and a half months to observe the effect, if the return to the blue with 1064nm wash, if the red return 532nm.

3 why some red eyebrows after washing did not respond:

The pigment is a chemical pigment non-plant pigment, iron ions have reached the dermis, resulting in pigmentation - it is more difficult to wash, in which case curative effect is not as good as plant color wash, for pure red eyebrows, you should use 1064nm bald wash, film j focus of the energy will be broken pigment, hit the bleeding point, and then use 532nm wavelength wash.

4 how to treat facial spots:

Southern liver spots, such as butterfly spot treatment is better, because it is due to the formation of the climate; shallow freckle acquired the formation of better washing effect; hereditary deep freckle effect is good; Blood points, as the treatment period of three courses, the interval of 45 days.

5 for the treatment of moles: the focus of energy to play the mole bleeding point can be.

6 "scar physique" can wash:

A very small number of "scar physique" can be washed, the pattern can be washed, but the effect

is not as good as the normal skin, the process of washing as little as possible with a large spot of energy, prohibit the use of the focus of energy wash.

7 pregnant women can laser eyebrow: pregnant women can not laser eyebrow

8 how to wash red blood, wash to what extent:

We recommend not to wash red blood, because the blood contains hemoglobin, during the treatment of these hemoglobin absorb 532nm wavelength of light, if not spread in time will form a "purpura", resulting in surgical failure.

Chapter seventh black doll laser nd yag machine system maintenance and repair

Company sales guidelines introduced:

Sale principle: "high quality and efficiency of fast and efficient"

Accepted: According to the implementation of the supply contract maintenance regulations

#### 7.1 Routine maintenance of the instrument

I clean output lens: After the instrument is used for a period of time, the surface of the lens should be regularly cleaned. In the course of treatment, the pigment particles splash in the tissue splashed lens lens, affecting the laser light, easily lead to weak laser light. At this point you can use a screwdriver to remove the focus lens card teeth, with lens paper or cotton swab dipped in alcohol gently wipe the aiming head of the lens. After wiping, the convex surface of the lens facing inward (toward the front mirror direction), such as the wrong mirror direction, easily lead to the laser front mirror fragmentation, and ultimately can not be used.

This instrument is forbidden to disassemble by yourself

#### 7.2 Instrument Troubleshooting Guide

##### 7. 2. 1 The whole machine can not boot

A. Power supply is power, the machine power plug is inserted.

B. Red emergency stop switch is not in the open position, please turn the emergency stop switch to the right, in the raised position.

C Check the fuse holder fuse is intact, if burned, please replace immediately.

##### 7. 2. 2 The instrument does not flow after power on

##### 8. 18. error Symptom:

After starting the water does not flow or poor flow. Can only glow for a minute, do not glow, use when pay attention.

##### 2. The right approach:

In the absence of water flow, it is necessary to stop working in time, otherwise it is easy to burn the handle.

##### 3 Depress the foot switch no laser output

1) Check whether the system is ready.

2) check the foot switch is normal, if damaged immediately replaced.

3) Check if the lower energy output is selected, adjust the energy key, and increase the energy

4 laser output was significantly weaker or "empty gun" no laser

1) The use of energy is too low, the instrument does not work

2) The laser output lens is not clean, please press the normal operation to wipe the lens

3) laser gun cavity xenon lamp burned, replace the laser gun.

4) The instrument is overheated. Shut down, standby use after 30 minutes

5) Unscrew the optical head, check the front mirror for damage, replace immediately if damaged.

6) Carefully observe whether the handle or tip leaks, if any leakage immediately replace

5. The device used to hold the machine when there is electric shock

1) the climate is dry, human body friction caused by static electricity, it is recommended to wear chemical fiber clothing.

2) The three-phase ground connector is not used. Please replace the three-phase connector, the power plug it should ground.

3) Indoor voltage instability, as far as possible for the instrument configuration regulator.

6 Instrument leaks

1) Leaking handle:

2) Leakage caused by strong vibration during transportation

3) water tank, water pump leaks;

Appears above, please immediately send the instrument back to the company to repair.

7 Press the pre-ignition key during the operation of the instrument to find the broken sound

1) If the instrument is deactivated for a long time, it causes the instrument to pre-ignite slowly, please turn it on repeatedly

2) Indoor temperature is too low, appropriate room temperature, it is recommended to install air conditioning.

3) Instrument lamp line appears virtual connection or open circuit, please check the line.

4) indoor humidity is too large, keep the indoor dry coal.

5) xenon lamp burn out, replace the xenon lamp.

8 instrument in use, the energy weakened

1) Check the gun head lens is attached with impurities, resulting in block light. If there is pigmentation please wash with absolute ethanol.

2) The operating handle temperature is hot feeling, let the machine rest for 30 minutes or replace the cooling water.

3) Check the front mirror is intact, if crushed. Please contact the manufacturer quickly.

7.3 Return to factory maintenance

When the instrument can not work normally for some reason, and when you can not enter the normal working condition after simple maintenance as mentioned above, please contact with our after-sales service department in time. If you need to return to the factory for repair, please press the following Way to contact:

Delivery: send courier to the company

Customer before delivery, first contact with after-sales service department. Determine the phone number, pick up location, consignee.

7. 4 Packing inside

| name                      | quantity |
|---------------------------|----------|
| Host machine              | 1        |
| Laser handpiece           | 1        |
| 1064nm lens               | 1        |
| 532nm lens                | 1        |
| Black doll lens           | 1        |
| Senior protective glasses | 1        |
| Protective goggles        | 1        |
| key                       | 2        |

|                  |   |
|------------------|---|
| power cable      | 1 |
| Foot switch      | 1 |
| Add water funnel | 1 |
| User manual      | 1 |
| Flight Case      | 1 |

Chapter VIII laser beauty knowledge reference

8.1 laser cosmetic knowledge of the problem

8.1.1 What is laser tattooing?

Laser, refers to the monochromatic head can produce high-energy, precise focus, it has a certain (strong) penetration and targeting, acting on human diseased tissue in the local produce high-calorie and does not destroy the surrounding normal tissue . Laser tattoo removal is the use of laser light "one by one selective absorption of light heat" principle. That is, the high energy emitted by the laser instantaneously effectively penetrates the epidermis to reach the dermis layer in a short time and is selectively absorbed by the corresponding pigment group; the dilation group is swollen rapidly by heat and fragmented into macrophages that can be swallowed by the human body Small particles in the macrophages after digestion and eventually excreted, the pigment gradually fades until it disappears, the pigmentation of human facial lesions caused by pigmentation to get rid of completely, because the laser beauty is painless and safe, reliable, and people are welcome .

8.1.2 laser tattoo what are the advantages

Compared with the traditional surgical removal method, freezing method, electrocautery method, chemical (syrup) etching method to get rid of mistakes eyebrow tattoo lines, laser tattoo removal has the following advantages:

A, less bleeding, the laser beam is very thin, it is easy to do only irradiate the lesion, does not hurt or rarely injure the surrounding tissue; the same as the laser on the blood vessels have a "hot welding" role in the treatment process can be simultaneously sealed Live blood vessels, so you can do less or even no bleeding.

B, pain is small, on the one hand by the role of Ding heat coagulation damage to the nerve endings and loss of pain, on the other hand due to the surrounding normal tissue operation with little or no, at the same time take a sub-patch rapid treatment. Therefore - the pain caused to the patient is small, some treatment without anesthesia, some people just apply the skin surface anesthesia can be.

C, high-quality surgery, due to surgery without blood, clear vision, easy to properly remove, so the high quality of surgery, of course, this also requires the operator's quality and responsibility to ensure that.

D, surgery is short: laser energy and focus, to complete a point of treatment is often only a few nanoseconds and milliseconds.

E, fewer scars: from 10 to follow the advanced "selective absorption principle of" laser cosmetic, will not cause irreversible damage to normal tissues, so there will be no scars.

F, less recurrence: Since the laser treatment of lesions completely, and minor damage to normal tissue around, so the recurrence rate after laser cosmetic is much smaller than the traditional treatment.

### 8.1.3 How to master the laser treatment dose

The early use of laser treatment, you can consider other people's experience. Parameters to treat a disease are: laser energy Q, pulse rate Y, and spot size D (direct). The first two can be obtained directly through the instrument and the select button, the spot size can be achieved by adjusting the distance between the head and the treatment site.

Energy density = laser energy /  $\pi \cdot D^2$  That is:  $E = Q / 0.787 \cdot D$

In practice, there are the following points to master the dosage for reference:

A, the skin color, thickness, roughness and other circumstances vary, because of different parts, so the laser dose is not the same. The dosage should be gradually adjusted from small to large to find a suitable parameter. For example, first with some light spots in the normal skin test, and then gradually larger (that is, the first close-up debugging and then lifted the gun to find the focus position), then the energy density (flow) from small to large changes.

B, pay close attention to the normal part of the skin color changes, the treatment of vascular lesions, the general epidermis is normal, lesions in the dermis or deeper, then the laser irradiation to the affected area appears bleeding so far, if the lesion is not completely cured, should Carry on the next referral again. If you continue to shine, the skin color will be dark, into the business blisters, crusting. These are the result of overdose and thermal damage and should be avoided.

C, regardless of pigmented skin disease, or vascular dermatosis, should be based on the color depth to change the dose. Pigment dose is small, if the same lesion color is from deep to shallow gradual change, damage should be from a dark place with a small light spot, moving to the light-colored side, while increasing the bald position, so that the spot larger. The flow becomes smaller (Note: due to increased lesions and see the color when the chameleon lighter.)

D, the lesion larger, the location is deep, if a treatment is too wide and easily lead to local edema, blisters, exudate, resulting in patients with unpleasant pain or systemic fever. So it should be sliced, layered, multiple treatments.

E, In all laser treatments, one thing to keep in mind is that the beam must always be perpendicular to the epidermis. The treatment dose refers to the vertical position of the laser beam, laser flow will be reduced, the laser energy can not make full use of.

### 8.2 The application of 1064nm and 532nm Q-switched laser to get rid of pigment considerations

1. According to the laser selective absorption principle, a fixed wavelength of 1064 nm is used to eliminate blue, black and cyan pigmentation while the 532 nm wavelength is designed to eliminate red, coffee, brown and brown pigmentation. Therefore, we eliminate the pigmentation in the operating room, should be selected according to the instance of silver carp bighead treatment bald.

2. 1064nm bald is often used to adjust the energy of the instrument, and the dazzling green visible light emitted by 532nm also has the absorption effect on human hemoglobin, which can easily cause "purpura" phenomenon of subcutaneous tissue. Therefore, Direct treatment.

3. In any case, be sure to ensure the safe use of the laser, must not be 1064nm and 532nm wavelength laser direct into the eyes, otherwise it will bring irreparable damage!

4. To avoid leaving behind when the laser treatment of pigmentation, when the treatment of mixed pigment formed pigmentation (such as get rid of brown, brown), should first choose 1064nm wavelength treatment, the operator must be strictly in accordance with our company training operation practices, requirements To be the subject of the eye by the absolute and effective strict protection. Otherwise absolutely forbidden treatment, if dispel red pigmentation can be treated



directly with 532nm wavelength.

5. In the removal of eyeliner, 1064 wavelength treatment should be selected, the operator must be strictly in accordance with my company training operation practices required to be subject to the subject of the eye for effective strict protection, or forbidden to treat (laser eye caused The damage is irreversible).

6.532nm wavelength get rid of reddish brown may have some side effects are: the skin surface whitening, epidermal necrosis may produce qualitative pigmentation or pigmentation, the treatment of red and swollen than 1064nm wavelength treatment of severe, subcutaneous purpura, after oral Antibiotic drugs to relieve discomfort, after 72 hours with the help of repair fluid care, recovery due to personal physical differences in about 60 days or more or about six months time.

7. For many tattoo removal interval of not less than 60 days, the best time should be in a 100 days after treatment again, and firmly prohibit once within 20 days after treatment, if the violation will cause adverse consequences of tissue hyperplasia .

8 on the requirements of the operation site of Ding bleeding, postoperative should pay special attention to avoid touching the affected area, sunscreen and so as to avoid infection, and self-conditioning diet, a brush to avoid eating a lot of spicy food, the color Deep also can not drink alcohol.

### 8.3 remove tattoos (sample)

1. Our hospital laser multi-purpose laser beauty treatment eyebrow washing, tattooing, eye wash. It is the only high-tech intelligent precision equipment that can not damage the skin, does not hurt the hair follicles and completely remove the pigment. It appears to eliminate all the previous methods of removing the tattoo, such as removing the tattoo syrup, remove the tattoo biological method, remove the tattoo magnetization, cryotherapy remove tattoos and other methods (there are skin, hair follicles caused by varying degrees of laser damage, and can not Thoroughly clear the pigment). Therapeutic instrument wash shield is a science and technology dedication to the cause of beauty, is the fruit of the latest technology, but also the beauty of the ladies of beauty.

2. Many similar products generally need 3-4 times the treatment instrument, the treatment instrument imported from our hospital for the import of movement, through the continuous efforts of our hospital cosmetology division and research, the removal of a tattoo cure rate can reach about 85% Some people even better. As the precision instruments are more expensive, in order to facilitate the majority of customers, we implement the current level of premiums within the instrument after-sales warranty period, where the use of the instrument remove tattoos, each charge yuan. (Other domestic cities currently charge for each time). The second removal of tattoo fees can be based on the previous removal of the effect of tattoos to be considered.

3. Laser Beauty Treatment Eye wash, wash with the line, after the tattoo removal, most people will appear in the energy of the site of partial edema, some people will blisters blisters, which are part of the normal reaction range. Local tissue edema usually time \_ {days. Heavy degree 7-10 days disappear. Customers according to their own circumstances 48 hours after the external topical anti-inflammatory ointment or repair fluid to help epidermal tissue healing; blisters or redness is generally 1-2 months (individuals need 3-4 months) can be fully restored. Remove the tattoo most of the eyebrows to be out once. Generally 1-2 months after the emergence of older people (over the age of 30) individuals need about 3 months to return to normal, some individuals need more time. The surgeon must be strictly in accordance with our hospital doctor's advice, in the course of treatment, if the violation of doctor's advice, at your own risk. Those who receive the treatment of the instrument must abide by the above

provisions, and remove the tattoo instructions on the signature before they can be carried out.

|  |  |        |                  |     |  |
|--|--|--------|------------------|-----|--|
| Name   |  | gender |                  | age |  |
| date   |  |        | Health<br>status |     |  |
| address  |  |        |                  |     |  |
| Telephone  |  |        |                  |     |  |
| Preoperativ<br>e photos<br>and<br>symptoms<br>registration |  |        |                  |     |  |

4 I have read and approved the above provisions carefully and are willing to abide by this agreement.

Personal signature:

Doctor's signature:

年 月 日

8. 4Subject's file (sample)

|   |  |
|---|--|
| Postoperative photos and results recorded |  |
|---|--|

Cosmetologist:

Telephone:

Chapter IX laser tattoo removal tattoo training manual

Black doll laser machine is a certain destructive instrument, so when we are in operation must pay attention to the use of skills and operating practices. Well, we will explain the operation of the project included in the following black doll laser machine in detail:

one. Wash tattoo

Tattoo eyebrow pigment is mainly divided into two kinds of mixed colors and simple color:

Mixed colors - yellow, red, brown, and more

Energy range: 600-800 Frequency: 3-5

The number of operations: 4-5 times the first two operations can not exceed 700 after the energy of two operations at about 750 can

Operating angle: 45 degrees to 65 degrees can not be pushed back

Simple color: simple color is divided into plant pigment, lead pigment, iron ion pigment and color eyebrow, etc.

Number of intervals: 30-45 days Angle interval: 2.5 cm

1. Plant pigment: The main characteristic of the uniform color of the gap between the black will turn blue

Energy range: 600-800 Frequency: 3-5

The number of operations: 1 operation does not require oozing start from the brow wash

Operating angle: 45 degrees to promote carriage operation

Number of intervals: 30-45 days Angle interval: 0.5 cm

2. Leaded pigment: the main feature of the hair black color matte

Energy range: 600-800 Frequency: 3-5

The number of operations: 2 or so when the operation is not bleeding from Mei Mei to the brow operation, there will be swelling

Operating angle: 45 degrees to promote carriage operation

Number of intervals: 30-45 days Angle interval: 2 cm

3. Iron ion pigment: The main features of a bright color and luster

Energy range: 600-800 Frequency: 3-5

The number of operations: 4-5 times bleeding as normal

Operating angle: 90 degrees vertical push operation can not be returned

Intervals: 30-45 days Angle interval: 3 cm

4. Change color material: The main feature is khaki

Energy range: 600-800 Frequency: 3-5

The number of operations: 1 operation to reverse the operation of small energy, then yellow will accept the energy will be yellow or white pop-up, the following black to be divided into

Operating angle: 45 degrees reverse operation from the brow began

The number of intervals: 30-45 days angle interval of 2.5 cm

Second: wash your eyes:

Eyeliners pigment is mainly divided into the United States and Kane's Emperor black and rich crown products

1. emperors black: emperors black main features is easy to penetrate color easy to clean

Energy range: 600-800 Frequency: 3-5

The number of operations: 2-3 operation means the use of tactics, fixed support point first wash the eyeliner and then wash the eyeliner and the outer corner of the eye to gently press the skin after a minute before operating the affected area is better, the focus is smaller

Operating angle: 70-90 degrees to promote the operation can not be returned

Number of intervals: 30-45 days Angle interval: 2.5 cm

2. Rich Crown: Crown rich color main features are more oil so it is not easy to penetrate relatively easy to clean

Energy range: 600-800 Frequency: 3-5

The number of operations: 1 attention to tactics Use fixed support point method arbitrarily, focus is small

Operating angle: 70-90 degrees to promote carriage operation

Number of intervals: 30-45 days Angle interval: 2.5 cm

Three: wash lip line and full lip

Lip wash and lip all the main colors are vermilion, dark red, pink, red

Energy range: 600-800 Frequency: 3-5

The number of operations: 2-3 times when the middle finger and index finger pinch the affected area with 1064 bald operation is not available 532 bald head blisters and easy to use because of this blistering and swelling phenomenon.

Operating point of view: 90 degrees to promote carriage operation.

Number of intervals: 30-45 days Angle interval: 1-1.5 cm

#### four. Wash tattoos

Tattoos are mainly divided into simple and mixed colors

1. Simple - simple is red, black, blue and other colors For example: Early acupuncture tattoo shades vary, the operation should be very careful.

Energy range: 800-1200 Frequency: 3-5

The number of operations: 1-2 times the operation if the bubbles on the use of sterile syringes sucked blisters tissue fluid can, but not to damage the epidermis in order to avoid leaving scars.

Operating point of view: 90 degrees to promote the operation can not be returned.

Number of intervals: 30-45 days Angle interval: 2.5 cm

2. Color - to go beyond the four colors of red, brown, coffee, yellowish, light gray can be washed but the energy can not be too large.

Energy range: 800-1200 Frequency: 3-5

The number of operations: 4-5 times the operation should pay attention to the first use of 1064 bald and then replaced within 5 minutes 532 bald operation is completed can not be completed if the next to be in progress to avoid blistering infection.

Operating angle: 65 degrees to promote the operation can not be returned.

Number of intervals: 30-45 days Angle interval: about 2 cm

#### Fives. Ota

Ota three kinds of red, black, table, also known as pigmented sexually transmitted diseases before the first clean the skin with soap scratch the hair.

Energy range: 800-1200 Frequency: 3-5

The number of operations: 3-5 times now around the affected area with 532 and then walk in the affected area a font operation can be.

Operating angle: 90 degree font slowly moving can not be returned.

Number of intervals: 30-45 days Angle interval: 2.5 cm

#### six. Tire mole

Energy range: 800-1500 Frequency: 3-5

The number of operations: 1 line with 1064 bald 750 energy to go through again with 532 bald 700 energy can go again.

Operating angle: 90 degrees slowly moving can not be returned

Number of intervals: 30-45 days Angle interval: 2.5 cm

#### Precautions:

1. Remove tattoos, eyelids, flat warts drink less water the same day.
2. Wash the lip line when the day to drink plenty of water
3. Pregnant women, heart disease, high blood pressure, light allergies, who can not do it.

4. There are open wounds can not be done.

5. Do not eat spicy food and ginger after surgery

Postoperative aloe vera gel, repair cream or anti-inflammatory cream

Who can not operate:

1 hand gently pressing the skin can not do it

2 people with scarred skin can not do it. Scars can not do the affected area

3 wound healing difficult to do.

4. skin-sensitive people can not do, you can try a point if redness can not be washed, if not red can try to wash with a small energy.

Seven, laser treatment after care

1, the treatment may be minor pain, but also short-term swelling and other reactions may disappear on their own.

2, scab film 7-14 days off, wound healing. Individual patients may appear after normal transient pigmentation, will gradually absorb. Oral vitamin C can reduce pigment reflux.

3, healing period, can be coated with anti-bacterial ointment or oral anti-inflammatory drugs to prevent secondary infection. Avoid direct sunlight UV rays. Otherwise it will have a short period of pigmentation, scarring may occur after infection.

4, before the scab off the treatment area does not touch the water, do not make-up, do not rub, avoid spicy, tobacco and alcohol. Recent fasting color foods such as: coffee, Pepsi, etc., to make crusts fall off on their own, shall not be forcibly spalled. Do not participate in intense exercise to avoid infection after sweating.

5, where the treatment of pigmented skin disease, we must pay attention to sunscreen, pigment regression is a slow biological process, usually 1-3 months, during this period we must continue sunscreen. For best results, repeat treatment should be more than 1 month intervals.

6, according to the nature of the lesions of the depth and location of the pigment, the treatment of some diseases may be carried out several times.

7, after treatment, if there is no special circumstances can be 1-2 months to referral time, in case of infection or other conditions, please timely treatment. Sleeping should increase the pillow, reduce facial edema (treatment site in the face). The treatment site around the eyes, if the eyelid edema can be used to ice the affected area, or forced to do eyelid open-closed movement to reduce edema. Do not use other drugs or cosmetics before the treatment site scab shedding to prevent the affected area from getting inflamed. Scab off after normal wash, need to fill the color of the site, such as the eyebrow to three months before they can make up color.

Eight, laser tattooing after surgery Note:

1, just finished the tattoo, a small area can be coated with anti-inflammatory ointment (aloe vera gel, more than state or Hongmei ointment), a large area need to apply scald cream, under normal

circumstances painted 2-3 days, 2 times a day can.

2, there will be anti-color after surgery, subject to differences and the impact of color shades, anti-color will appear in a few minutes to several hours later, this is a normal phenomenon. In the latter part of the repair process, the color will be lighter by Zhejiang until disappear.

3, the course of treatment, affected by the body and the pigment, some will appear broken skin and bleeding or blisters, which are normal, but for the skin is not easy to heal and diabetes should pay special attention to medication, can not be infected, if necessary Can go to the clinic for treatment. Blistering guests, such as small blisters just do not wear the epidermis to prevent infection, no special medication, 3-7 days after the blisters will be repaired. If the blisters are too big, the sterilized empty needles can be used to release the water and apply the anti-inflammatory drugs. As long as the scabs are not infected, the scabs are allowed to fall off naturally and the others are peeled off by hand. The skin of 1-2 months Fix it.

4, after the treatment area always rubbing hands, 2-3 days do not touch the water, as I am allergic to certain foods (such as seafood, spicy, etc.) should not eat during treatment.

5, scar constitution before treatment to explain their own situation, this kind of guests are generally not recommended to wash, such as must wash, be psychologically prepared.

6, after treatment should pay attention to sun protection, after repeated treatment of guests may leave pigmentation, the general performance of brown or reddish, take six months to a year can be completely repaired.

7, each treatment interval can not be less than one month.

8, after treatment should pay attention to observe the skin repair situation, such as the skin for a long time without healing or infection, should be promptly treated.

#### Chapter tenth black doll beauty operation



第 1 步 清洁面部肌肤



第 2 步 为治疗者均匀的涂抹黑碳粉



第 3 步 美容师用镭射柔肤仪对面部操作



第 4 步 完成后清洁面部敷纯补水修复面膜

The first step: cleanse the face with cleanser to remove dirt and grease in the pores of the skin.

This is the first step of a black face doll, very enjoyable. If the beauty is not yet removed, beauty teacher will remove makeup remover for you. This potion is not only clean. When the makeup remover is finished, you can perform normal facial treatment to remove any oil and bacteria in the pores, and if you have small problems like blackheads.

Step two: Apply "black doll" nano-toner

Use toner, use a gauze or cotton swab to evenly apply the toner to the dry skin and apply toner to the entire face. Note: 1, guests wear eye goggles, do not put the toner near the eyes and hairline area. 2, laser surgery, use white tape to cover the eyebrows to make it harmless. After coating, wait about 10 minutes until the toner is well absorbed by the pores.

The third step: skin rejuvenation laser.

This is the "black doll" beauty project the most crucial step, but also to make big s most impressive step. Described by her as "sparks, shine", "like the fairy scattered like flowers play in the face." Wear goggles for laser treatment. Using a laser to blast out all the toner in the treatment area, blasting can slightly exfoliate the epidermis. The exfoliated epidermis is very thin and does not cause any cutaneous wounds. This is the superficial exfoliation.

The fourth step: postoperative care and maintenance

- 1, after treatment there will be short-term fever and other reactions, to quickly absorb heat, cooling, replenishment, experts recommend the use of collagen surface dressing or ice film, it can quickly heat, cooling, replenishment, antibacterial, can promote epidermal growth, Metabolism.
- 2, after treatment to avoid direct sunlight UV rays, the need to strengthen the sun, it is recommended to use SPF30-50 above sunscreen, go out and fill the 2-3 hours a time, the best umbrella, wearing a hat to do a good physical sunscreen.
- 3, within a week after treatment can not be used with acid, acid, salicylic acid, exfoliating, high concentrations of vitamin C, alcohol and other irritating ingredients care products.
- 4, black doll a course of treatment takes 3-6 times, the fastest once a week, usually 2-4 weeks time, dark yellow, melanin-skin will be greatly improved, the skin brightens the whitening to a large extent.