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please read this manual carefully  
and understand thoroughly before  
you operate system.

# user manual

Picosecond Laser Machine



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## One、CAUTION

This chapter presents blasting pigment instrument operation should pay attention to safety matters.

**CAUTION:** Operation or maintenance of the system of personnel must be carefully read this manual before operating the system. However, if the improper operation, laser beam will cause serious damage to the operator, the patient and the surrounding environment, may cause: burning, blindness, fire, explosion, etc.

### ( 1 ) Laser Safety

#### 1 ) Device safety:

1、 Can't look straight into the joints arms export, and at the end of the laser beam reflected.

2、 Laser beam should not work with the instrument or display screen, avoid laser damage to instrument or display screen.

3、 Aiming to treatment area for the patient and adjust the light with the target surface, it is forbidden to use laser elsewhere; Mobile joint arm in the process of treatment and treatment after placing arm joints, joint at the end of the arm exports must point to a safe place.

4、 Keep the laser output window focus lens clean, every time after treatment of the patients should be wiped off, avoid big energy damage lens.

#### 2 ) Therapy and its fire safety

1、 Dangerous goods for the treatment of indoor inflammable, explosive, liquid, gas (such as alcohol, ether, oxygen or nitrous oxide Mixed gas, etc.) should be far away from the laser radiation zone, and the protective measures.

2、 After cleaning lens must be completely dry before they can start work

3、 Treatment shall be prohibited in the process of laser window eyes toward

4、 Because the screen is fragile, the laser cannot be used against the screen or the machine.

5、 Laser must be aim at treatment area.

6、 Laser indoor should maintain enough daylighting and brightness, to facilitate the operator see clearly patient's treatment area and reduce the operator visual fatigue.

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7、 In order to prevent the accident injury to the eye laser operation, the healer laser protective goggles must be worn during treatment, patients must wear protective goggles during treatment.

**NOTE : Large spot corresponding to the larger energy density. Small spot corresponding to the smaller energy density, such as the laser window to pick up a focal length of head.**

### **( 2 ) EYE protective**

Infrared laser eyes most of the damage absorbed by cornea, part into the crystal eyes. With any therapy, direct into eye laser is enough to make the eyes of vitreous and retina injury, cause blindness !

Operator and patient must wear goggles during treatment.Do not wear reflection dangerous goods,such as watch,necklace, bracelet etc



**All personnel must wear protective glasses in the laser operation area !**

**Must provide strict and effective eye protection to patients !**

1、 Metal devices can cause reflection, laser surgery should be avoided using reflective device.

2、 Operator and patient avoid wearing watch and necklace, bracelet etc.These can reflect laser's accessories.

3、 Must provide patients with strict and effective eye protection, such as covered with gauze, wear protective goggles etc.

4、 Warning the personnel of entering laser therapy room prohibit carrying laser radiation goods,suggest adding door interlock.

5、 Body tissue of pigment on the absorption of laser is different, the dosage choice of treatment should depend on the patient's actual situation,.The output power is too large may burn the skin.

## **Two、 product description**

### **( 1 ) 、 Constitution**

Skin laser treatment instrument host, laser/laser joint arm/ laser power/ cooling system/display control system/ several modules laser cavity/xenon lamp/yag crystal bar. When a certain amount of energy stimulate the yag crystal rods to launch the

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755/1064/1320/532 nm laser, the laser is emitted unified to the same direction. After laser in the laser cavity, before the mirror, mirror of the laser resonant part, after short time trigger Q crystals, laser by emitting from laser joint arm. In the process of laser xenon lamp in the light of have a large amount of heat produced; After water circulating system will be hot.

The laser spot diameter is 1 ~ 10 mm. The distance between the patient's skin and laser lens range from 0 to 3 mm, the corresponding convergence focal spot diameter for adjustment, in 1 ~ 10 mm distance after short of effective treatment. Laser light launched into mouth will into the laser light arm inside.

### Three、 Treatment principle

The picosecond laser uses ultra-short pulses (one trillionth of a second in length) to hit the melanin with a great pressure, the melanin shatters into tiny dust-like particles. Because the particles are so small, they are quickly absorbed and eliminated by the body. This can better clear of the melanin. Picosecond laser is a quick and easy non-surgical, non-invasive laser skin treatment for the body including chest, face, hands, legs, and more.



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## Four、 Technical parameters

Product name	Picosecond laser machine
Screen	Touch screen display
Language	English(other language can be customized)
Laser wavelength	1064nm ,755nm,532nm,1320nm
Indicator of aiming light	Infrared ray indicator
Energy	100-2500mj,adjustable,stable and high energy
Fequency	1-10Hz,adjustable
Cooling system	Fan+water+Air
Voltage	110V-120V/60Hz,200V-240V/50Hz
Power	2000W
Machine Gross weight	23kg
Machine Package size	64x49x38cm
Trolley Gross weight	15k
Trolley Package size	82x67x54cm

## Five、 program and method

### ( 1 ) 、 Installation

Before installed, please check spare parts list, according to the listing inventory component and stochastic parts whether complete or damage. If you find problems, please call us service phone before installation therapy machine in order to obtain good technical support. When installation, users and engineers refer to and pay attention to the following parts.

Carefully open the package and put the instrument in primary position and install the host was laid. And install other spare parts.Laser transmission part (the light arm) installed in laser exit, set into the socket and then tighten the nut.

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Finish above after installation, please check the installation step again, if correct then turns on debugging.

Installation:

①Install the handle piece



②Install funnel to fill water from "water inlet" till water come out from "water overflow"



③Install "Foot pedal"



④Install power socket



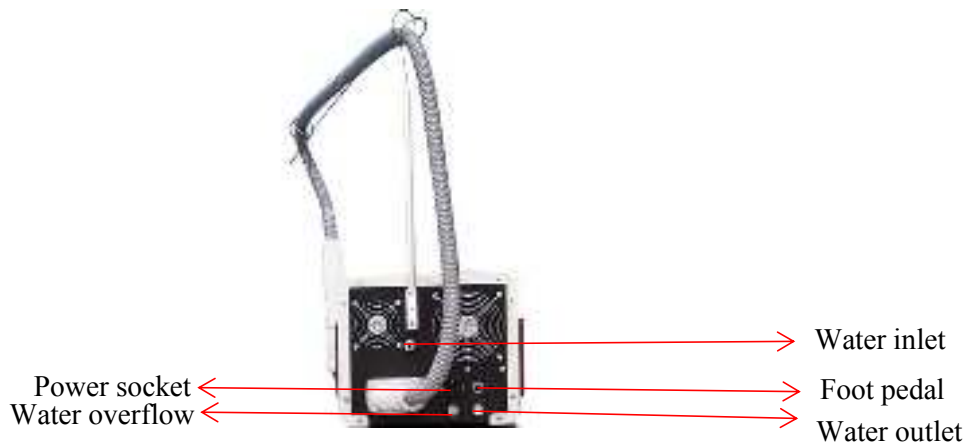
⑤Open the emergency switch





⑥ Open the power key





**Notice:**



● water inlet, water outlet and water overflow

If the rubber ring in the cover is missing, it will leak. Do not lose it.

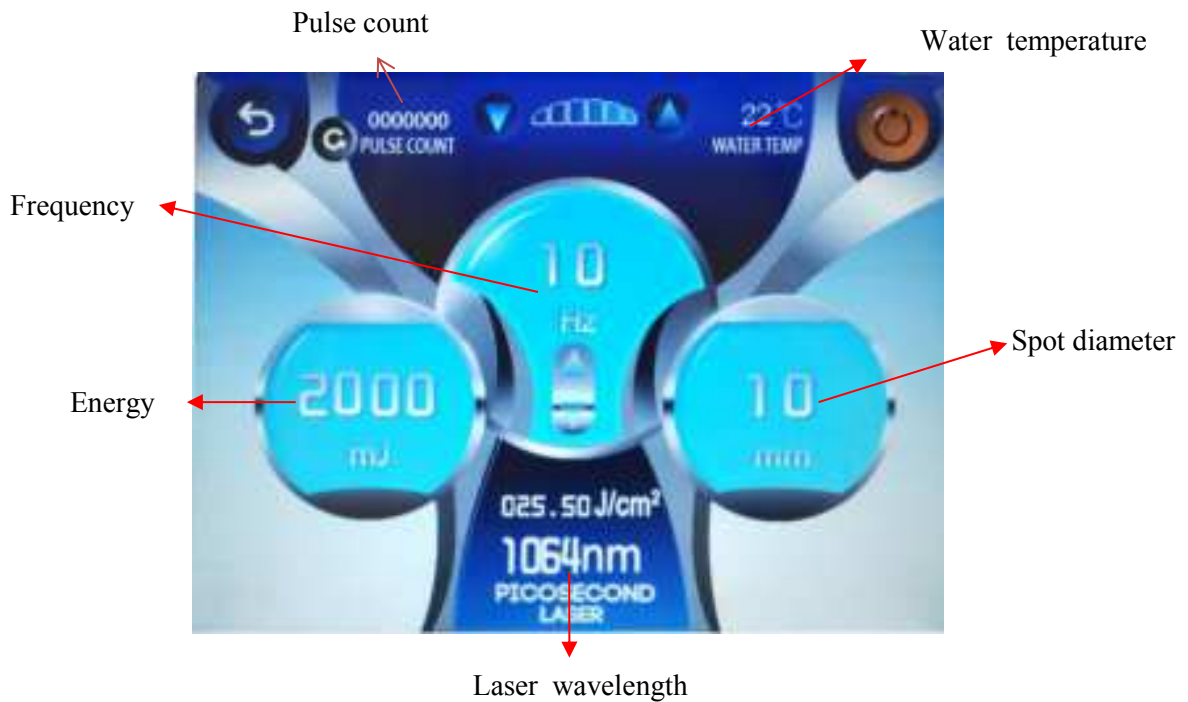
**(2)、operator**

1、 Requirements for operators : Instrument of the operator should know the professional knowledge, medical laser by using after training qualified professional staff.

2、 According to the control panel and buttons function LCD screen display content is as follows :



Laser wavelength



a. Laser wavelength: used for wavelength conversion (click select need operating wavelength,) (1064nm, 755nm,1320nm, 532nm)

b. Energy ( mJ ) : Used to adjust the pulse laser energy.

c. Frequency ( Hz ) : Used to adjust the pulse laser output frequency

d. Spot diameter ( mm ) : 1-10mm adjust

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4. Pulse count : Used to record the number of pulse output.

e. Wavelength: Shows 755 and 1064 and three 532 wavelengths

f. Work/prepare key (precombustion) :Used to switch on standby and ready to work or stop

### **(3) 、 Steps**

starting

①plug in power

② Unscrew the emergency switch to the right(PS. Do not press this button when non-emergency or when the machine is not controlled), right key switch;

③ Display interface, 1064,755,532, three wavelengths of interface;

the wavelength of the button to choose to use.For 1320nm,randomly click 1064,755 or 532nm,can start work.

④ Gently press the energy display adjustment; adjust the treatment of appropriate energy and press start button.

⑤Press foot pedal to start out the laser light.

**Note : After and before starting the machine laser window should point to a safe place**

1)、 treatment

The handle output point aim at treatment area, press foot pedal

2)、 power off

(1) loosen the pedal switch

(2) click start button again , make the state from (READY) into (STANDBY)

(3) the joint arm is placed on fixture

(4) turn off the key switch

(5) Turn off the power

## Six、 Adaptive symptom

Tips: The distance between skin and tip need to be within 2-3mm or 5-8mm, not over 1cm please.



### Energy

#### reference

Name	Wavelength	Energy	Frequency	How to operate	Treatment times	Interval time
Freckle	532	200-400	2-4HZ	Target the pigment, hit the pigment whitening	3-4 times	21-28 days
Birthmark	red brown pigment 532	532 energy: 300 or so.	2-4HZ	aim at the pigment, hit the pigment whitening	5-7times	21-28 days
	black blue pigment 1064	1064 energy: 200 or so.				21-28 days
Nevus of Ota	1064	300 or so	2-4HZ	aim at the pigment, sweep back and forth evenly, lick the	5-7times	21-28 days

				pigment, discolor all the skin red and hot		
Shallow Coffee spot	532	300 or so	2-4HZ	aimi at the pigment, sweep back and forth evenly, lick the pigment, all the skin is red and hot.	5-6 times	21-28 days
Deep coffee spot	1064	300 or so	2-4HZ		6-7times	21-28 days
Sunburn spot	532	250-350	2-4HZ	aim at the pigment, hit the pigment whitening	3-4 times	21-28 days
White doll treatment	755	800 or so	4-5HZ	the whole face is evenly scanned back and forth, the skin color can be brightened	3-4 times	15 days
Black doll treatment	1320	800 or so	4-5HZ	Apply for thin carbon gel on the face. The whole face	3 -4times	15 days

				is evenly scanned back and forth, the skin color can be brightened		
blue, black, deep coffee, cyan color tattoo	1064	200-300	2-4HZ	aim at the pigment, sweep back and forth	4-6times	21-28days
green, coffee, red brown color tattoo	532	300-400	2-4HZ		3-5times	21-28days

**Notice: The above values are only reference ranges. Actual operation and value should be adjusted according to customer's actual situation.**

**CAUTION: after laser treatment, if there is some blisters, it means the energy is too high, slight**

**bleeding is normal. In case there is bleeding point immediately when treatment, please reduce**

**the energy soon!!!!**

**Laser therapy needs to be divided into different parts and courses, forbid using too large energy or too big area treatment parts for one treatment**

### **1、Treatment area of picosecond laser machine**

- a. All color tattoo, eye line and lip line removal
- b. Epidermis and dermis pigment
- c. Nevus of Ota, blue nevus, black nevus, coffee spot
- d. Senile plaques, freckle, sunburn spot and chloasma

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e. Skin whitening, skin rejuvenation etc.

## **2、 Advantages of pico laser machine**

a. High-Tech

Picosecond laser machine used unique honeycomb focused technology to form a skin effect vacuolization, which can protect skin from damage during treatment.

b. Fast Effective

Picosecond laser machine make tattoo & pigment removal treatment process from 5 to 10 times reduced to 3 to 6 times, greatly reduce the treatment and recovery time, with fast and obvious effective.

c. Comfortable & Safe

It can remove all kinds of pigment and tattoo effectively and safely, because picosecond laser use precise positioning of the target tissue therapy to reduce damage to the skin to achieve the freckle effect.

d. No melanin precipitate

The picosecond laser uses ultra-short pulses (one trillionth of a second in length) to hit the melanin with a great pressure, the melanin shatters into tiny dust-like particles, because the particles are so small, they are more readily absorbed and eliminated by the body. It will significantly reduce postoperative swelling, melanin precipitate phenomenon.

e. Soft light

The laser can reach the nanosecond level, so it won't hurt the skin, causing too much redness. Soft light, but it can quickly achieve results.

f. Power self-protection system

Picosecond with power self-protection system protects power supply from damage, can be automatically detected, and pre-ignited.

g. With red aiming

## **3、 Treatment of interval**

Treatment should be two intervals of one months or so, in order to make the pigment particles was break will have enough time to do is absorbed.



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#### 4、 Treatment times

General cases shall be repeated treatment to achieve the ideal effect, for the treatment of patients with specific times by the affected part of the pigment degrees, depth, pigment ingredients, each treatment using laser doses, patient's body macrophages to factors such as the absorption of pigment particles is decided. Exogenous pigment must be more than 3 times treatment commonly, endogenous pigment must be more than 5 times treatment can obtain satisfactory results, a few patients after treatment with multiple effect is still not ideal.

#### 5、 Preoperative considerations

( 1 ) Area rich blood vessels is three days before treatment and after treatment two weeks should avoid alcohol and aspirin drugs to prevent hemorrhage.

2 ) Women should not be menstruation treatment, blood coagulation function defects, epilepsy, high blood pressure, heart disease and scar constitution of patients should be treated carefully.

( 3 ) Patients in the treatment of local skin should be clean, remove local cosmetics and other drugs

( 4 ) Have repeatedly lines, embroidered, cut eyebrow and nearly all around and within the local operation of life of patients should be treated carefully.

( 5 ) According to the nature of the lesion and the depth of the pigment and the local area, individual differences and previous treatment should be treated with several times, and gradually achieve satisfactory therapeutic effect, each time interval to 15days or 1-2 months.

#### 6、 Postoperative considerations

After treatment and treatment may appear slight pain, white skin, the skin permeability of blood, short red, black, appear even purpura can absorb itself need not too nervous.

(1) If there is scabby 7-14 days to fall off, avoid by all means remove, so as not to delay the healing and the formation of pigmentation of the skin.

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(2) Due to individual differences or different climate change within a few days after treatment, so as to prevent infection treatment area shall not directly contact with water or other solution. Try to eat less spicy food and binge drinking, smoking.

(3) Few individuals may appear normal skin pigmentation after treatment, generally subside after 1-3 month.

(4) Postoperative should try to avoid the sun activity and exposure, lest produce heavier and pigmentation.

(5) Postoperative if found any abnormal phenomenon, please Jane counseling in a timely manner to the door.

## **Seven、Taboo matters**

1、 For patients with deep color of skin, the use of the instrument, due to the shallow pigment of skin with the absorption of the laser, can make the skin by slight damage, Suggestions for skin whitening treatment before using this instrument.

2、 After laser surgery, skin will appear red, infiltration of blood and inflammation, postoperative treatment parts for refrigeration, and use to prevent the occurrence of scars after burn and ointment.

3、 For some containing metal ions, such as iron ion pigment, can appear after laser irradiation is not easy to be absorbed in black chemicals such as ferrous oxide color burn treatment areas, this is caused by different pigment composition, rather than the quality problem of the instrument itself.

4、 Postoperative treatment area should be kept clean and dry, avoid infection.

5、 Postoperative occurrence knot scab, should make its own loss, prevent forced peeling a scar.

6、 Treatment of ban for continuous repetition of the same parts of the light, or due to the accumulation of heat will damage to tissue.

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## **Eight、 Precautions and instructions**

- 1、 This product in actual use of components of parameters has been adjusted the locking, have special requirements of parts shall be sealed when the products leave the factory. User may not arbitrarily unsealed, disassembly, has targeted the parameters of the adjustment and changes, otherwise, the consequences shall be undertaken by the user.
- 2、 Radial body guard, remote control interlock, key switch, the laser beam radiation emission warning, termination devices, etc., is based on the provisions of GB7247-2001, for laser radiation safety protection settings, the user shall not be any tear open change these devices, lest affect safety protection.
- 3、 laser therapeutic apparatus is the skin with integration of optical, mechanical and electrical precision instruments. As a result, the operator must be trained. The not trained personnel shall not operate the machine.
- 4、 Should read this manual before using the instrument, for not carefully read the instructions or use this instrument in violation of the regulations of medical accidents and user should undertake duty.
- 5、 Treatment process must pay attention to keep the laser from the treatment area.

### **Matters needing attention**

- A. 2-4 weeks do not need excessive exposure to sunlight, positive sunscreen, recommend the use of SPF 30 coefficient above active moisturizing.
- B. acid skin care products do not use within 2-4 weeks, exfoliating products and other optoelectronic laser treatment, to avoid excessive skin damage.
- C. after treatment to avoid the spa and swimming and other activities, influence the healing process.
- D. after the treatment of pigmentation: slightly swollen red, please help the ice for 15-30 minutes, after the treatment of applying antibiotic ointment. The result in the treatment of callus after 10-30 minutes.
- E. after the treatment of tattoos: ice, wipe ointment and artificial skin to help protect the treatment site.

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## Nine、 Maintenance and repair










This product is mainly composed of precision laser generator and microelectronic devices. The maintenance and repair should be consistent with precision optics and microelectronics the general provisions of the instrument.

1. Storage and use of carefully knock against, collision, extrusion, vibration. Be reset after each use, a day out to special packaging cover, dustproof storage.
2. Change the water in the tank regularly every month
3. When making a black-faced doll, it is recommended to wrap it in plastic wrap to prevent toner from sticking to the lens.
4. Regularly wipe the lens with a cotton swab every month, do not use alcohol to wipe



It is strictly prohibited in the boot state check and clean output lens!

## Ten、 Packing list

1.	laser handle/one piece 	2 Laser glasses/one pair 	3 Laser goggle/one pair 	4 Injection bottle/one piece 
5	pedal/one piece 	6 Power wire/one piece 	7 Power key/one piece 	8 1064nm, 532nm, 755nm and 1320nm 
9	Main machine 			

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## **Eleven、 Attention**

Operation precautions and maintenance for customer:

1. The operating frequency of the machine cannot be higher than 5HZ.
- 2.The energy cannot be adjusted above 150mj directly, it can be increased slowly according to customer acceptance.
- 3.When the instrument is used for 30 minutes, pause it (10 minutes on standby), don't turn it off, otherwise,the water pump will not circulate when it is turned off.
- 4.Please open the cover of adding water hole and overflow hole during operation, (it must be fully covered three holes during shipping) 5.The machine should be drained water if you need to ship.Otherwise,the water tank is easy to be damaged if it is transported with water for a long time.
- 5.If you need to ship,pack the machine according to the picture of original package, make sure it is 100% same as the original one.the machine cannot be tilted or upside down.
- 6.Use a cotton stick to clean the lens of the hand tool regularly to avoid affecting the energy (the cleaning method is as shown below)
- 7.Machine must be drained water for transportation in areas below 0°C
- 8.Only qualified beauticians can operate this machine. The method of using parameters should follow the training video. Don't increase energy blindly.
- 9.Laser is forbidden to aim at eyes,screen and reflector.
- 10.Laser handle expensive,take care not fall off!

**Thank you for using our products!**

We will endeavor to give you the best after sales service and most up-to-date technology solutions!

**Thanks again!**