

980nm diode laser spider vein removal machine

Manual

(Power options: 30W)



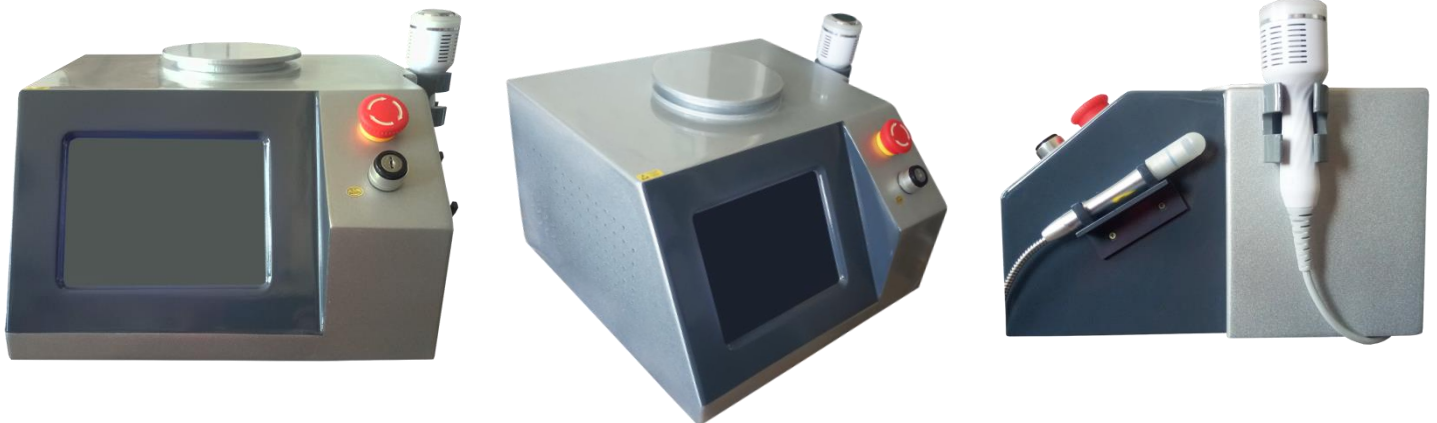
ATTENTION

Thank you for choosing the instruments carefully designed and manufactured by our company. In order to better utilize the products, we sincerely recommend:

- ◆◆ Please read this manual carefully before using the instrument.
- ◆◆ Please install, use and operate correctly according to the requirements in the manual.
- ◆◆ Do not disassemble and modify any parts of this unit.
- ◆◆ Except for authorized personnel of the company, it is strictly forbidden to open the cover and disassemble the host.
- ◆◆ Non-professionals are strictly forbidden to carry out repairs and renovations.
- ◆◆ If there is any malfunction during the operation, please contact us.

980NM DIODE LASER SPIDER VEIN REMOVAL MACHINE

【1】、Product Appearance



【2】、Part lists :

			
Machine 1	optical fiber Hand piece 1	Vascular removal plug 2	
			
Power Line 1	Key 2	Ice com press hammer 1	Ring for adjusting the focal length 5
			
Eye mask 1	Foot switch 1	Manual 1	Flight case 1

[3]、 Treatment theory :

980nm laser is the optimum absorption spectrum of porphyrin vascular cells. Vascular cells absorb the high-energy laser of 980nm wavelength, solidification occurs, and finally dissipated.

To overcome the traditional laser treatment redness large area of burning the skin, professional design hand-piece, enabling the 980nm laser beam is focused onto a 0.2-0.5mm diameter range, in order to enable more focused energy to reach the target tissue, while avoiding burn the surrounding skin tissue.

Laser can stimulate the dermal collagen growth while vascular treatment, increase epidermal thickness and density, so that the small blood vessels are no longer exposed, at the same time, the skin's elasticity and resistance is also significantly enhanced.

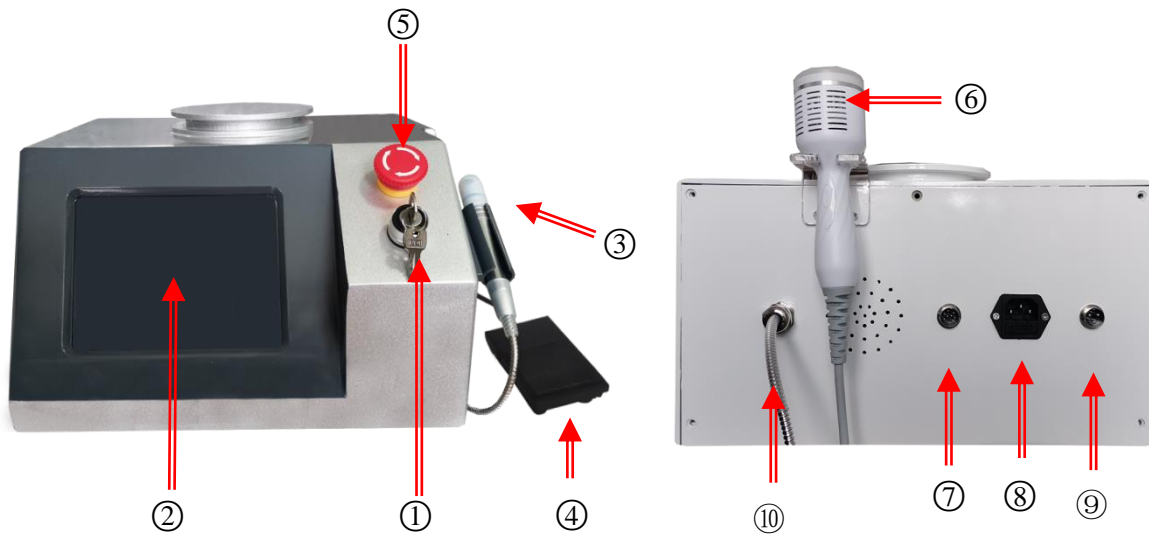
**[4]、 Application of diode laser 980nm
Mainly for vascular therapy:**

Remove all kinds of spider veins and vascular from the body surface.

[5]、 Technology Parameters :

Output	Fibre-optic coupling
Laser wavelength	980nm
Output Power	1-30W (options)
Pulsewidth	15ms—100ms
Frequency	1-5Hz
Mode	Pulse mode
Net/Gross weight	5KG/11KG
Input	AC: 100-240V、 50-60Hz
Length of Fiber	2m
Operate mode	Touch screen
language	English or OEM
Aiming Beam	Diode laser of 650nm±10nm,5mW (Max.),adjustable brightness
Operation interface	8.0 inch Color LCD touch screen
Cooling	Air cooling
Light delivery system	detachable fiber systems, Core Size (Use only approved systems)≤200μm, SMA 905 connector
Safety classification	Class I Type B
Machine(Flight case)Dimensions	360mm*340mm*220mm (460mm*440mm*340mm)

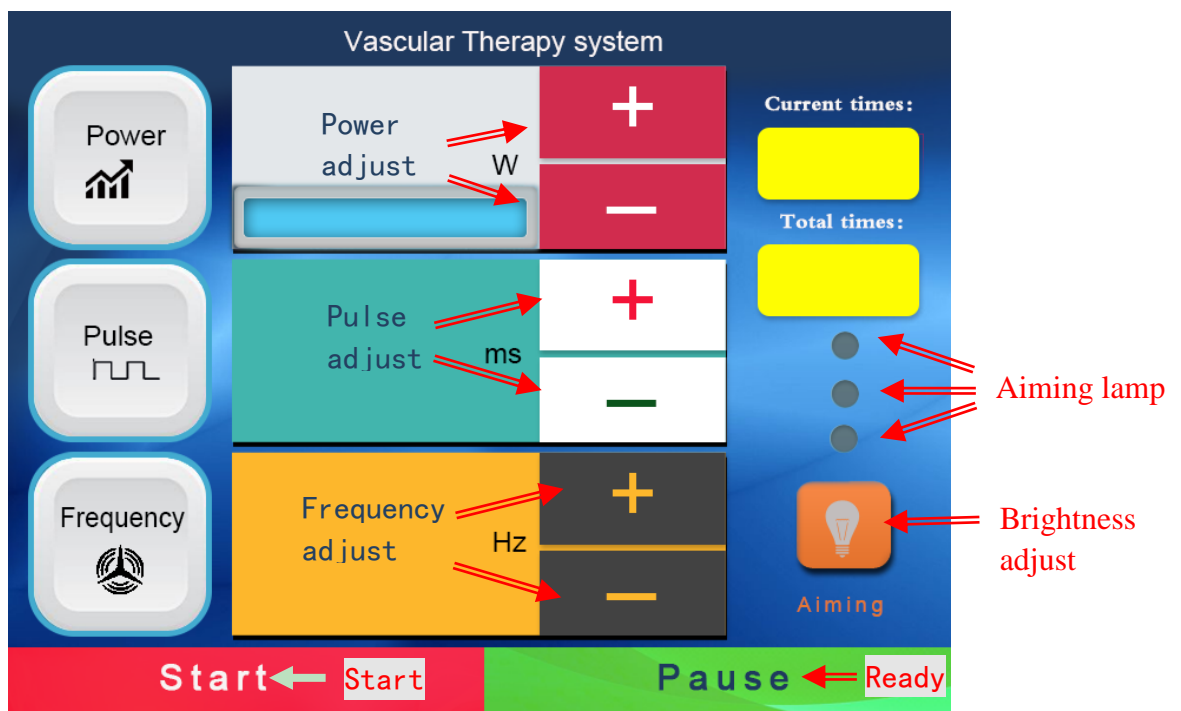
[6]、Structure of the machine and how to install it :



structure : ① key switch ② touch screen ③ input of handpiece ④ foot switch
 ⑤ emergency stop button ⑥ Ice com press hammer ⑦ Ice com press hammer outlet
 ⑧ power outlet ⑨ foot switch outlet ⑩ output of laser

Install step : Install power line to ⑧ power outlet, and install foot switch to ⑨ foot switch outlet, and install Ice compress hammer to ⑦ Ice compress hammer outlet.

[7]、Touch screen :



[8]、Operate guide

【1】 Before insert power line ,confirm keyswitch is in left ,and emergency switch is upspring.

【2】 Don't look output of handpiece directly when machine is on. connect power line to machine.

【3】 Turn keyswitch from left to right gently, the machine will power on, it will auto go to main interface.

【4】 Setup parameters: power on the aiming lamp, set parameters of power-pulse-frequency in ready status(when the start button is on, all parameters can't been changed).

Setup aiming : push the adjust lamp, the aiming lamp in screen will on, there are three brightness, you can push the adjust lamp, it is loop setup.

Setup Pulse :push the(+)or (-)of pulse,you can adjust pulse of laser, it can be set from 15ms to 100ms,normally 50ms is recommended.

Setup Frequency : push(+)or(-)of frequency.It can be set from 1-5Hz,normally 3Hz is recommended.

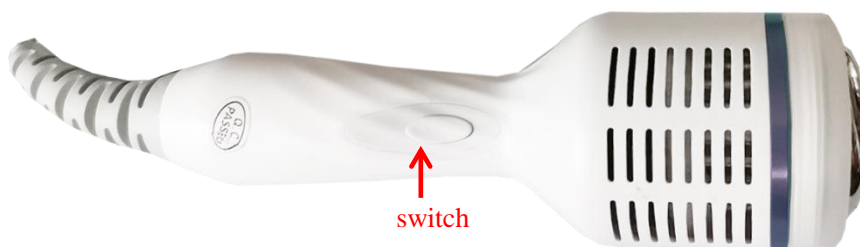
Setup power : push(+)or(-)of power.It can be set from 1W to max power(30W),normally 6-10W is used.

Current times : it is pulse times used from power on, when you restart machine ,it will be clear.

Total times : It is all pulse times used ,you can push the total times numbers about 5 seconds to reset it.

【5】 When you finished setup parameters, you can press down the start button, then when you depress the foot switch, the laser will emit from handpiece.

【6】 When ice compress, use Ice compress hammer .



The ice compress hammer can be used after the instrument is powered on, regardless of the screen program. As long as the operation is continued by pressing the switch on the ice compress hammer, the longer the use time, the lower the surface temperature of the ice compress hammer, and the lowest temperature value is maintained for about 20 minutes.

ONE. Functions of Ice Compress Hammer

Ice compress hammer can reduce the temperature of local tissues in the body, promote the tension of sympathetic nerves, shrink blood vessels, and reduce the sensitivity of tissues to pain.

Laser treatment should be done immediately ice compress, and the postoperative swelling peak period is within 48 hours. At this time, ice compress can reduce swelling and pain to the greatest extent and contract blood vessels. After 48 hours, no ice compress is needed to allow the tissue to absorb and repair itself. Generally, the swelling and pain will gradually subside within a week.

TWO. Usage and precautions of ice compress

1. Ice appliances should be disinfected

Do not directly touch the skin when ice compress, medical sterile gauze must be used under the ice compress head to avoid infection of the wound.

2. Attention should be paid to ice-covered area

The area of ice compress was mainly at the treatment site and the skin around 2-3cm in the periphery, and the ice hammer was moved alternately.

3. ice compress time

Ice compress 2-4 times a day, 5-20 minutes each time, appropriate adjustment according to the specific situation, the time should not be too long. Ice compress should be stopped immediately if adverse reactions are found in the patient, or if the skin pain lasts for 5 minutes, the ice compress should be stopped to prevent frostbite.

THREE. Taboos of ice compress

Those with chronic inflammation or infection and suppuration may prevent the absorption of inflammation.

Ice compress should not be applied to occipital, ear and scrotum to avoid frostbite.

Old age and infirmity, deficiency and cold syndrome, pregnancy, menstruation, etc.;

Patients with traumatic damage, fatigue, late inflammation, heart disease and edema;

Ice compress should be stopped immediately if adverse reactions are found.

[9]、 Safety precautions

A: Don't look output of handpiece directly when machine is on.

B: Don't aiming laser to body continuously.

C: Don't bend fiber line.don't pull fiber hard. Fiber optic is delicate and fragile. Although it has metal threaded pipe protection, it can not be pulled by force and don't knock hard, so it needs to be treated with caution. The damage caused by pulling and dragging cannot be repaired and is not covered by the warranty!!!

D: All operation must follow Class IV safety precautions.

E: Don't use too high engine when testing the instrument on the paper. If the paper pollutes the lens with smoke, you should wipe the lens clean!!!

[10]. After-sales service

This product will pass the strict quality inspection of the company when it leaves the factory. If there is any malfunction, we will repair or adjust the product according to the following regulations.

(1) This product host is free of charge within one year from the date of purchase and is maintained for life.

(2) During the warranty period, the company will provide you with free warranty service for the failure caused by technical reasons of the product, and bear the return shipping cost in the domestic area.

(3) In order to ensure the normal use of the instrument, purchase or replace the instrument accessories, please contact the company directly.

(4) The following conditions are not covered by the free warranty:

① Accessories other than the machine (such as hand piece and fiber optics)

② Damage caused by man-made damage and other natural disasters.

③ Unpacking the chassis without the permission of the company.

(5) When the user thinks that the product needs to be repaired, please do not disassemble it.

Please contact us in time to carry out the simple troubleshooting under the guidance of our engineering staff. Other maintenance work should be carried out by our technical staff.

(6) This warranty is limited to the faulty repair of the product during the warranty period and does not assume any other responsibility.

980nm laser Instrument operation precautions

1. The reason why the instrument does not emit light

A. **Emergency stop button was pressed**. Solution: Gently turn right to bounce.

Our company's emergency stop button is in compliance with safety regulations, and it is not a black screen when the emergency stop button is pressed. An emergency stop button that complies with safety regulations should not emit light when pressed, but the machine is still running, rather than cutting off the power. Cutting off the power supply directly during laser output will greatly damage the life of the laser. Every detail pays attention to safety and standards, which is one of the characteristics of high-quality instruments.

B. The indicator light is not lit. Solution: Click the indicator switch to turn on the light.

The indicator light is just for aiming, the first gear is the darkest and the third gear is the brightest. The brightness is only indicative and has nothing to do with the laser energy.

C. Over temperature protection. Solution: see Article 5 below.

D. The touch screen button is clicked too fast or long pressed, which causes the machine to crash, return to the initial value or enter the calibration mode.

Solution: Click one by one. If it has entered the initial state, shut down and restart to restore to normal.

2.Precautions for hand tools:

A. The optical fiber is easy to break, so handle it gently. Do not pull hard, do not pile up objects on the optical fiber, and do not step on it.

When storing, follow the bending direction of the line, carefully coil it, and the bending diameter is not less than 10 cm.

B. It is strictly forbidden to touch the lens of the hand tool with your hands. Lens contamination will cause the optical fiber to burn. Changing a hand tool is expensive.

C. After each use, the treatment head should be cleaned, and the protective cover should be covered in time to prevent dust from entering.

3.Safe use of laser:

A、 After powering on, never look directly at the treatment head with the naked eye. The laser will damage your eyes! Operators and patients must pay attention.

B、 The 980nm output light is invisible light, and the laser output can be observed through the mobile phone camera or the side of the camera.

C、 The laser cannot be directed at flammable and explosive materials to avoid danger.

4.Common errors in screen operation:

It is not advisable to press the on-screen button too quickly or randomly, otherwise it will easily crash and enter the calibration mode.

It should be clicked slowly. If it crashes, restart it. If you enter the calibration mode, simply tap the plus sign that appears on the screen.

5.Heat dissipation problem when the instrument overheats:

The company's instruments have over-temperature protection to ensure the safety of the instrument and extend the life of the instrument. When the instrument is overheated, it will automatically protect and not output laser.

When using the instrument in summer or for a long time causes the instrument to heat up, do not turn it off immediately. You should leave the instrument in a standby state and use the internal fan to dissipate heat by itself.

Turn off the instrument or continue using it after the instrument returns to normal.

6.Methods and precautions for the light emission of the test instrument:

To test whether the instrument is normal, it can output laser on the cardboard to make it into a line. **Precautions:**

A. The angle of the hand-held fiber optic pen should be 70 ° with the cardboard;

B. Stick the pen on the cardboard instead of hanging it in the air

C. The cardboard should not be reflective coated paper or coated paper. It is best to use dark-colored paper or a clean carton, envelope, express note, etc.

D. Use the power-on default parameters when testing. Remember: Do not use too much power, otherwise it will smoke and contaminate the lens or treatment head of the optical fiber pen.

E. Because the 980 laser is invisible to the naked eye, remember not to look directly at the laser with the naked eye, the damage caused by the laser to the eyes is irreversible! !

F. If the lens is contaminated by smoke from the paper, the laser will not output or the output energy will be very weak. You need to wipe the lens clean with a clean wet tissue! !