
Installation and Usage of Skin photo rejuvenation system FG A10

Catalogue

I. Components of the device

◆ Mainframe

- Power supply system
- Computer system
- Cooling system
- Controller

◆ Handle

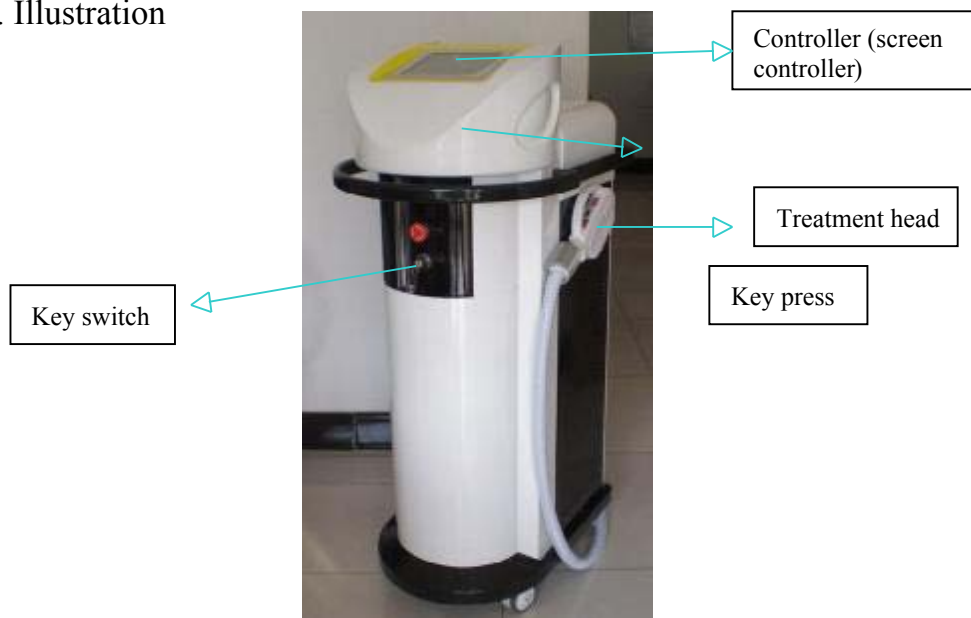
- Treatment head
- Filters

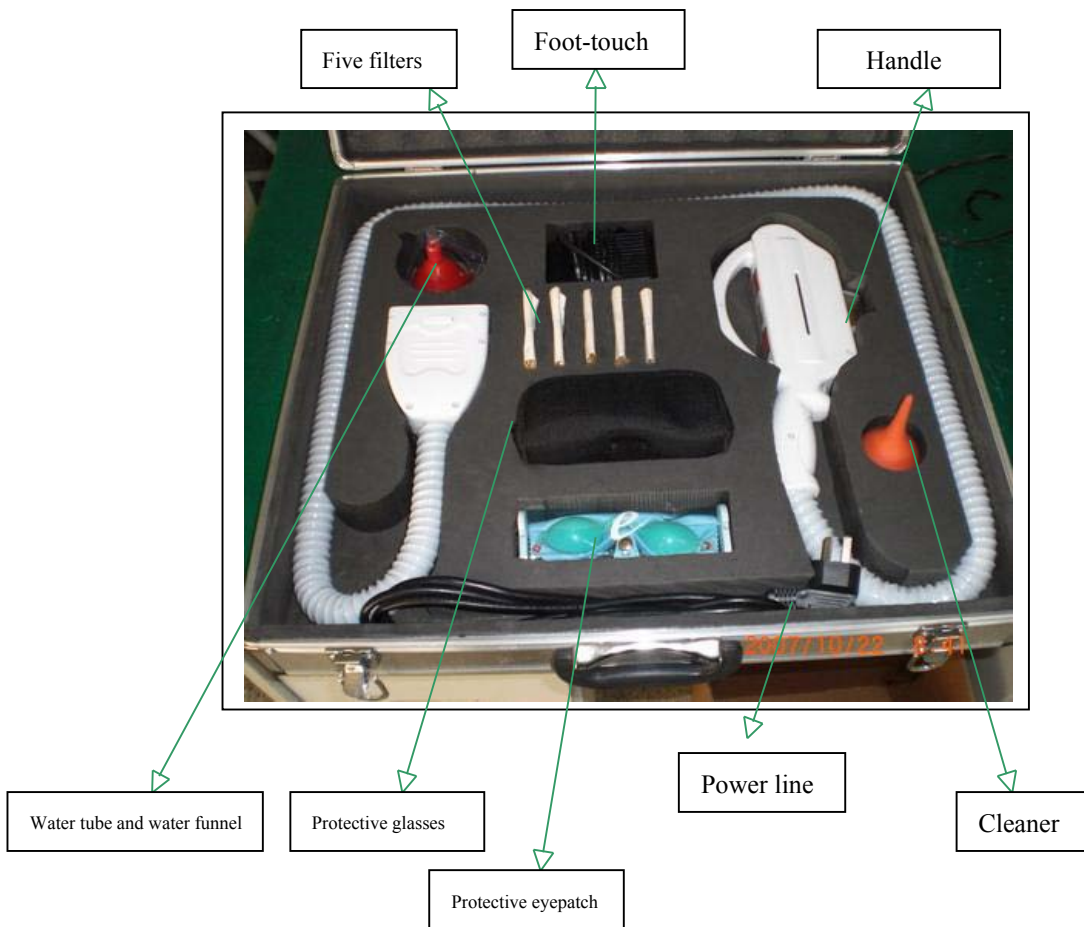
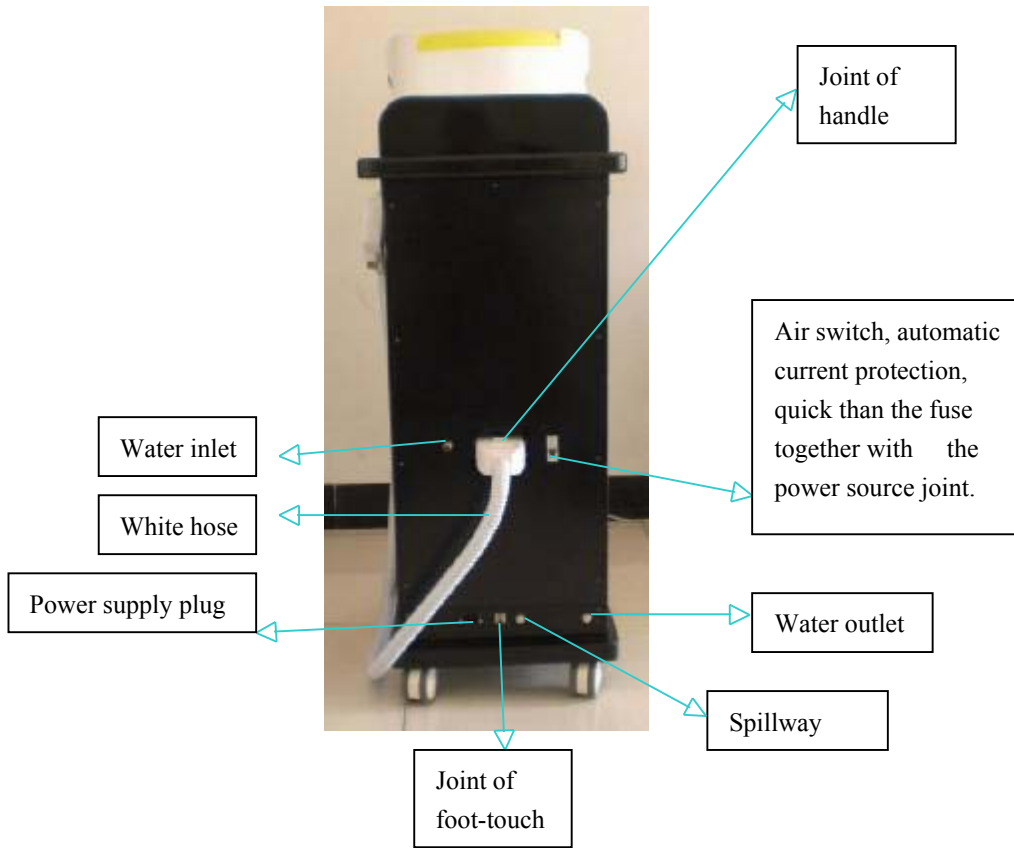
◆ Assembly parts

- K
- Cleaner
- Power line
- Water pipe
- Water funnel
- Professional protective glasses
- Professional protective eye-patch

II. Installation

1. Illustration





2. Installation

- a. Unpack package and place the device on the ground. (If there's water on the surface of the device, please wait for till dry then input water to test.). Keep 22⁰-28⁰ Temperature and humidity not more than 20% in the treatment room.
- b. Input water (water source: pure water or distilled): screw off the screw caps of water inlet and spillway (clockwise screw to tighten the screw caps, anticlockwise screw to screw off the caps), connect water tube and water funnel well, insert the water inlet; when there's water automatically spilt from the spilt water, means water tank is full enough, show as follows:
Remarks: After inputting water, please tighten all screw caps behind the panel again.

Exchange water inside of the water tank every 1-3 month



- c. Plug the end of the handle into joint, show as follows:



Aim at the joint to plug it with level force, following a clicking sound, then this protuberant white button rebound at the original state



Pulling out the handle, please press this protuberant white button and draw with level force.

d. Plug power line and turn on power supply

After turning on power supply, please observe the water circulation in water tank. Normally, you will hear the sound of water flow. About 3-5 minutes later, the probe becomes cool. Now, we can insert relevant filter and start treatment

If there's no water circulation inside water tank, or the probe is not cool enough. Maybe there is air in the pump. Then you should turn on and off the device (just switching the switch of power behind the panel) for 3-6 times. Each time to turn off the device, grip the white hose (handle) at the angle of 90 degrees and slack, then turn on it again, this can eject the air to water tank. The air will be ejected from the orifice for spillway (Now you can should screw off the screw caps of the spillway and input water).

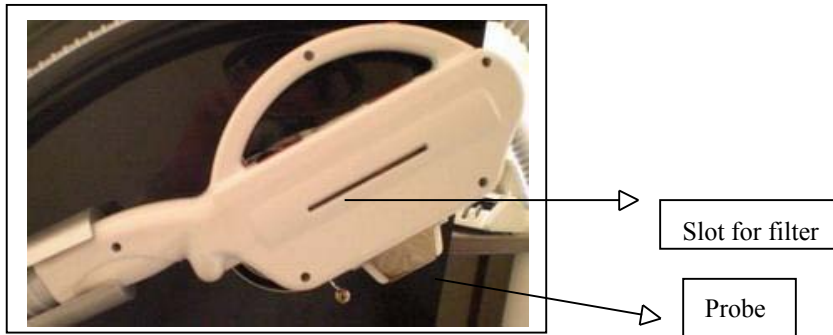
e. Introduction and usage of handle, show as following picture:



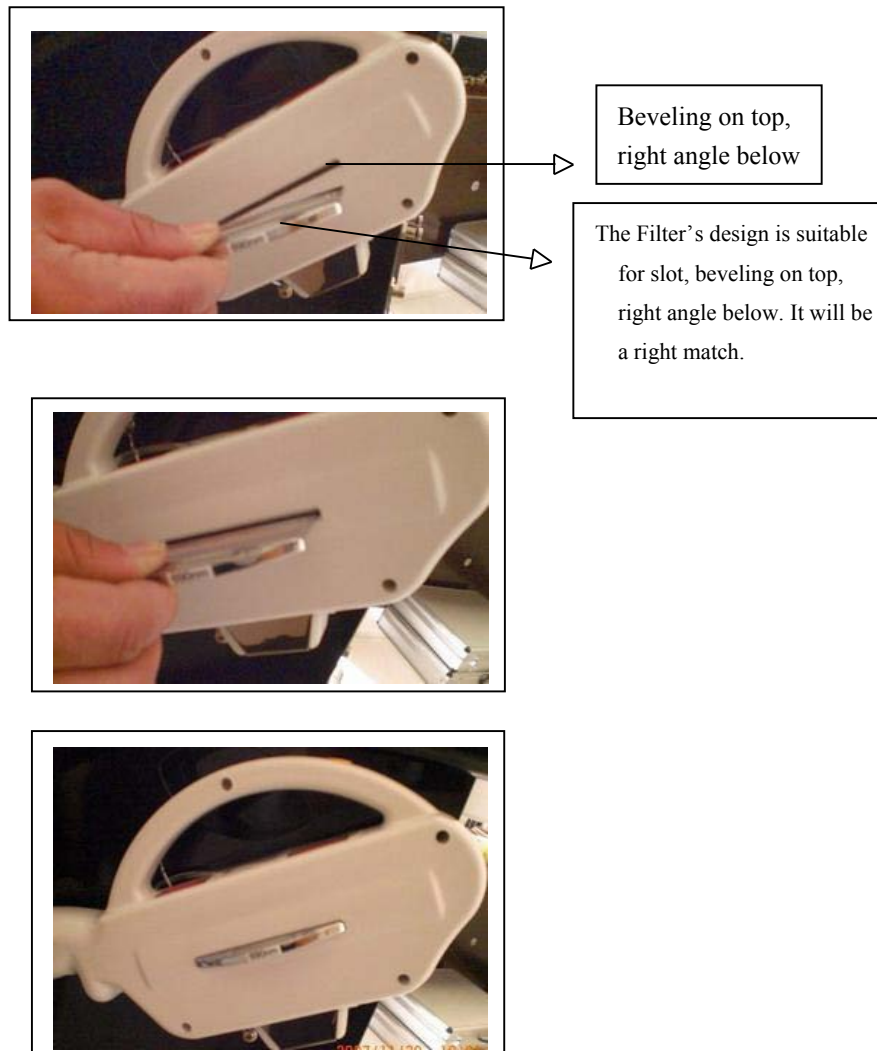
Button controls released light

Total counts indicator

Button Controls released light



f. Usage of filter:



- g. Functions on different wavelength:
- 480nm---red blood streak treatment
 - 530nm---pigment treatment
 - 590nm---skin rejuvenation
 - 640nm---hair removal
 - 690nm---breast lifting

III. Treatment Theory and Operation

1. Treatment theory

Physical stimulated effect: IPL acts on the skin and occurs actinochemistry, this can bring interior molecular structure change of corium layer collagen textile fiber and tension textile fiber, restore the original elasticity. Moreover, it produces light hot function to strengthen the blood vessel's function too, and improve circulation. This can eliminate wrinkle and shrink pore.

Treatment theory of Delier IPL series Equipments can be explained by optional light pyrogenation. The melanin absorbs short wavelength light of 250-1200nm, maximum absorbing values of the bright-red chemical complex of hemoglobin and oxygen are 418nm, 542nm, 577nm. Therefore, it can be absorbed easily and transported to the collagen layer. 530nm waveband light releases from the probe, which produce pyrogenation of the collagen fiber. The collagen fiber can be absorb large light of 400-600nm, also including some light of 530-1200nm releases from the probe, which will result in the injury of the collagen fiber, enhance the activation of the cells and the collagen synthesis. Repristination of I collagen and III collagen which contains in blood vessel. Then, skin rejuvenation treatment will be effective on pigments dispelling, telangiectasia lightening, fine wrinkle lightening, shrinking pores.

2. Features :

- a. Facility: Seen screen that is used to understand the intuitive interface design, direct human-machine dialogue, simple operation, without complex training, reasonable handle design allows the operator to operate more easily in the process.
- b. Validity: IPL treatment compared with traditional clinical results faster, more efficient treatment rate, the treatment process more comfortable, after treatment without side-effects, and can be truly meet modern health pursuit by the treatment of all ages.
- c. Economy: Best results, low cost maintenance.
- d. Wide range treatment, great effect, and high safety factors

3. Applications:

1. Spots removal: fleck, burn spot, age pigment, chloasma and other pigment deposit
2. Unwanted hair removal
3. Wrinkle removal: canthus wrinkle, neck wrinkle, gestation wrinkle
4. Breast lifting
5. Red blood streak removal, bottle nose treatment, erythema treatment
6. Shrink coarse pore, eliminate or lighten the acne scar
7. Stimulate the collagens layer, and renew skin flexibility
 - a. 8. Obviously improve coarse skin

4. Taboo:

1. Pregnant women
2. Anybody who cannot avoid intensive sunshine during normal work time.
3. Sensitive on light or cause by medicine, or taking medicine of sensitive on light

-
4. People who has taken or taking Isotretinoin within 6 months.
 5. Treatment area has malignant pathological change.
 6. Pacemaker or dispelling quiver device user
 7. Active herpes or trauma
 8. Keloid recorded.
 9. People who accept Hirudin etc. treatment (should stop using it before 2 weeks)
Serious diabetes patient, high blood pressure sufferer, and epileptic

5. Security introduction of the intensive pulsed light

Skin photo rejuvenation system FG A10 is high technology iatric equipment, for various face blemish elimination and redundant hair removal on body. After eligible training, it's safe to use. Operators and assistants should know the security notice in this menu. All are as following:

- a. Adopt the closed filters and crystal of transferring light, and the light only emit from probe
- b. Independent electronic circuit, automatic stop working when super energy
- c. The red pause switch facilitates your urgency

【WARNING】 Any intensive light without incorrect using can injure the skin. During treatment, the device will produce high pressure. Operator should operate accordingly to this introduction.

Customer should wear the professional protective eyepatch, protecting eyes from burning.
Operator: During treatment, operator should wear professional protective glasses..

【MAIN WARNING】

For safety use, you should carefully read the warning notice:

- a. Except authorized mechanic, anybody has no right to examine or repair the IPL setup, especially the inside of device that including electrical source, cooling system, optic organs and treatment head. Notice the high power pressure danger inside.
- b. Make sure whether it's accordant to your resident voltage or not.
- c. Maintenance should be done after turning off the device and pulling out the electrical source line. Or it will injure skin and damage the equipment.
- d. Keep the filter and probe clean. Avoid cooling gel get into the probe

【WARNING ON INTENSIVE LIGHT】

- e. The intensive light is possible burn eyes or fire. So please it's necessary to protect in any way.
- f. Super light could burn skin, that atrophy or pigment deposit.
- g. Do not watch the intense light or laser light directly during treatment, even wear the blinder.
- h. Please don't shot out of the treatment area. Generally, hang it in the holder. Point to the treatment parts when operating. During operations we should shot with treatment head aiming at treatment area.

6. Security introduction of the electricity and equipment

1. Keep both panels and shell closed. There will be damage on machine if opening the shell without professional skills.
2. There is power inside the machine. It's possible to deposit electricity in some parts after switching off. So it's not allowed to open equipment beyond the authorized mechanics.
3. When maintaining, please close power, cover board, and observe in person.
4. Weight with package: 85KG

【PREVENT FIRE】

- a. The temperature will rise after absorbing light energy, so please take actions to reduce the flammable risk on treatment parts or around area.
- b. Do not use ethanol, acetone or other flammable things on skin before treatment. If necessary, please use soap or water.
- c. When listerizing the treatment head or other parts in ethanol, please wait till dry.

【SYSTEM SAFETY SETTINGS 】

- a. There are some safety settings inside equipment, so please know their places and using methods.
- b. Key: it's used to open or close the power, only provide by our company.
- c. Imperative switch: the red switch is used to switch off power on emergency. Press it can switch off the power right now. Wrest it clockwise, the device will be go on wording. Or the device keeps turning off.

【CLASS OF EQUIPMENT】

- a. Class of motor protection: 1 CLASS, BF CLASS
- b. Anti-corrosive liquid: general
- c. Avoid using equipment in mixed flammable and nitrous oxide surroundings
- d. Operation manner: continuous operation

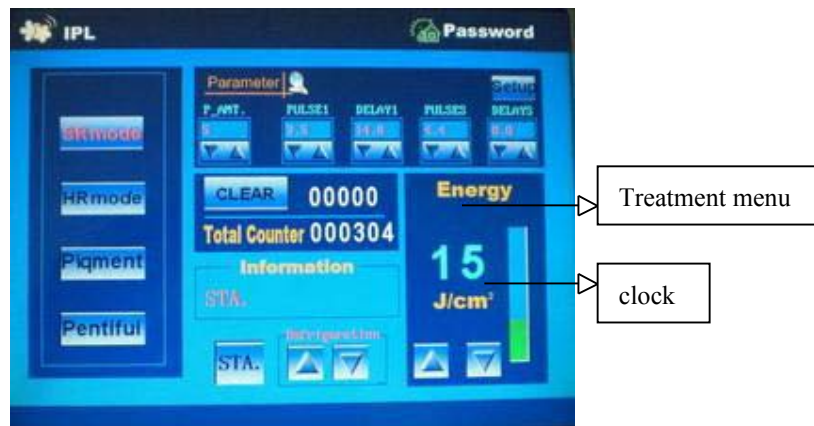
7. Operation of the controller:

- a. Turning on the device, the screen will show picture one:



Picture one

b. Touch “STA.” on picture two to start the treatment:



Picture two

- ①. After the successful circulate, it will show “FULL” on bottom left angle(if failed, it will show failing B). Press the button in the handle to do treatment
- ②. The energy value of IPL is 15 designed as the original value
- ③. The energy value of cooling is 0 designed as the original value, the bigger value, the better cooling

c. Touch “Password” to enter into this unit, show as picture four:



Picture three

Input “123312”, to clean the counter, which is not allowed to tell the ultima user.

After the last operation, touch “Exit” to return to the treatment menu, like picture two

- e. Touch “Setup” to change the pulse parameters (as picture four)



Picture four

Input the value, then touch the key on bottom right screen and save these parameter settings

Remarks:

during the process of parameter adjustment or parameter settings, do not touch “STA.”, after the adjustment or settings and want to start the treatment, to touch “ STA.”.

8. Clinical operation

①. Pretreatment

- a) Skin types: It's safe and effective for white, brown and yellow skin.
- b) Make agreement on treatment
- c) Clean the skin, eliminate the perfume or cosmetics.
- d) Take photos pretreatment and after-treatment
- e) If necessary we should make a anaesthesia one hour ahead. For hair removal treatment the hair should be shave to 1mm.

②. Treatment

- a. Customer should wear eye-patch: Operator should wear professional protective glasses, glove and respirator.
- b. When taking the treatment to the protrudent parts in the bone structure (like forehead, mandible and cheekbone). Appropriately adjust the RF energy based on different conditions of patients.
- c. During the treatment, vertically slide the bipolar probe on skin with level force, and observe whether it's touched well or not. Overlapped shoot makes sure to good effects of treatment area.
- d. In the process of treatment, continuously step the foot-touch, will result in uneven output energy. Please one press of the button on handpiece and one move, or step the foot-touch step by step
- e. when ending the treatment or try to change another treatment part , firstly release the button on the handle or foot-touch, avoiding electric shock by chance
- f. It's can be adjusted the energy, according to the actual conditions of the patients.

③. Notices of treatments

- a) Avoid sunlight and burn before and after the treatment.
- b) Avoid chemical or mechanical stimulation before and after 1 week of the treatment
- c) Do not take filled things or injection treatment before and after 2 weeks of the treatment
- d) Avoid direct or indirect heat stimulation to the treatment area after 3 days of the treatment, especially to those of high pigment deposit.
- e) If taking skin care in laser before this treatment, please wait for 3 weeks at least.

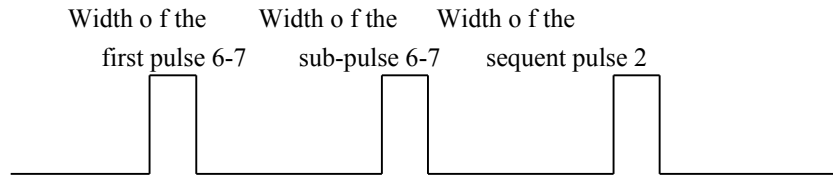
9. parameters of each treatment

①. pigment treatment

- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, some decomposed pigment cells are phagocytosed by the lymphocyte, and pass out of the body as the metabolism period.
- c. Feelings in the treatment: some picked feelings like needle. 3-30 minutes after the treatment, pigment will be darker. Pigment scab will shed 3-7 days later.
- d. Effect of cooling gel: cooling and light transmitting
- e. Usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel, or cooling with ice for 10 minutes
- f. Operating sequence: clean skin and spread cooling gel on the treatment part; after

the treatment, make a ice cooling treatment . overlapping size of spots: 1-2mm

g. Parameters:

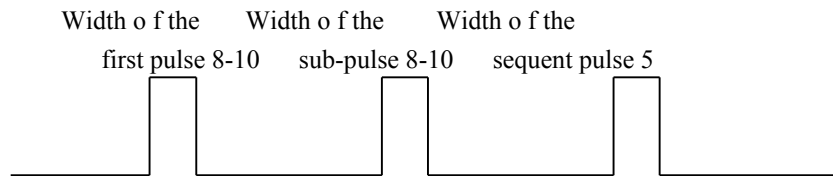


interval of the first pulse 20 interval of sequent pulse 15-20
discharge interval 3s number of pulses 8-10

②. Hair removal treatment

- a. 3-5 treatments per period. Because the hair has its own growth stage and dormant stage, so it's effective to remove the hair in growth stage, 3-5 treatments.
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, some decomposed pigment cells of hair follicle are phagocytosed by the lymphocyte, and pass out of the body as the metabolism period.
- c. feelings in the treatment: some picked feelings like needle. 3-8 hours after the treatment, a little inflamed feelings on skin. Lightly tweezer the hair root, naturally shedded and no pain, which means the best effect.
- d. effect of cooling gel: cooling and light transporting
- e. usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel, or cooling with ice for 10 minutes
- f. operating sequence:
clean skin, shave the unwanted hair on the treatment parts or shear the unwanted hair, 1mm to the hair root; and spread cooling gel on the treatment part; after the treatment, make a ice cooling treatment for 5-15 minutes

g. Parameters:



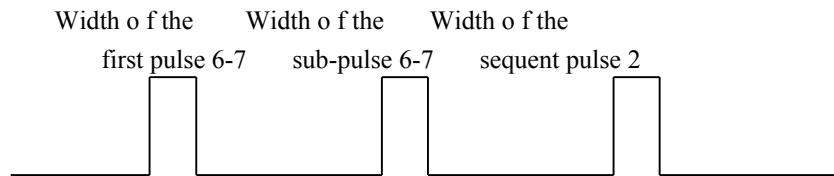
interval of the first pulse 25 interval of sequent pulse 22
discharge interval 4s number of pulses 12-15

③. Wrinkle removal treatment

- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, The stimulated collagen fiber cells and flexibility fiber cells will be growing and renewing following the metabolism period.
- c. feelings in the treatment: some picked feelings like needle. a little red feelings on skin after the treatment.

- d. Effect of cooling gel: cooling and light transporting
- e. Usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel, or cooling with ice for 10 minutes
- f. operating sequence:
clean skin and spread cooling gel on the treatment part; after the treatment, make a ice cooling treatment . overlapping size of spots: 1-2mm

g. Parameters:

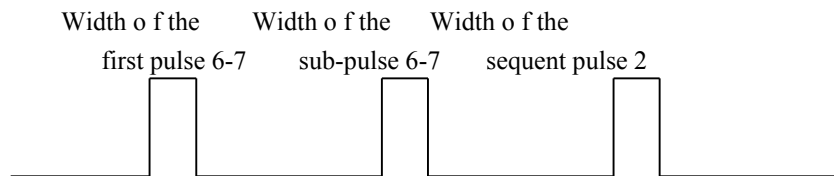


interval of the first pulse 20 interval of sequent pulse 15-20
discharge interval 3s number of pulses 8-10

④. Skin whitening treatment

- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, some decomposed pigment cells are phagocytosed by the lymphocyte, and pass out of the body as the metabolism period.
- c. feelings in the treatment: a little heat feelings after the treatment.
- d. effect of cooling gel: cooling and light transporting
- e. usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel, or cooling with ice for 10 minutes
- f. operating sequence:
clean skin and spread cooling gel on the treatment part; after the treatment, make a ice cooling treatment. overlapping size of spots: 1-2mm

g. Parameters:

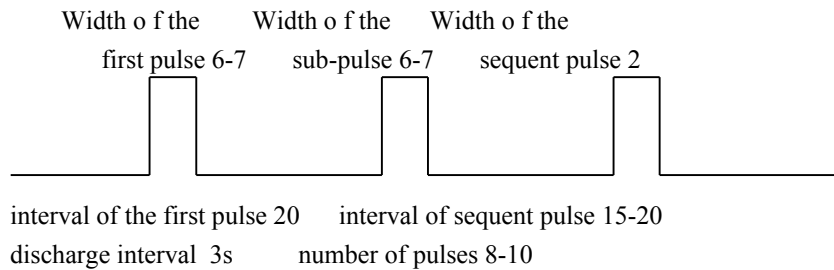


interval of the first pulse 20 interval of sequent pulse 15-20
discharge interval 3s number of pulses 8-10

⑤. Skin rejuvenation treatment

- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, the stimulated collagen fiber tissues and flexibility fiber tissues will be steady following the metabolism period.
- c. feelings in the treatment: a little heat feelings after the treatment.

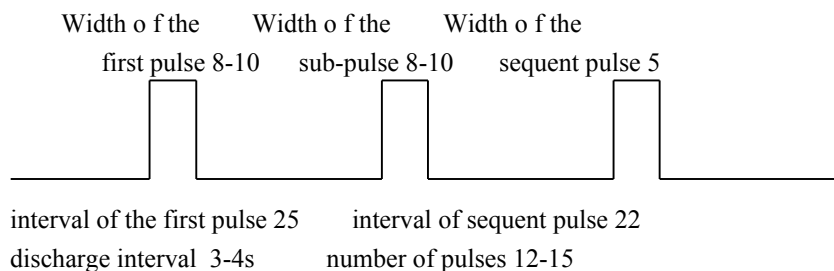
- d. effect of cooling gel: cooling and light transporting
- e. usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel, or cooling with ice for 10 minutes
- f. operating sequence:
clean skin and spread cooling gel on the treatment part; after the treatment, make a ice cooling treatment. overlapping size of spots: 1-2mm
- g. Parameters:



⑥. Vascular treatment

- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, the stimulated capillary vessel tissues will be shrinking and steady following the metabolism period.
- c. feelings in the treatment: some picked feelings like needle. a little inflamed feelings on skin after the treatment.
- d. effect of cooling gel: cooling and light transporting
- e. usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel , or cooling with ice for 10-20 minutes
- f. operating sequence:
clean skin and spread cooling gel on the treatment part; after the treatment, make a ice cooling treatment. overlapping size of spots: 1-2mm

g. Parameters:

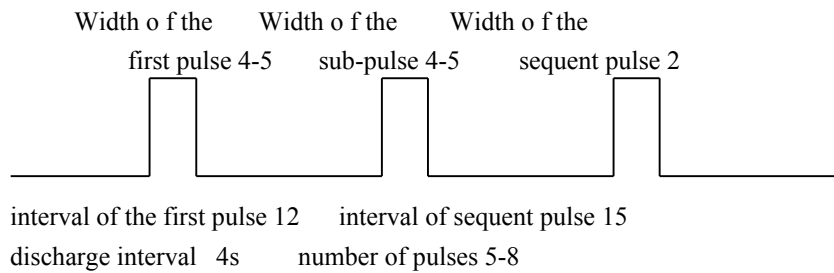


⑦. Breast lifting treatment

- a. 1-3 or 3-6 treatments per period
- b. every 1-2 weeks for one treatment. The treatment theory is that stimulating the renew of the mammary gland cells, and enhancing the ligament tissue, to plump the breast

naturally. Because the human metabolism period is 3-4 weeks, the stimulated capillary vessel tissues will be shrinking and steady following the metabolism period.

- c. feelings in the treatment: some heat feelings in breast in treatment.
- d. effect of cooling gel: cooling and light transporting
- e. usage: spread the cooling gel on the treatment part before treatment, about 3mm thickness; 20minutes after the treatment, scrape the cooling gel
- f. operating sequence:
clean skin, make up some essential oil on breast and massage, then spread cooling gel on breast. no overlapping spots
- g. Parameters:



Remarks:

IPL energy:

- a. please do not press the button on handle before touching skin in advance
- b. one press of the button in handpiece and one move, 1 shot for every treatment. At the same time, please keep the probe vertically slide on skin for each movement.
- c. when ending the treatment or try to change another treatment part , firstly release the button on the handle, avoiding electric shock by chance
- d. IPL value in the treatment:
 - white skin: generally start from 15, then increase or decrease the value according to the actual conditions of the patients
 - black skin: generally start from 10, then increase or decrease the value according to the actual conditions of the patients
 - dark black skin: generally start from 10, then increase or decrease the value according to the actual conditions of the patientsMoreover, the IPL value to the dark black skin treatment will be 5 lower than the value to the black skin treatment.
Above all operation must consider the real condition of the patients.

VI. Simple maintenances:

1. No stress on screen, prevent from break up
2. Keep the filters clean. It's not allowed to clean the filters with ethanol, prevent from burn when intense pulsed light release.
3. The treatment head is fragile, please take special care when picking up and dropting.
4. every 1-3 months to change the water. After changing water, please make sure water circulation

normally before usage.

Analysis On Simple Malfunction :

1. No power supply

- ① Check up whether there is power supply
- ② Check up whether the power line is connected well.
- ③ Check up the fuse, which could be pulled out at the bottom of hole for power plug.

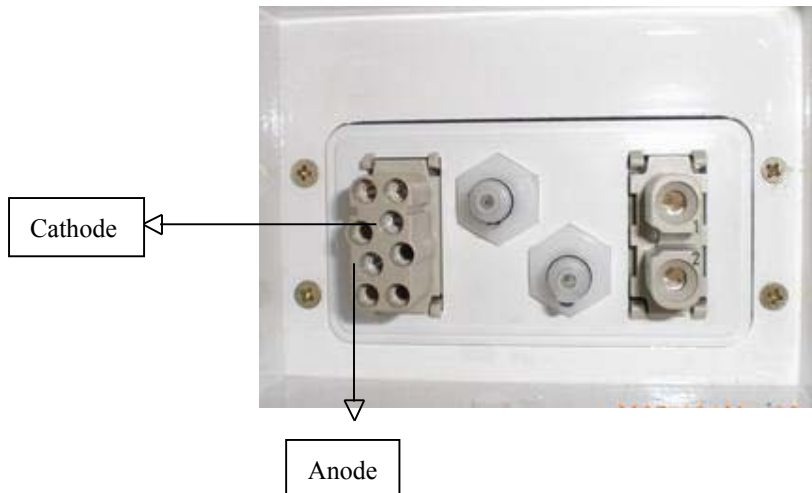


The fuse is
inside this
black part

2 、 Non-Refrigeration of the probe

- ① Check up whether there's water in water tank and water circulation
- ② Check up the direct power supply switch, whether there's 12V direct current output

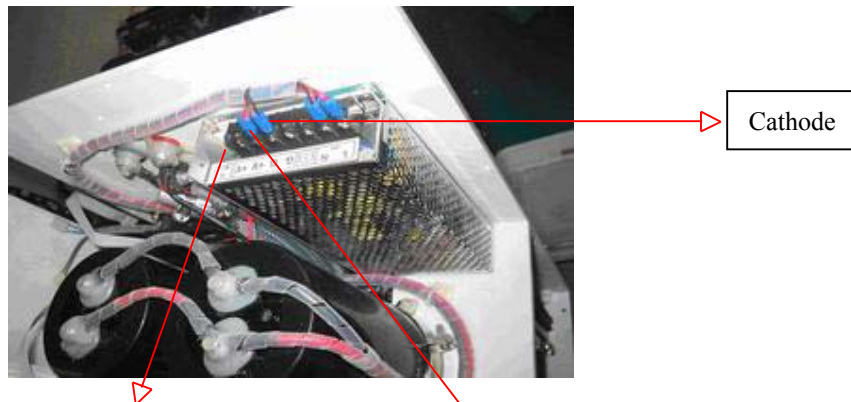
Reason of Non-Refrigeration :



- a. After turning on the machine, you should test the above Anode and Cathode with multimeter.
12V/ DC output means the power source is well
- b. Check up whether the Peltier is well or not:



Please check up whether this two electrode is well or not, which relate to the Peltier.
 c. if above two electrode is well, please disconnect the panel, show as follows:



Check if the green light is on or not after turning on the power source. If it's on, means there is 12V direct power output

If there is no output, means that the direct current electrical source part is broken.
 Type: 220V/AC input, 12V/ DC/ 9A output or 12V DC/ 10A output

d. check up whether the water circulation is good: to open the panel of the treatment head, as follow:

◆ Screw panel

off these 6 screws, and then disconnect the



Six screws

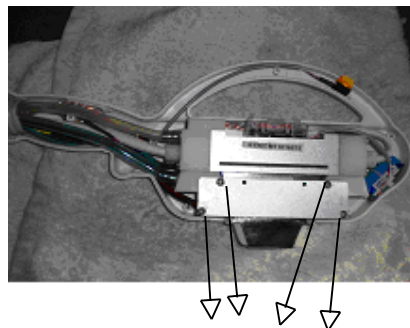
◆ disconnect the water plug with the connected water pipe, then plug these two plugs into

the joint on the back panel; blow air inside the water plug with mouth, see whether it is ventilated. Or directly turn on the device, see whether there is spilt water from these two plugs. (Remarks: for the last test method, we suggest that take a basin or other vessel load the spilt water.)



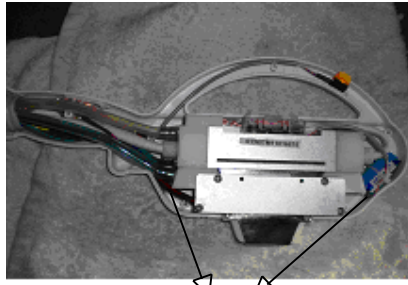
Water plug

3. the xenon lamp is not on:
 - a. the lamp is exhausted; the lamp broken down.
 - b. poor contact (anode and cathode wire)
 - c. simmer board broken down
4. only screen display, but can't enter into the treatment unit.
 - a. touch screen broken down
 - b. poor contact between the power supply and the controller
5. leak from the probe
 - a. the xenon lamp broken down
 - b. poor connection inside. Please disconnect the panel of the treatment head, and tighten the screws, show as follows:



Tighten these four screws, and another four on opposite side of the above small board

6. replace the xenon lamp
 - a. disconnect the panel of the treatment head
 - b. screw off these two screw caps (show as follows), then cut the wire on the two ends of the lamp.



Screw off these two screw caps

c. take out the xenon lamp, show as follows:



The lamp wire is wrapped well with the insulating pipe, make sure good insulation

Red end is Anode , match up to the wire inside the treatment head

d. connect the new xenon lamp
weld the lamp wire with the wire inside the treatment head, in accordance with the connection method of red wire on lamp to red wire inside the treatment head