# Installation and Usage of Skin photo rejuvenation system FG 2000

# Catalogue

# I. Components of the device

## ◆ Main machine

Power supply system

Computer system

Cooling system

Controller

## **♦** Handle

Probe

Filters

## Assembly parts

K

Eleaner

Y Power line

Water pipe

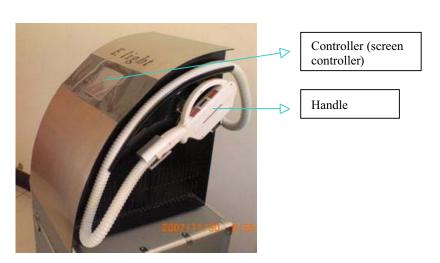
Water funnel

Professional protective glasses

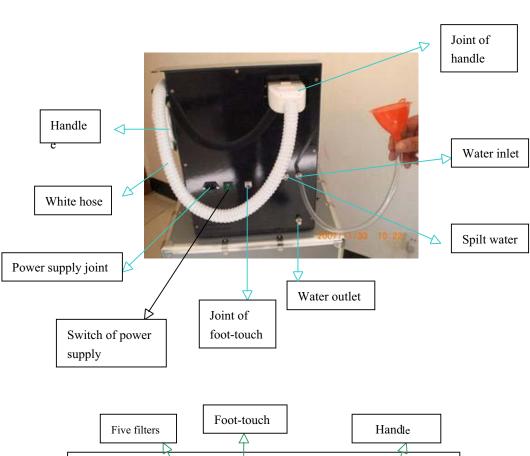
Professional protective eye patch

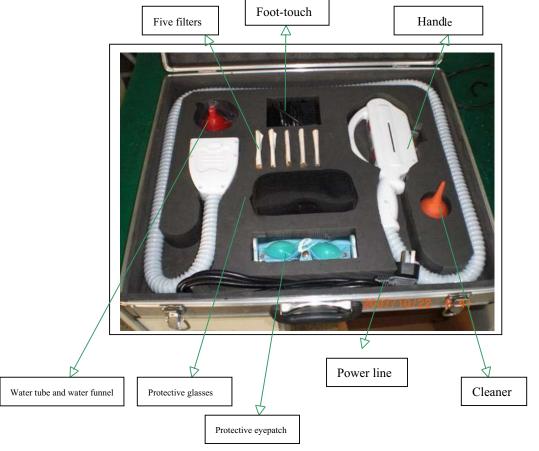
## II. Installation

## 1. Illustration



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## 2. Installation

- a. Open the package when receiving the machine, place the device on the level ground. (If there's water on the surface of the device, please wait till dry then input water to test.). Keep  $22^{\circ}\text{C}$ - $28^{\circ}\text{C}$  temperature and the humidity not more than 20% in the treatment room.
- b. Input water ( water source: pure water or distilled water): screw off the screw caps of water inlet and spilt water at the same time (clockwise screw to tighten the screw caps, anticlockwise screw to screw off the caps), connect the water tube and water funnel well and insert the inlet to input water; when there's water automatically spilt from the spilt water hole, means the water is enough, show as follows:

Remarks: After inputting the water, please tighten all screw caps on back panel again. Change the water inside of the machine every 1month or 3 months.

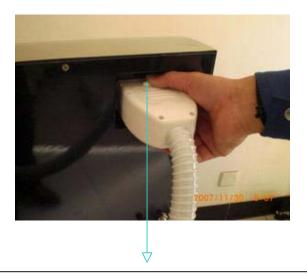




c. Join one end of the handle to the joint, show as follows:



Aim at the joint to push in the plug with level force, following one clicking sound, then this protuberant white button rebound at the same time



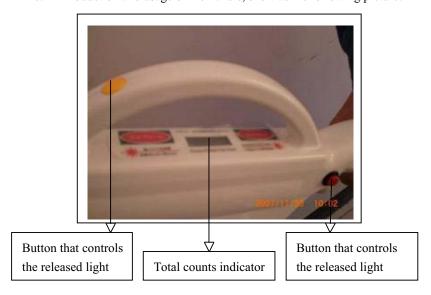
When draw out the plug, please press this protuberant white button and draw outside with level force.

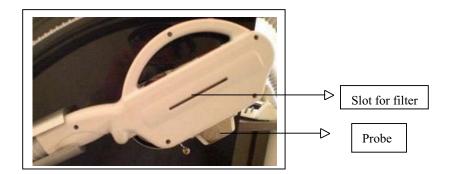
#### d. Join the power line to the machine and turn on the power supply

After turning on the power supply, please observe the water circulation inside the device. Normally, you will hear the sound of water flow. About 3-5 minutes later, the probe runs cold, at this time, it's able to insert the relevant filter and start to treat.

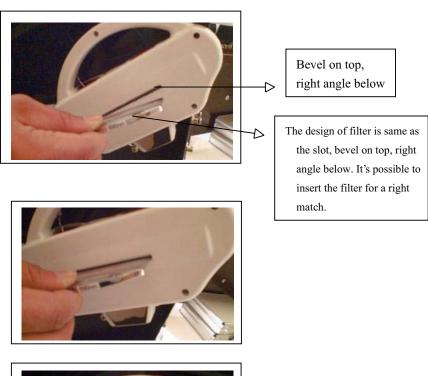
If the water doesn't cycle inside the device, or the probe does not cold, it's possible that there is air in the pump. At this moment, please turn on then turn off the device, repeat this action 3-6 times. When every time to turn off the device, then grip the white hose (the hose in handle) to the angle of 90 degrees and slack, then turn on the device again, Which could exhaust the air to the water tank, then the air will exhaust from the hole for spilt water and water inlet (of course, at this moment, should screw off the screw caps of spilt water and water inlet at the same time).

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





## f. Usage of the filter:





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

## III. Treatment Theory and Operation

#### 1. Treatment theory

Skin photo rejuvenation system FG 2000, the skin photo rejuvenation system, directly acts on the deeper skin tissue through the bipolar radio heating, integrating the guide of IPL (intensive pulse light).

IPL treatment, is based on its selective absorbability. When the intensive pulsed light penetrates the epidermis, the energy of light will be greatly absorbed by the pigments in epidermis. High energy and dark color skin will be with high risk in treatment. Moreover, majority of the heat is reflected and refracted at the same time, only 30%-40% of energy is utilizable. Therefore, it needs to increase the energy for a better treatment result. However, majority heat is absorbed by the pigments in epidermis, which directly block to use high energy for treatment, so that affects the single treatment res

ultIntegrate with the excellence IPL and RF, the device makes use of selective absorbability of skin, results in the impedance differences between the target skin tissue and normal skin tissue. Even under the state of low energy, it will enhance the absorbability to RF automatically; greatly remove the side effect possibly originating from over light energy and the discomfort. IPL and RF are the most important two technologies in this beauty system. Of which, IPL is mainly applied to adjust the value of impedance, and guide radio frequency energy concentrate acts on the target skin tissue, and enhances its absorbability to radio frequency energy even under the state of low light energy. Because IPL is not the main energy, then avoids from reflection and refraction of main energy. Based on its characteristic, the heat effect originating from radio frequency heating on skin depends on the current density, which depends on the impedance distribution of skin tissue, the higher temperature of skin tissue, the lower impedance, then the bigger current density and the higher heat effect; vice versa. Therefore, the pigments in epidermis will not affect the radio frequency absorbability of target skin tissue. Radio frequency energy can well act on the target skin tissue and get a best result. At the same time, the exterior contact cooling technologies of probe, removes the over heat energy originating from IPL and increase the impedance of the epidermis, that reduce the epidermis absorbability to the radio frequency. All of these greatly increase the treatment results and safety, even to the treatment results of light skin tissue. Take full advantage of the integration of IPL and RF in this system, offer the best temperature distribution in deep dermis, which helpful to the exact treatment, effective on the deep dermis and connective tissue, that stimulate the renew of the collagen and do not affect the normal epidermis.

#### 2. Features:

- a. simplicity: intuitionistic controller, makes the operation more easy. After simple training, the operator could skillfully operate the device. Humanized design of the treatment head, makes a easiest operation.
- b. efficiency: best treatment effect, no side effect, make the treatment more comfortable.
- c. safety: in this beauty system, IPL and RF can be used together or separately, operator could choose the low light energy or the high radio frequency energy, that greatly reduce the risk of burn epidermis after the treatment. After this system treatment, almost no inflammation on face syndrome etc. So the patients are unnecessary to worry about burning skin in epidermis, which originating from over energy or the probe closely near skin
- d. economical: best results, low cost of maintenance. Moreover, because of unnecessary higher

IPL energy, prolong the lifetime of the treatment head for 2 or 3 years, which greatly reduce the cost. Easy daily maintenance, easy master after the simple training

- e. big LCD screen
- f. wide range of treatments, great effect, and with high safety factors

#### 3. Applications:

- a. Deeply wrinkle removal and face lifting: integrating with the IPL and RF technology, deeply remove the wrinkle and lift face
- b. Unwanted hair removal: take advantage of intensive pulsed light and RF energy (could act on skin below 6 mm), directly act on the hair follicle to remove the thick dark hair, and tiny hair
- c. pigment and vascular treatments
- d. skin rejuvenation and breast lifting

#### 4. Taboo:

- a. Pregnant women
- b. Insolation in the sun
- c. Sensitive to light, medicine, or are taking medicine that sensitive to light
- d. Using vitamin within 6 months
- e. Not representative naevi or malignant pathological changes in the treatment area
- f. Pacemaker or quiver dispelling device user
- g. Herpes or trauma
- h. Pimple record
- i. Anticondensate treatment (or stop using two weeks)
- j. Severe diabetes patient, high blood pressure sufferer, and epileptic

#### 5. Security introduction of the intensive pulsed light

Skin photo rejuvenation system FG 2000 is a 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 must know the security notice in this chapter. Most important, it's the most safe design for both treatments. All are as following:

- a. Automatical inspection after turning on the device
- b. Adopt the closed filters and crystal of transferring light, and the light only emit from the probe
- c. Independent electro circuit, automatically stop working when super energy
- d. The red pause switch facilitates your urgency

[WARNING] Any intensive light without incorrect using can injure the body. In the course of working, the device will produce high pressure. So every operator should keep warning, operating according to this introduction.

Patient: it's more important that seasoned operator and appropriate disposal treatment room.

Moreover, the patient should also know the treatment theory and wear the professional protective eyepatch, protecting eyes from burning.

Operator: during the treatment, it's possible to touch the intensive light. So it's necessary to wear the 3 grade blinder.

Treatment room: the room must clear mark "using intensive light"

#### [MAIN WARNING]

For safe using, should carefully read the warning notice:

- a. Except the authorized mechanic, any others have no right to examine and repair the IPL setup, especially the inside of device that including electrical source, cooling system, optic organs and treatment head. Notice the dangerous high pressure inside.
- b. Make sure whether it's accordant to your resident voltage or not.
- c. Maintenance must after turning off the device and drawing out the electrical source line. Or it's most possible to injure people and damage the equipment.
- d. Keep the filter and the probe clean. Do not let the cooling gel enter into the probe
- e. Stop turning on when finding slack from treatment head. If turning on, close right

## [WARNING ON INTENSIVE LIGHT]

- a. The intensive light is possible burn eyes or fire. So it's necessary to protect in any way.
- b. over light energy could burn skin, that results in atrophy or pigment deposit.
- c. Do not directly see the intensive light or laser light during treatment, even wear the protective glasses and eyepatch.
- d. Do not point the treatment head to the air. Generally, hang it in the bracket. Point to the treatment parts when operating.

## 6. Security introduction of the electricity and equipment

- a. Keep close both panels and cover board.
- b. High pressure inside the equipment. It's possible to deposit electricity in some parts after switching off. So it's not allowed to open equipment beyond the authorized mechanics
- mechanics.
  c. When maintaining, please close power, cover board, and observe in person.
- d. Total weight is 80 KG, so please take care when moving.
- e. Safe power line designed with 3 cores.

#### [PREVENT FIRE]

- a. The temperature will raise 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.

#### [AUTOMATICALLY INSPECTION]

On turning on the device, it will be inspecting automatically. About 1-3 minutes running automatically, then it enters into the next step.

#### [CLASS OF EQUIPMENT]

- a. Class of motor protection:1 CLASS,BF CLASS
- b. Anti-corrosive liquid: general

- c. Not allowed to use in the air mixed flammable anesthetic and nitrous oxide
- d. Operation manner: continuous operation

## 7. Operation of the controller:

a. When turning on the device, the screen will show as the picture one:



Picture one

b. Some seconds, the screen show the treatment menu, as picture two:



Picture two

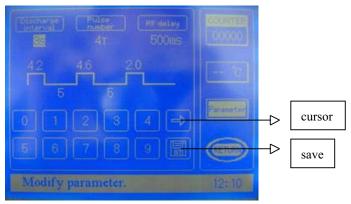
c. Select relevant treatment mode, such as Hair Removal, Skin Rejuvenation......

Take Hair Removal mode for example, show as follows:



#### Picture three

Switch of IPL and RF are intelligent. Use your finger to adjust the parameters. (IPL and RF can be operated simultaneously, also separately. However, it's not allowed the close at the same time.) Touch the parameter button, enter into its system to change the parameters, show like picture four:



#### Picture four

Parameter indicates the adjustable data during the treatment, which could change the output energy from the treatment head, pulse interval and pulse number, and RF delay, which can satisfy the different treatment requirements. There're total 9 articles for adjustment, through adjust the cursor.

- \*• Pulse interval: adjust the frequency of pulses from 1-4s, which could directly select the clear number on screen.
- \* RF Delay: input the related number (notice: every 10 is a unit; so if input 55, then it will display 550ms), please select the cursor to modify.

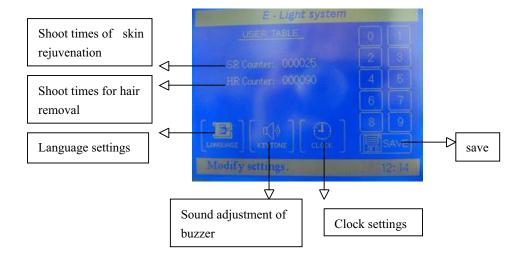
After modification, store the settings and quit from that menu to the treatment mode, or not store, directly return back to the treatment mode.

Adjustment of the energy: adjust the output energy of IPL or RF through the cursor. Scale of output energy is from 0-50; after energy adjustment, press the button on the treatment head to start the treatment. Then the screen displays working. At the same time, the treatment head is working in accordance with the last parameters settings. When press the button on treatment head, any button of the equipment is not effective, only release it, the equipment is still to work.

Quite from the working state: after the treatment, touch "return" on screen to return the treatment menu, which shows like the picture two.

According to the above statement, other treatment modes can be operated like it, such as skin care, pigment elimination, red blood streak elimination and breast lifting.

d. touch "setting" on treatment menu, enter into the modification mode, show like picture six:



#### Picture five

- \*. SR Counter: display the accumulated shooting times from the treatment head on skin care, pigment treatment, vascular treatment and breast lifting
- \*. HR Counter : display the accumulated shooting times from the treatment head on hair removal
- \*. Settings of language: switch between Chinese and English, when pressing cursor of "Chinese", it will change into English; v.v..
- \*. Settings of sound of buzzer: it can be controled
- \*. Settings of clock:  $\bigcirc$  When touch the cursor of "clock", it will be displayed "00  $\vdots$  00" on the bottom right screen
  - ② input the time according to the cursor, such as inputting 22:39,input"2239";
  - 3 retouch the cursor of clock, then store the above settings;

Any of the above articles can be stored separately, then return to the treatment menu.(show like the picture two)

#### 8. Clinic operation

- ①. before treatment
- a. classification of skin: it's safe and effective to the white, brown or yellow skin.
- b. sign the agreement
- c. clean the skin, eliminate the perfume and cosmetics.
- d. use digital camera for memory, take photo from different orientations
- e. if necessary, use external anesthetic one hour before the treatment; if want to remove the hair, please cut the hair to 1mm before treatment.
- f. Before the treatment, please make sure enough water and water circulation inside the device, and must wait for the probe cooling then allow todo the treatments. If the probe is not cold or became hot, please stop all operation and do not use the device,

avoid damaging the device.

## ②. In the process of treatment

- a. patients take the protective eyepatch, at the same time, the operator also wear the professional protected glasses, respirator and medical gloves.
- b. spread approximate 3mm cooling gel in front the ears and below the chin. Making test of 2-3 spots according to the former parameter designed. After 3-5 minutes, observe the reflection of skin, to make sure the treatment parameter. However, it needs to wait for a little longer time.
- c. 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.
- d. 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.
- e. 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
- f. 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
- g. It's can be adjusted the energy, according to the actual conditions of the patients.

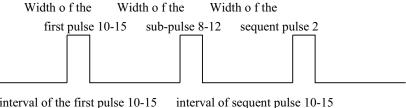
#### ③. Notices of treatments

- a. Avoid sunlight and burn before and after the treatment, could use the suntan lotion (cream) (SPF>30) to avoid direct sunshine.
- 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 laser skin care treatment before this treatment, please wait for 3 weeks at least.
- f. after the treatment, patients are not allowed to eat the foods of dark color or great pungent within two weeks, such as the sauce, coke, sea foods, capsicum etc.
- g. it's not allowed that insolation in the sun before and after the treatment
- h. it's not allowed that use any cosmetics after the treatment, suggested that use the natural moisturize products
- i. Please cooling the bad reaction area after the treatment with , like tumescence and causalgiase.

#### 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 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:

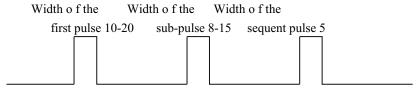


interval of the first pulse 10-15 interval of sequent pulse 1 discharge interval 3-4s number of pulses 3-5

## 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 sheded 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:

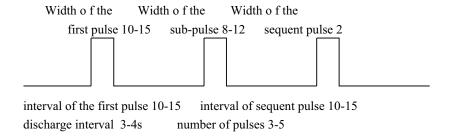


interval of the first pulse 10-15 interval of sequent pulse 10-15 discharge interval 3-4s number of pulses 5-6

- ③. Wrinkle removal treatment
- a. 1-3 or 3-6 treatments per period

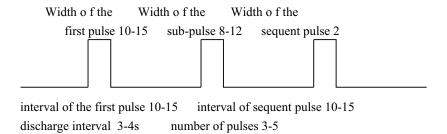
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, The stimulated collagen fiber cells and flexibility fiber cells will be growing and renewing following the metabolism period.
- c. feelings in the treatment: some picked feelings like needle. a little red feelings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



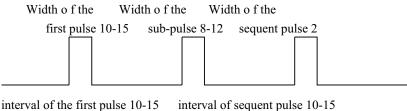
- 4. Skin whitening treatment
  - a. 1-3 or 3-6 treatments per period
  - b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, some decomposed pigment cells are phagocytosed by the lymphocyte, and pass out of the body as the metabolism period.
  - c. feelings in the 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:



(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:

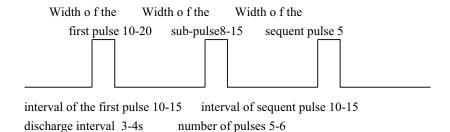


interval of the first pulse 10-15 interval of sequent pulse 10-1 discharge interval 3-4s number of pulses 3-5

#### 6. Vascular treatment

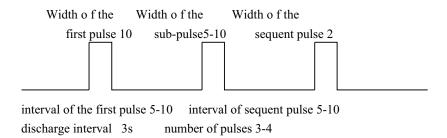
- a. 1-3 or 3-6 treatments per period
- b. every 3-4 weeks for one treatment. Because the human metabolism period is 3-4 weeks, the stimulated capillary vessel tissues will be shrinking and steady following the metabolism period.
- c. feelings in the treatment: some picked feelings like needle. a little 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+RF used together:

- 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 or foot-touch, 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 patients

Moreover, the IPL value to the dark black skin treatment will be 5 lower than the value to the black skin treatment.

RF value in the treatment: generally start 10-15

Above all operation must consider the real condition of the patients.

#### IPL only used:

- 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.
- 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 patients

Moreover, 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.

#### RF only used:

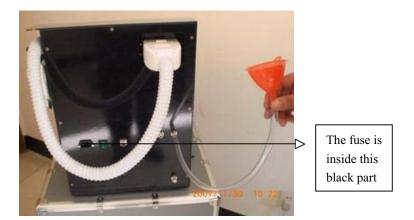
- a. please do not press the button on handle before touching skin in advance
- b. continuously press the button on handle, parallel vertically slide the probe on the treatment part with appropriate stress, 7-8 times back and forth.
- c. when ending the treatment or try to change another treatment part, firstly release the button on the handle, avoiding electric shock by chance
- **d.** RF value in the treatment: generally start 10, then adjust the value according to the actual treatment

#### VI. Simple maintenances:

- 1. No stress on the touch-LCD, 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.

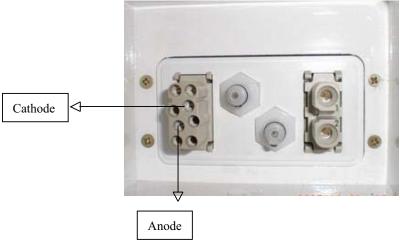
#### Analysis On Simple Malfunction

- 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.



- 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:

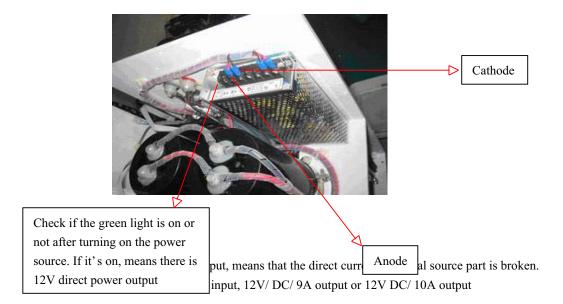


- a. After turning on the machine, you should test the above Anode and Cathode with multimeter. 12V/DC output means the power source is well
- b. Check up whether the Peltier is well or not:



Please check up whether this two electrode is well or not, which relate to the Peltier.

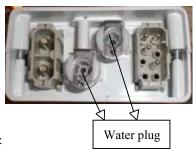
c. if above two electrode is well, please disconnect the panel, show as follows:



- d. check up whether the water circulation is good: to open the panel of the treatment head, as follow:
  - Screw off these 6 screws, and then disconnect the panel

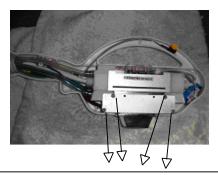


• disconnect the water plug with the connected water pipe, then plug these two plugs into the joint on the back panel; blow air inside the water plug with mouth, see whether it is ventilated. Or directly turn on the device, see whether there is spilt water from these two plugs. (Remarks: for the last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



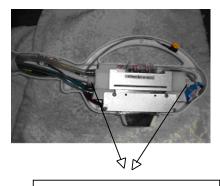
- 3. the xenon lamp is not on:
  - a. the lamp is exhausted; the lamp broken down.

- 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:



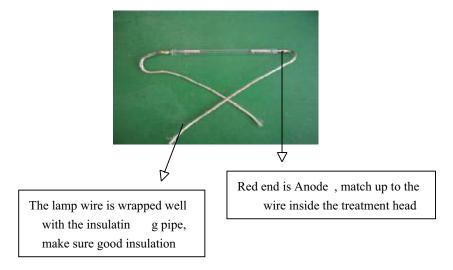
Tighten these four screws, and another four on opposite side of the above small board

- 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:



#### 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