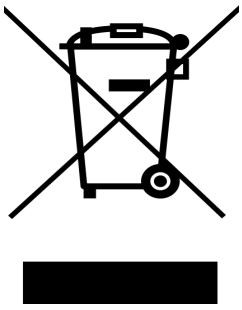
SHR+IPL+YAG Machine

Model: # Multi11

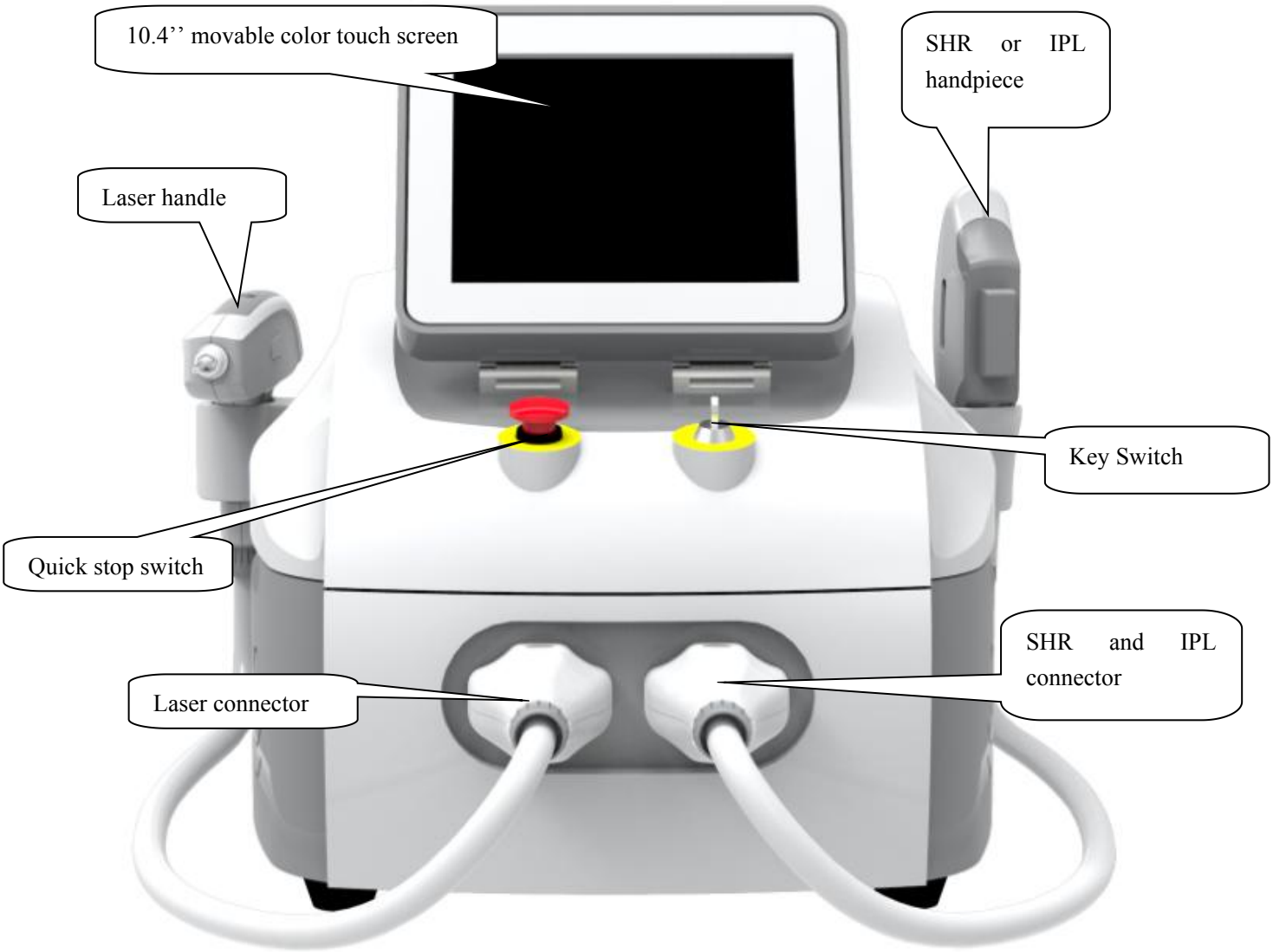
Disposal of your old appliance

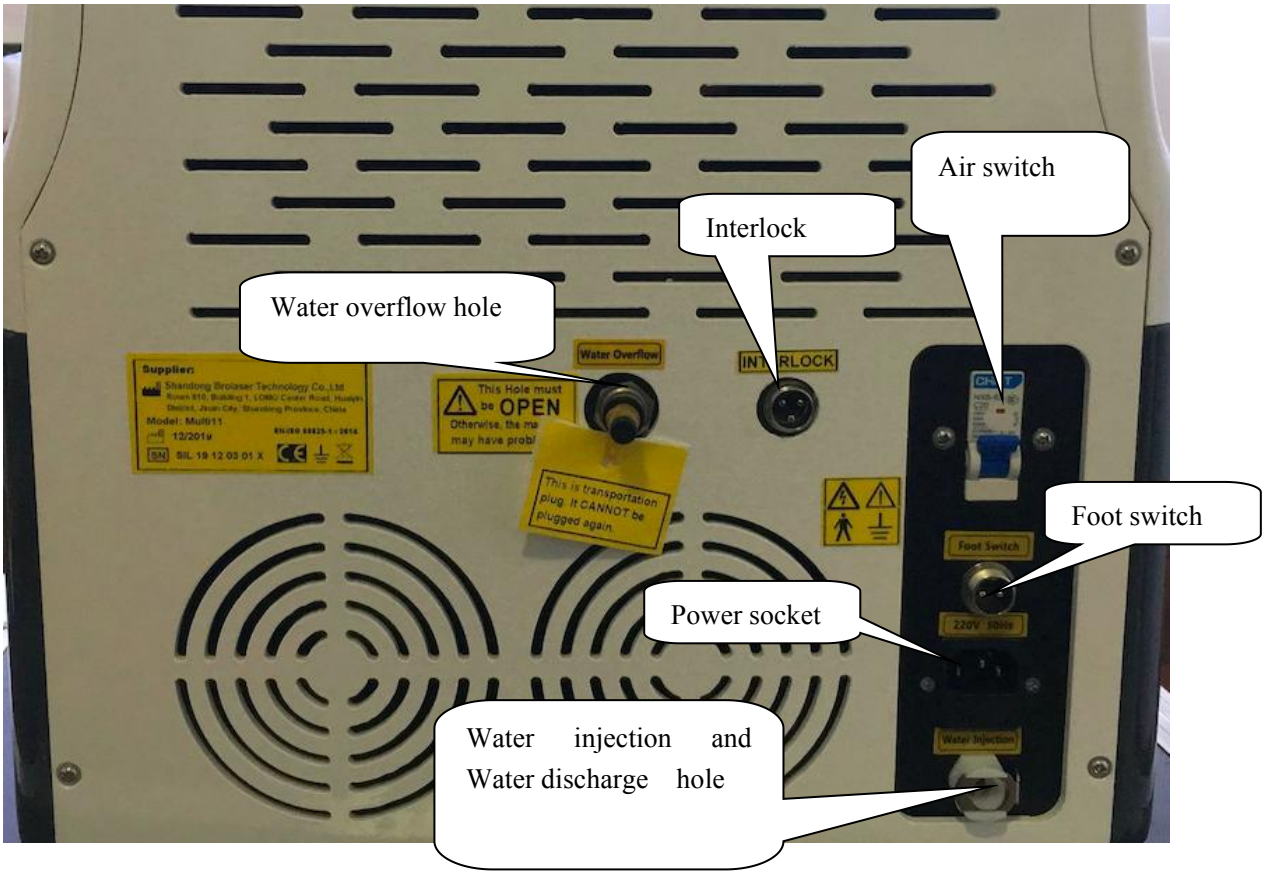


1. When this crossed-out wheelie bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health

4. For more detailed information about the disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

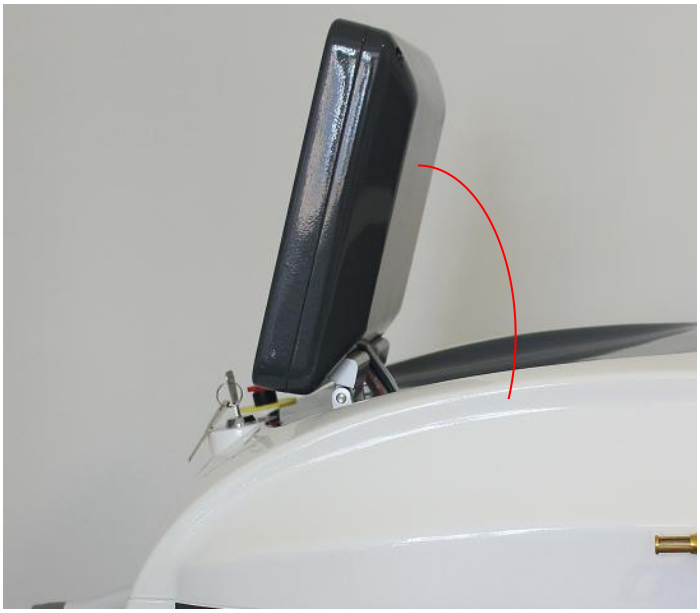
Chapter 1 Introduction



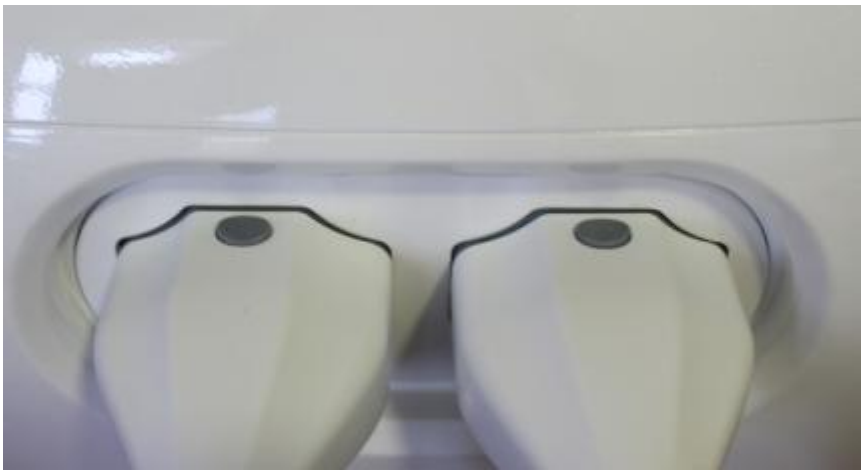


Chapter 2. Installation

1. Raise the screen slowly.



2. Connect two handles



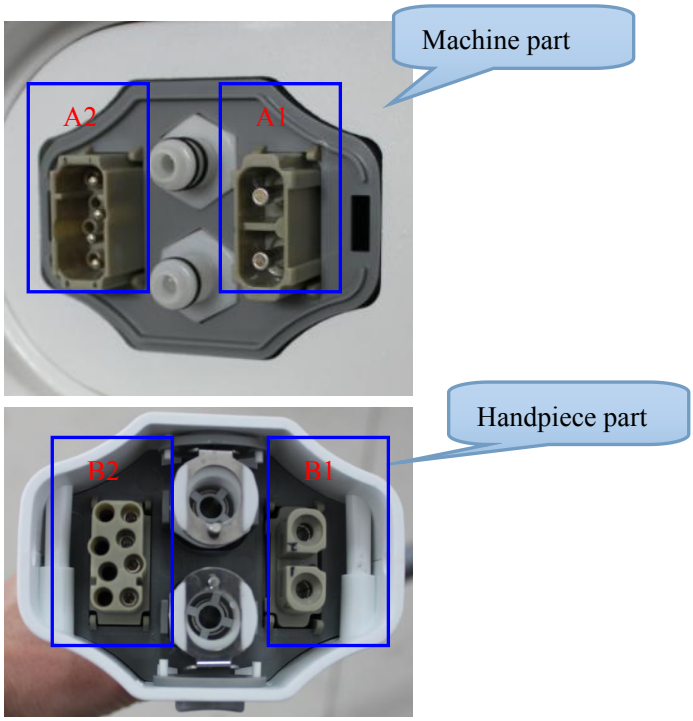
2.1 How to connect.

2.1.1 Press down the 2 buttons firstly.

There are two buttons on both above and below of each handpiece. The two buttons may be in the upspring or press-down state. Before connect it onto the machine, it must be in the press-down state. So press down the 2 buttons firstly.

2.1.2 Connect it in the right direction.

There are two parts of the connectors: machine part and handpiece part. Please look at the following pictures. A1 connects to B1, and A2 connects to B2. It cannot plug if connecting A1 to B2.



2.1.3 Use some power of your hands to plug it. When you plug one well, you can hear the click – the button springs and it locks. Then you can try to pull the handpiece connector slightly to check whether or not it locks well. Then hang up the two handpieces onto handpiece holders.

3. Connect foot switch

4. Water-in.. Pure water or distilled water necessary.

4.1 First, remove the black connector. After the water-in, you do not need put it back again.

4.2 Press the button on the water-in-hole.

Insert the water pipe with plug and add water via funnel.

Add water until water runs from Water Overflow hole.

Press the button on the Water-In mouth, the water pipe pops out automatically.

Connect Interlock

Please plug the interlock. When you plug it, the groove upwards, then plug it.

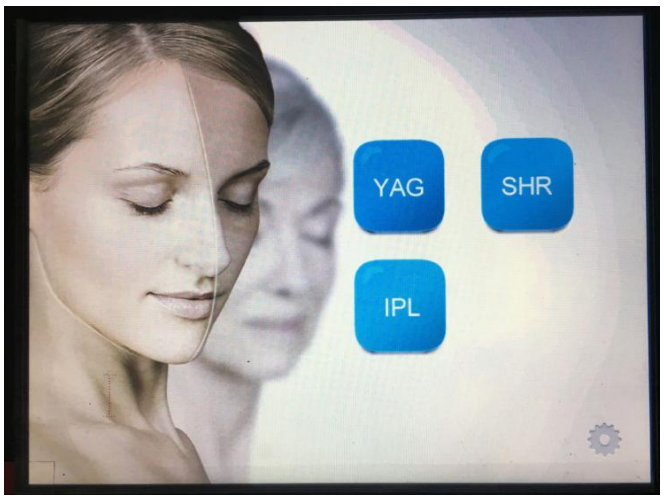
Chapter 3 Start the Machine

1. Connect the power. Turn on the machine by the key switch. If the machine has nothing reacts, turn the Emergency switch.

You see LOGO menu firstly.

LOGO

2. Click the LOGO menu, we are in:

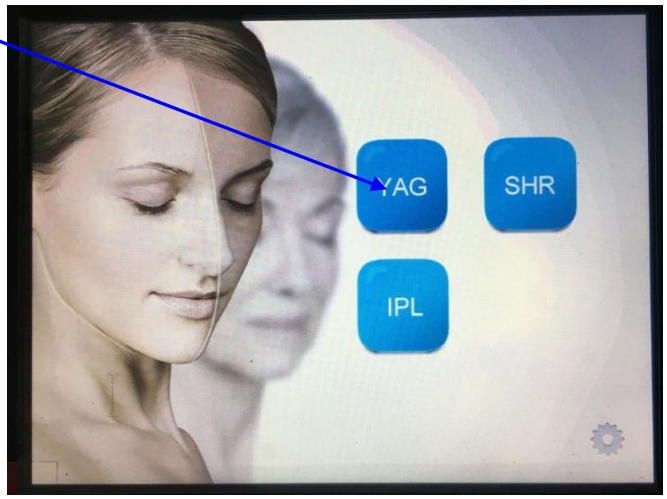


Click SHR, we go to:

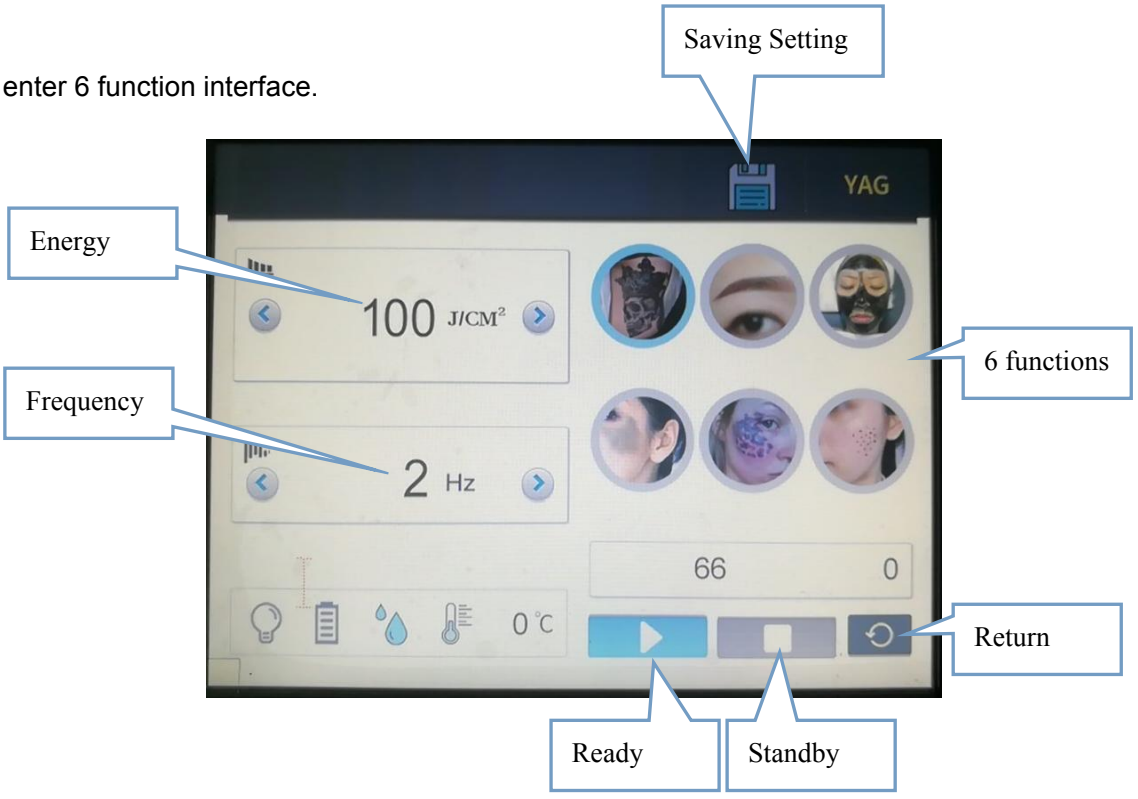
In above image, it is YAG SHR IPL 3 systems. Choose the right system you need. Lets start YAG firstly.

Chapter 4 YAG operation

Press YAG:



Then enter 6 function interface.



The 6 functions are:

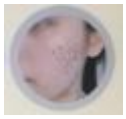
 tattoo removal

 eyebrow tattoo removal

 carbon peeling

 Birthmark removal

 Nevus of Ota

 pigmentation

When you choose any function, it has a blue circle as  , while others as 

When you press  is to decrease, and  is increase. Energy is 1-1500 adjustable, Frequency is 1-10 adjustable.

After you adjust the settings, you can press  to save this settings. Then it will show this settings next time.

 when ready button is gray while standby button is blue, it is on standby.

 when you press ready button and it become blue and standby button become gray, it is on ready.

Now, laser handpiece will fire when you press the foot switch or the button switch on handpiece.

You can hear crisped sound as you touch this key, and the indication light turns on. At that time the aiming beam of the laser lumen is lit and this equipment goes into pre-igniting state, you must pay attention that you make sure that the aiming beam points towards to the ground to protect eyes.

CAUTION: **When operation at maximum energy DO NOT set the frequency higher than 5Hz**

Test and adjust suitable parameters on a non-treatment area
Operators can test between dark magazines or dorsum of hand, at the same time the operator press the kick pedal with foot and hold the hand piece with your right hand. Aim the treatment tip towards to the testing area to examine the light energy which is emitted, you can see the shining light and hear the sound “ba ba”. The size of testing area is about 1cm^2 and the paper will turn white, and you can feel a slight tingling sensation .

After selecting the correct Mode, Energy and Frequency, aim the laser towards treatment area, press the foot switch and apply treatment accordingly.

To Pause Operation

1. First you loosen the kick pedal and press  if you need to pause the machine. The other way is press the red “Emergency Switch” directly. The machine will be in safe condition. The laser light will not output if you touch the kick pedal.
2. If you need to continue to operate this machine, please press  , then you tread the kick pedal and the machine will operate again. Lift the emergency switch if it was pressed.

To Shut Down the Machine

1. Remove foot from the kick pedal and remove the hand piece away from the treatment area to stop treating.
2. Press the  key .
3. Place hand piece securely into holder.
4. Turn key counter clockwise and remove to prevent unauthorised use.
5. Switch off power supply.

Emergency Shut Down

1. Press red emergency button
2. Turn key anticlockwise and remove

Treatment Shot Counter

During the treatment, the counter can record the shots/flashes during treatment. The counter includes current counter and general counter. The current counter (used to record shots/flashes of unit treatment) can record from 000000—999999. The general counter (used to record total shots/flashes of the machine) can record the number from 00000000—99999999.

The last used parameters in different treatment modes are saved even if you close the power supply. You can change it only when you change it to new parameter.

Temperature Display and Protection

There is error protection function for monitoring the water temperature and circulation.
It will display “ERROR” in the relevant function area, an audible alarm will be emitted and the machine will cease to work. The controlling will exit when you touch any key, and turn to the welcome interface.

Chapter 5 - The Operation of Laser Instrument

Client Consultation

A full consultation and patch test is to be carried out before any treatment takes place.
Consult in private and make client feel comfortable, the consultation will enable you to establish if the client is a suitable candidate for laser therapy.

Consultation Process:

Explain to the client how the Q-Switched Nd: YAG treatment works

The Q-Switched laser delivers specific-wavelengths of light extremely quickly (in nano-seconds) at a very high energy. These pulses are selectively absorbed by the tattoo pigment, shattering it into tiny fragments small enough for the body to recognise the particles as a foreign object, and over the next several weeks some of particles (in shallow cuticle) are discharged from the body and the other part (in deep tissue) are absorbed and digested by the body's macrophages and removed out of the body by the immune system.
Since the specific wavelengths used can only be absorbed by pigment particles, no lasting injury happens to normal skin and normal tissues.
Q-Switch laser systems can now remove all types of tattoo with little or no scarring. Professional and amateur tattoos, as well as traumatic tattoos, resulting from accidents, are treated successfully.
Multiple treatments will be required

Matters that can Influence Laser Treatment

There are many factors which can affect the results of successful treatments and complete removal is not always achievable.

Clients should be given realistic expectations of treatment results, and complete removal of pigment can never be guaranteed.

a. **Amateur or professional tattoo –** Amateur tattoos are easier to remove as usually they are not as deep as professional tattoos and the ink is more sparsely applied. Amateur tattoos are usually only a single colour (black or blue), whereas many professional tattoos are multi-coloured.
b. **Type of ink used** - The pigment divided into plants pigment, mixture pigment, and chemical pigment. The plant based pigment is the easiest to dispel, while the chemical pigment is most difficult. If pigment contains iron and lead in the mixture and chemical pigment, it may not react well to laser treatment and can be difficult to remove.
c. **Depth of ink** - Generally speaking the deeper the pigment, the more difficult to remove. And it also takes many times to dispel. It will easy to dispel if the depth of the pigment is thin. Any treatment will not react well if the pigment is chemical based, even the depth of the pigment is thin.
d. **Colours in tattoo –** Black and blue tattoos are the easiest to remove while the green and yellow pigments are the hardest as there is not an ideal wavelength that either of these colours absorb. Tattoo's that have had white (titanium oxide) applied cannot be removed until the white has faded. UV inks cannot be treated.
e. **Age of tattoo - Older** tattoos usually easier to treat, new tattoos contain more pigment (ink) and often multiple colours.
f. **Clients own healing ability** - The different physique of people. The factors include age, skin, and body immunity and so on.

Side Effects

A superficial burn wound can be created by the laser tattoo removal treatment, The immediate whitening of the treated area is the inks reaction to the absorption of the lasers light energy creating steam within the

surface of your skin which usually last for several minutes.

Clients May Experience;

- Swelling or Bruising
- Pinprick Bleeding
- Feeling of Sunburn
- Blisters,
- Scabs and Crusts
- Pigmentation changes due to loss of skin pigment can occur (temporary except in rare cases).
- Dry Itchy skin
- Temporary hair loss
- Infection

Although times can vary, Complete healing usually takes 4-6 weeks. Some extreme cases can be up to 3 months to heal properly.
Scabbing and blistering routinely occur following treatment and usually occur 8-72 hours after the treatment, which can last 1-2 weeks or longer. When the scabs separates, the skin in the treated area may look pale or pink.

Hemoglobin of the tissue has a strong absorption of the 532nm wavelength. Using the 532 nm wavelength increases the risk of swelling phenomenon, skin surface turning white after vaporization, epidermal necrosis, a certain loss of pigment or pigmentation.
Due to personal immune system difference an increased restoration period between treatments may be required.

Treatment Aftercare

After Laser Tattoo Removal Treatment

a. Cold compresses (not ice) and recommended skin care products may be useful to reduce swelling or discomfort.
b. You may take over-the-counter pain or anti-inflammatory medication. Hydrocortisone (steroid) cream may decrease any itching or skin irritation. Antibiotic ointment (such as Neosporin) may be used if skin is broken to prevent infection.
c. Your skin will be fragile for 2 to 3 days. Use gentle cleansers, but do not rub the skin vigorously and avoid hot water during this time. Skin moisturisers may be used and make-up can be applied if the skin is not broken.
d. Avoid sun exposure and tanning creams during the entire course of treatments. Use SPF 30 or greater on the treatment area at all times.
e. The treatment area may be left open and uncovered. Do not scrub the area. Do not use any products on the treated area without first consulting our staff.
f. Avoid soaking for 24 to 48 hours. No hot tubs, whirlpools or baths, but showers are okay.
g. Avoid excessive sweating for 24 to 48 hours. No saunas or vigorous working out.

h. Keep areas well moisturised and allow scabs to fall off on their own. This is an expected occurrence with tattoo/pigment removal.
i. Avoid irritants such as Retin-A, Retinol, Renova, glycolics, bleaching creams and exfoliants for one week.
j. Refrain from alcohol for 3-7 days.
k. It is best avoid smoking for a period of several weeks before and after your procedure, as smoking constricts the capillaries and taxes the immune system, thereby slowing healing and results

Medical History

Operator must record details of clients medical history. All patients must complete and sign the history profile prior to treatment. The medical history is reviewed and confirmed with the patient during their consultation.

Contraindications

DO NOT treat anyone with the following conditions unless client obtains a signed letter from his/her doctor confirming that the medical condition(s) will not prevent client having laser treatments;

A. Lupus or other autoimmune deficiency
B. Pregnant or Breast Feeding
C. Bleeding abnormalities
D. Treatment of Acne in the last six months
E. Kelloid or very thick scarring
F. Inflammatory Skin Conditions (e.g: Psoriasis) or Injuries
G. Hypo-Pigmentation
H. Rheumatoid Arthritis “Gold” Therapy
I. Herpes simplex or fever blisters
J. Diabetes
K. Epilepsy
L. Cancer
M. HIV/AIDS
N. Used St John's Wort in the past 3 months
O. Newly Tanned skin (includes; natural suntan, tanning bed, fake tans) in last 30 days
P. Waxing/Plucking/Electrolysis/Sugaring within last 6 weeks
Q. Wearing a Pacemaker, or any Metal Pins/Plates

Note:
This list is not fully comprehensive and others factors may arise during consultation

Photosensitivity Considerations

Many prescription drugs and herbal remedies can cause increased Photosensitivity meaning the skin becomes more sensitive to light.
Photosensitivity reactions are generally either Photo-Toxic or Photo-Allergic. Photo-toxic drugs are more common than photo-allergic drugs. Reactions can include:

1. Extreme sunburn
2. Swelling
3. Stinging and Burning
4. Hives

It is important that you obtain a list of common photosensitising medications for reference.

Skin Typing

One of the important parameters for the success of laser treatments is the correct typing of the skin. Skin type is often categorized according to the Fitzpatrick skin type scale, which ranges from very fair (skin type I) to very dark (skin type VI). The two main factors that influence skin type and the treatment programme devised by physicians are:

- **Genetic disposition**
- **Reaction to sun exposure and tanning habits**

Skin type is determined genetically and is one of the many aspects of your overall appearance, which also includes the colour of eyes, hair, etc. The way skin reacts to sun exposure is another important factor in correctly assessing skin types. Recent tanning (sun bathing, artificial tanning or tanning creams) has a major impact on the evaluation of your skin colour. Treat as next darker type if unsure.

Client Consent

All patients must complete and sign client consent to treatment form prior to treatment. The medical history is reviewed and confirmed with the patient during their consultation.

Patch Test

Patch tests should be applied to establish the highest level of energy that the patient's skin can tolerate without adverse reaction.

1. Determine the patient's skin type and select the settings for the three test spots accordingly.
2. Remove any make-up or lotions and cleanly shave the area to be tested. Make sure the area is completely dry.
3. Each test spot should be clearly delineated. Increasing energy for each successive spot left to right or bottom to top for consistency in assessment and documentation.
4. After 5-10 minutes, record the initial reaction on the test spot notes.
5. Test spots on patients with skin types V and VI should be at least 2 weeks prior to treatment in case of late emerging side effects. Other skin types may not have to wait as long.
6. Upon return, treat the patient at the highest energy tested that did not cause an adverse reaction (crusting, blistering or pigment change).

Treatment

1. We advise you take the second treatment 6 weeks after the first.
2. You can shave the eyebrow before removing the eyebrow with device in order to examine the effect.
3. Take photos before and after every treatment for reference
4. We advise you that you should treat large tattoos and nevus little by little and time by time to avoid to much discomfort to the client. You can also help build client confidence by seeing the contrast between before and after the treatments.
5. There maybe the sound of the pigment breaking when you treat the deep tissue of the tattoo because of the strong absorption to laser energy with 1064nm. The tint colour of the pigment can come out the cuticle after absorbing the energy.
6. Use a lower energy over bony and thin-skinned areas,
7. The results of tattoo removal will be more noticeable in the first few treatments, due to there being more pigment.
8. The function of digesting and transportation of the macrophage can continue for a long time, and the colour can fade more during this period.

Chapter 6 - Operation Skill and Technique of YAG laser

Demands before operation

- Before each treatment, the user must check the functional performance of the device in order to avoid any risk of harm to patients or other persons. If the device is used in together with peripheral units, the User's Manuals for the peripheral units must also be read thoroughly and understood.
- Operators should complete a consultation and build a client file.
- Clean the treatment area, disinfect utensil, and shave the treatment area if necessary. You must pay attention that the area to be treated must be dry, as the treatment will be affected if there is water in the treatment area.
- The operator should wear white clothes and relevant wavelength glasses. Keep the operation room clean and make sure illumination is bright enough.
  You should keep the temperature is between 22 and 28°C, and avoid the laser irradiating non treatment area.

The suggested laser parameters during the operation

Treatment Mode	Frequency	Treatment Distance	Energy
Eyebrow removal	2--3Hz	1—2cm	300—400mj
Eye line removal	1--2Hz	1—2cm	300—400mj
Lip line removal	3—4Hz	2—3cm	300—400mj
Tattoo removal	3--4Hz	3—5cm	500—600mj
Spots and naevi removal	3--4Hz	3—5cm	500—600mj
Birthmark removal	3--4Hz	3—5cm	550—700mj

Notice:

- 1064nm gets rid of blue, black and cyan pigment.
- 532nm gets rid of red, coffee and brown pigment.

The light beams should be vertical all the time. All the treatment doses are the parameters referring to the vertical laser beam. If it deviated from the vertical position, the laser flow will be reduced and the laser energy can not be completely utilised.

The light spots should fold and translation to a line when you remove eyebrow, eye line and lip line.

You should remove the spot and naevus gradually in small areas.
The treatment area should ooze blood when you treat the area.

How to Change Treatment Heads of Laser

The laser has two inter-changeable treatment tips, each offering different wavelengths: 1064 nm & 532nm, these screw into the end of the hand piece.

1. **1064nm wavelength** for black, blue, brown, and other darker colours tattoo removal, this tip is slightly shorter and has a round mirror inside.

2. **532nm wavelength** for red, orange, pink, and other lighter colours tattoo removal, this tip is longer and has a square mirror.

Picture - The Handle of laser and treatment tips.

Directions:
Select the treatment tip according to the treatment of wavelength based on the examples above.
Screw treatment tip in a clockwise direction to attach to hand piece
Screw treatment head counter-clockwise to remove.

NOTICE:

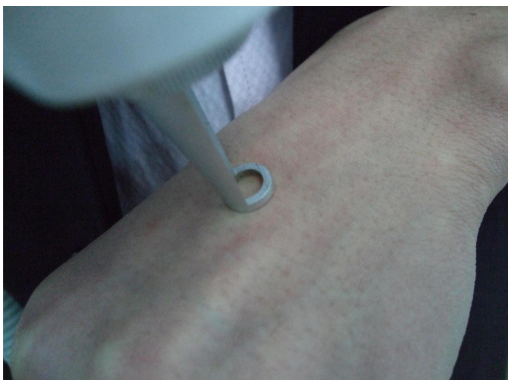
a. Please don't screw the treatment heads too tight.
b. Please stop the machine, or enter safe mode when you are changing the treatment heads.

【Quick Tips】

1. The result will be better that treating part by part when you treat large area tattoo.
a. Please treat with 532nm head first when you treat lighter colour like red. After 2-3 times treatment, the red colour tattoo may possibly turn black or brown. Then treat it with 1064nm head.

Adjusting The Focal Point (Spot Size)

How to adjust energy after you set the power on LCD during treatment

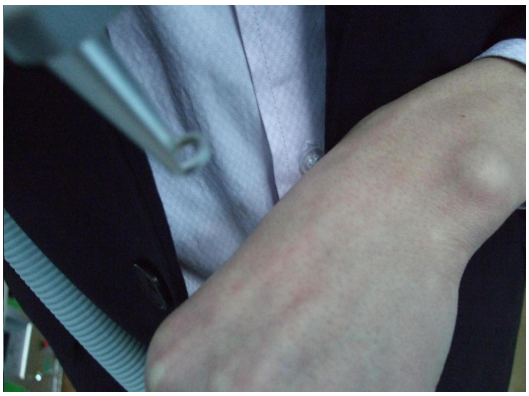


1. Put the head on the skin first

2. Then, prolong the distance between skin and head.

3. The power is most strongest when the laser beam get the focus.

4. Power will be weaker again after the distance between skin and head is longer than the focal point.



5. Looking for a good distance to control the power during the treatment.

Notice:

Larger Focal Point (spot size) = Lower Power Density

Smaller Focal Point (spot size) = Higher Power Density.

How to control the energy of laser treatment

In the early stage of the use of laser treatment, you can consider the experience of others. The parameters of the treatment of a certain disease are:
Laser energy Q, pulse frequency Y and spot size D (direct).
Energy and Frequency can be adjusted directly through the machines interface and the select button. The spot size can be achieved by adjusting the distance between treatment tip and treatment area.

Energy density =laser energy/Ï*D namely： E=Q/0.787*D

A: **In the actual operation, the energy also needs following points to consider:**
The skin colour, thickness, rough conditions vary from person to person and due to different sites.
Therefore, the dose is different. When you operate the instrument, the dose should be gradually increased from small to large. You can find a suitable parameter this moment. For instance, first use some spot to experiment, the spot become smaller gradually (that is closing to the scheduling and to lift the treatment head gradually, finally to find the focus position), at the moment energy density (flow) changes from small to large.

B**: Please pay more attention to the changes of the skin colour in normal part.**
The target pigmentation always exist in corium or deeper in the skin, it should be treated by laser until blood oozing slightly. Another treatment is needed if the pigment cannot be removed thoroughly after 1 treatment.

C: Whether it is skin pigment or vascular skin diseases, we change the energy according to the colour depth. If the colour of the same lesion changes from deep to shallow gradient, the treatment should begin at the darker areas. While moving to the light-coloured, we should raise treatment tip position. This will make the spot size get larger, the energy get lower.

D: If treatment area is large and location is deep, too deep and large area treatment once will lead to local edema, blisters and exudates. So a layered and slicing treatment is suggested.

Operating Technique Introduction for Different Treatments

Eyebrow Removal

a. Removing single blue and black eyebrow:
The light speed can be set to 5Hz; the distance from treatment tip to skin is 1 ~ 2cm. You may treat from the head or may from the tail of the eyebrow. You can take the second treatment if there is colour restoration. The energy can add 20-40mJ and the treatment tip to skin distance can increase up 2-3cm in order to increase the effect
.
b. Shaded eyebrow removal (the shaded eyebrow can be removed clearly 2 or 3 times)
Set the light speed to 3Hz and the energy can be selected according to the above form.
First you can treat with 1064nm in 2-3cm distance, and then you can treat with 532nm the second time. The brown pigment contains mixed pigment, so it could take more than two treatments; the treatment interval period is from 45 to 90 days. You can choose different light head according to the remaining colour.

Eye Line Removal

The light speed can be set to 5Hz, and the energy should be set to the lowest point. It is about 2-3cm distance from treatment tip to the treatment area, and the light will be seen as reference.
The client's eyes should be protected with thick medical cloth and eye coverings.
First you remove the client's lower eye line, and the client should close his/her eyes, at the same time the clients eyeball needs to be looking upwards.

The operator presses the cloth with index finger, and peels away the lower eyelid with middle finger.
When you remove the upper eye line the client should close his/her eyes with eyeball looking downwards. The operator presses the cloth with middle finger and pulls the eyelid with index finger.

Lip line removal

The light speed can be set to 5Hz, and the energy can be selected according to the reference table above. The distance from treatment tip to the treatment area is 3-4cm space.
You can remove the black, coffee and deep red with 1064nm for the first treatment and then use 532nm for the second.
You can use 532nm to remove thin red, red, thin coffee and thin brown. You must pay attention that you carry out the second treatment of removing lip line, soak lip and the lip's tattoo within 6 months of the first treatment.
The course of treatment is from 45 to 60 days until it is clear.

Tattoo removal

The light speed can be set to 3Hz/5Hz, and you can select the energy according to the reference table above.
The distance between treatment tip to treatment area is 3 or 4cm.
The effect will be best if there is blood speckles/pinprick bleeding.
The light head of 1064nm gets rid of blue and black pigment while 532nm gets rid of red and coffee pigment.
The interval between treatments is from 45 to 90 days and course continued until it is clear.

Speckle and naevi removal

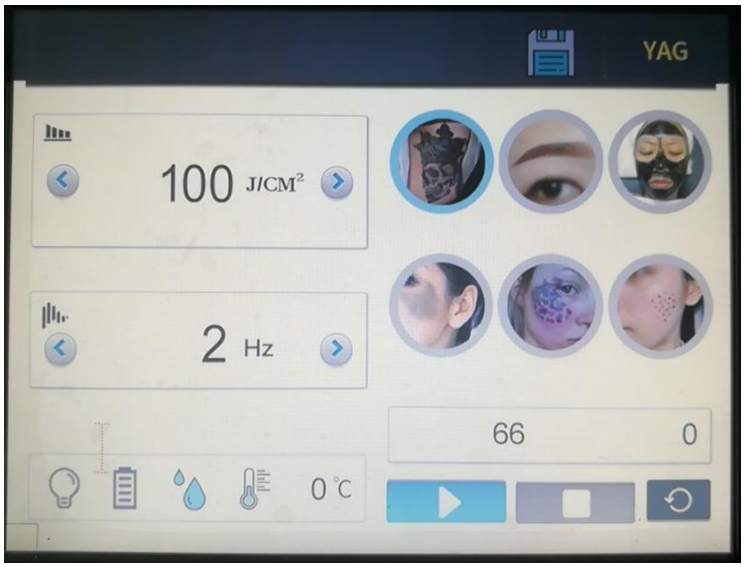
The light speed can be set to 3Hz/5Hz, and you can select the energy according to the reference table above.
The distance between treatment tip and treatment area is 3 or 4cm. The effect will be best if there is blood speckles/pinprick bleeding.
The light head of 532nm gets rid of red pigmentation while 1064nm gets rid of speckle and naevi.
The course of treatment is from 15 to 30 days until it is clear.

Birthmark and nevus of Ota removal

The light speed can be set to 3Hz/5Hz, and you can select the energy according to the reference table above.
The distance between treatment tip to treatment area is 3 or 4cm. The effect will be best if there is blood speckles/pinprick bleeding.
The light head of 532nm gets rid of red pigmentation while 1064nm gets rid of birthmark.
The course of treatment is from 45 to 90 days until it is clear.

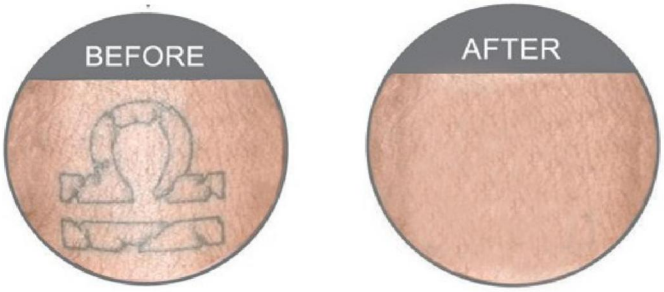
Chapter 7 - Detailed Function

There are 6 separate programs of therapy on the screen



Tattoo Removal

Tattoo removal is the major function. It has two wavelength treatment heads.
1064nm wavelength for black, blue, brown, and other darker colours tattoo removal;
532nm wavelength for red, orange, pink, and other lighter colours tattoo removal.



Eyebrow Removal

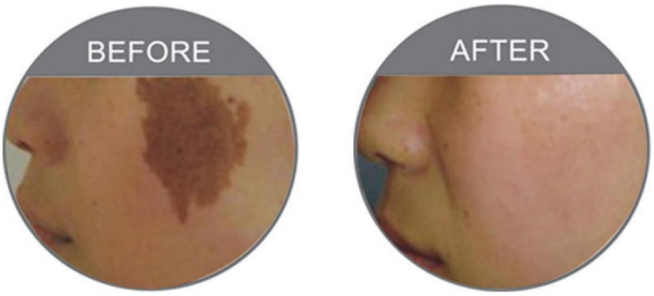
Many women love to embroider their eyebrow with different colour ink. It is very popular in China. The embroider eyebrow can be removed easily after women do not require it any more.

Carbon peeling

THE LASER can do carbon peeling and it needs a third laser tip - a black tip and carbon cream.

Birthmark

Just like Nevus of Ota, birthmark is also very difficult to remove. Because they are endogenous pigment. The laser can remove it after 3 to 7 times treatment.
But it **CAN NOT** be treated by laser if the birthmark protrudes the surface of the skin or has hair.



Nevus of Ota

Nevus of Ota is always on the face. It is very difficult to be removed. But THE LASER can do that after approximately 3 to 7 treatments.

Pigmentations Removal

It has very good results to remove it if there are several freckles on the face.

Further Information;

1. The LASER also has good effect for other pigmentation formed by pathological changes of pigmented skin and mixed colour.
2. The 6 separate programs of therapy can be selected freely. And the parameters (Power, Frequency) in each application (e.g. Tattoo) can be stored in its own file, which can be directly used next time. The data in an application does not need re-adjustment. It makes easy operation and quicker treatment.

Chapter 8 - The knowledge collection of laser removal

1. **The differences between the first and the second eye brow removal:**
   You should use the energy which near the focus energy for the first treatment. Distance can be greater than the first time and the energy can be gradually increased during subsequent treatments.
2. **The reason that the coffee turns to blue and black:** -
   It is normal reaction if the coffee turns to blue and black because the coffee is a mixture pigment which includes iron, lead ion, iron ion. And all these ion can produces pigmentation, so we advice you remove the pigment with 1064nm for the first time and then use 532nm. You can examine the effect half one month later. You can use 1064nm to remove if the colour turns to blue, and use 532nm if it turns to red.
3. **Why does some red eyebrow have no reaction after removing?**
   The pigment does not belong to plant pigment but the chemical pigment, and the iron has reached in to derma layer so it is difficult to remove. You should use the focus energy of 1064nm to break up the pigment until blood spots appear, and then you remove it with 532nm.
4. **How to remove the speckle of the face?**
   There are good effects on removing drought spot and butterfly speckle which can be caused by climate. The deep and hereditary speckles are difficult to remove while shallow and formed by acquired factors. You can use the focus energy to remove the senile plaque until blood spots appear. There are three treatment courses with an interval of 45 days between treatments.
5. **The treatment ways to remove naevi**.
   Using the focus energy to remove the naevi until blood spots appear.
6. **Can the scar constitution be removed?**
   A few people can be removed but the effect is not great. You should not use the focus energy, Use a large spot size and low energy.
7. **Can the pregnant woman be removed the eyebrow?**
   Pregnant women are not allowed to accept the laser removal treatment.
8. **How to remove the red blood streak and what degree will be OK?**
   We don't suggest that you remove the red blood streak, because the 532nm can absorb the hemoglobin in the blood. It can form the purpura to cause the operation fail.

Chapter 9 - The Advantages of laser treatment

Laser treatment has many advantages as below for eyebrow and eye line removal, compared to the tradition surgery such as dispelling, frozen, electrocautery, chemical (medicine) +dispelling.

1. **Less bleeding**, the laser beam is very narrow and easy to target only exposure lesions. It doesn't hurt or injure the surrounding systems: at the same time laser has the effect of "hot welding" to the vessel. It can close the vessel. Therefore it will be less likely to bleed.
2. **It has less pain.** On the one hand because of the thermal coagulation, the nerve ending is damaged and reduces the feeling of pain. On the other hand the treatment area is small and the treatment time is short. Therefore, patients feel less pain. This treatment doesn't need anesthesia, although some patients may prefer to apply a topical anaesthetic or numbing cream to the skin surface before any treatment.

3. **The quality of surgery is high**. Because there is minimal bleeding during treatment, it leaves a clear view to remove target. Of course it also needs the quality assurance and responsibility of the operator.
4. **The time of surgery is short**. The energy of laser is large and centralized. Completing the point of the treatment only needs a few nanoseconds and a few milliseconds.
5. less scar: As following the advanced “the principle of selective absorption” to finish laser beauty, it won’t cause normal tissue irreversible damage, so there is no scar.
6. **Fewer recrudescences:** as the laser treatment to the lesions is complete, the injury to the surrounding normal tissue is minimal. Therefore, the rate of the recrudescence is much smaller than traditional therapy.

Chapter 10 - Maintenance of Laser Instrument

This section describes daily maintenance of the Laser treatment system that can carried out by the customer. Only personnel trained and/or approved by the manufacturer are authorised to maintain the inner workings of this device. Any manipulation to the system may cause damage to the device and will void any warranty.

Ordinary maintenance of the machine

General Cleaning

Clean the outer part of the equipment regularly with soft damp cloth or microfibre cloth. You may also use a neutral detergent, and alcohol free wipes, but do not allow any liquid to seep into the machine.

Clean the output lens

You should clean the lens regularly after use. The spatter of pigment and tissue which splash into the lens in the treatment period may influence the light energy and make the laser become hot. You can loosen off the lens with screwdriver and clean the lens with anhydrous alcohol and a cotton swab. You must keep the gleaming convex surface towards to the inside. Otherwise, it can break if the direction is wrong.

Regular cooling water changes are required

The frequency of water changing depends on usage;

- If you operate the machine on a daily basis, change water every 14 days.
- If you operate the machine once or twice a week, change water after 30 days.

Remove the screw cap from the Discharge Water Hole and drain approximately 2/3 of the water and replace screw.

Remove screw caps from the Overflow Hole and Water Immit Hole; refill the cooling water level as per installation instructions. Allow the water to properly circulate for 5 minutes before preheating.

PLEASE NOTE: The cooling water must be distilled water or pure water, and we advice you use prepared distilled water or pure water which is sold in the market. Mineral water and tap water is not suitable to use, as the impurities in the water will cause a build up of scale which will affect the normal workings of the device and cause irreparable damage which will void any warranty.

Transport, Storage and Moving

A. The machine is portable equipment, easy to move.
B. Keep and use the original packaging when moving or storing
C. Do not shake or drop the device
D. If relocating in treatment room, keep device level when carrying.
E. Must not hit the light head of treatment, because it has exact optics system.
F. Keep water pipe and treatment handle securely packaged by sprung materials.
G. Before carrying any long distance, empty cooling water from the water tank.

Troubleshooting Guide

1. The machine will not start

1. Check the power supply has electricity and the attaching plugs are securely inserted both ends and socket is switched on
2. Check the red emergency button is released.
3. Check key is in correct position
4. Examine fuse and replace if necessary

2. The water cycle is abnormal when you start the machine

1. Check the water level, if there is not enough water inside to cycle properly this will trigger the water level cut-out switch.
2. Holding the tube of hand piece, then start the machine to feel water cycle.
3. Replace the cooling water inside as per instructions and shake the machine gently to reset the water level switch.

3. There is no laser beam output when you press the pedal.

1. Check that the machine is in the correct working state
2. Check the pedal, cable and connecting plug for damage, if any part is damaged contact us for a replacement.
3. Check the working key is pressed.
4. Check energy level output. You can increase the energy through adjust the energy key.

4. The energy becomes weak or there is no light that comes out.

1. The machine can not work as effectively if the energy is too low, increase energy level
2. The lens is dirty. You should clean the lens as directed.
3. The X-light is burnt out; you should change the laser gun.
4. You must stop working and not use the machine in 30 minutes if the apparatus has overheated.
5. Loosen off the light head and examine if the primary lens is damaged.
6. Check the handle and the light head carefully for signs of water leakage. You must change them if there are any leaks.

5. You may get an electric shock when you touch the machine.

1. Dry weather and chemical fibre clothes can increase static shocks.
2. You should use the three grounding plugs and the electrical outlet must be correctly earthed.
3. The voltage is unstable, you should introduce a voltage stabilizer

6. The machine leaks water

1. Manipulation handle leaks water.
2. Water leaks because of strong shaking or dropping during transportation.
3. The water tank and the water pump leak water.
4. Please send the equipment to the company at once or counter-claim from the freight company according to the above situation.

7. There is noise in the operating process when you press the preheating key.

1. If the device has not been used for a long time, the instrument will simmer slowly. Please turn off and restart the machine.
2. Please raise the temperature appropriately if indoor temperature is too low. You can install air conditioning.
3. The fans are broken or the fans have friction with other parts. Please change a new fan or clear the fans obstruction.
4. The indoor humidity is too high, keep the room dry.
5. If the xenon is burnt out, please replace the xenon lamp.

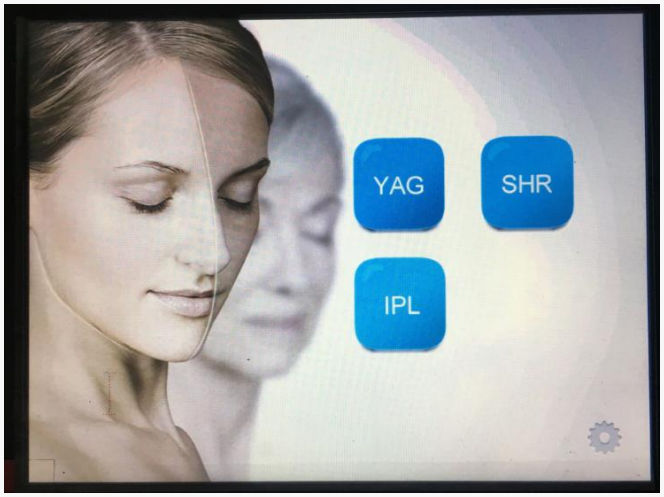
8. Energy weakens gradually during use of instrument

1) Any impurities adhered to the treatment tip lens will lead to blocking the light, please check the lens. If there is any pigmentation, dirt or dust etc.; clean as directed.
2) Check if the operation hand piece is hot, please let the instrument rest for 30 minutes or replace the cooling water.
3) Check the lens. If it is broken, please contact the manufacturer or distributor immediately.

Chapter 11 SHR Operation

On the following interface, Click 

.



Treatment interface:

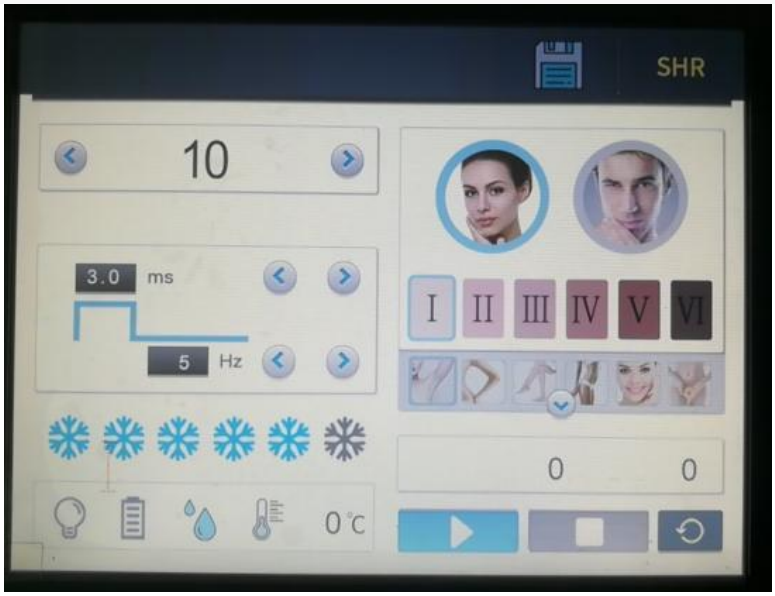
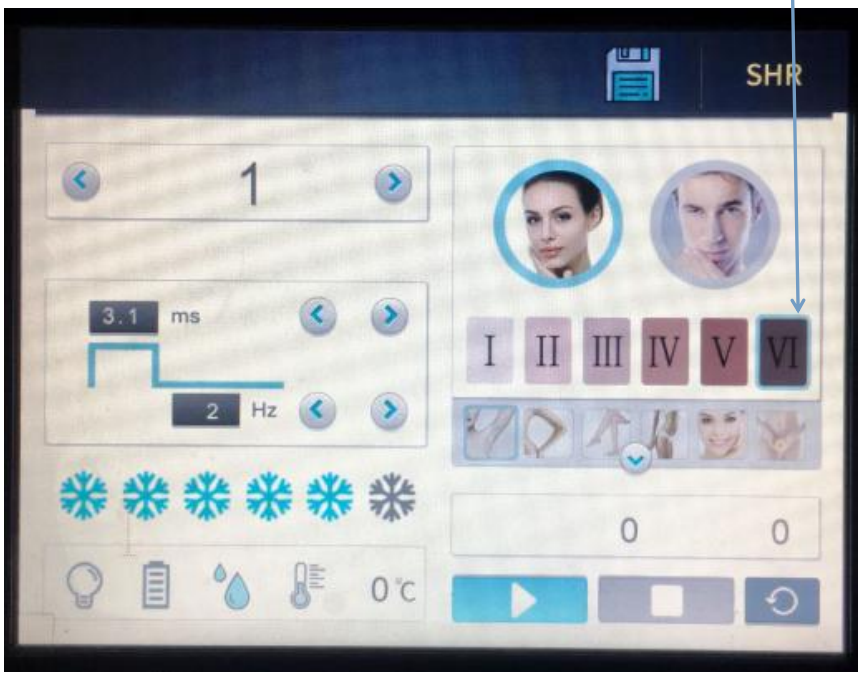


Figure two

Notice

Every time when you turn on the machine and enter SHR or IPL, it will be in skin VI firstly. And its energy is always the lowest 1. This is a safe set. If there is no this set, it may happen like this: you may turn on the machine and the settings is for skin I you set last time but now it is the client with skin V. So settings for skin I may hurt skin V.

But now, it has the safe set, it is on skin VI and the energy is 1 only, so you will notice it and choose another skin type. This is safe.



this is to adjust energy from 1J-50J

this is to adjust pulse width and frequency. Pulse width is 10ms max, while frequency is 10hz max.

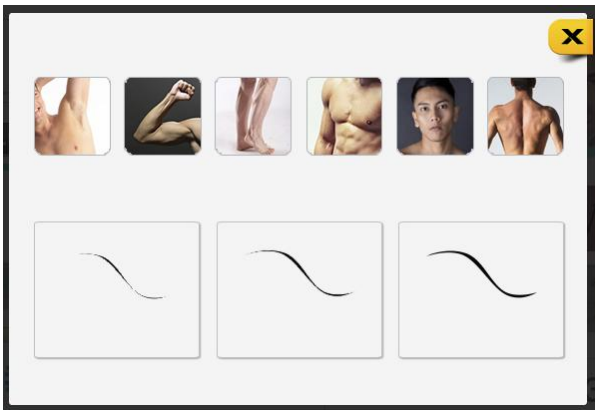
this is to adjust contact cooling on sapphire.

this is to show the status of simmer, water flow and water temperature.

this is to choose female and male for treatments.

this is to choose skin type.

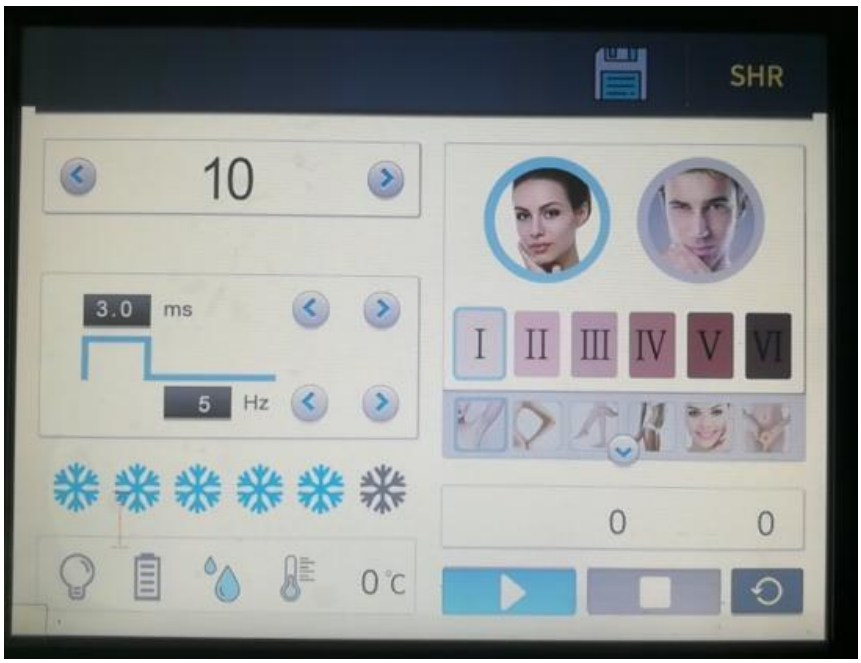

press it, it will show the following settings to choose treatment area and hair for female or male.



When all the settings above are ready, return to the following menu, and press  to save the settings.

Settings Save:

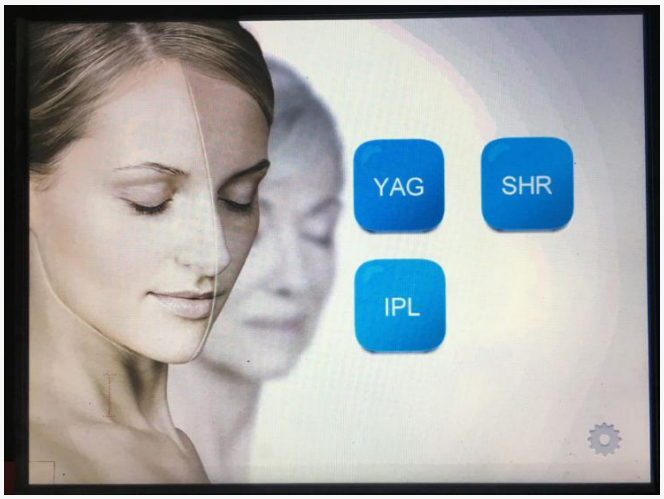
2 genders, 6 skin types, 6 treatment areas, 3 hair types can create many groups and each group can save a unique settings.



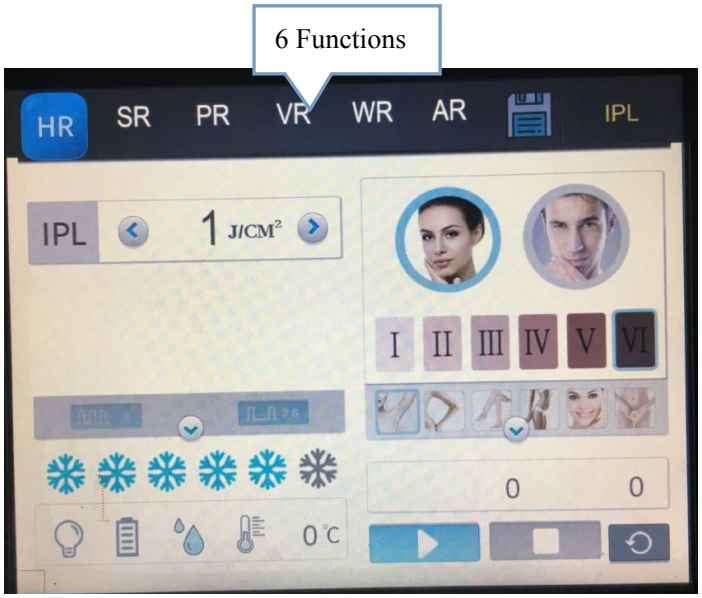
Chapter 12 IPL Operation

On the following interface, Click 

.



Then enter:



the 6 functions are:

HR: Hair removal

SR: Skin rejuvenation

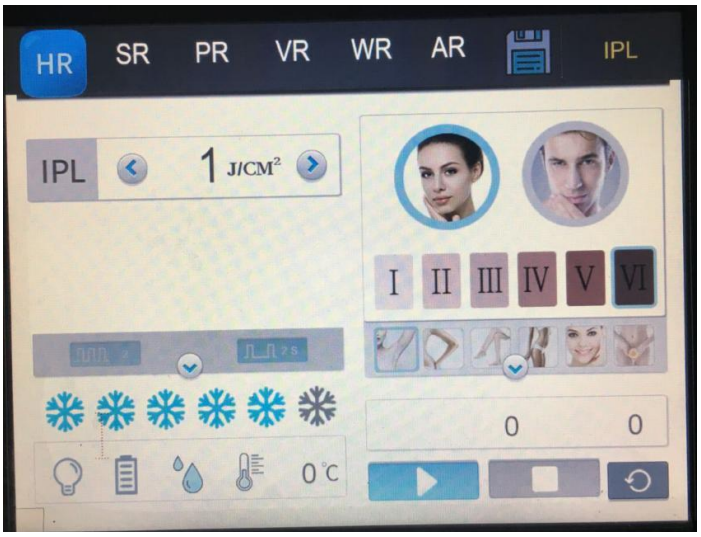
PR: Pigment removal

VR: Vascular Removal

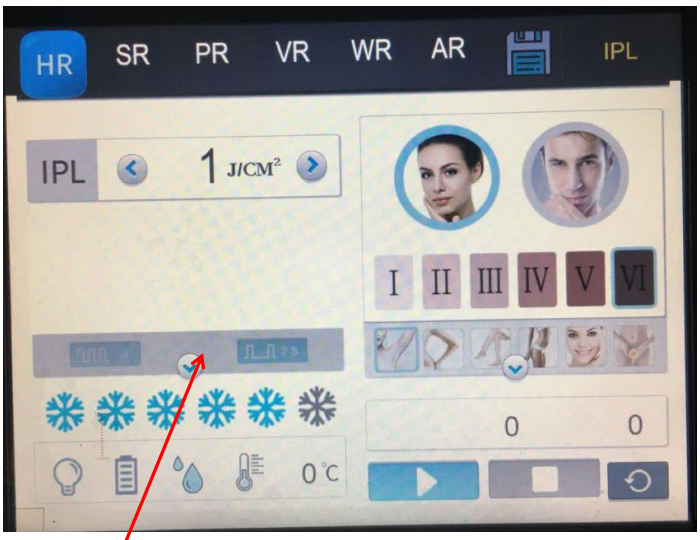
WR: Wrinkle removal

AR: Acne removal

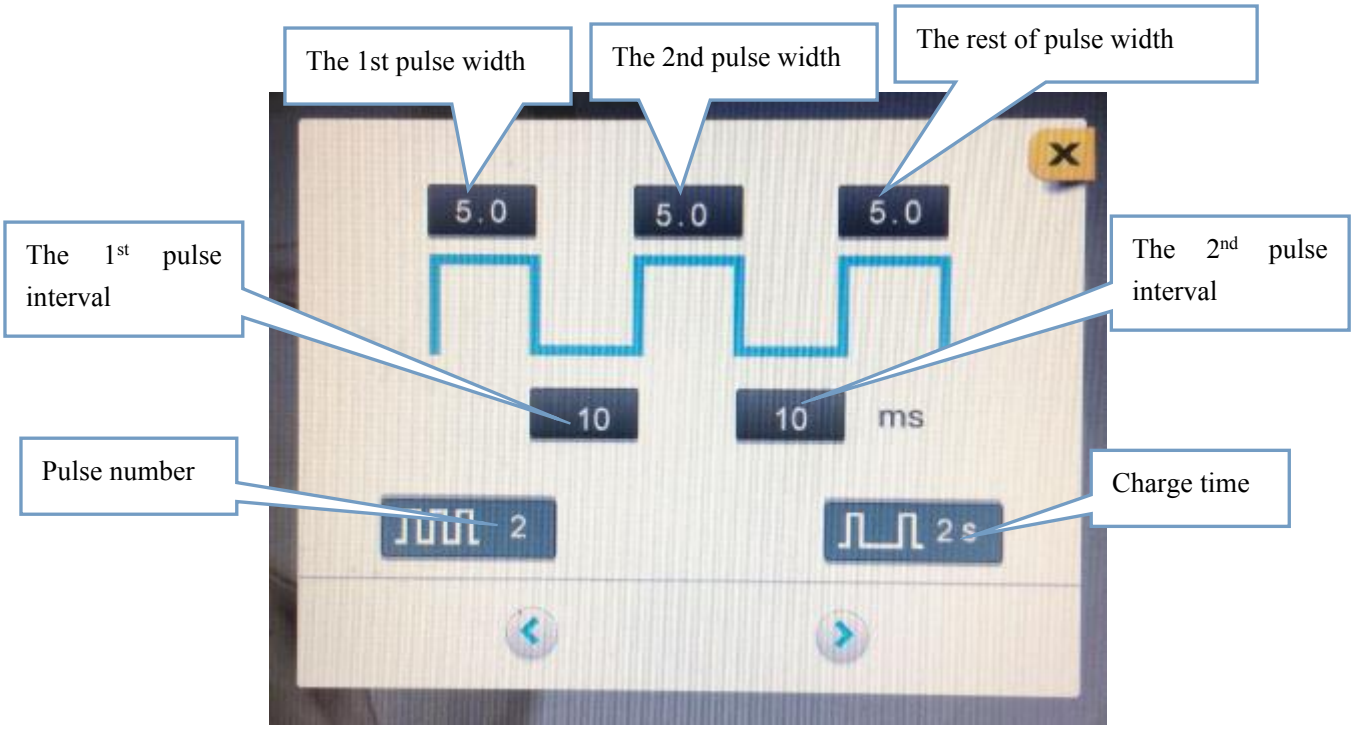
So you can select any function you want. Let's take Hair Removal for an example. Click Hair removal on the above screen. Here we go:



IPL energy is 1-50J adjustable



When you press  , the following window appear:



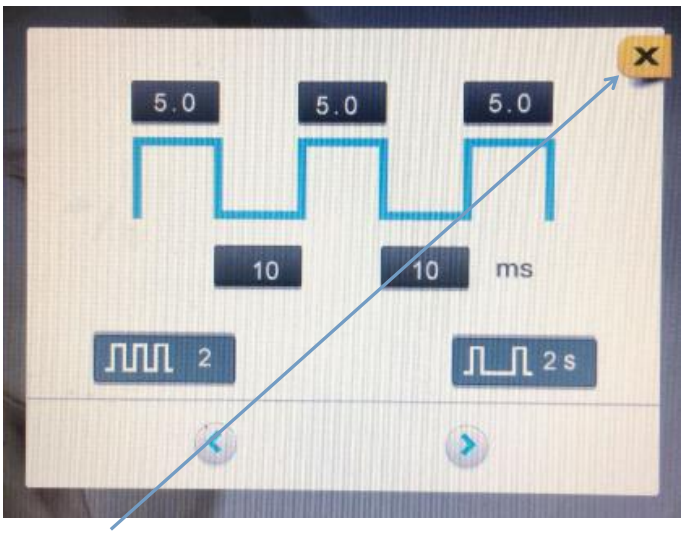
Every pulse width is 1.0-30.0 adjustable, 0.1 step

Every pulse interval is 5-100 adjustable, 1 step

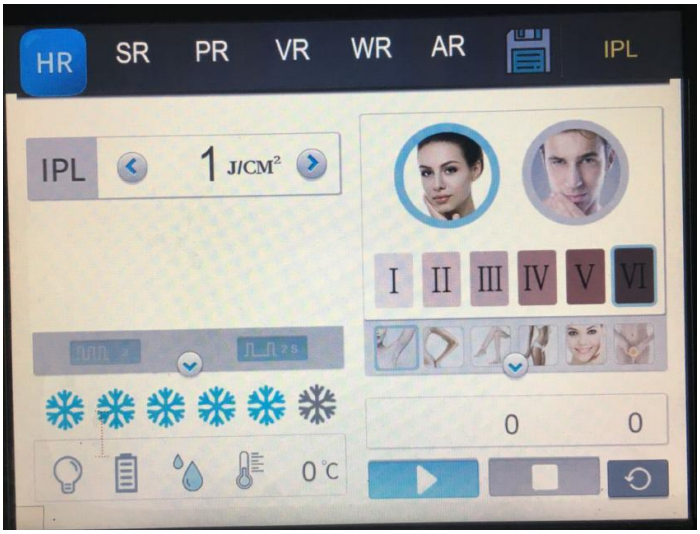
Pulse number: 1-20 adjustable, 1 step

Charge time: 1-4 adjustable, 1 step

Press any figure, it will become blue. Then press  to decrease and  to increase.



After set settings above, press  . Then it will come back to the following interface:



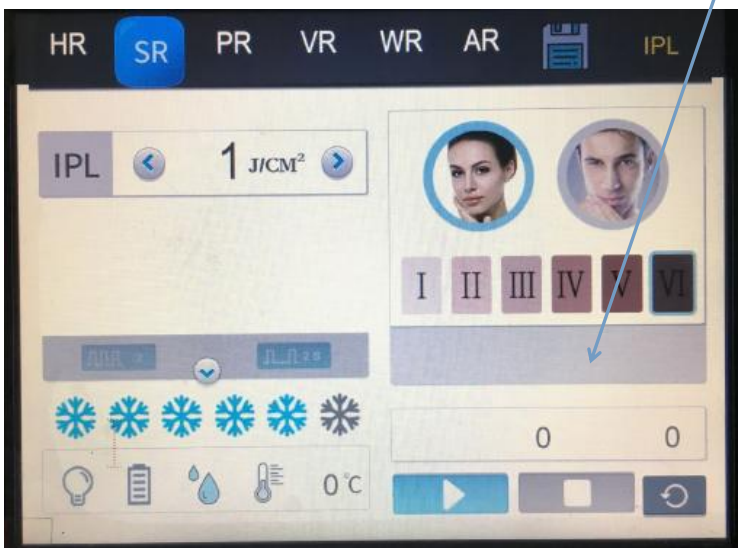
Then press the saving button to save the settings you set already, including IPL energy here.

Settings Save:

6 functions, 2 genders, 6 skin types, 6 treatment areas, 3 hair types can create many groups and each group can save a unique settings.

Notice

In functions SR, PR, VR, WR, AR, it is to treat on face and it is not about hair, so here there is no options for treatment area or hair types any more.



SHR IPL handpiece

How to use filter for the IPL handpiece:

Standard spectra	Application areas
430-1200nm	Acne therapy
530-1200	Pigment、photo rejuvenation
590-1200nm	Vascular/spider veins
640-1200nm	Hair removal

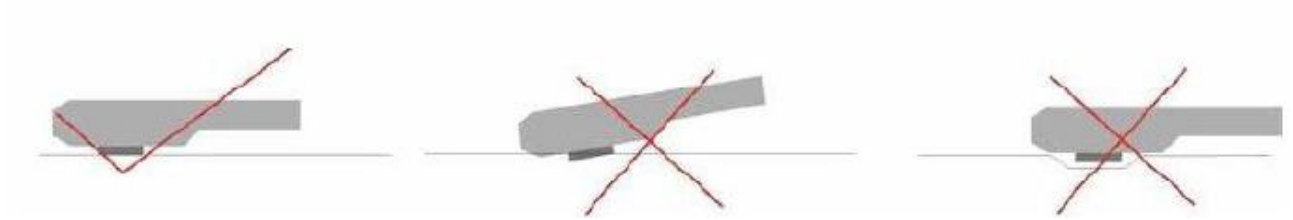
Choose a right filter and install it onto the handpiece


When all the settings are ready, click Ready. You can hear PA. And at the same time the light in the handpiece is on.

Shave the hair

Daub ultrasonic Gel on the skin in 1-2mm thick.

Please pay attention the way of handle during the treatment.



a. Smear gel on the skin about 2 to 3 mm thickness before treating.
b. Start the machine, processing step by step and adjust the suitable parametre.
c. While exerting light pressure, approximate the treatment head perpendicularly over the treatment area. Ensure both metal slices of the head touch the skin naturally at the same time during treatment, If only one side metal slice touch the skin, it can be easily burnt skin. See above picture (1)Then can press the red bottoms to treatment. Before the treatment head leave the skin, please loose the red buttom first then treatment head can be off the skin.
d. When the skin is in red after operation, coat the cool gel till the red is die out. Do not wash with water.

R. Principles adjusting of parameters.

The white skin and lighter Skin	1.Increase the power engery
	2.Decrease the pluse delay=(pluse interval) more cooling
The daker skin	1. Decrease the power energy
	2. Increase the pulse delay (allow more cooling)
The lighter the hair /pigments	1.Increase the power engery
	2. Decrease the pluse delay= (pluse interval)
The darker the hair/ pigment lesion	1. Decrease the power engery
	2.Increase the pluse delay= (pluse interval) more cooling
Fine Blood Vessels (vascular lesion)	1.Increase the power engery
	2. Decrease the pluse delay= (pluse interval)
Thick Blood vessels	1. Decrease the power engery

	2. Increase the pluse delay= (pluse interval)cool more
The smaller the target size / lesion (vascular)	1.Decrease pulse delay
The larger the target size/ lesion (vascular)	1. Increase pulse delay (allow more cooling)
Bony prominences (forehead, molar area, shin, bikini)	1. Decrease the power energy

Specifications

General Specification	Screen: 10.4" Movable color LCD touch screen
	Output power: 3500W
	Multi software languages
	Cooling system: semiconductor+ air + water + cooling gel
	Skin Cooling: -6 ℃ ~ 0 ℃
	Voltage: 200~240V
	Machine's size: 59X45X41 cm
	Package size: 75X57X61cm
	N.W.: 30KG
	G.W.: 48KG
SHR system	Wavelength: 640-950nm
	Energy Density: 1-50J/cm2 adjustable
	Spot size: 10X40mm(standard), 15x50mm(optional)
	Pulse duration: 1-10ms
	Pulse: single
	Pulse Repetition Rate: 1-10HZ
IPL system	Energy: 1-50J
	Pulse No.: 1-20
	Pulse Duration: 1-10ms
	Pulse Delay: 1-100ms
	Wavelength: 430/530/590/640nm standard (480/560/690/750nm optional)
	Spot size: 10X40mm,15X50mm optional
ND YAG laser	Laser type: Q-SWITCH ND YAG LASER
	Laser energy: Max. 1500mj
	Frequency: 1-10HZ
	Wavelength: 1064nm/532nm (1320nm for skin rejuvenation optional)