

# LED

—LP100S

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# User Manual



**Thank you and congratulations on your choice of the LED Machine.**



Before Installing or Operating this equipment, please read these instructions carefully, and keep near the device for future reference.

### **Manufacturer's Disclaimer Statement**

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# Chapter 1 Introduction of the Machine

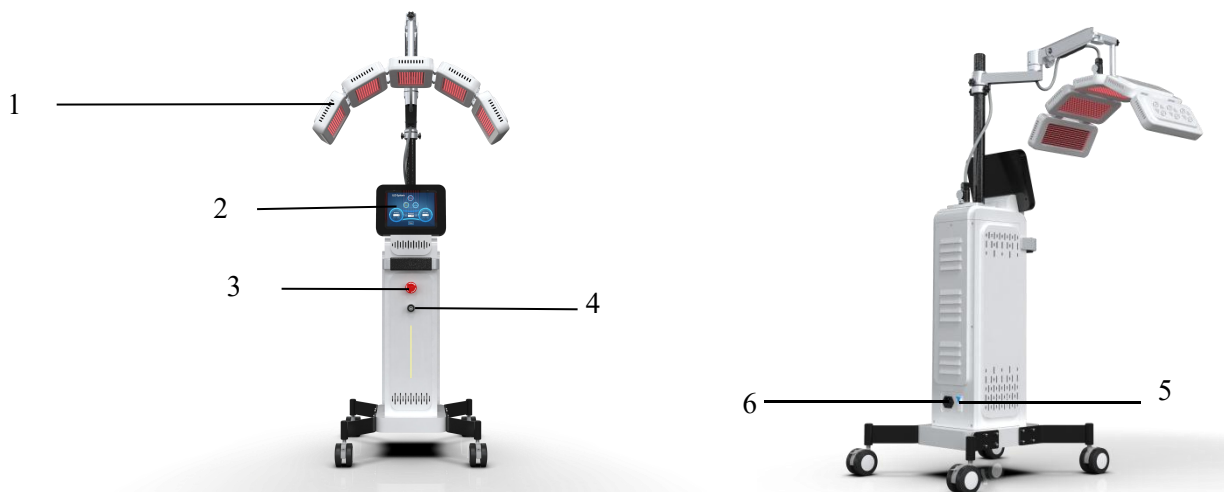
## 1.1 Treatment Principle

The LED beauty instrument uses the photodynamic principle to activate deep cells and allow the skin to metabolize better. After the light is absorbed by the skin, the light energy is transformed into intracellular energy, which diastens and strengthens the microvasculature and generates photochemical reactions with the skin enzymatic reactions, increasing the activity of Catalase and SOD, which act as cellular "guardians" and "eliminators". Superoxide dismutase (SOD) activity, increase the break down of adenosine triphosphate (ATP), the source of cellular energy generation, and increase the content of glycogen and protein, thus promoting cellular metabolism and synthesis. At the same time, it stimulates the secretion of alkaline fibrous growth factor (BFGF) and epidermal growth factor (EGF) in the body, rearranges collagen fibers and elastic fibers, blocks and eliminates melanin formation, accelerates cell growth, speeds up blood circulation, stimulates fibroblast tissue to produce collagen, increases skin elasticity, and plays an important role in repairing aging skin, acneprone skin, lightening spots, lifting and firming, and relieving sunburn. It plays an important role in the treatment of aging skin, acne skin, fading spots, lifting and firming, relieving sunburn, etc.

Purpose of use: Helps care for firming, lifting and combining skin treatment (treating acne, dermatitis, rosacea and psoriasis, restoring and rejuvenating skin, supporting wound healing, fading dark spots, improving skin pigmentation and texture, reducing sunburn, ...)

## 1.2 Device Structure

The machine structure consists of the following units:



1. Treatment head
2. Touch screen
3. Emergence Stop Handle
4. Key switch
5. Leakage protection
6. Power connector

# Chapter 2 - Safety and Compliance

## 2.1 Client Safety

Client's safety mainly depends upon well-trained operators, client consultation, correct skin analysis and a suitable treatment room. The attending operators must inform the client of all the risks with the use of this device.

### **Warning**

Warning: Use this system only if you are trained and qualified to do so.

Warning: If any problems occur during system operation, take immediate action(s): lift the transducer off the patient's skin, press the emergency stop handle to discontinue treatment in progress, and/or press the red emergency stop button to completely halt system operation.

## 2.2 Electric Safety

In order to ensure use safety, the instrument implements the national Standards GB9706.1-2007. The operating system's rated voltage is 220V with maximum input current is 10A or 110V with maximum input current is 15A. This machine is equipped with automatic leakage protection, when leakage occurs, the machine will be automatically power off to protect the system.

# Chapter 3 - Installation Procedure

The process of installation includes:

- ◆Unpacking the device and checking contents.
- ◆Assembly of its components and ensure that all connections are firmly in place.
- ◆Installation of handpiece.
- ◆Switch on the device and test all functions / parameters of the system.

## 3.1 Accessories List

- ◆Unpack the unit, remove all packaging material, and examine for damages.
- ◆Do not proceed with installation if unit is damaged.



1. Lights (1unit) 2. Screws(10units) 3. Accessory A ( 1 u n i t ) 4. Accessory B ( 1 u n i t ) 5. Accessory C(1 unit)	6. Accessory D(1 unit) 7. Accessory E(1 unit) 8. Connector of the light and the machine(1 unit) 9. Screwdriver(3 units) 10. Accessory F(2 units)
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**IMPORTANT ATTENTION:** Please keep all packaging for safe storage and in case of any warranty returns or servicing.

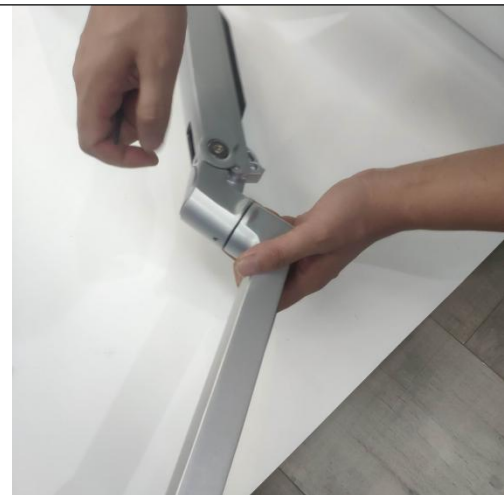
It is forbidden to open the machine and tear down all the components without any authorization.

### 3.2 Installation Requirements

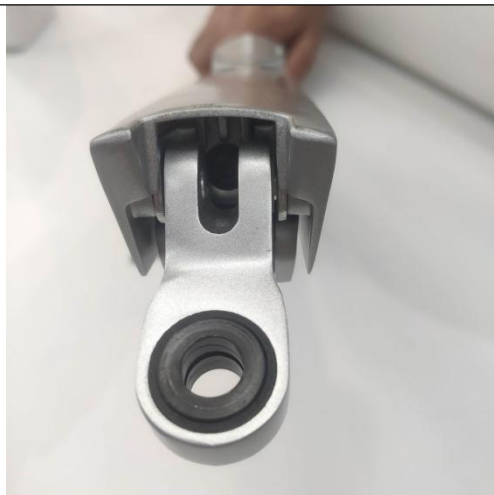
Place the equipment according to the requirements below:

- ◆Treatment Room Temperature: 10°C~30 °C
- ◆Relative humidity: ≤75%
- ◆Air pressure: 860-1060hpa
- ◆Power requirement: AC 220v± 10%; 50Hz±2% ;
- ◆Keep the fans and vents clear of any obstructions to maintain airflow and prevent overheating.

### 3.3 Install the Handle Holder



Step1: Rotating and adjusting the tightness of the accessory A as you want.



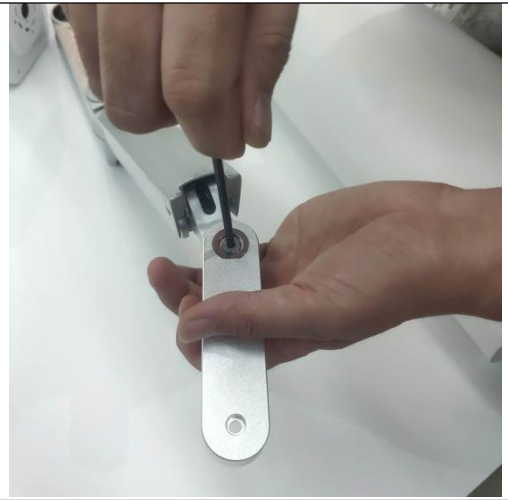
Step2: Find the screw in the accessory A.



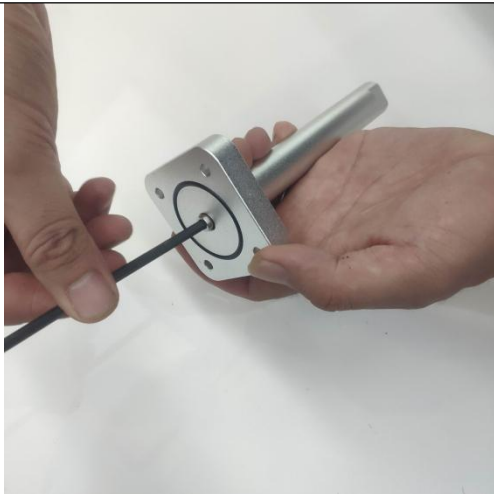
Step3: Tighten the screw in the accessory A.



Step4: Connect the accessory F and accessory A with accessory B as shown



Step5: Fix them with screw and tighten them with screwdriver.



Step6: Fix the accessory C and accessory E with screw and then tighten them with screwdriver.

Step7: Align it with the light.

Step8: Fix it on the light with screws and tighten them with screwdriver.



Step9: Put the connector of the light and the machine on the accessory A and then press it in as shown.



Step10: Press the black part of the accessory A to unload it.After putting the other part of the connector of the light and the machine in,install the black part.



Step11: Install the sliver part of accessory D on the machine and then fix it with screws .



Step12: Install the black part of accessory D on the machine and then fix it with screws .



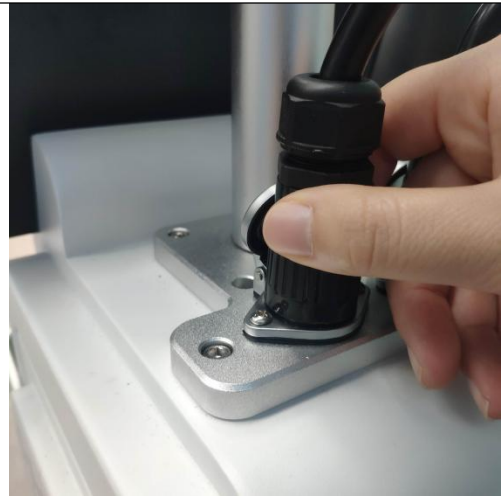
Step13: Install the light arm on the machine and then fix them with screws.



Step14: Install the light on the machine and then fix them with screws.



Step15: Plug in the connector to the light.



Step16: Plug in the connector to the machine.

### 3.4 Install the Power Cable



Step1: Plug in the power cable and fasten it as the picture shows.



**off**



**on**

Step2: Switch on the leakage protector.



**Step3:**Release the red emergency stop button, insert the key switch and turn on the machine.

# Chapter 4- Operational Procedure

## 4.1 Requirement for Operators

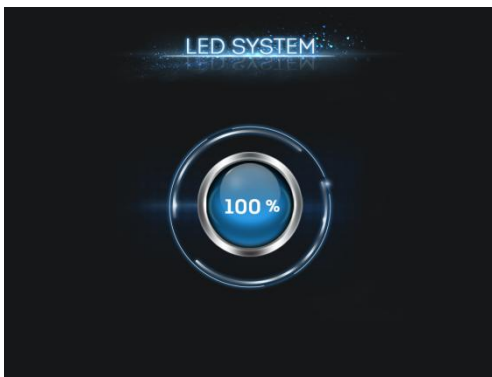
- ◆The operator should be aware of the expertise required to use the machine, should be trained to meet local and national laws and adhere to best practice for the country the machine will be used in.
- ◆Complete Core of Knowledge Training.
- ◆Have full insurance that covers Public Liability, Contents and Treatment Risk insurance.

## 4.2 Examination

Examine to make sure the equipment is installed according to the installation instructions and requirements. Check if working environment is suitable.



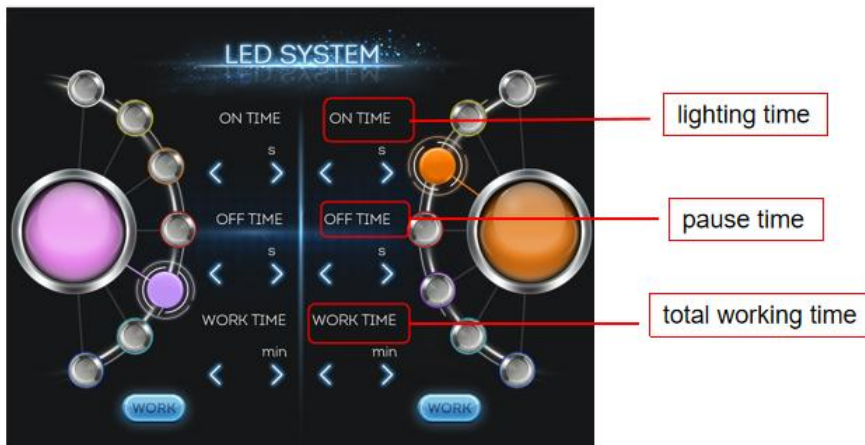
After turning on the machine,click the  button of the welcome interface, you will see the following operation interfaces(Pic2).





(Pic1)



(Pic2)





You can touch  or  to adjust the parameter. After adjusting all of these parameters, you can start the treatment.

## **4.3 The Function of Different Light**

### **4.3.1 The function of red light**

The wavelength of red light is 630nm-700nm, which has the functions of diminishing inflammation, relieving swelling, relieving pain and relieving itching. Red light has no strong thermal effect, and has stronger penetrating power than ultraviolet light, and can act on the deeper tissues of 2-5cm. As red light can directly reach the skin submucosa, light energy can be absorbed by tissue cells, which can improve cell activity, promote protein synthesis and energy metabolism, enhance the phagocytosis of white blood cells and accelerate blood circulation. Whitening skin, shrinking pores, diminishing inflammation and relieving pain.

### **4.3.2 The function of blue light**

The wavelength of blue light is 430nm-450nm, which has the effect of quickly inhibiting inflammation. Through photodynamic effect, porphyrin in skin enzymes is stimulated and a large number of singlet reactive oxygen species are released, thus destroying *Propionibacterium acnes* and reducing inflammatory reaction, which can minimize the formation of acne, with quick effect, short course of treatment and few adverse reactions. Eliminate acne, improve bloodshot and control grease.

### **4.3.3 The function of yellow light**

The wavelength of yellow light is 570-600nm, which can relieve and treat sensitive skin and skin in allergic stage. It can promote the recovery of the brick wall structure of skin, speed up the repair of skin barrier function, restore skin luster and improve the dullness. Remove spots, desensitize, accelerate healing and improve immunity.

### **4.3.4 The function of orange light**

The wavelength of orange light is 600-630nm, which is milder than red light and stronger than yellow light. It can promote blood circulation, strengthen metabolism and thyroid function. Orange light has a good softening effect on arteriosclerosis, cerebral sclerosis and coronary atherosclerosis. It can also promote appetite and treat emaciation and anemia. Beauty function: prevent skin dryness, enhance skin elasticity, stretch wrinkles and stretch marks, and delay skin aging. Prevent dryness, increase elasticity and accelerate metabolism.

### **4.3.5 The function of light blue light**

The wavelength of light blue light is 480-520nm, which has the effect of calming and relaxing nerves, obvious analgesic and calming effects on sensory nerves, and good phototherapy effects on hypertension, hemiplegia and neurasthenia. It can increase the feeling of tranquility, soothe and relax, neutralize, balance and stabilize, and can treat psychological diseases. Cosmetic effect: rough skin, wrinkles, blackheads, acne and acne caused by fatigue. Calm nerves, repair skin, soothe nerves and help

sleep.

#### **4.3.6 The function of purple light**

The wavelength of purple light is 400-430nm. The main function of violet light is to play an anti-inflammatory and bactericidal role, mainly aiming at acne symptoms on the skin, preventing local acne from growing repeatedly, improving acne, dredging lymph and astringing acne.

This therapeutic instrument is widely used in the treatment of inflammatory acne, and has the functions of diminishing inflammation and promoting wound healing of damaged skin tissues such as pressure sores.

Application departments: Dermatology, Burn Department, Rehabilitation Physiotherapy Department, Plastic Surgery Department, Obstetrics and Gynecology Department, Orthopedics Department, etc.

#### **4.3.7 The function of mixed light**

The wavelength of mixed light is 400-700nm, and its main function is to accelerate tissue metabolism. Mixed light energy penetrates the deepest part of skin and accelerates skin metabolism.

# Chapter 5 - The Operation of the Machine

## 5.1 Treatment Operation

### Step1 Preparation of the treatment

◆Fully communicate with customer. Understanding the guest's needs, physical condition (whether there are injections, whether skin care products containing hormones are used, whether they have been exposed to the sun recently), take photos, and fill in customer information files.

- ◆Check if the instrument is working properly, clean the handle before treatment.
- ◆Explain to clients how they might feel during treatment.

### Step2. Clean the skin and treatment head

Clean the treatment area with saline, make sure that there is no make up on the surface, and sterilize the treatment head with alcohol.

### Step3. Begin the treatment

◆Turn on the machine and adjust instrument parameters according to the treatment item. Make the light on the treatment area. Choose the suitable light and adjust the parameters according to the clients' feeling.

(NOTE: If the customer has just finished the treatment of the irritant item, it is necessary to apply a medical mask during the treatment)

THE SUGGESTED PARAMETERS of LED								
COLOR OF THE LIGHT	FUNCTION	ON TIME (s)	OFF TIME (s)		WORK TIME (minutes)	INTERVAL BETWEEN SESSIONS		SESSION (times)
			sensitive skin	normal skin		sensitive skin	normal skin	
red	Anti-inflammatory, analgesic, swelling, pain, itching, anti-aging, anti-oxidation, whitening and rejuvenating skin, shrink pores	5	0.5	0	20	7days	3-7days	10
blue	Anti-acne and anti-inflammatory, improve bloodshot, control oil	5	0.5	0	20	7days	3-7days	10
yellow	Anti-freckle and desensitization, speed up healing, improve immunity ( Sensitive skin and skin in the allergic period )	5	0.5	0	20	7days	3-7days	10
orange	promote blood circulation and strengthen metabolism · Prevent dry skin, stretch wrinkles, stretch marks and enhance skin elasticity	5	0.5	0	20	7days	3-7days	10
light blue	analgesic and calming effect on sensory nerves, treat mental illness, hypertension, hemiplegia and neurasthenia	5	0.5	0	20	7days	3-7days	10
purple	Prevent the repeated growth of local acne, improve acne, dredge lymph, and astringe acne, reduce inflammation and promote wound healing of damaged skin tissue.	5	0.5	0	20	7days	3-7days	10
mixed light	Accelerates skin metabolism	5	0.5	0	20	7days	3-7days	10

## **5.2 Precautions after Treatment**

1. After the LED treatment, avoid sun exposure, ultraviolet rays are stronger when trying to avoid going out, it is best to use a sunshade, masks or apply sunscreen when going out.
2. Do not drink alcohol within 24 hours after the LED treatment. Do not eat spicy and seafood, and the diet should be normal.
3. Don't use extra cosmetics within 72 hours after the LED treatment, otherwise it will easily cause pigmentation.

## **5.3 Taboo Crowd**

- ◆People is sensitive to the light.
- ◆People recently has taken photosensitively medicine
- ◆Pregnant women and children.
- ◆People with thin cuticle.

# Chapter 6 - Maintenance of the machine

To ensure safe and reliable operation, regular maintenance and good care are very important. This section describes the routine and other periodic maintenance of this machine handling system that operators can perform.

## 6.1 General Cleaning

Clean the outside of the device regularly with a soft damp cloth or microfiber cloth. You can also use neutral detergents and alcohol wipes. The handle operating head should be cleaned regularly after use.

You should clean the head once a week or after use. The operating head should always be free of dirt and accessories.

## 6.2 Transport, Storage and Movement

- ◆ Minimize transportation, because the risk of equipment damage is greater.
- ◆ When moving or storing, please keep and use the original packaging.
- ◆ If you move to another treatment room, please keep the device level when moving.
- ◆ Be careful when storing and using, pay attention to avoid impact, collision, squeezing and vibration.

And the machine needs to be reset and stored in a dust proof state after each use.

◆ When moving or storing, please keep and use the original packaging. Do not move your device unless necessary. If you move to another treatment room, keep it level while carrying it.

## 6.3 Troubleshooting Guide

This section outlines the most basic troubleshooting steps for the machine.

### 6.3.1 The machine does not start

- ◆ Check the power supply has electricity and the attaching plugs are securely inserted both ends and socket is switched on.
- ◆ Check the red emergency button is released.

### 6.3.2 Operating head does not work when the button is pressed

- ◆ Check whether the machine is in the correct working state.
- ◆ Check whether the cable and connection plug are damaged, if any parts are damaged, please contact us to replace.

### 6.3.3 Electric shock may occur when touching the machine

- ◆ Three grounding plugs should be used, and the power socket must be properly grounded.
- ◆ The voltage is unstable, and a voltage regulator should be introduced.

# Contact Us

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