Youth Pro IPL Skin Rejuvenation Machine

IPL Therapy System

Operating Instruction Manual

Contents

Chapter 1 Equipment Description

1.1 Equipment Description

Name of the system: SMQ-NYC-3 Typed Intense Pulsed Light Therapy Device. The device is applicable in skin treatment of freckle, age pigment, tiny wrinkle, angiotelectasis as well as in removal of unnecessary hair. The mechanism of treatment is based on light's selective absorption effects. Controlled by computer system, the equipment is composed of main console, control panel and treatment handpiece.

The operating and controlling parts are placed in main console box. Built-in integrated microcontroller consecutively monitoring the operation of equipment.

Controlling system consists of a 10.4 inch touch screen, key switch and emergency shut off knob. The screen displays system's working mode, parameter and times of light spot treatment. Treatment handpiece is composed of intense light emitter, handle switch and transmitting system. It is held by hand in operation and for more specific information, please see Chapter 4.

1.2 Expected Applications

This system is used for skin imperfection concerns such as:

A. Pigmented lesions treatment
B. Vascular lesions treatment
C. Aging skin improvement
D. Remove unwanted hair

Chapter 2 Technical Parameters and Product Configuration

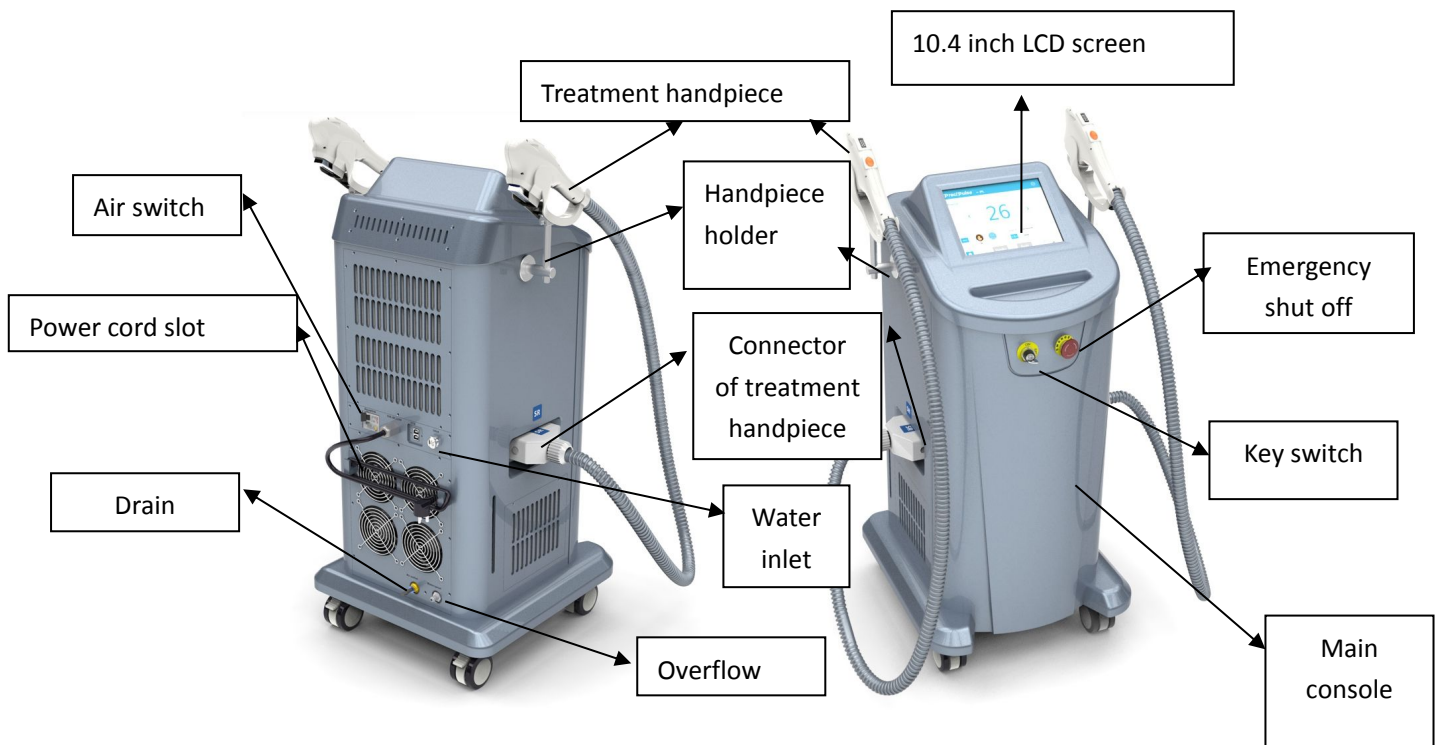## 2.1 Technical Parameters

General Characteristic	
Equipment Model	SMQ-NYC-3

Manufacturer	Beijing Sincoheren Science and Technology Development Co. Ltd.
Operational Mode	Continuous operation
Spectrum	SR Spectrum: 560nm - 1200nm
	HR Spectrum: 690nm - 1200nm
Maximum Fluence	SR treatment handpiece: 40J/cm^2±20％
	HR treatment handpiece: 45J/cm^2±20％
Spot Size	SR Spot Size: 16mm×57mm, tolerance range: ±0.1mm
	HR Spot Size:: 8mm×34mm, tolerance range: ±0.1mm
Dimension	525mm×490mm×1015mm
Net weight	45kg

Notice: VR treatment handpiece is also optional for this equipment and shares a common handpiece connection with SR treatment handpiece. Basic parameters for VR handpiece is as followed:

Spectrum	420nm–1200nm
Spot Size	8mm×34mm, tolerance range: ±0.1mm
Maximum Fluence	45J/cm^2±20％

2.2 Main Structure

The structures of this equipment are as followed: Liquid Crystal Display (LCD), Emergency Shut off Knob, Key Switch, Main Console, handpiece holder, Treatment handpiece, etc.

Treatment handpiece

10.4 inch LCD screen

Air switch

Handpiece holder

Power cord slot

Emergency shut off

Connector of treatment handpiece

Drain

Key switch

Water inlet

Main console

Overflow

- ➢ Liquid Crystal Display (LCD): display specific information of operation system

- ➢ Emergency Shut off Knob: shut power supply in emergency

- ➢ Key Switch: turn device power on and off

- ➢ Main Console: built-in cooling system, power system, control system and integrated circuit

- ➢ Treatment Handpiece: pluggable treatment handpiece, which can be used in treatment areas.

Chapter 3 Installation and Debugging

This system can be applied in hospital, clinic and beauty salon. There is little preparatory work before installation. We will provide free on-site installation and debugging service if you purchase our equipment.

The installation and debugging of this equipment should be done by professionals authorized by Beijing Sincoheren. The installation work includes:

3.1 Pre-installation

Before unpacking, check whether components are complete, installation position conforming to requirements described in this chapter. This system should be installed

away from hot wind and keep a certain distance with other objects.

3.1.1 Equipment List Checking

Serial Number	Name of Components		Quantity	Code
1	Main Console		1	1C30
2	IPL Handpiece	HR Treatment Handpiece	1	3C182
		SR Treatment Handpiece	1	3C183
		VR Treatment Handpiece (Optionall)	1	3C204
3	Protective Goggles		1	2K*0001
4	Protective Glasses		1	2DH008
5	Funnel		1	3C206
6	Side Pulling Bag		1	2DH010
7	Tube Plug		1	2DF0042
8	Ziplock Bag		1	2H*0057
9	Lock Ring		10	1.9*9S
10	Key Switch		2	2DG0001
11	User Manual		1	2DH0160
12	Warranty Card		1	2DH0013
13	Qualified Card		1	2DH0014

Attention: Please contact with agent or supplier before using it if there is any component shortage when checking equipment list. We will act accordingly if components are found to be lack after using the device.

3.1.2 Operating Requirements

Nominal voltage in local is pre-installed before delivery according to clients' requirements. Designed installation environment is hospital, clinic and beauty salon, thus following operating environment are needed:

➢ Environment temperature: 10℃～30℃ ;

➢ Relative humidity: 30%～70%;

- Atmospheric pressure: 860hPa～1060hPa;

- Environmental requirement: avoid direct sunlight;

- Cooling water: deionized water or pure water.

Attention: Thermal power dissipation of this system is about 200 W. It will be better that an air conditioner is prepared in treatment room. Please do not keep equipment under direct sunlight for a long time and keep it away from heater.

Electrical Requirements:

- Power: single-phase alternating current 230V
- Frequency: 50Hz
- Input Power: 3000W

Attention: The input voltage can not be transient; peaks, valleys and surge of voltage and current are not permitted.

3.1.3 Installation Procedure

- Carefully unpack equipment packing, and pace it in the expected site
- Take out handpiece holder and install it in corresponding position
- Open the package of treatment handpiece, plug it in corresponding position
- Plug key in the switch

3.2 Debugging

3.2.1 Water Filling

Firstly, plug the water nozzle into the filler in the side of device, fill the equipment with 3L deionized water or purified water (tap water or mineral water is not permitted) through funnel. Then turn the key switch and start up equipment. After operating for 3minutes, eliminate air existing in waterway. The water level decreases. Five minutes after starting up, turn off the power, refill tank till the water reaches the maximum level and water filling process is finished. (Water in equipment should be changed once a month)

Each time of starting up after water changing, the equipment needs to operate for 3 minutes. Observe whether waterway is clear or not.

3.2.2 Debugging

Check whether the emergency shut off knob is pressed down or not, if not, please

turn the key to right position of "ON". Treatment handpiece and LCD then will be lighted up and equipment begin to work.

3.2.3 Water Drainage

After being fully evacuated , a little circulating water will remain in tank and waterway; the storage temperature should not be below 0℃.

Chapter 4 Operation

4.1 Starting up

The system will firstly show main interface with company logo after starting up (shown in Picture 1)

Picture 1 Main Interface of Starting up

Attention:

This equipment provides customers with various kinds of treatment handpieces and treatment modes, which can be chosen after entering into the system. Two handpiece parameters allocated to this equipment are:

HR Treatment handpiece: spectrum: 690~1200nm, light spot size: 16×57mm，45J/cm^2;

SR Treatment handpiece: spectrum: 560~1200nm, light spot size: 8×34mm，40J/cm^2;

VR Treatment handpiece (optional): spectrum 420~1200nm, light spot size 8×34mm，45J/cm^2.

You can choose appropriate handpiece in the following interface based on treatment requirements. Three different treatment handpieces are allocated: HR/SR/VR. Among them, HR and SR are standard configurations. Customer could choose HR and VR or buy all of them at one time accordingly.

Randomly touch any point on the interface; the system will go into handpiece selection interface (shown in Picture 2 and 3).

4.2 Equipment Patterns and Parameters
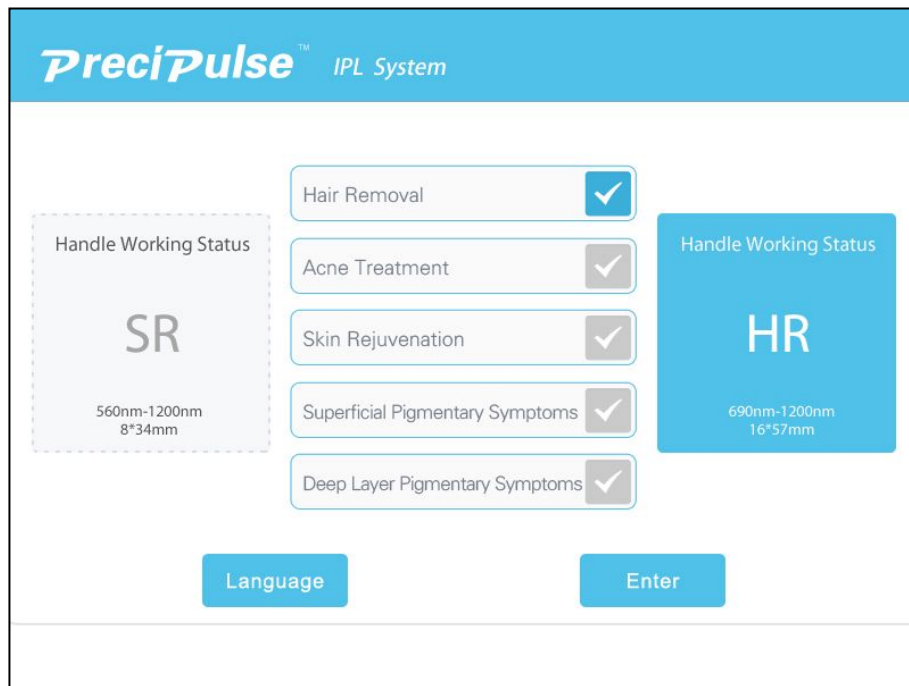
Picture 2 Interface of Indication Selection (HR handpiece)
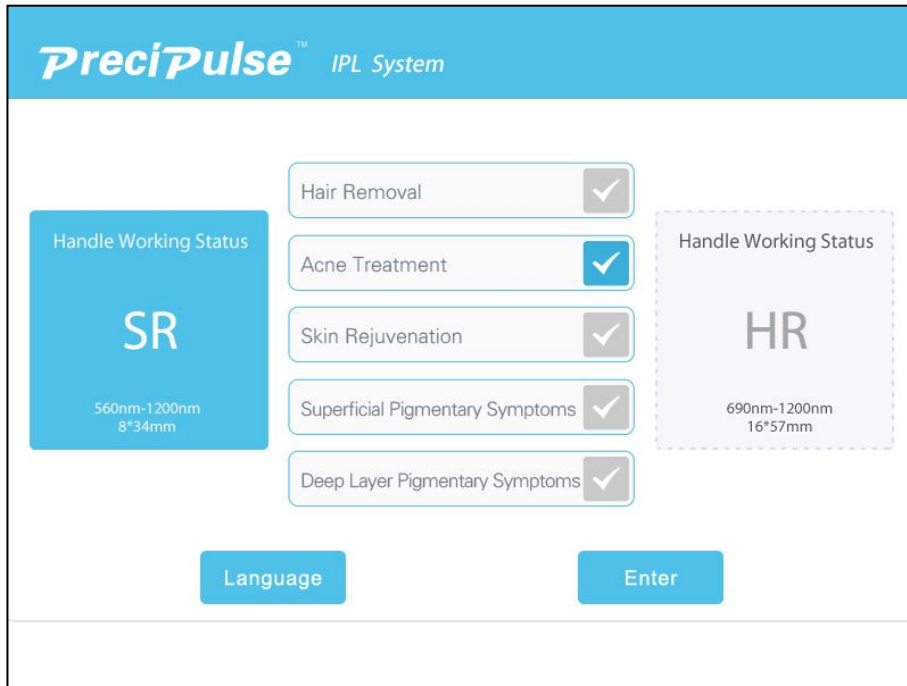
Picture 3 Treatment handpiece Selection Interface (SR handpiece)

This interface provides multiple selections for different indications, click relevant check box for particular symptoms. The system will auto-match corresponding treatment handpiece. HR is used for hair removal; SR is used for other treatments.

Click "**Language**" button, language selection interface will pop up. (Shown in Picture 4)

Choose corresponding language based on specific requirement, click "OK" and then language setting is completed.

4.2.1 Operation of HR Treatment Mode

If HR handpiece is applied in hair removal, click "Enter" button and access to interface of light output mode (Shown in Picture 5):
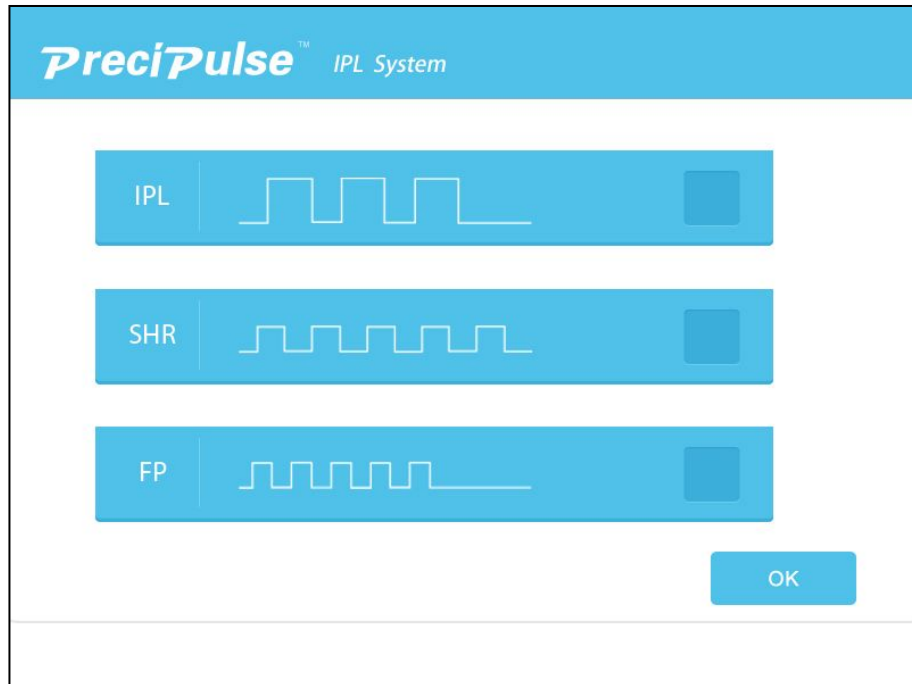
Picture 5 Interface of Light Output Mode Selection

This interface shows three IPL output modes: traditional IPL output mode, SHR mode and FP mode. Customers can choose any mode as required, click relevant treatment mode in check box according to patient's practical situation (Shown in Picture 6).
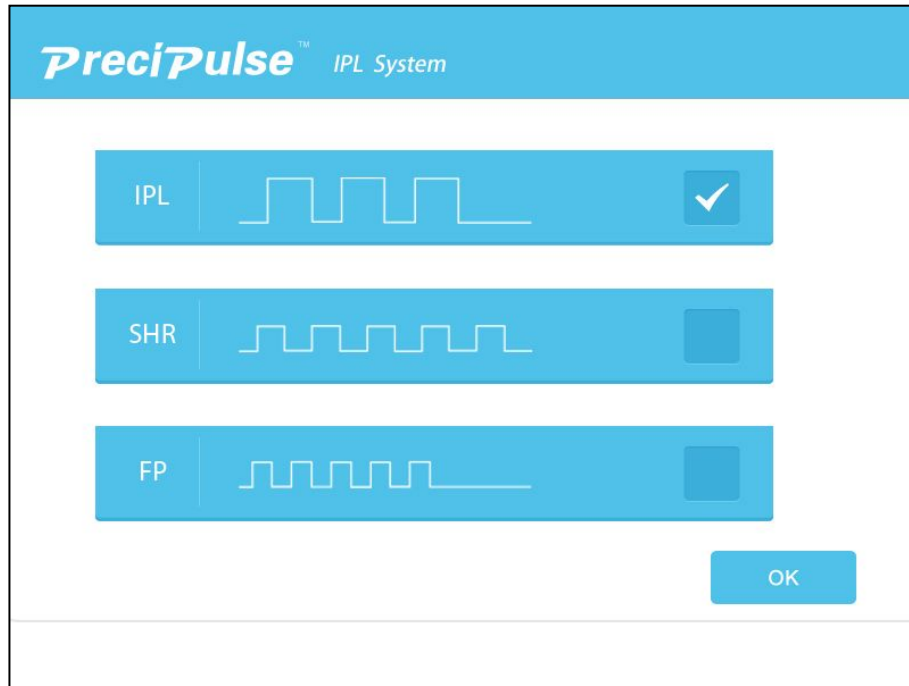
Picture 6 Interface of Light Output Mode Selection

After choosing working mode, click "OK" button, the system goes into corresponding parameter interface:

（1） Parameter Display Interface of IPL mode (Shown in Picture 7)
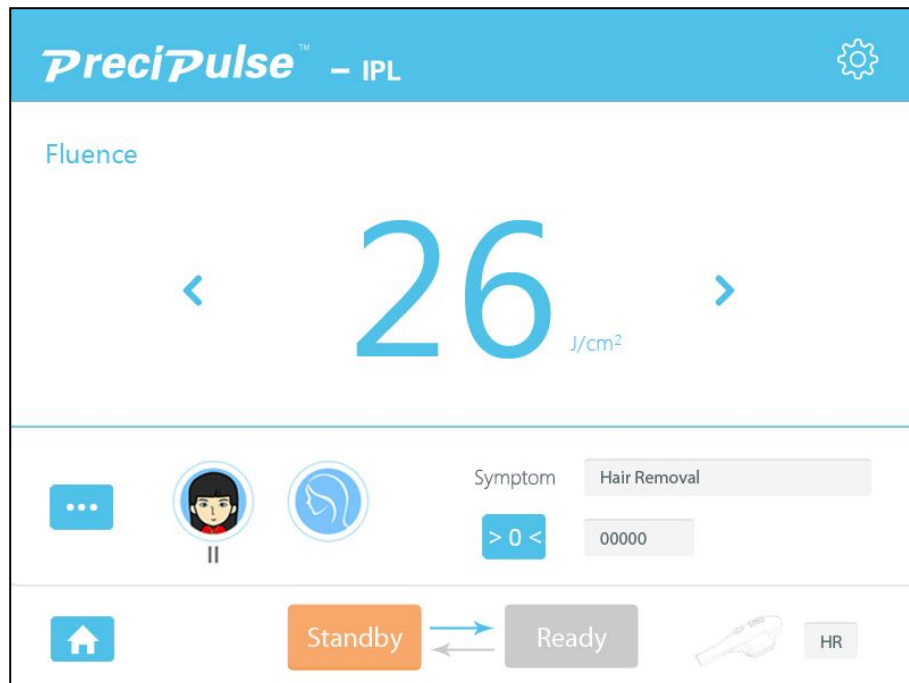
Picture 7 Parameter Display Interface of IPL Mode

**"Fluence"** is title bar of energy density, which can be adjusted through following parameters:

"< >" is used for adjusting energy density;

" ![>0<] " displays counters of light output, zero cleaning is also allowed;

"Symptom" displays current indication;

" ![home] " is home button, which can be pressed in state of Standby, system comes back to interface shown in Picture 2;

" ![...] " is a selection button for skin type, and skin types and treatment areas selection interfaces will pop up (Shown in Picture 8). Choose relevant combination based on practical situation and click "ok", if " ![X] " is clicked, the popup will be closed and default settings remained.
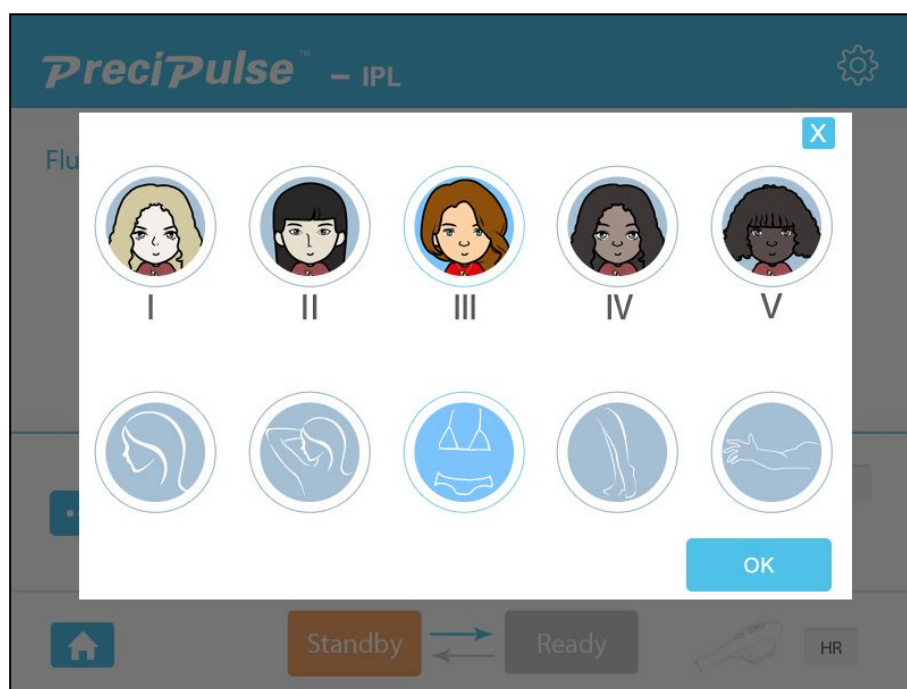
Picture 8 Interface of Skin Type and Treatment Areas Selection

" ![handpiece] ![HR] " is display bar for handpiece information and states, which shows usable handpiece and whether it is simmered, click "Ready", and it will be lighted up " ![handpiece] ![HR] ", indicating successful simmer.

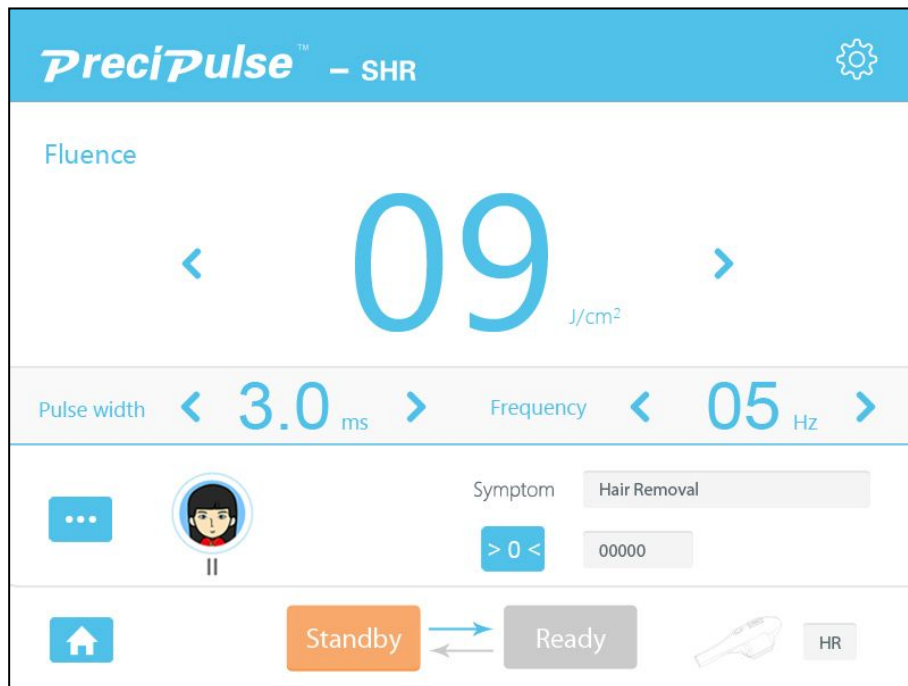**"Standby" and "Ready"** are buttons of system standby and simmering states;

Click "**Ready**", the system will enter into working state, other buttons are forbidden to

press and parameters are not allowed to adjust.(Shown in Picture 9):
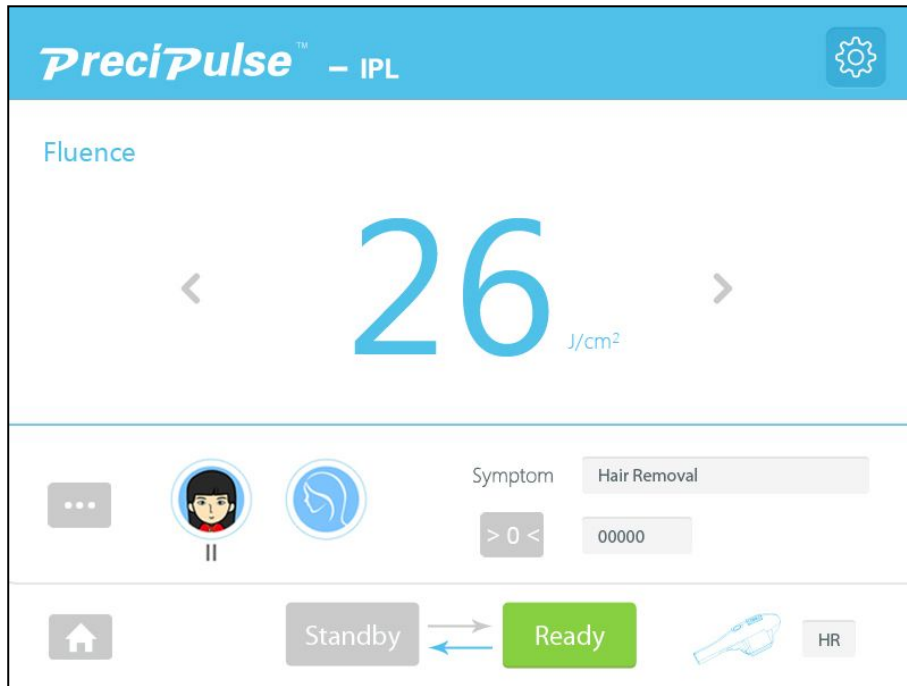
Picture 9 Simmer Interface under IPL Mode

（2）Parameter Display Interface under SHR Mode (Shown in Picture 10):

Picture 10 Parameter Display Interface under SHR Mode

"Fluence" is title bar of energy density, which can be adjusted through following parameters:

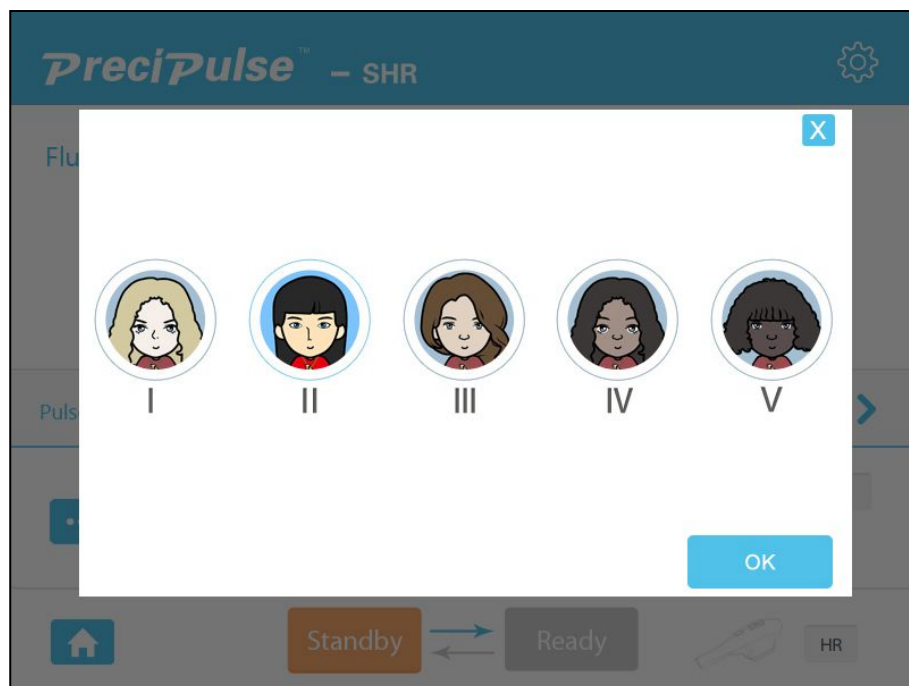**"< >"** is used for adjusting energy density;

" **>0<** " displays counters of light output, zero cleaning is also allowed;

"Symptom" displays current indication;

" 🏠 " is Home button, which can be pressed in state of Standby, system comes back to interface shown in Picture 2;

" ⋯ " is a selection button for skin type. Skin type selection interface will pop up (Shown in Picture 11). Choose relevant skin type based on practical situation and click "ok", if
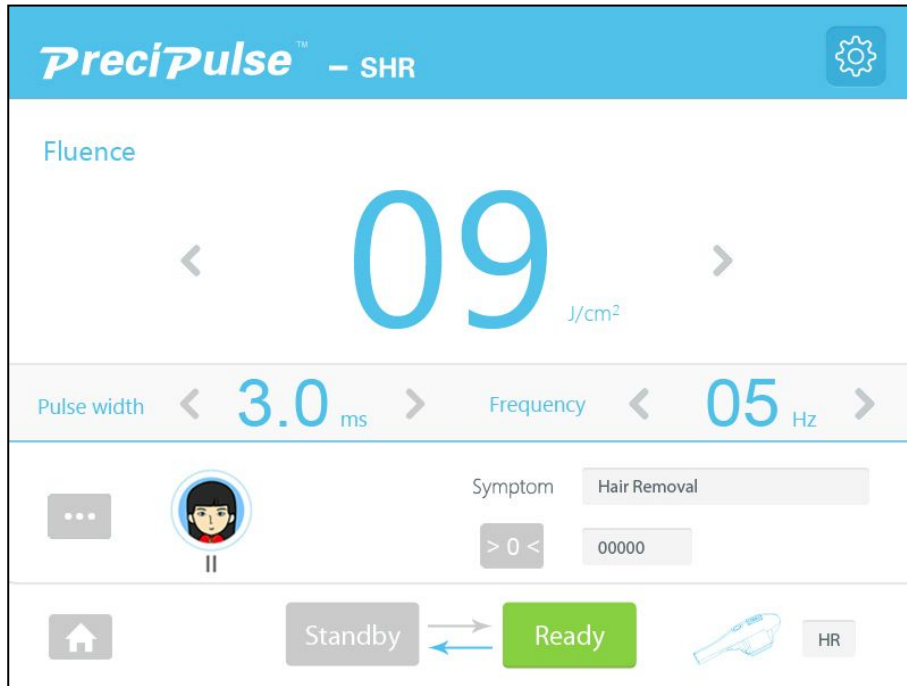
" **X** " is clicked, the popup will be closed and default settings remained.

Picture 11 Popup of Skin Type Selection under SHR Mode
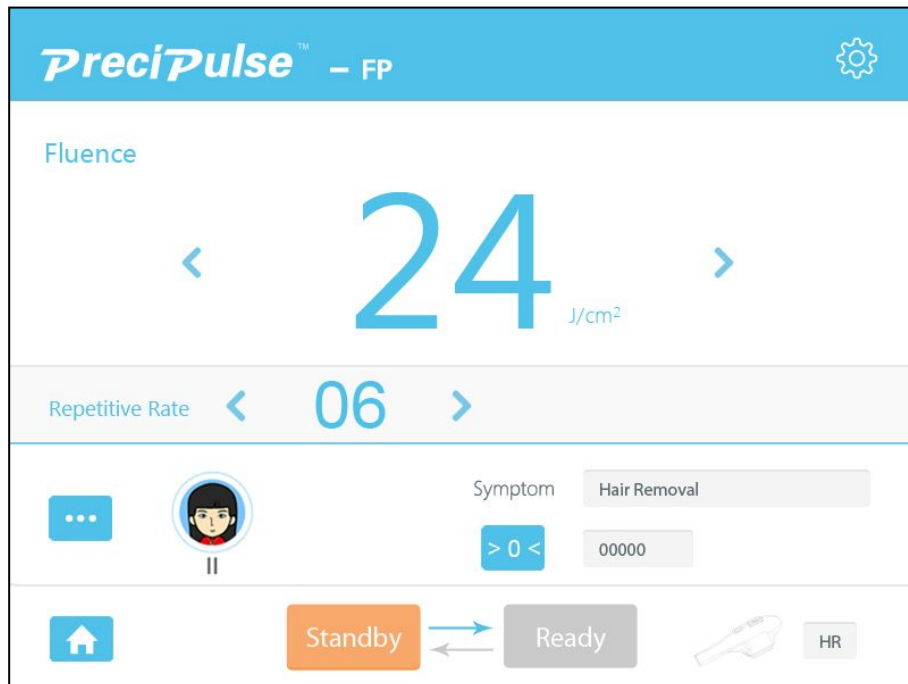
"Standby" and "Ready" are buttons of system standby and simmering states;

Click "**Ready**", the system will enter into working state, other buttons are forbidden to press and parameters are not allowed to adjust.(Shown in Picture 12):

Picture 12 Simmer Interface under SHR Mode

（3）Parameter Display Interface under FP Mode (Shown in Picture 13)

Picture 13 Parameter Display Interface under FP Mode

"Fluence" is title bar of energy density, which can be adjusted through following parameters:

**"< >"** is used for adjusting energy density;

" **> 0 <** " displays counters of light output, zero cleaning is also allowed;

"Symptom" displays current indication;

" 🏠 " is Home button, which can be pressed in state of Standby, system comes back to interface shown in Picture 2;

" **...** " is a selection button for skin type. Skin type selection interface will pop up (Shown in Picture 14). Choose relevant skin type based on practical situation and click "ok", if

" **X** " is clicked, the popup will be closed and default settings remained.
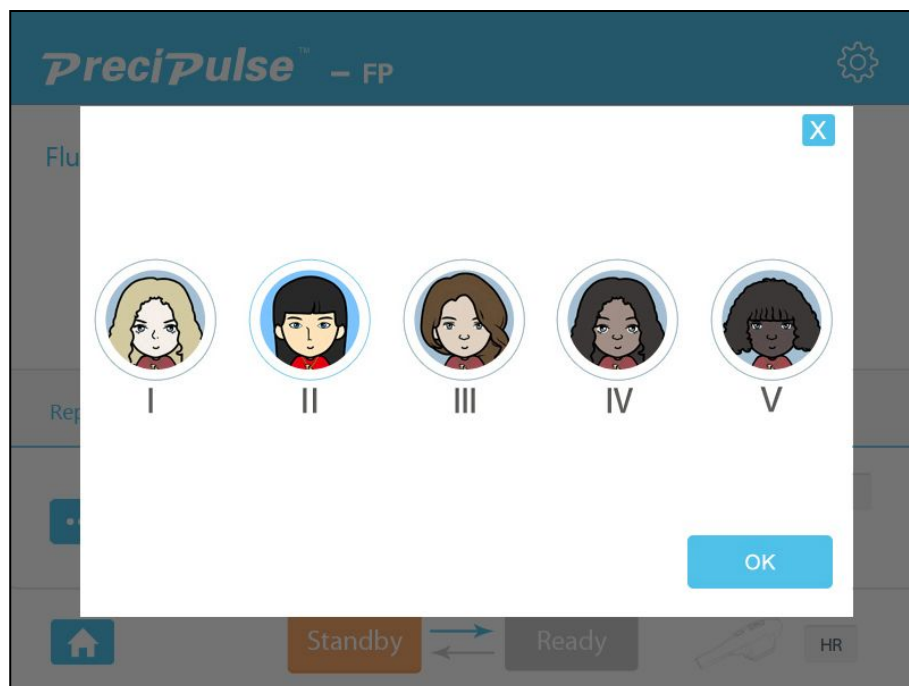

Picture 14 Popup of Skin Type Selection under FP Mode

"Standby" and "Ready" are buttons of system standby and simmering states;
Click "**Ready**", the system will enter into working state, other buttons are forbidden to press and parameters are not allowed to adjust.(Shown in Picture 15):
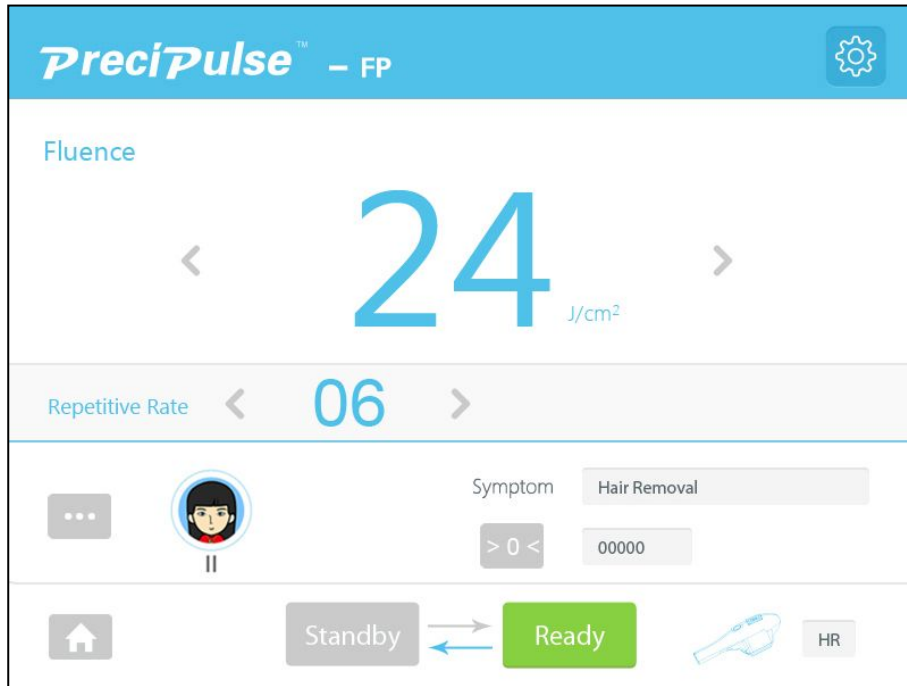
Picture 15 Simmer Interface under FP Mode

4.2.2 Operation of SR Treatment Mode

If SR treatment handpiece is needed for other diseases treatment, click corresponding symptom and the system will automatically match SR treatment handpiece. (Shown in Picture 16)
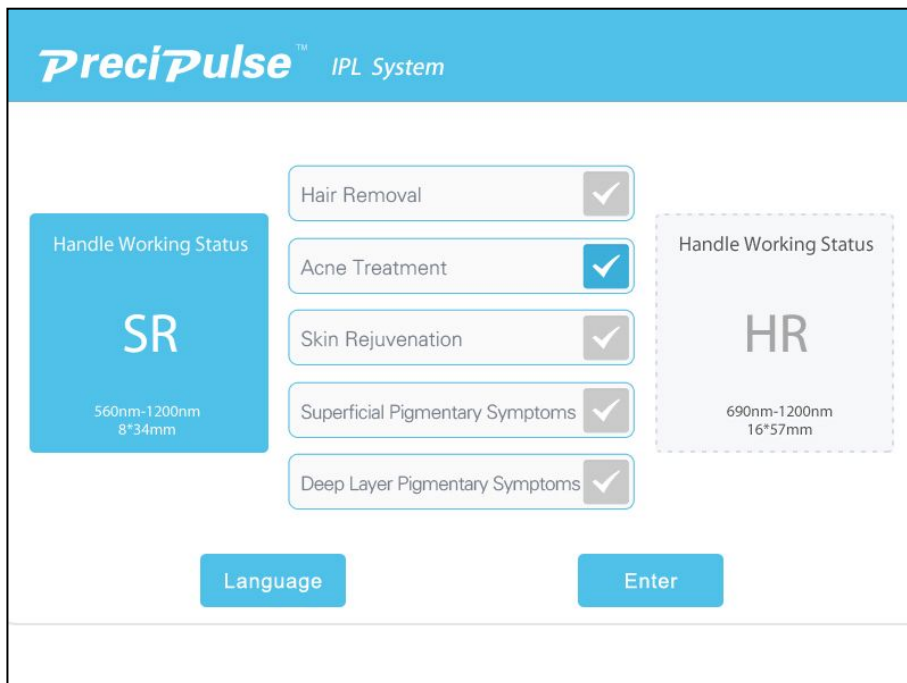
Picture 16 Indication Selection Interface

Click "OK" and system enters into parameter display interface
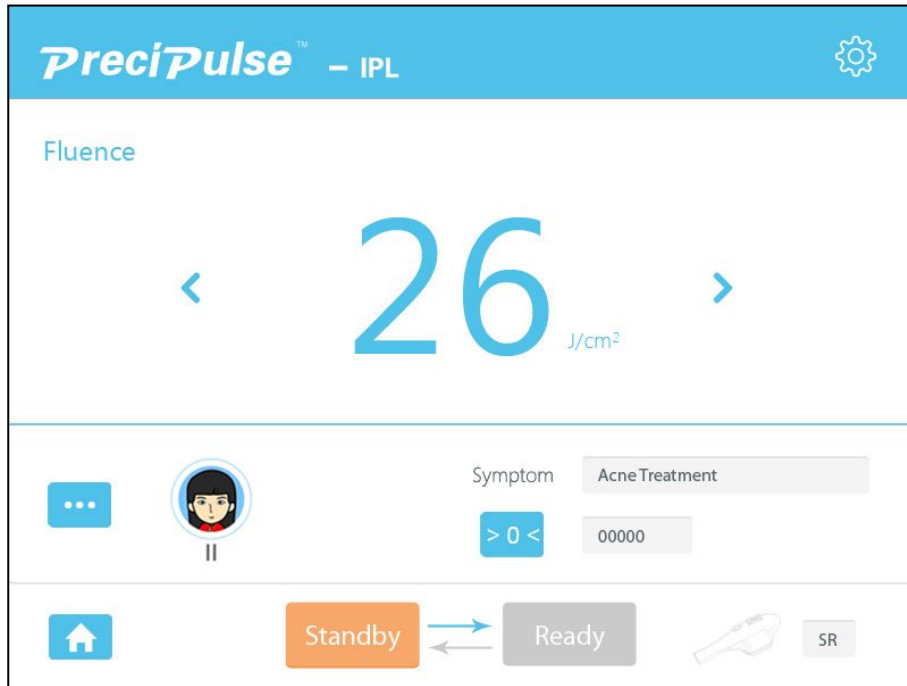
Picture 17 Interface of Treatment Mode Parameter

"Fluence" is title bar of energy density, which can be adjusted through following parameters:
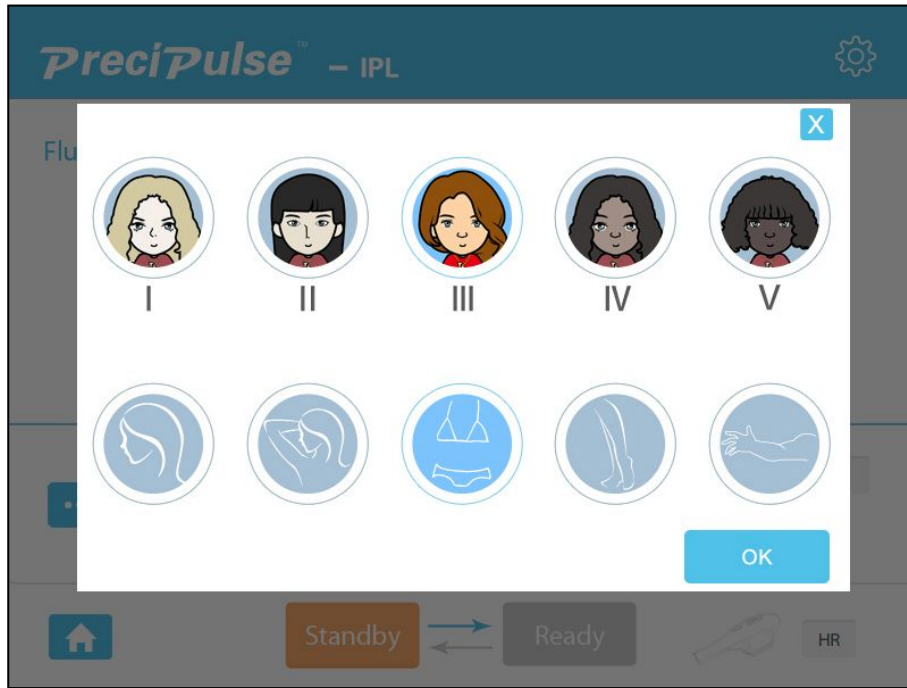
"< >" is used for adjusting energy density;

" > 0 < " displays counters of light output, zero cleaning is also allowed;

"Symptom" displays current indication;

" 🏠 " is Home button, which can be pressed in state of Standby, system comes back to interface shown in Picture 2;

" ... " is a selection button for skin type. Skin type selection interface will pop up (Shown in Picture 18).

Picture 18 Popup of Skin Type Selection under SR Mode

Choose relevant skin type based on practical situation and click "ok", if " X " is clicked, the popup will be closed and default settings remained. Click "**Ready**", the system will enter into working state, other buttons are forbidden to press and parameters are not allowed to adjust. (Shown in Picture 19):
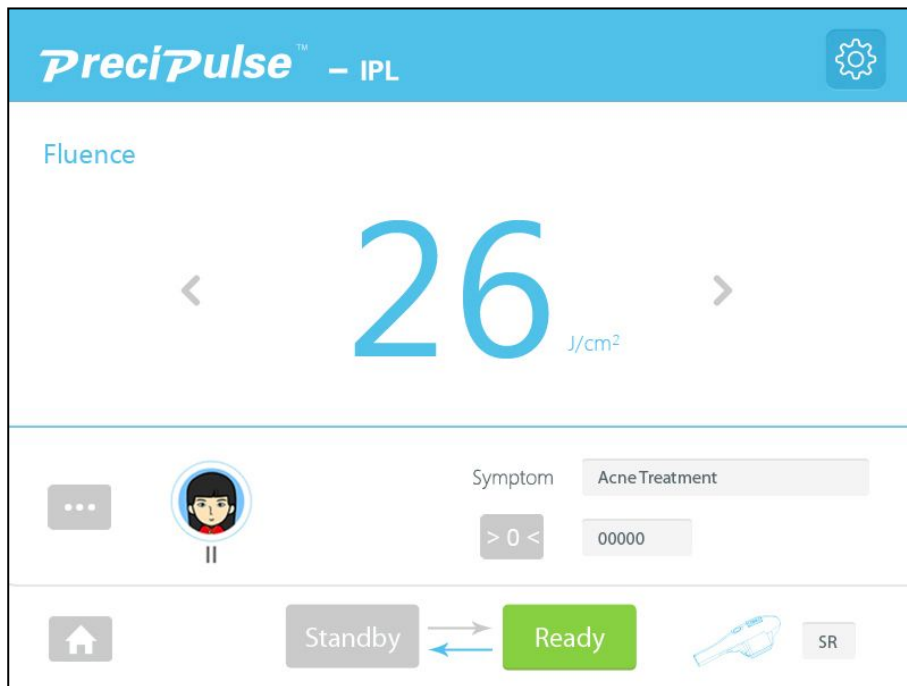
Picture 19 Simmer Interface under VR Treatment Mode

4.2.3 Operation of VR treatment Mode

⚠️**Warning**

VR Treatment Mode and handpiece is not standard configuration of this equipment. Please contact with our personnel in advance if you want to use this function and VR handpiece.

If VR Treatment handpiece is needed in treating other diseases, the system will automatically match VR treatment handpiece.

Picture 20 Interface of Indications Selection

Click "**Enter**" button, the parameter display interface will be shown (see Picture 21)
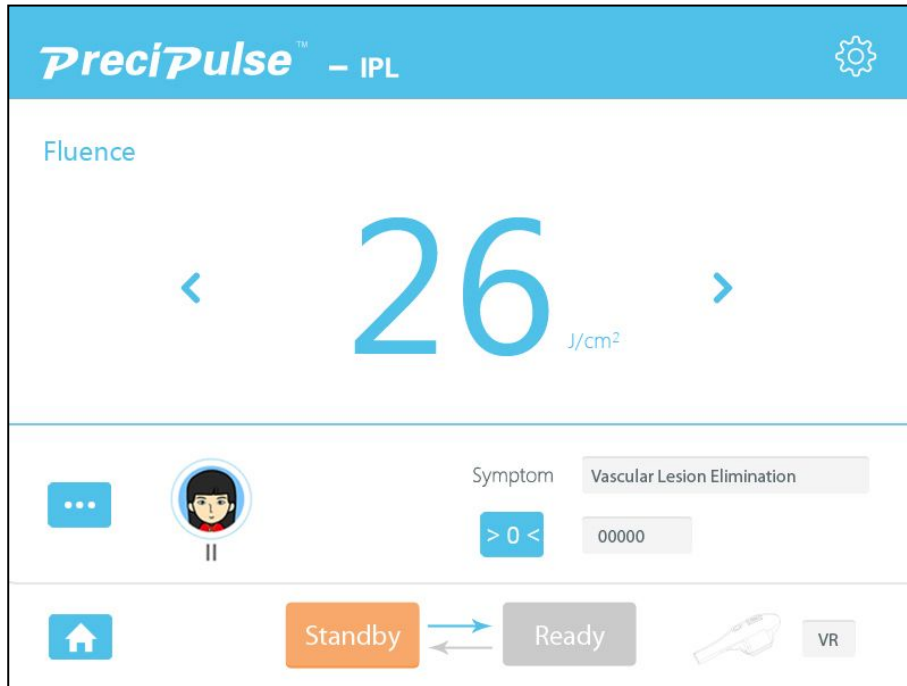
Picture 21 Interface of Parameter Display under

VR Treatment Mode

"Fluence" is title bar of energy density, which can be adjusted through following parameters:

"< >" is used for adjusting energy density;

" " displays counters of light output, zero cleaning is also allowed;

"Symptom" displays current indication;

" " is Home button, which can be pressed in state of Standby, system comes back to interface shown in Picture 2;

" " is a selection button for skin type. Skin type selection interface will pop up (Shown in Picture 22).
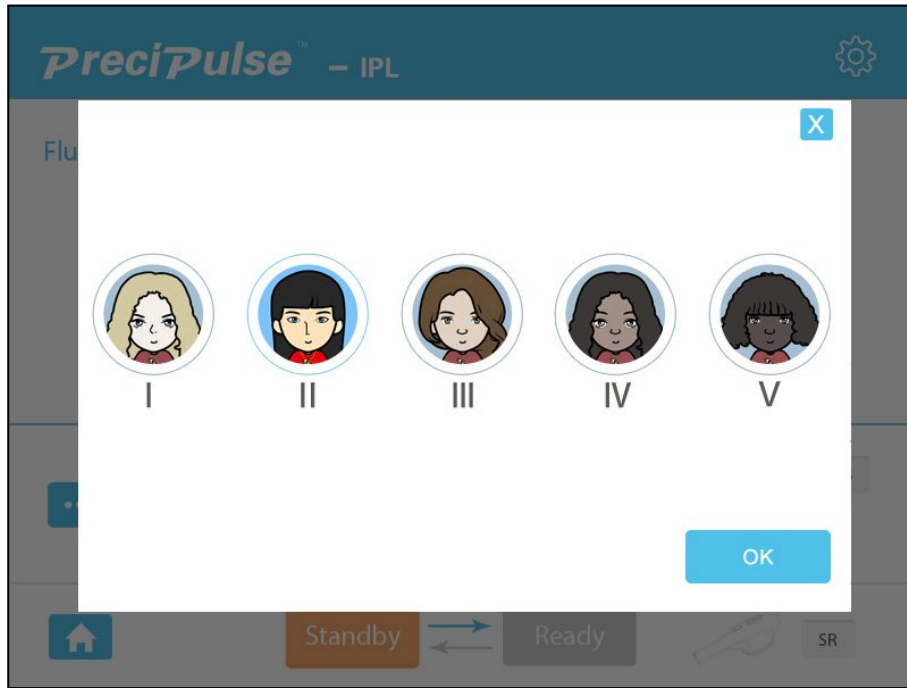
Picture 22 Popup of Skin Type Selection under VR Mode

Choose relevant skin type based on practical situation and click "ok", if " " is clicked, the popup will be closed and default settings remained. Click "**Ready**", the system will enter into working state, other buttons are forbidden to press and parameters are not allowed to adjust. (Shown in Picture 23)
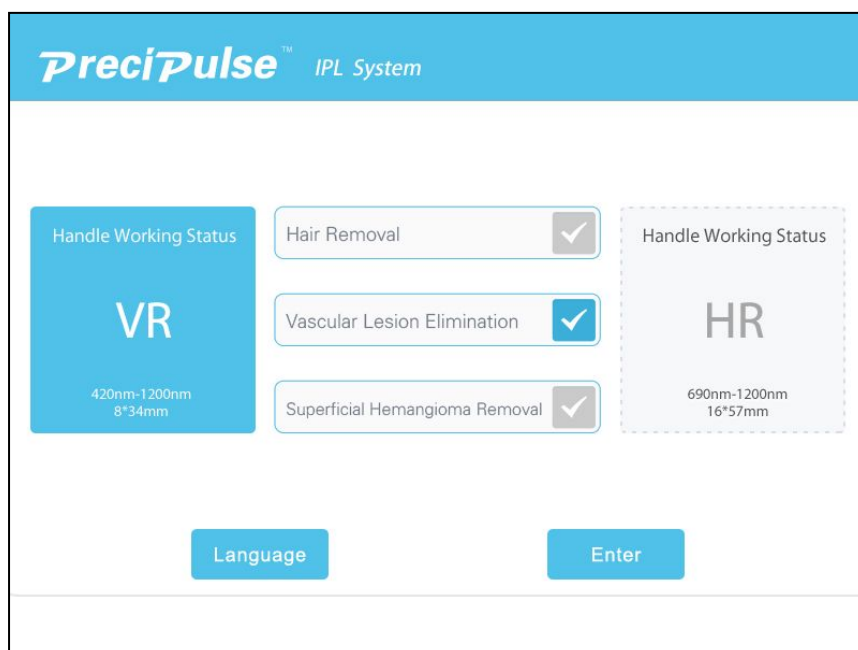

Picture 23 Simmer Interface under VR Treatment Mode

"⚙"is a button of back stage management. Click this button, the system enter into the interface of back stage management, please see 4.3.

⚠Warning: replacement of HR&VR treatment handpiece can be realized by putting certain password in back stage management interface.

4.3 Back-stage Management

Back stage management interface provides energy calibration, total counter reset, unlock of HR&VR treatment handpiece (Shown in Picture 24):
Generally, "HR&VR", "HR&SR" buttons should be operated by engineers authorized by Sincoheren. Certain passwords should be input on the interface before operation;
"Save"is used for keeping modified settings on the interface;
Quit from this interface with"Cancel".

Picture 24 Back-stage Management
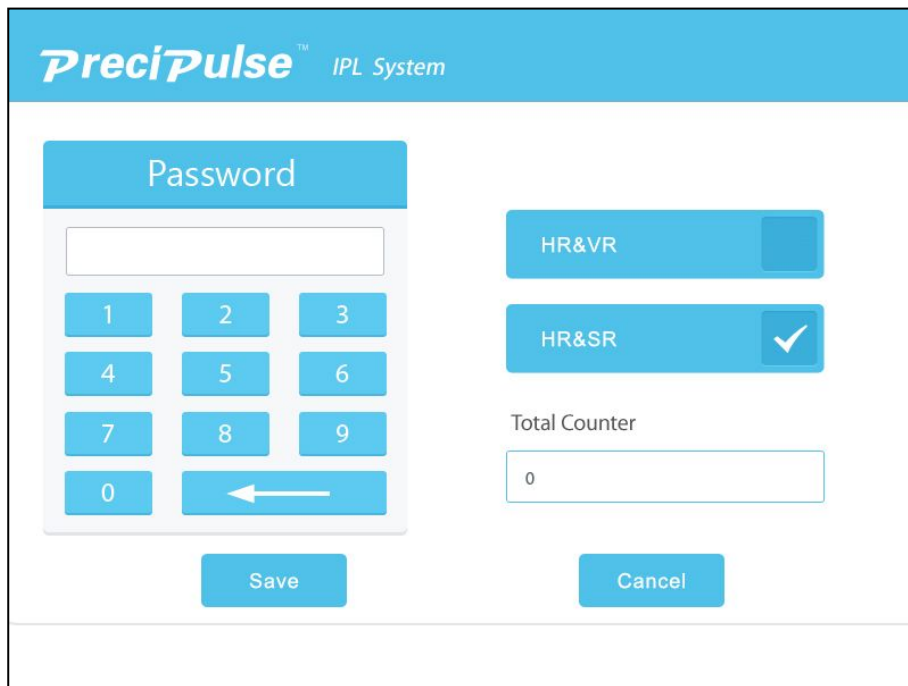
If you have chosen VR handpiece for treatment, it can be replaced by SR treatment handpiece during using process.
Install VR treatment handpiece into SR handpiece connector, start up the machine, and randomly choose a working mode. Click ⚙on parameter display interface and enter into back stage management interface shown in Picture 24. Input password, "**HR&VR**" will be automatically choosen, click "save" for saving modifications and exit. Restart the device, modified settings will take into effect, the default handpiece mode will be HR&VR in indications

selection interface (Shown in Picture 20). After that, continue to operate based on VR treatment mode. (See 4.2.3)

4.4 Treatment Procedure

Choose appropriate modes: pulse mode 1, pulse mode 2 or pulse mode 3. Enter into sub-menu and select appropriate parameters. Before treatment, choose appropriate energy for skin test in line with patients' conditions. (Please see 4.5for skin test contents). Choose appropriate energy and apply a thin layer of cooling gel at treatment area, put head light closely on target skin. Press manual switch on handpiece and begin treatment. The equipment will release a sound of "di" each time it shots. Meanwhile, handpiece counter and screen count once.

After treatment, establish treatment file for each client so as to check right parameters for next time treatment and increase treatment effects.

Notes:

Lifetime of treatment handpiece: standard lifetime of each treatment handpiece is 20,000 shots. Energy will be lowered if handpiece reaches its lifetime. It is suggested to change for a new handpiece because handpiece with more than 20000 shot are not in warranty.

4.5 Skin Test (Essential)

Skin test is essential before optical treatment. Details are as follows:

1. If treatment on face is needed, please select skin under ears as test patch, where it is not influencing facial beauty. If treatment areas are in chest, neck or other parts, please select an area not influencing beauty as test patch.

2. Please clean test patch after it is chosen. Apply a thin layer of cooling gel at test patch. Take out treatment handpiece and make it contacted with treatment area sufficiently. Trigger 2 to 3 slots and 1/3 area of spot size overlapping treatment area is permitted. Wait for 2 to 3 minutes observe treatment area. If light reddening (not swelling) appears to test patch, it means energy chosen is appropriate and operator can choose this energy level and parameter to continue treatment. If there is no visible changes at the patch test area, it means energy is too low, $1-2J/cm^2$ energy should be added each time. If serious reddening immediately appears to test patch after shot. It means energy is too high, please continue test with lower energy level.

4.6　Attentions

1. Carefully protect patients' eyes during treatment

2. Second scanning is possible on diseased areas

3. Light crystal should be tightly put on treatment area without applying pressure

4. Leave no blank during treatment and 1/3 overlapping is permitted.

5. Do not shoot light at upper eyelid

6. Direction of treatment head can be changed so as to guarantee a complete treatment.

7. Lengthen D1, D2 for darker skin

8. Shorten D1, D2 for lighter skin

4.7 Power off

Loosen handpiece switch after treatment and put it back to handpiece holder. Touch "Standby", turn the key switch to "OFF" and equipment will be automatically shut down. Clean light crystal with gauze.

Chaper 5 Scope of Application and Contraindications

5.1 Scope of Application

HR is used for hirsutism treatment and excessive hair removal;

SR is used for exogenous and end ogenous pigments removal such as blue, black and brown pigment lesions.

VR (optional) is mainly used for abnormal skin vascular diseases treatment

5.2 Contraindications

- Pregnancy
- Using the medicine which is photosensitive to spectrum 560-1200nm,690-1200nm or 420-1200nm
- Allergic to test light
- Recently taking sunbath
- Patients with serious heart, liver, kidney and other internal organs   diseases as well as malignant tumors.
- Epilepsy
- Patient with severe diabetes
- History of keloid scarring
- Treatment area being infected

- Other reasons according to doctor's advice