

Laser physiotherapy manual

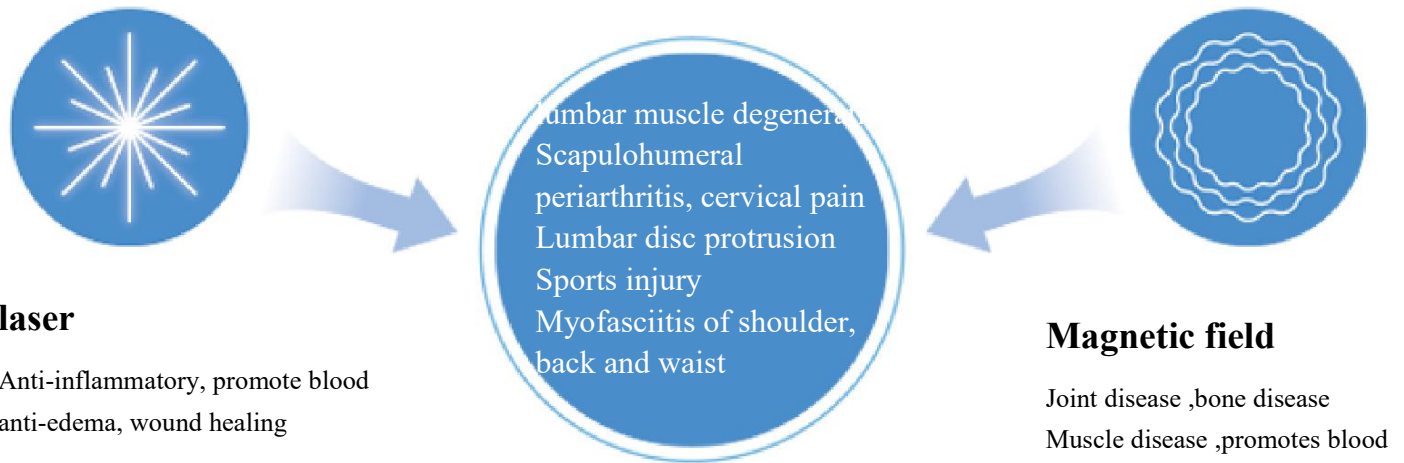


When operating this product, please read the instrument manual carefully first

[Product Name] Laser Pulse Magnetic Therapy Instrument
[Model and Specification] OF-JGC001

[Product Overview]

Both the divergent 650nm laser and pulsed electromagnetic field have the effects of anti-inflammatory, analgesic, and promoting blood circulation. Pulse strong magnetic stimulation of the central nervous motor functional area and limb nerves can stimulate the improvement of motor nerve function. This laser pulse electromagnetic therapy instrument combines a 650nm laser installed at the center of the electromagnetic coil into a dual function therapeutic device. Through the host control system, the two functions can be combined for treatment or single function treatment. During treatment, the targeted therapeutic device irradiates the lesion area with laser and strong pulse electromagnetic stimulation. The electromagnetic field can penetrate deep bones and soft tissues, accelerate blood circulation in the lesion area, and improve microcirculation, Improve the permeability of cell membranes, accelerate cell metabolism and intracellular and extracellular material exchange, accelerate the metabolism of inflammatory and painful substances, achieve rapid anti-inflammatory, swelling reduction, pain relief, repair soft tissue, bone, nerve and other functions, and accelerate the recovery process of pain and motor function.



[Product Working Mode and Function]

The therapeutic device has two main working modes: intelligent automatic mode and professional manual mode.

In the intelligent automatic mode, the treatment device has preset the corresponding parameters for three sets of treatment plans. When in use, only the corresponding treatment plan needs to be retrieved. After startup, the treatment device automatically completes the treatment process based on the preset parameters.

The treatment plans for intelligent automatic mode include the following three types:

Skeleton&Nerve: This plan is targeted at bone wear, knee ligament disease, knee degenerative disease, arthritis, humeral internal and external epicondylitis, promoting bone healing and nerve repair.

Pain relief: This plan can effectively alleviate and relieve various types of pain. Suitable for pain caused by lumbar and dorsal myofasciitis, rotator cuff tendinitis, exercise induced muscle soreness, and pain caused by brachial biceps tenosynovitis in the shoulder.

Soft tissue repair: This plan can effectively repair soft tissue. Suitable for cartilage degenerative arthritis, soft tissue damage, motor system diseases such as muscle and tendon injuries, and recovery of limb motor function after stroke.

The therapeutic device provides professional manual mode for professional doctors or expert users. In this mode, the user may set the pulse magnetic field intensity, magnetic field output period, output interval time, output frequency, etc. according to the treatment needs; At the same time, multiple output frequency combinations can be set to meet the needs of professional treatment.

[Product performance]

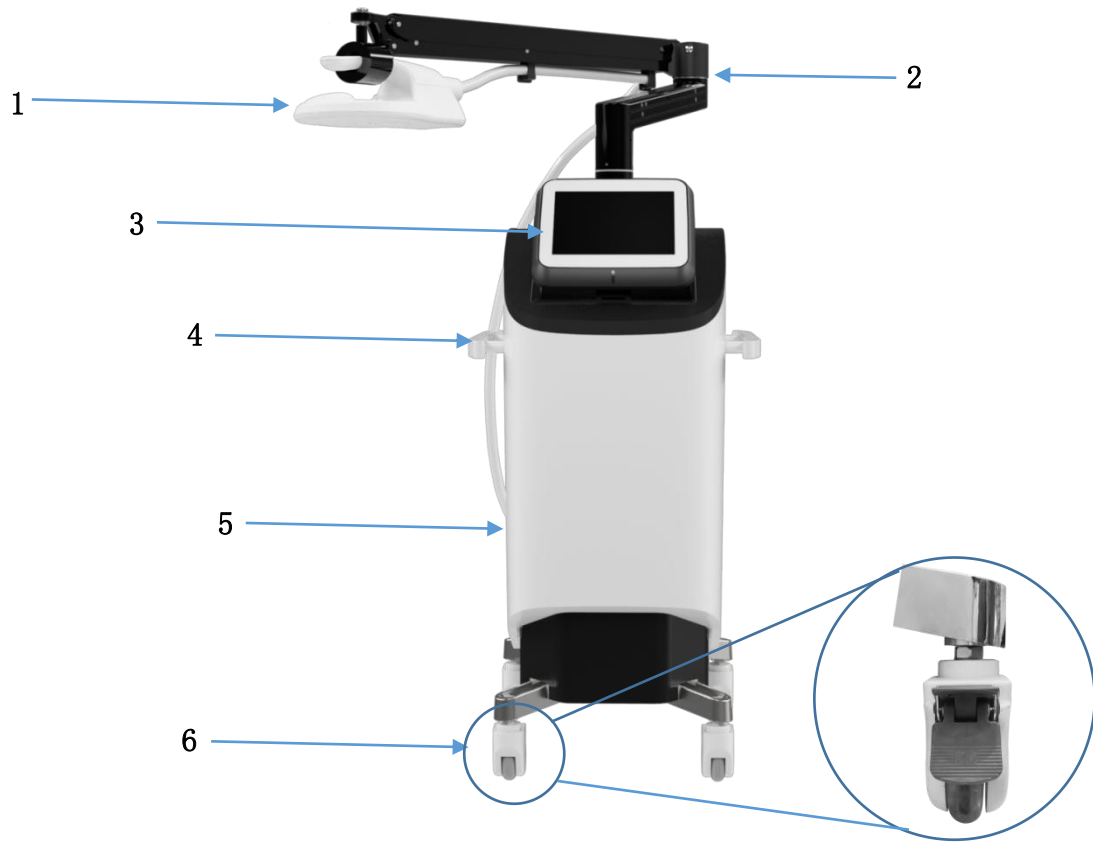
1. The working time of each mode of the treatment device is adjustable from 1 to 60 minutes.
2. The laser power of the three optical paths of the therapeutic instrument is 4.0mW. The diameter of the irradiation spot is 10mm. Laser output can be turned on or off by pressing the button.
3. The pulse electromagnetic frequency output by the therapeutic device is adjustable from 1-50Hz.
4. The pulse electromagnetic intensity output by the treatment device is adjusted according to the threshold of 0-100, divided into 10 levels, and the energy change value of each level is 10.
5. The treatment device uses coolant cooling, and long-term operation of the treatment device will not cause fever or burn to patients.
6. The treatment device is equipped with a protective detection device inside, which automatically stops working when an abnormality is detected.

[Product Structure and Composition]

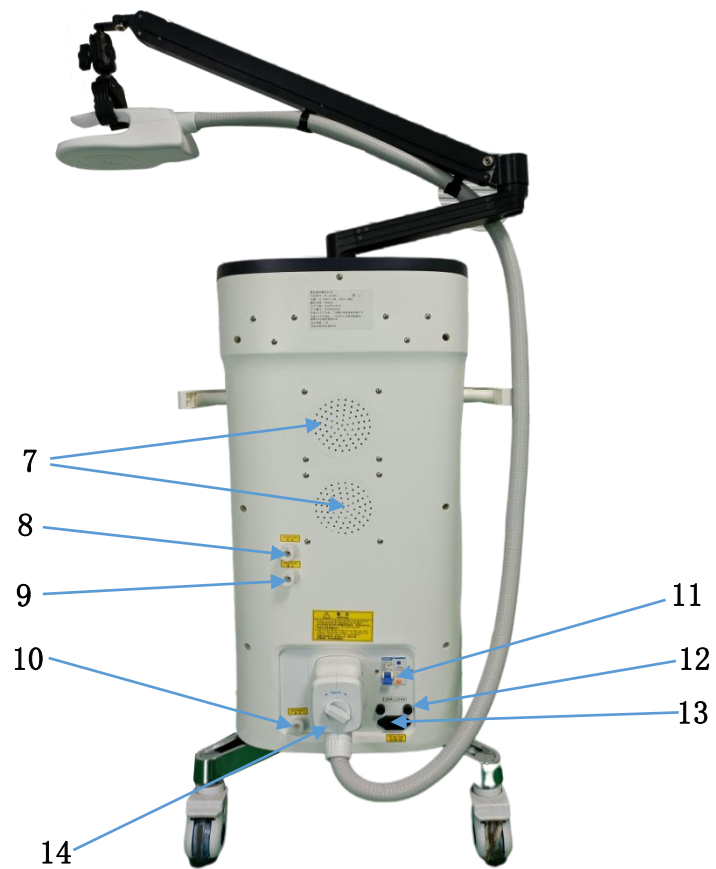
The treatment device consists of three main parts: a control host, a treatment device, and a bracket.

Component Description Table (see figure below)

NO.	Name	NO.	Name
1	Therapeutic device	8	Water inlet
2	support	9	Overflow outlet
3	display screen	10	Drainage outlet
4	Drag handle	11	Power switch
5	Control host	12	Fuses
6	Mobile casters (equipped with fixed clips)	13	Power socket
7	Vents	14	Therapeutic device socket



front view



Back view

[Product Scope of Application]

1. Spinal Surgery:

Chronic neck and shoulder pain, low back pain, sacrococcygeal pain, supraspinal ligament inflammation, lumbar surgery failure syndrome, etc;

2. Sports Injury Department:

Chronic traumatic diseases of the shoulder, such as frozen shoulder, subacromial bursitis, long head tendonitis of the biceps brachii, calcified supracondylar tendonitis, etc.; chronic traumatic diseases of the elbow, such as intercondylitis of the humerus, epicondylitis of the humerus, etc

3. Trauma Orthopedics:

Delayed union and non union of limb fractures;

4. Orthopedics:

Early avascular necrosis of the femoral head, chronic injuries to the upper limbs, hips, and knees such as tennis elbow, golf elbow bouncing hip, jumping knee (tibial tuberosity epiphyseal osteochondritis), heel diseases such as heel pain, Achilles tendinitis, and early osteoarthritis;

5. Hand Surgery:

Narrow tenosynovitis, swelling of finger joints, etc.

6. Others:

Pain symptoms such as bone hyperplasia, osteoporosis, lumbar disc herniation, and fasciitis.

[Precautions, Warnings, and Reminder Content]

1. The treatment must be installed according to the product assembly requirements;
2. Before operating the therapeutic device, it is necessary to fill it with coolant (preferably pure water);
3. The treatment device has a self check function during operation. If there is an abnormality, it will automatically alarm and display the corresponding code in the upper left corner of the display screen. After troubleshooting by professional personnel, it can be used normally;
4. During operation, do not directly cut off the power supply unless it is an emergency to avoid equipment damage;
5. Do not modify, disassemble, or repair this machine without permission;
6. Do not touch lips or eyes during the operation of the therapeutic device to avoid injury;
7. When replacing the fuse fuse fuse, the plug must be unplugged before operation, and it must be operated by the manufacturer or trained and qualified maintenance personnel;
8. The laser of the therapeutic device should not be directly aimed at the human eye.

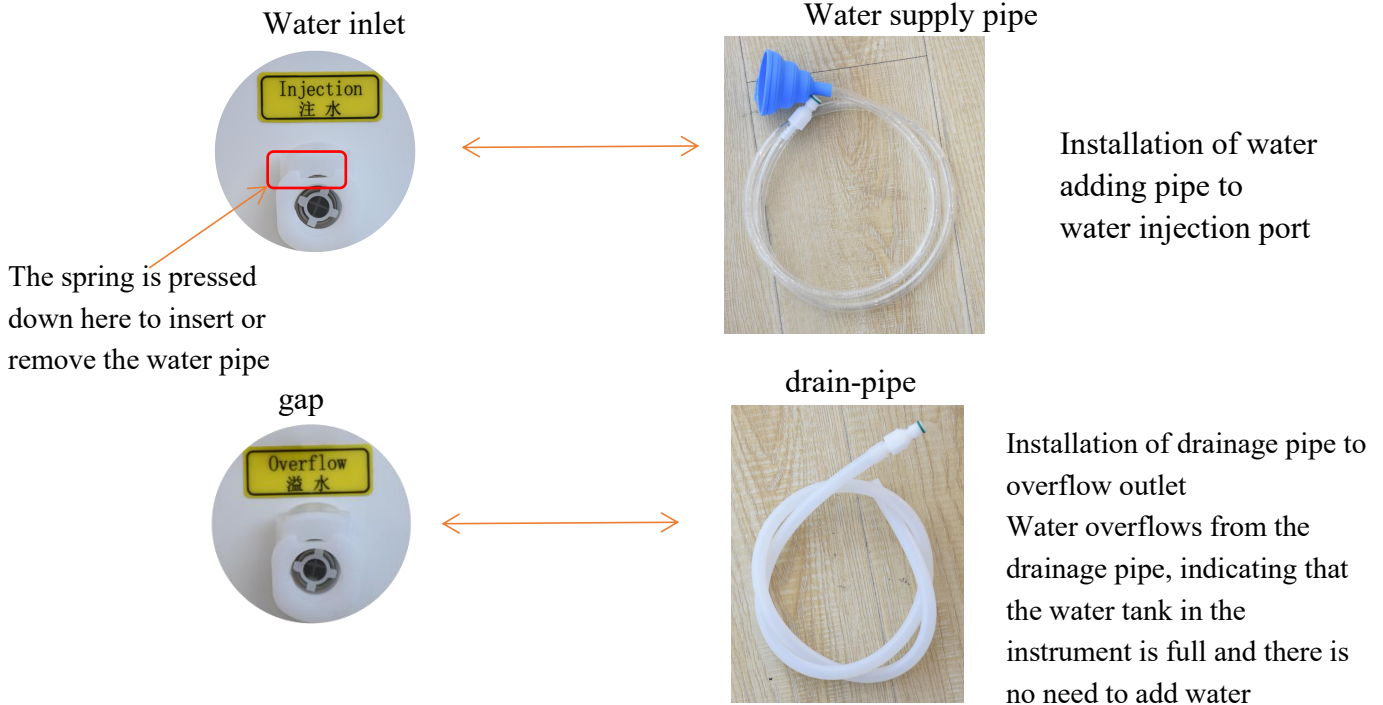
[Contraindications for use]:

1. Patients with acute hemorrhagic diseases, pre stroke symptoms, acute inflammation accompanied by sepsis symptoms, precancerous lesions, and acute onset of gout;
2. Patients with coagulation disorders that may cause local tissue bleeding, as well as untreated, untreated, or incurable hemorrhagic diseases;
3. Patients with severe cognitive impairment, mental illness, severe heart rate arrhythmia, and sensory dysfunction;
4. Install a pacemaker; Areas with artificial fillers in the body (such as silicone);
5. Patients with multiple metastases of malignant tumors;
6. Rupture or severe injury of tendon fascia;
7. Medical advice to special populations; Patients with skin allergies; Female Phase III (pregnancy, lactation, menstrual period) patients.

[Instructions for adding water]

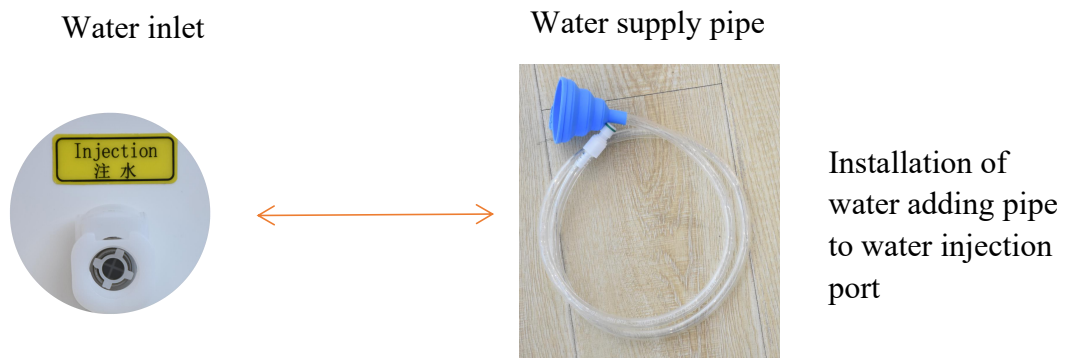
The instrument is equipped with a built-in water tank, which allows for water addition and drainage operations through the water inlet, overflow port, and drainage port at the back of the chassis.

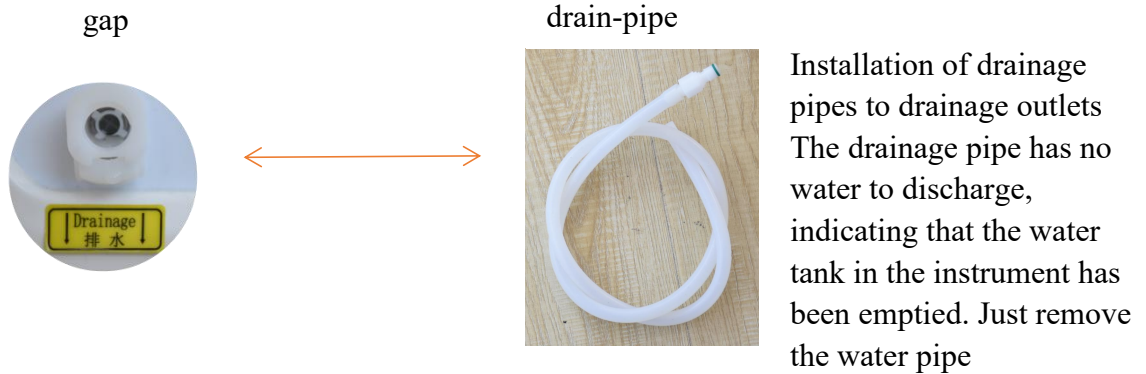
Water addition process



Water adding steps: When the equipment is turned off, install the water adding pipe to the water injection port, and the drainage pipe to the overflow port (place a basin below to catch the overflowing water). When installing, a sound is heard indicating that it is stuck. Then, add an appropriate amount of pure or distilled water to the funnel. (The funnel is raised above the instrument) During the water filling process, the interval should not be interrupted to prevent air from entering the overflow port and water from overflowing, indicating that it has been filled. Press and hold the upper iron plate to pull out the water supply and drainage pipes.

Drainage process





Drainage steps: When the equipment is turned off, install the water adding pipe to the water injection port, and the drainage pipe to the drainage port (a water basin is placed below to connect the discharged water). When installing, hearing a sound indicates that it has been blocked, and the water will automatically be discharged from the drainage port after the pipe is connected, until no water is discharged, indicating that the water has been drained. Press and hold the upper iron plate to pull out the water supply and drainage pipes.

Attention:

1. Before use, it is necessary to ensure that the built-in water tank of the instrument is full.
2. The frequency of instrument use is related to the local weather. Normally, water is added every six months. If the equipment runs out of water, an E2 alarm will sound. At this time, adding water to the equipment is sufficient

The environmental conditions under which this product is used are:

1. Flat ground with an area of ≥ 1 square meter;
2. Power supply 220V, power ≥ 2000 watts;
3. Room temperature 15-30 degrees Celsius, relative humidity not exceeding 80%;
4. No corrosive gases and well ventilated indoors.
5. Atmospheric pressure: 860hPa~1060hPa.

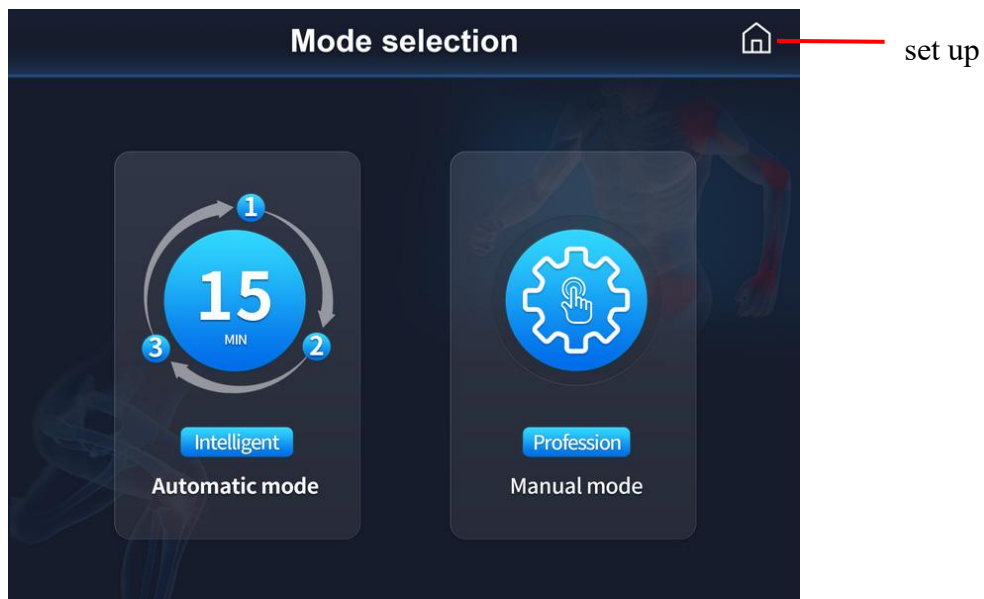
Installation operation:

1. Firstly, install the therapeutic device bracket on the host, and then lock the therapeutic device onto the support arm. Adjust the height of the bracket and the direction of the therapeutic device according to the treatment needs to ensure accurate alignment and appropriate height of the therapeutic device.

2. Insert one end of the dedicated power cord into the ~220V/50Hz three hole power socket, and the other end into the host power socket.

[Instructions and illustrations for use]

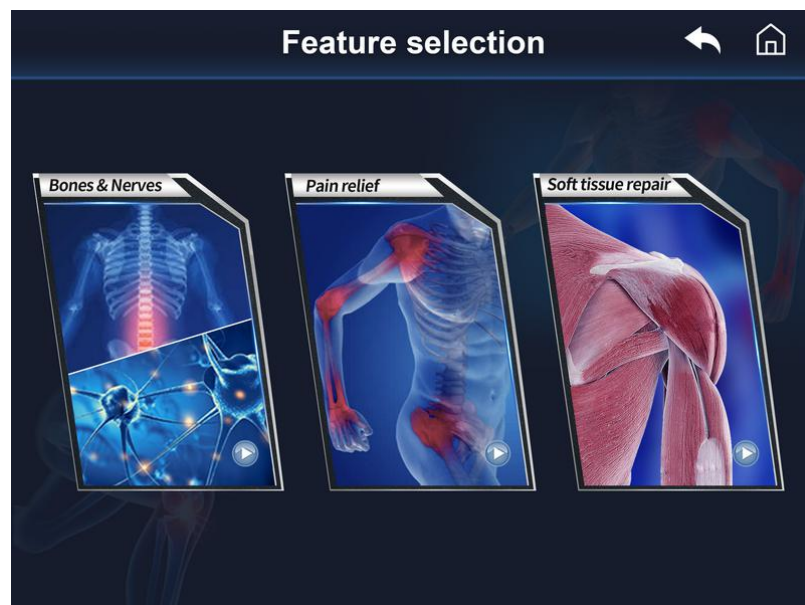
1. Mode selection interface



In this interface, you can choose to enter the intelligent automatic mode or professional manual mode.

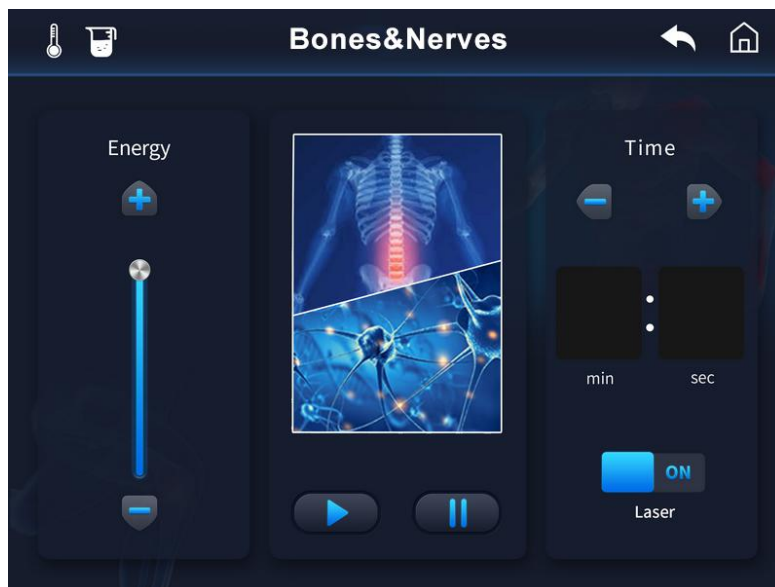
Click on the upper right corner to enter the settings interface.

2. Intelligent automatic function selection



There are three functions in the intelligent automatic mode, namely bone&nerve, pain relief, and soft tissue repair. The different functions and scope of application are described in the previous functional descriptions. Click on the corresponding image according to the patient's needs to enter different functional modes.

1. Intelligent automatic mode corresponding function operation



As shown in the above figure, it is the bone and nerve function operation interface. In some interfaces, users can adjust the treatment time, adjust the magnetic field energy output by the treatment device, switch on or off the laser output, start or pause treatment work, and so on.

After setting the corresponding parameters, press the start button to start the treatment device, output pulse magnetic field and laser energy. After starting the operation, the instrument starts counting down, and when the countdown ends, the output stops.

Press the pause button to stop the current work.

The other two functions operate similarly in intelligent automatic mode.

·Energy regulation: Adjust the amount of magnetic field energy output by the therapeutic device. Adjustable range 0-100.

·Time adjustment: Adjust the working time of the therapeutic device. The adjustable range is 1-60 minutes.

2. Professional manual function operation



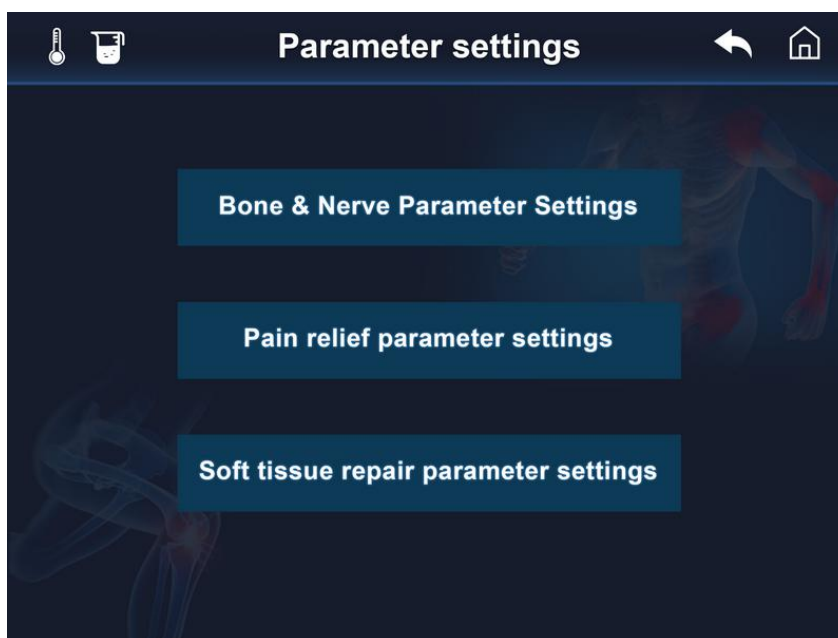
In professional mode, users can not only adjust the treatment time, adjust the energy output of the treatment device, switch on or off the laser output, start or pause treatment work, but also set different combinations of frequencies; Working hours; Set different combination sequences. To achieve different therapeutic effects.

After setting the corresponding parameters, press the start button to start the treatment device, output pulse magnetic field and laser energy. After starting the operation, the instrument starts counting down, and when the countdown ends, the output stops.

Press the pause button to stop the current work.

- Energy regulation: Adjust the magnetic field energy output of the therapeutic device. Adjustable range 0-100.
- Time adjustment: Adjust the working time of the therapeutic device. The adjustable range is 1-60 minutes.
- Combination 1-5: indicates that 5 sets of frequencies and each set of frequency output time can be set. First select a certain combination (displayed as selected), and press the up/down buttons on the right to adjust the frequency and time separately.
- Sequence combination: Set the output combination, which can only output one group or set multiple groups for cyclic output.
- Sequence period: automatically calculated by the treatment device based on the selected combination and the set time for each group.
- Sequence interval: refers to the interval between outputting a certain combination and outputting the next combination.

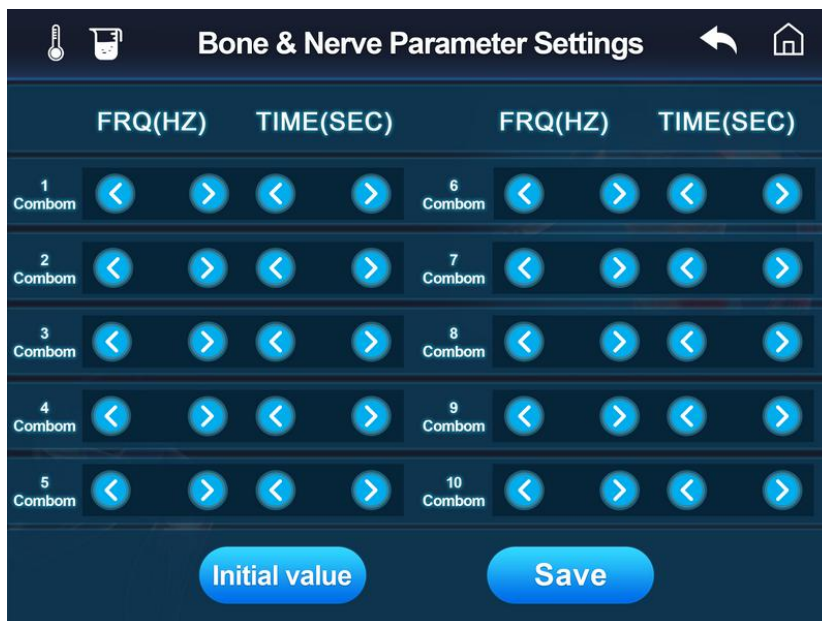
3. Intelligent automatic mode parameter setting selection interface



Click the setting button in the upper right corner of the mode selection interface to enter the parameter setting interface. The parameter setting mainly involves setting the parameters for each of the three functions in the intelligent automatic mode. Due to the strong professionalism of this parameter, it is recommended to change it under the guidance of a doctor or expert.

In the parameter setting interface, select different buttons to enter the corresponding function parameter setting interface.

4. Intelligent automatic mode parameter setting interface



The parameter setting interface for bones and nerves is shown in the above figure.

In the setting interface, there are combinations 1-10, and the frequency and time of the corresponding combinations can be set separately. In the frequency or time column of the corresponding combination, click the left/right buttons to adjust the parameter values. After setting, click the save button to save the parameters.

Click the initial value button, and the therapeutic device will restore the current functional parameters to the default values.

5. Alarm and prompt

Temperature/water volume warning light (turns red in warning state)

When a fault occurs, the fault code is displayed here



As shown in the figure, there is a temperature and water volume warning prompt in the upper left corner of the work interface. When detecting related abnormalities, it will display in red and a fault code will be displayed later

Fault Code Table and Solution

Fault codes	explain	Remarks	Solution
E1	Abnormal cooling pipeline	Pipeline blockage; The therapeutic device fell off but was not installed; The pipeline sensor is damaged;	Check the pipeline. Or install a therapeutic device
E2	Lack of coolant	Lack of coolant	Adding coolant
E3	SCR temperature sensor high temperature alarm.	The therapeutic device works for a long time and the temperature of the thyristor is too high.	Shutdown
E4	The thyristor temperature sensor is abnormal.	The temperature sensor on the thyristor is faulty	Replace sensor
E5	Capacitive temperature sensor high temperature alarm.	The therapeutic device works for a long time and the temperature of the energy storage capacitor is too high.	Shutdown
E6	The capacitance temperature sensor is abnormal.	The temperature sensor on the energy storage capacitor is faulty	Replace sensor
E7	Therapist high temperature alarm	The treatment device has been working for a long time and the temperature is too high.	Shutdown.
E8	The temperature sensor in the treatment device is damaged/the treatment device is detached	It may be that the therapeutic device is not loaded; Falling off; The temperature sensor in the therapeutic device is faulty.	Install the treatment device. Or replace the sensor

[Technical parameters]

project	parameter
Input power supply	AC220V 50Hz 2000W
Screen size	10.4 inches
Electromagnetic wave energy	0-5T
pulse	200±20μs
frequency	(1-50)±10%Hz
laser	Power 4.0mW, spot diameter 10mm, 3 pieces,Red laser diode
Laser wavelength	650μm
Safety level	I BF
Instrument size (CM)	54*43*97(cm)
Weight (KG)	58KG

[Maintenance and upkeep]

Maintenance

1. Daily inspection

Management personnel must regularly inspect and manage instruments and components.

Is there a ground wire connected to the power socket

Before using the instrument, check if the power cord is damaged. If there is any damage, stop using the instrument.

2. Cleaning

Regularly clean the instruments to ensure their hygiene and good operation. When the instrument is powered off, it is possible to wipe the outer shell of the device with a damp cloth, use soapy water or neutral cleaning agent, and use alcohol to wipe other parts such as the host and display screen.

3. Replacement of fuses

To prevent electric shock, please turn off the power and unplug the power plug.

Maintenance

After purchasing the device, it is necessary to keep the warranty card and send it to the manufacturer or agent for repair. Only then can the warranty be valid: from the date of purchasing the device and issuing the invoice, our company's products have non human quality issues, and the host is guaranteed for one year free (note: warranty based on the purchase ticket and warranty card: the warranty scope here is only limited to the instrument host, excluding consumables that need to be replaced regularly such as accessories) after the warranty period has expired.

[Transportation conditions]

Transportation: The transportation requirements shall be in accordance with the provisions of the order contract, and collision, rain, and sunlight shall be prevented during the transportation process.

[List of accessories]

NO.	parts	Number	Unit
1	Host (qualified product)	1	/
2	Power cord	1	/
3	Laser electromagnetic therapy handle	1	/
4	Therapeutic device bracket	1	/
5	Water filling funnel	1	/
6	PU tube	1	/
7	Drainage pipe	1	/
8	Allen wrench	2	/
9	Mechanical arm long axis	1	/
10	Mechanical arm short axis	1	/
11	Therapeutic bandage	2	/
12	Universal ball shaft	1	/
13	Power cord	1	/
14	20A fuse tube	5	/

[Production Date] MM/DD/YYYY

[Suggested service life] 3 years

[Product Manual Compilation/Revision Date] October 20th, 2022