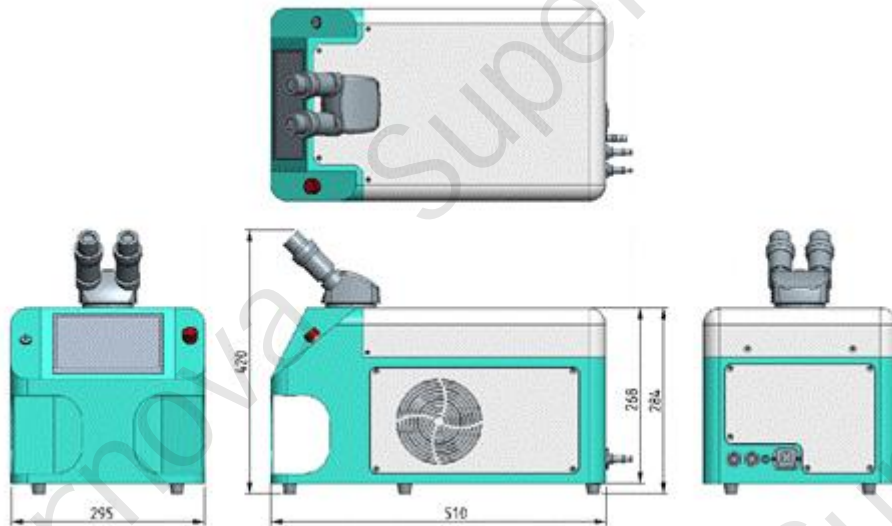


Jewelry Laser Welding Machine Mini Desktop

User Handbook

Outlook appearance and dimensions





Product Parameter

wavelength	1064nm
maximum(power)output	150W
Maximum pulse energy	120J
Lamp source	single lamp
pulse width	0.1-15ms
impulse frequency	1-10HZ Adjustable fluid level
Aim and locate	microscope +CCD
application	Welding and repairing various metal jewelry
power consumption	≤2KW
Electricity demand	220V±5%,50HZ
coolant system	air cooling
dimension	L: 510mm, W: 295mm, H: 420mm

Start to prepare

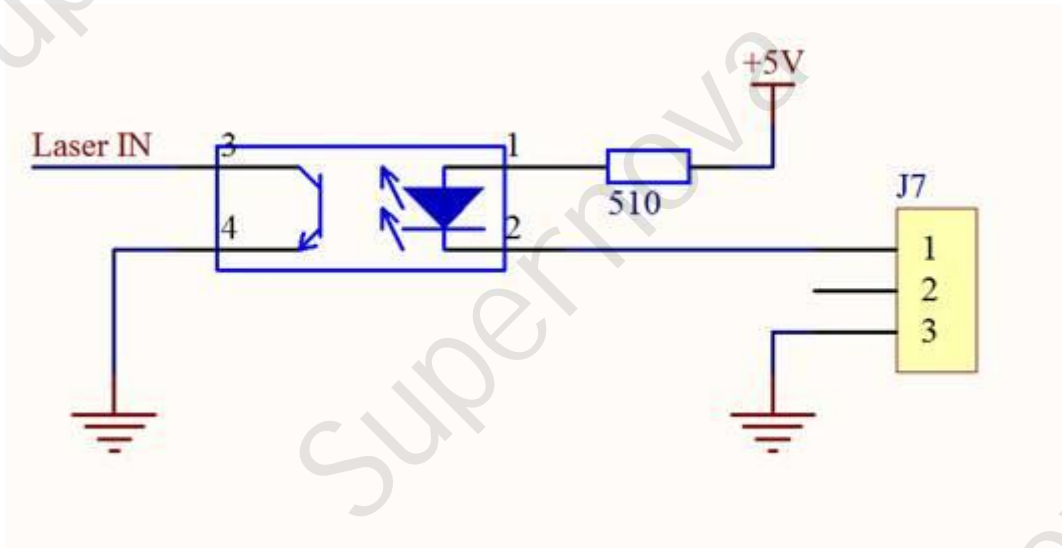
1. Ensure that the input supply voltage meets the company's laser supply requirements (AC220V±5%60HZ) ,Grounding is strictly in accordance with the national electrical standards.
2. Plug in the power cable correctly AC220V socket, and connect it to the power supply (picture 4-1) .

3. Connect the foot switch to the tractor jack correctly (picture 4-1) .Internal schematic diagram of the control signal (picture 4-2)
4. Inserts the allocated hose into the machine's "IN" nozzle, And put the other end into the standby purified water, to prepare for water injection (picture 4-1) .
5. Install the microscope correctly on the machine. Reference location and direction (picture 2-1) .
6. Open the Emergency Stop switch and turn on the Key switch to light the screen on.
7. Touch the display screen to light up and display the relevant interface of the laser power supply system icon (picture 4-3) ,The display interface automatically enters the next interface within 3 seconds.
8. Water injection operation, click on Settings on the standby interface, Pop-up input box, enter password **999999**,Click the OK button, go to the parameter setting interface. Click the pumping button, enter into the pumping interface, click on the pumping, Start the water injection operation. After water injection is completed, It shows "Pumping is finished", The machine will automatically stop working. Return to the main interface operation, click to start the machine..





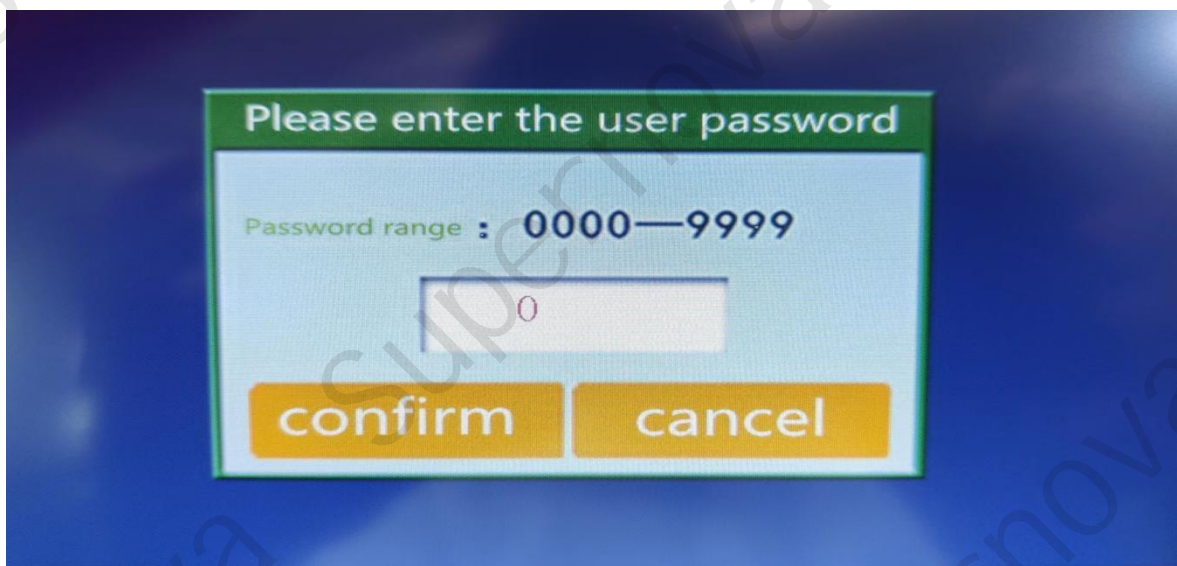
P 4-1



P 4-2 (Laser control signal)



P 4-3



P 4-4

Software operation:

1. Enter the open machine interface, you can enter any interface, parameter setting (P 03) , The power button is displayed in the upper right corner, the lower right corner indicates the status of the device, and prepare the power command.



P 03

2. Touch the power button (P03) Enter the starting and waiting interface (P 04) shows "Device start up, please wait ! " if touching the power button appears as the P05 interface (Internal circulating water is abnormal) ,P07 , starting failed, Please check the relevant lines according to the interface prompts, troubleshoot, and restart the machine.



P 04

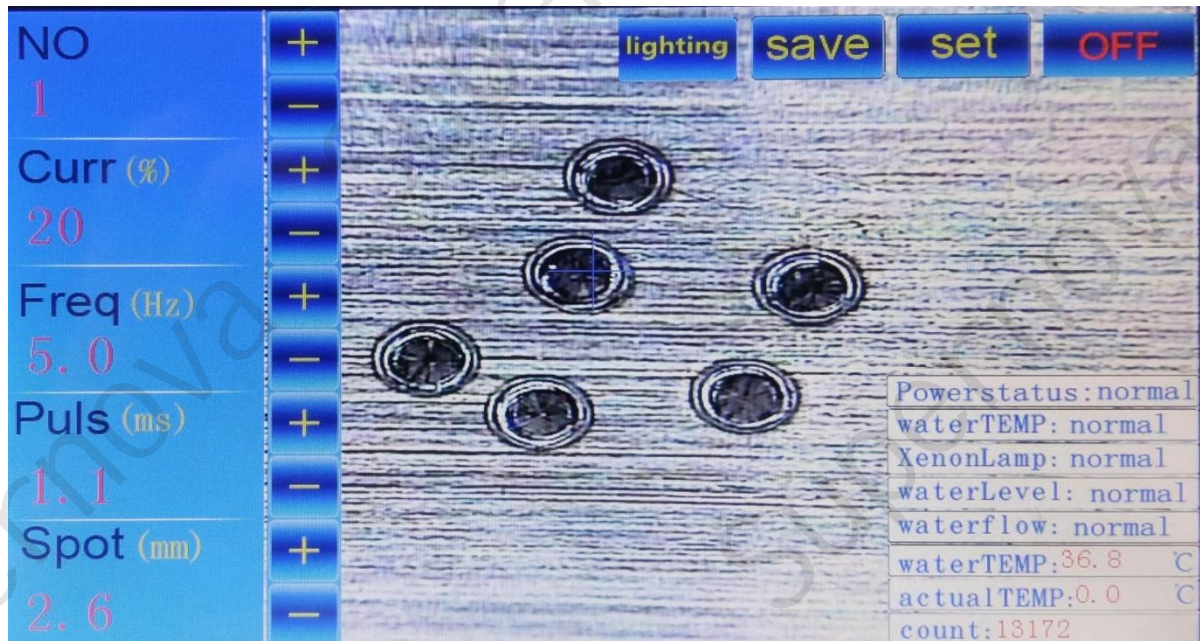
Remove err

The water flow cycle is wrong. Please check whether the external water turbine is working properly, and the connection between the water machine and the welder.

Return

P 05

3. Check whether the discharge box drive and test line or xenon lamp connection is reliable. After 18 seconds of starting, the shutdown button is displayed in the upper right corner to prompt the device status. The start is completed and enters the use state.



P 06

Remove err

Xenon lamp starting anomaly:

1. Check whether the xenon lamp is damaged or replace the xenon lamp
2. Check the related circuit for the pre ignition of the power xenon lamp

Return

图 07

4、 After normal standby standby, the power supply is ready to work normally.



P 09

5. Main interface introduction:

1: Left parameter of the main interface edit:

Program: We can save a total of 15 sets of data, and customers can call up the corresponding data according to their own needs.

Frequency Hz: The pulse frequency showing the power per second (the number of lasers per second), the higher the hz. frequency, the more pulses per

second. Maximum frequency is 200hz. In continuous welding. Set the frequency according to the proficiency of welding products and operators, and move the welding products with low general Angle position frequency, and the automatic welding frequency is higher.

Power t%: the average current size of the discharge lamp (xenon lamp provides light for laser excitation). The larger the current, the greater the energy output of the laser. Current adjustment range is 1% -100%, and the corresponding voltage value is 250-420v. The corresponding percentage current is adopted according to the specific welding situation.

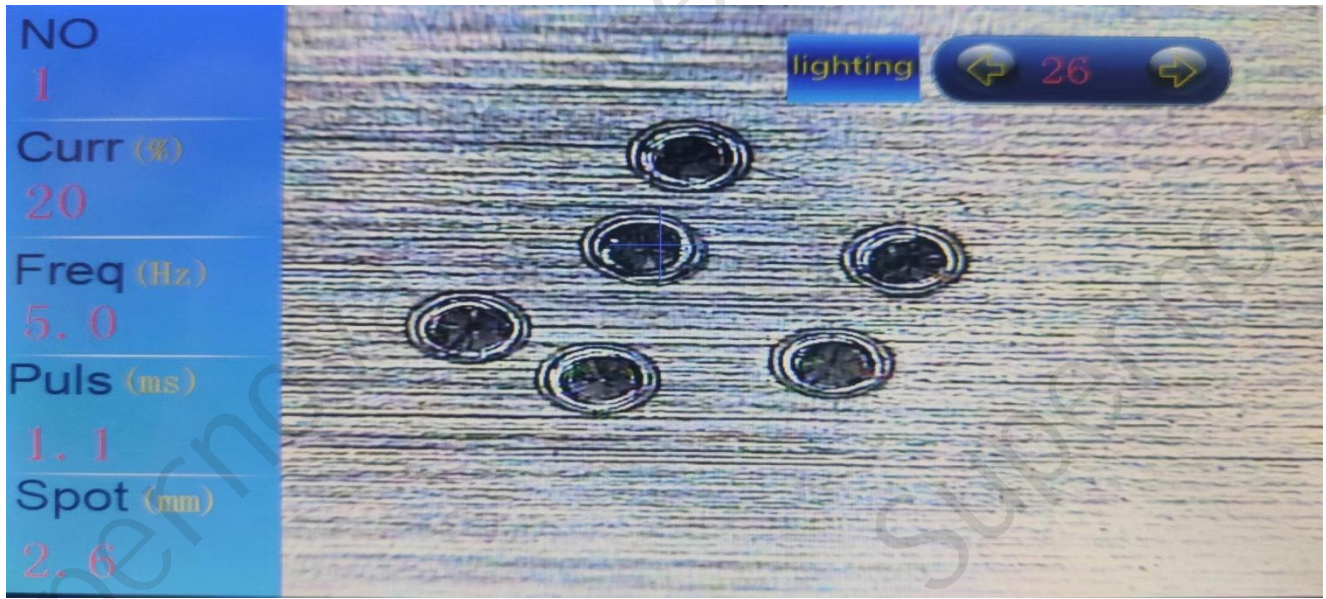
Pulse width ms: display the working pulse width of each laser point in ms, with the adjustment range of 0.1ms-10ms. The maximum laser frequency in practice depends on the frequency, the current (the maximum pulse width is not more than one frequency period). At the same current, the wider the pulse width, the longer the laser output time, and the greater the total output energy. The specific pulse width depends on the welding process.

Welding spot ms: Before the spots show the numbers, "+,-" symbols indicate the positive and negative focus of the spots; The value will vary at 0.1 / s; The size of the figure shown indicates the reference size of the spot (refer to electronic gear introduction).

Reduce / increase: Modify the parameters. First click on the item box that needs to modify the parameters, when the item box is displayed in blue, indicates the selected parameter, and then click the button to reduce or increase, the value will change at 0.1 / x or 1.0 / x.

2: Top right corner; light, save, set, start.

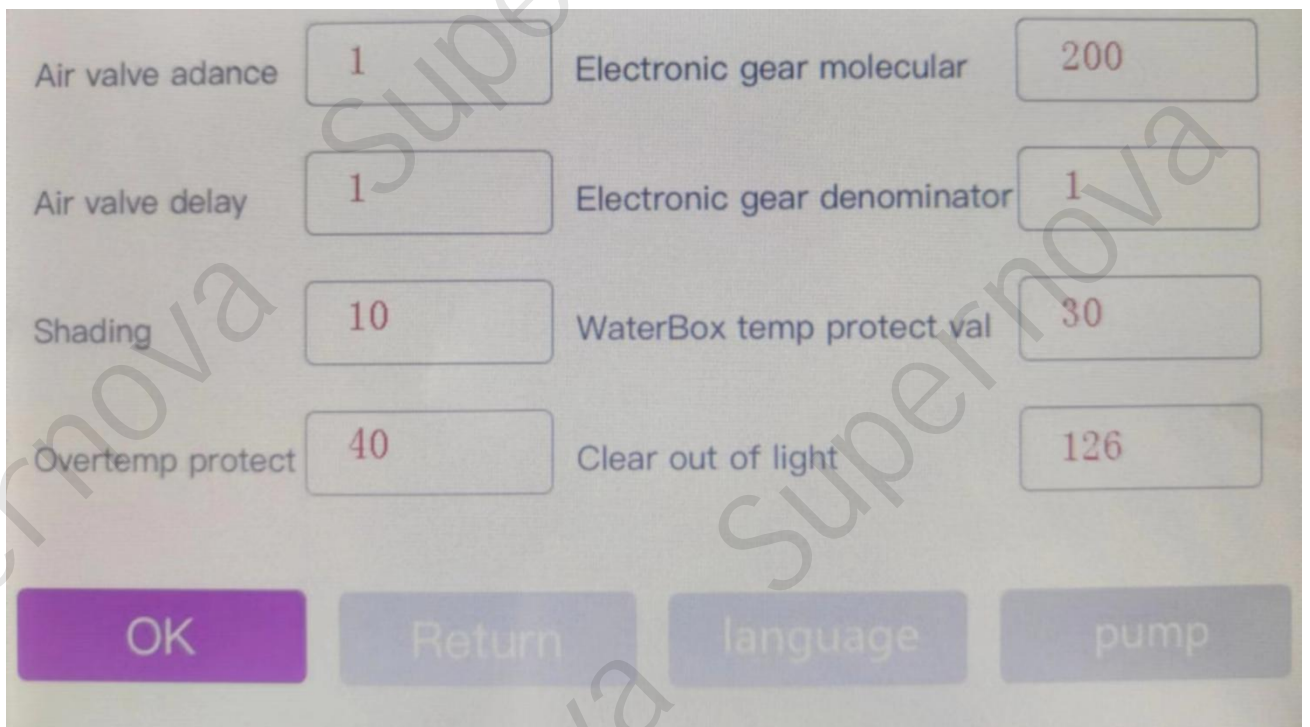
Light: Click it for an interface to adjust the brightness of the light



The upper right corner can adjust the light strong, weak light, the adjustment range in 0-100, click the light to return to the main interface, in the left parameters of this interface can not be modified, want to modify must be back to the main interface.

Save: The parameters can be saved after modification.

Setting: Click on it, and a password interface will pop up. Enter the password 999999 and go to the advanced parameter settings page.



Air valve early: blow early before the laser. Because the light is faster than the blow, and the protective gas is blown before the laser, to ensure that the welded space surface is filled with protective gas to prevent oxidation.

Air valve delay: set the air valve delay time, foot press, laser and gas output at the same time. After the foot is released, the laser output stops and the valve delays the set time before closing the valve. To ensure the integrity of the product final processing.

LCD lock: blocking time when synchronization with the laser. When the laser is out, the software default LCD laser valve is opened 10ms in advance; intended to protect the operator's eyes from fatigue or injury due to strong light; close the light valve when the laser is not out.

Over temperature protection value: the water cooler will start working cooling when the ambient temperature is greater than the set temperature protection value of the water tank of 30°C; the cooling fan will start at full speed when the temperature protection value of the water tank closes the foot switch to stop the light when the power is detected below 40°C, the water cooler will operate at low speed when the ambient temperature is lower than 30°C.

Electronic gear molecules and denominator: adjust the function of the motor torque, generally used for the optical beam mirror automatic adjustment, its minimum is-3.0, the maximum value can be adjusted to 3.0, in the motor setting, the electronic gear molecules and denominator ratio is directly related to the machine in the spot adjustment box each adjustment of the size of the rotation distance, the greater the ratio of 0.1 motor shaft distance 0.1. Users can set their own ideal molecular denominator parameters according to their own needs and requirements. Number of pulses emitted in a single step by molecule / denominator = 0.1mm (the specific spot single-step change is related to drive segmentation and beam expansion screw pitch).

Zero light points: Click it to make the laser count reset and recount. This function is used only after replacing the xenon lamp to determine the service life of the xenon lamp.

Save: Any parameters of this interface must be saved after being modified.

Language: Click to enter the Select language interface



We have four languages to choose from: Chinese, English, Russian, and Korean.

P 13

Shutdown: Prepare to shut down, touch to the interface state, refer to P15 (P06) .

Touch the off button of the interface state in the upper right corner.



P14

Touch the off button of the interface state in the upper right corner. When the xenon lamp is out, turn off the main power supply, turn off the emergency stop switch, extinguish the screen, and turn off the main power supply. The Close has been completed.



P 16

Welding Guide:

1. Observation system:

The jewelry spot welder observation system consists of a microscope and a built-in HD ccd camera. Can clearly observe the welding position of the work piece, easy welding.

2.CCD Cross cursor adjustment:

In the ccd camera system, if the spot is not in the center of the cross cursor, the cross cursor position can be changed by clicking on the middle of the four sides of the screen, so that the solder spot is in the center of the cursor.

3. Welding operation:

First, confirm that the machine has started on normally, place the workpiece in the line of sight of the observation system, and then slowly weigh the clearest position of the observation system, align the cross mark with the waiting position to be welded, gently press the foot switch, and the machine has a laser output for welding.

4. Adjustment of parameter and focal length: After the first welding, the welding effect of the welding points does not meet the requirements, so the parameters and focal length need to be adjusted (-3.0+3.0) Make the welding effect meet the

requirements, and the subsequent welding will not be repeated. Need to adjust it again.