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FWH15-ACS20C-V4Intelligent pendulum air cooled hand welding head

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Introduction

Thanks for choosing our products!

To ensure you an overall understanding about this product, the manual has made a detailed introduction on features, structure, technical parameters, instructions and maintenance of this product. Before using the product, please read the manual carefully to help you use it better.

For the constant renovation of function for the product, I want to apologize for that there may be differences between the product and the manual. If you have any question when using it, please call us in time. We will help you as possible as we can.

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Chapter 1 Overview

1.1 Product parameter

Name	Intelligent pendulum air cooled hand welding head
Model	FWH15-ACS20C-V4
Fiber interface	QBH
Wavelength range	1070±20nm
Rated power	≤1500W
Collimating focal length	50mm
Focus length	200mm
Focus adjustment range	-10mm～+10mm
Spot adjustment range	0～5mm
Auxiliary gas pressure	≤1Mpa
Weight	0.6Kg

1.2Cautions

To ensure personal safety, please wear special fiber laser protective glass before operation.

Please keep the product clean and stop the entry into the cavity of cooling liquid, condensate water and other objects to, **otherwise**, the function may be impacted.

Chapter 2 Structure and Feature

2.1 Product Structure

Galvanometer motor module

Collimation module

QBH module

Focus module

Protective membrane

Switch button

Nozzle

Display light of protective glass temperature state

Air port

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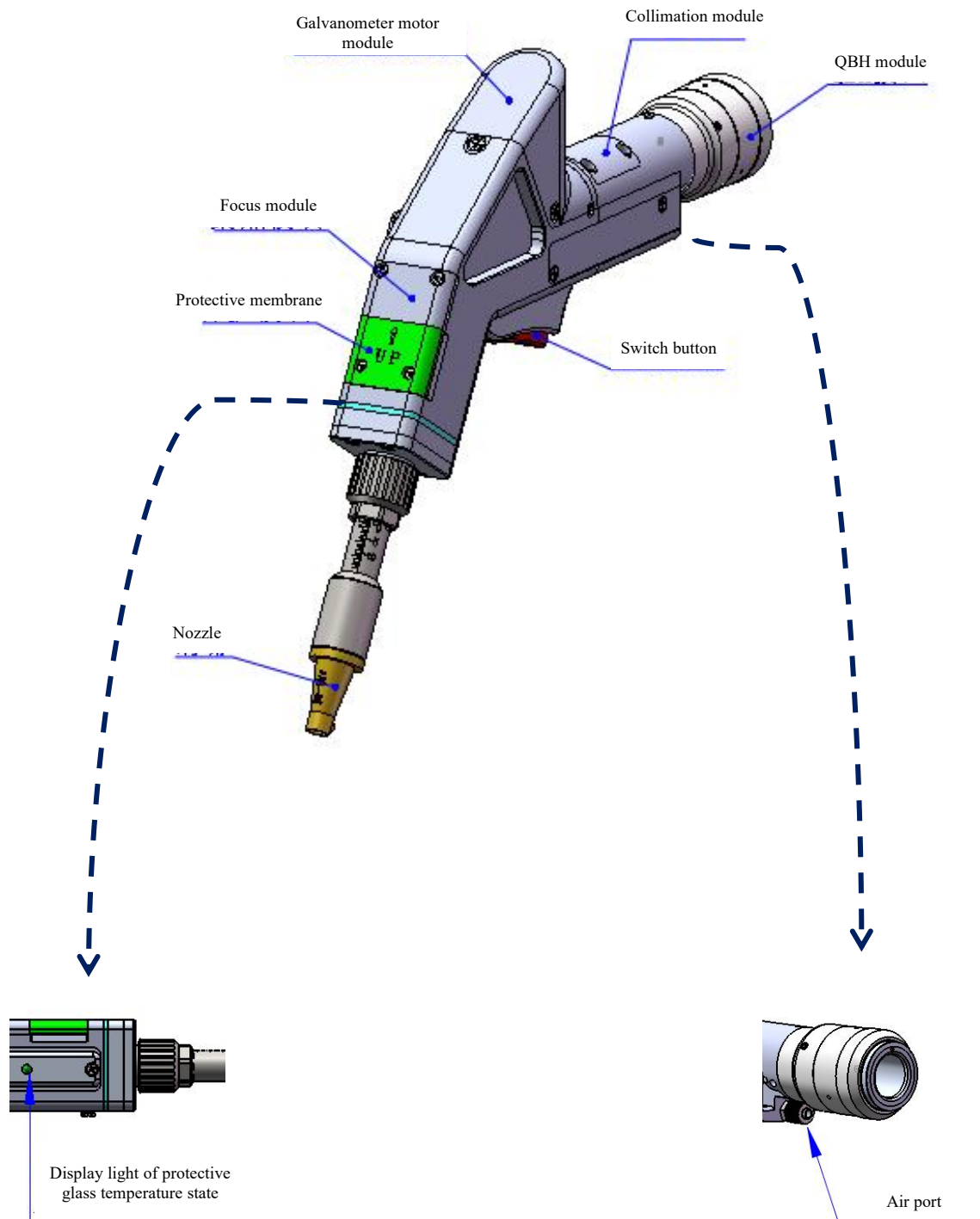
Chapter 3 Product Assembly

3.1   Tube connection

Auxiliary protective gas connection

6mm air tube (inlet)
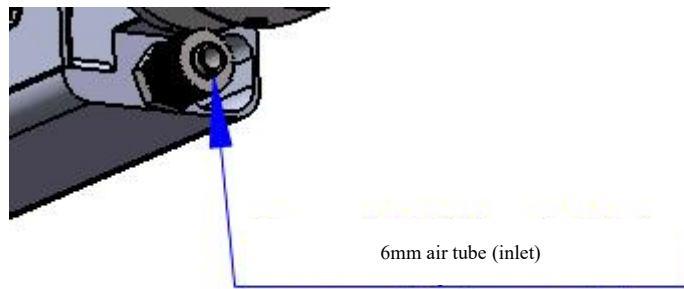
Connection between cooling water and protective gas as well as the operating requirements

Attention: commonly used gas: compressed air (It's necessary to filter oil and water)

Compressed used gas: Argon, Nitrogen and compressed air (It's necessary to filter oil and water)

3.1.1 Protective gas: connected with 6mm gas pipe. It is used for the protection of welding gas with input pressure less than 1Mpa.

3.2 Fiber input installation

Put QBH horizontally and take out the dust seal cover

Take out the
dustproof seal
cover
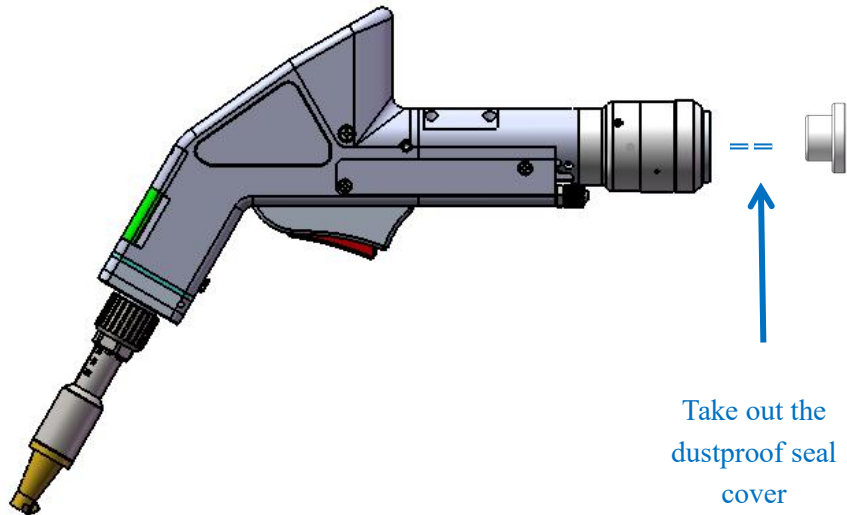
※   Align the red point on the optical fiber head with that in QBH, and insert the
optical fiber head into QBH slowly.

Insertion for installation based on

the alignment of two central red
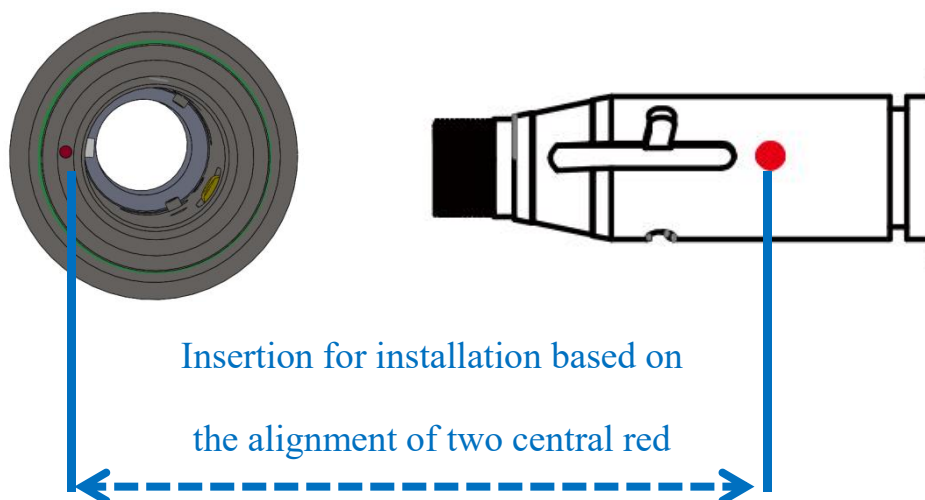
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※　　Tighten QHB to the locked state: rotate the QHB clockwise to the limit position with a "click", then lift the rotary knob up and rotate the knob clockwise again until it presses down on the optical fiber head.

Clockwise is locked

Anticlockwise is loosening

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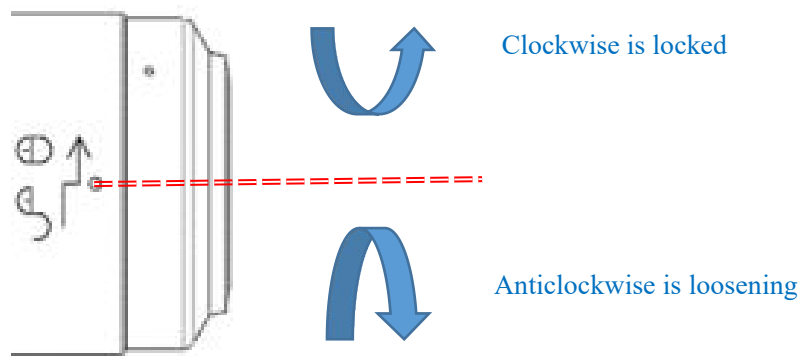
Chapter 4 Maintain

4.1 Structure of optics lens

Replaceable components should be equipped in the dust-free plant. In principle, the modules of the optical lens can't be assembled or disassembled except the drawer of protective lens. If you have to check the collimating lens, focusing lens and galvanometer lens, please disassemble them in the clean environment.

D16*F50 collimation lens

27*14*2 reflector

D20*F200 focus lens

D20*2 protective glass

D20*2 protective glass
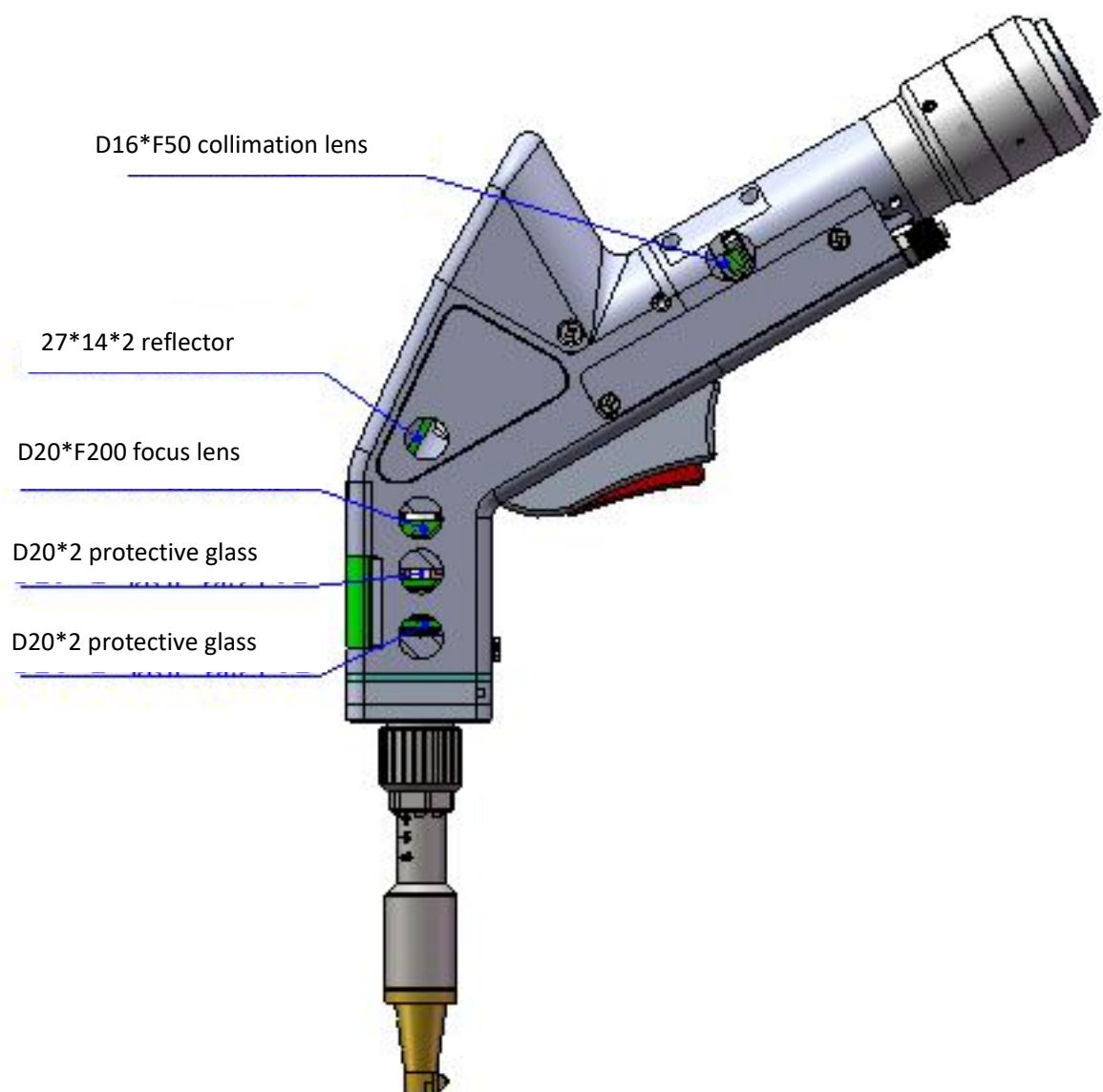
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4.2 Cleaning of optics lens

Tool: dust-free gloves or dust-free fingertips, dust-free cotton swab, isopropyl alcohol and canned dry pure compressed air.

Spray the isopropyl alcohol onto the dust-free cotton swab, make the lens face your eyes, gently pinch the side edge of the lens with the thumb and forefinger of your left hand, wipe the front and back of the lens in one direction from left to right or from top to bottom with dust-free cotton swab held in the right hand (remember not to wipe the lens back and forth to avoid the second contamination), and blow the surface of the lens with dry pure compressed air to ensure there is no dust on the lens.

Tool: 2mm inner hexagon wrench, special fixture wrench, clean cotton swab and alcohol.

The disassembly of lens should be operated with hand wearing dust-free gloves or fingertips in clean environment.
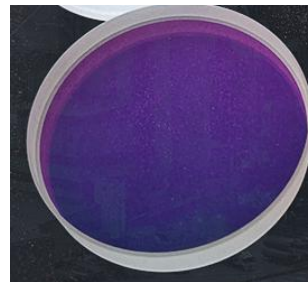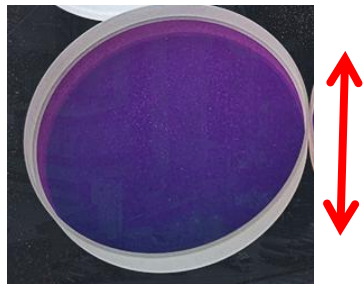
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4.3 Disassembly and assembly of optics lens

Step 1: remove all the dust on the surface of laser head

Step 2: loosen the 3-M4*6 set screw in the figure with a 2mm inner hexagon wrench.

Step 3: take out QBH module and seal the port with masking tape to stop the entry of dust into the cavity.

Step 4: use the special fixture for the disassembly of lens cone, rotate counterclockwise to loosen the locking spring ring and slowly take out the welding head download. Seal the port with masking tape to stop the entry into the cavity of dust. Change the collimating lens. (Pay attention to the position and thickness of washer because it will impact the light path. After disassembly, take a record of the thickness and size of the washer.)
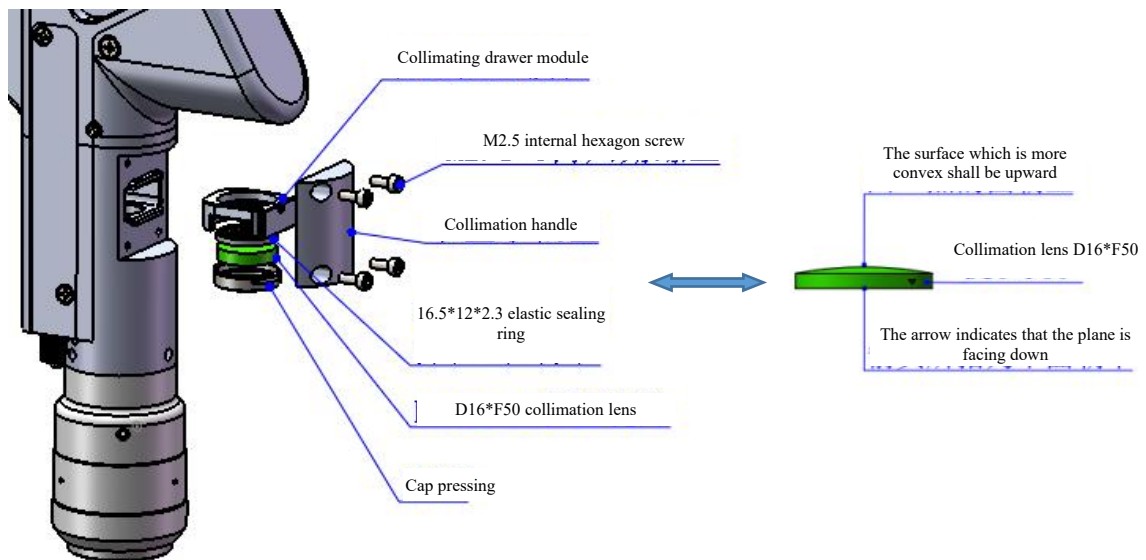
4.3.2 Disassembly and assembly of focus lens

Tools: 2mm hexagon key wrench, dust-free cotton swab, ethyl alcohol and masking tape

※ The disassembly and assembly shall be completed in a clean place. When the lens are dismounted, the dust-free gloves or dust-free fingerstall.

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※ Disassembly and assembly steps:

Step 1: Rotate it with 2mm hexagon key wrench to remove the M2.5 screw.

Step 2: Take out the focus module by direct withdrawal/pulling in the horizontal direction.

Step 3: Seal the port with textured paper to prevent the dust from entering the cavity, resulting in pollution.

Step 4: Rotate the gland for 90° after pressing it downward gently and take out the gland by two bosses aligning to left/right opening to replace the focus lens.

(Note: orientation of installed lens in the concave and convex direction)

Cap pressing

Focus lens D20"F200

20.5*16*2 3

Ehsic sealing ring

M2 5 imtewnal hecaDon screw

Focug dramtr module

Focus drawer module

The surface which is more convex shall be upward

D20*F200 focus lens
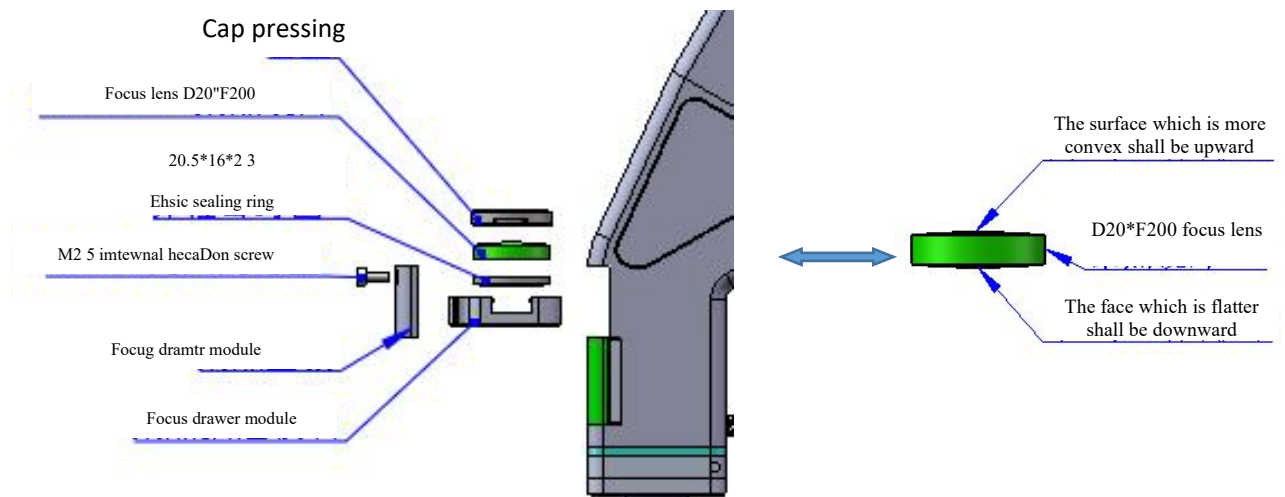
The face which is flatter shall be downward

4.3.3 Disassembly and assembly of protective glass

※ The disassembly and assembly shall be completed in a clean place. When the lens are dismounted, the dust-free gloves or dust-free fingerstall.

Operation method:

Replace the protective glass 01

Step 1: hold both sides of the handle of the green drawer module 1 with hands to draw out the protective glass in the horizontal direction. Pay attention to dust prevention and seal the exposed window on the cavity with textured paper to prevent the dust from entering the cavity, resulting in pollution, and then replace the protective glass.

Step 2: Gently press the gland down for 90° rotation, and loosen it when two lugs align to two notches to take out the gland to replace the protective glass.

Replace the protective glass 02

Step 1: Take out the green drawer handle module 1 to take out the handle module 2 in the horizontal direction. Pay attention to dust prevention and seal the exposed window on the cavity with textured paper to prevent the dust from entering the cavity, resulting in pollution, and then replace the protective glass. Gently press the gland down for 90° rotation, and loosen it when

two lugs align to two notches to take out the gland to replace the protective glass.

Giand

D20*2 proteclive glass

20.5*16*2.3 clastic sealingning

Giand

Drawer handlemodule

D20*2 proteclive glass

20.5*16*2.3 clastic sealingning

Drawer handlemodule

Draw it outhorizontally
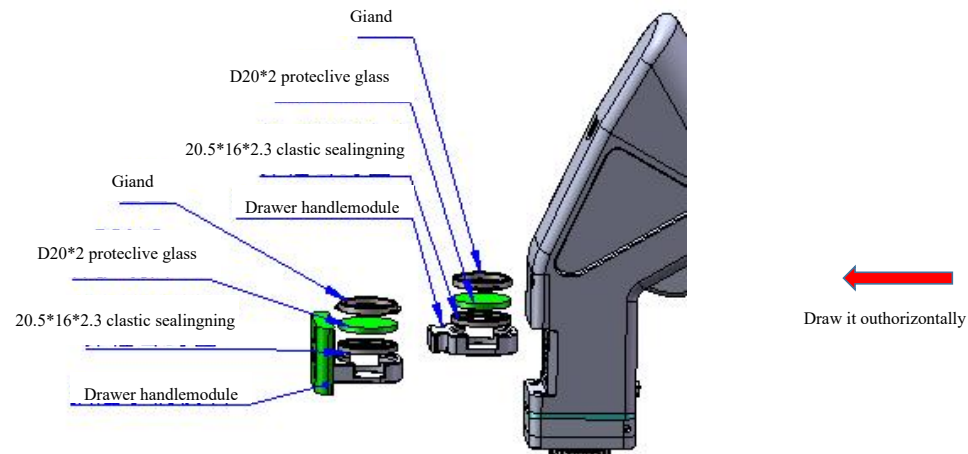
Chapter 5 Welding System

5.1Product dimension figure

5.1.1 Installation dimension of touch screen

External dimensions: (210*150*23.5) mm

The installation dimensions of the touch screen are as shown in the following figure.：

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5.1.2 Installation dimension of main board

Overall dimensions: (196.8 * 111.8 * 52) mm

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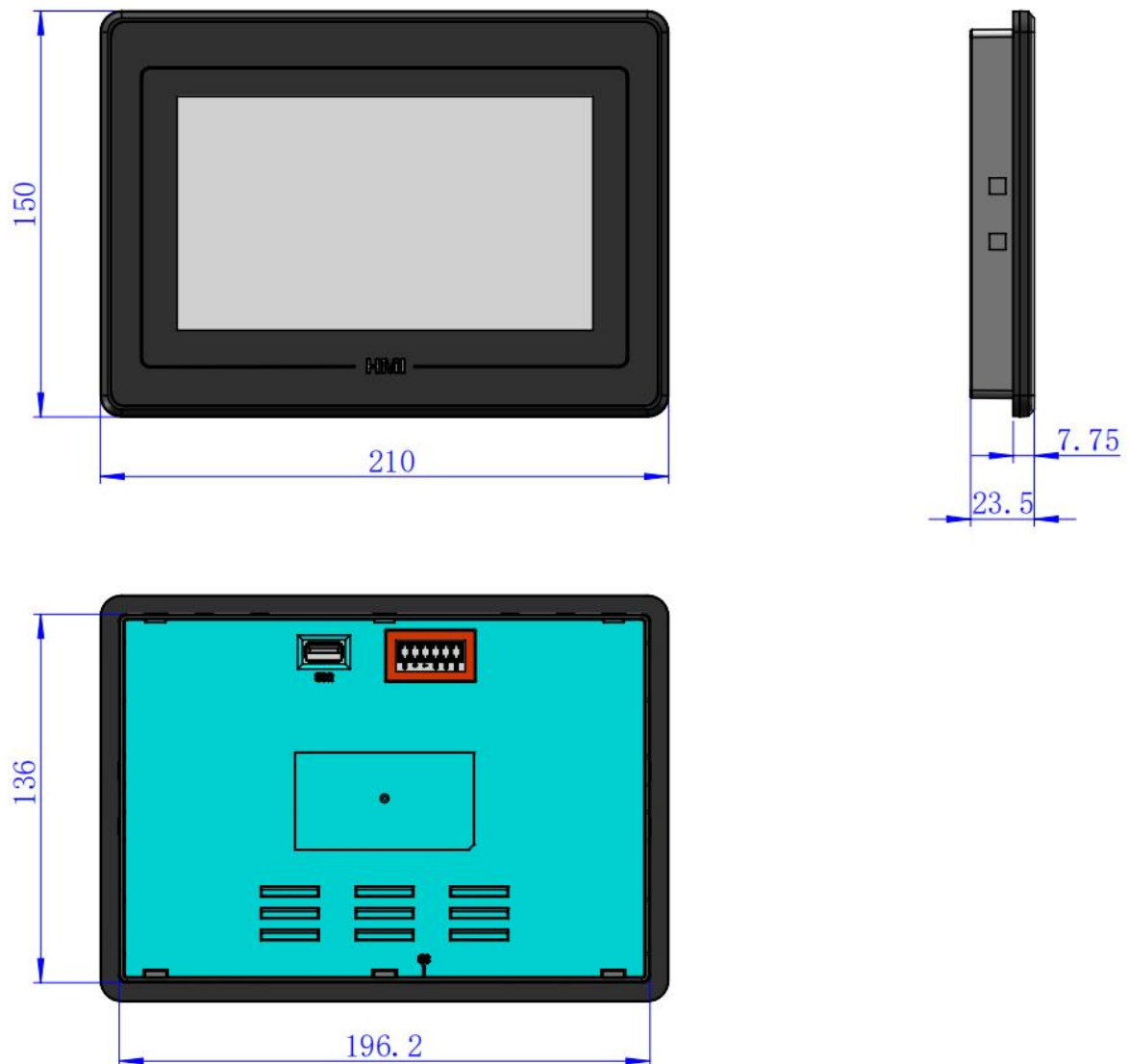
Chapter 6 Supplies

6.1 Electrical material list

List				
S/N	Name	Illustration	Quantity	Remarks
1	Intelligent pendulum air cooled hand welding head		1PCS	
2	24V power pack		1PCS	
3	15V power pack		1PCS	
4	Ground clamp component		1PCS	
5	7-inch display screen		1PCS	
6	Touchscreen 6-core connection cable - 1.5m - Black		1PCS	
7	Handheld Laser Welding System V4		1PCS	

6.2 System wiring

The following figure is a schematic diagram for wiring of the whole system. Refer to the schematic diagram for system wiring. Refer to relevant chapters for detailed interface definition.
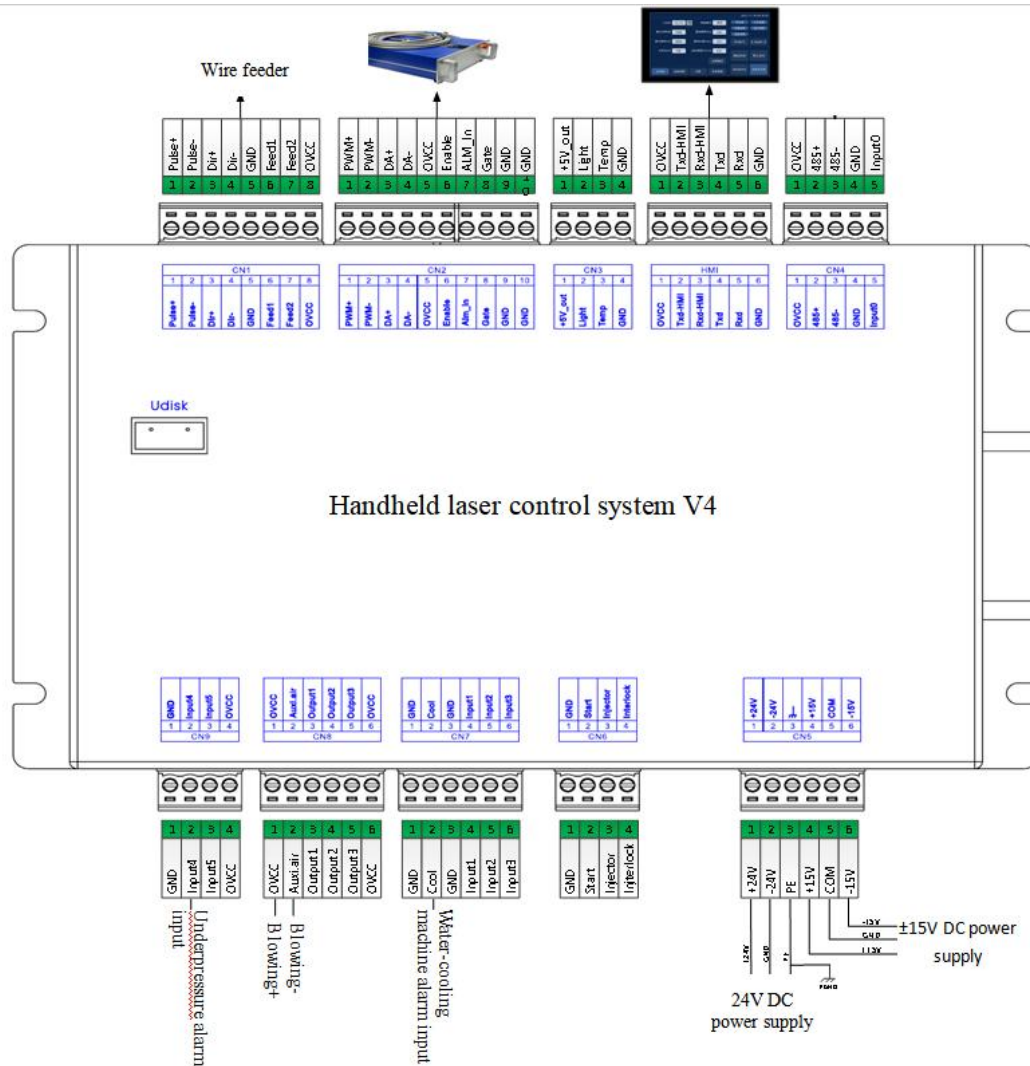
Note:
Don't connect the reserved pin in the mainboard.

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6.3 CN5 power supply interface

The power supply interface allsinto6PINgreenterminal,providing a power interface for mainboard and galvanometer externally, with voltage: DC 24V (DC 24V) and DC ±15V (DC ±15).
Table 6.3.1 shows the definition of CN5 power supply interface.

Table 6.3.1

Pin	Signal	Definition	Instruction
1	24V+	Power supply input	+24V external power input and power supply output current: above 2A
2	24V-	Power reference ground	—
3	PGND	External shielding ground	Generally connecting to ground or enclosure
4	+15V	Power supply input	+15V external power input and power supply output current: above 2A
5	GND	Power reference ground	—
6	-15V	Power supply input	-15V external power input and power supply output current: above 2A

6.4 CN1 wire feeder interface

The interface CN1 of the wire feeding machine is an 8-pin green terminal, which supports both motor wire feeding and IO wire feeding. Table 6.4.1 provides the definition of the wire feeding machine interface.

Table 6.4.1

Pin	Signal	Definition	Instruction
1	Pulse+	Motor wire feed pulse + interface	The motor wire feed is used, and the driver PUL+ is connected
2	Pulse-	Motor wire feed pulse - interface	Motor wire use, connected to drive PUL-
3	DIR+	Motor wire feed direction + interface	Motor wire wire, connected to driver Dir +
4	DIR-	Motor wire feed direction - interface	Motor wire used, connected to drive Dir-
5	GND	Reference ground	—

6	Feed	Wire feed control interface	Used for automatic wire feed of IO control wire feeder
7	Backoff	Wire withdrawal control interface	Used for automatic wire withdrawal of IO control wire feeder
8	OVCC	+24V power output	Power supply, maximum output is 500mA

6.5 CN2 laser interface

The laser interface is a 8PIN green terminal. Table 6.5.1 shows the definition of laser interface.

Table 6.5.1

Pin	Signal	Definition	Instruction
1	PWM+	Modulated signal +	Duty cycle adjustable from 1% to 99%, 24V level
2	PWM-	Modulated signal-	Duty cycle adjustable from 1% to 99%, 24V level
3	DA	Simulated voltage output	0-10V analog voltage, used for adjusting the peak power of the laser
4	GND	Power reference ground	Generally, it connects to the laser control interface DA-
5	OVCC	+24V power output	Power supply, capable of delivering a maximum output of 500mA
6	Enable	Laser enable signal	24V voltage level, with high level as the valid state
7	Alarm_in	Laser failure alarm input	—
8	GATE	Red light indication signal	24V voltage level, with low level as the active state
9	GND	Signal reference ground	—
10	GND	Signal reference ground	—

6.6 CN3 temperature sensor interface

The temperature sensor interface CN3 is a 4PIN green terminal. Table 6.6.1 shows the definition of temperature sensor. The user directly inserts the supporting connection line with terminal.

Table 6.6.1

Pin	Signal	Definition	Instruction
1	+5V_out	Sensor P interface	+5V power supply, maximum output is 500mA
2	Light	Sensor L interface	—
3	Temp	Sensor T interface	—
4	GND	Sensor G interface	—

6.7 HMI touch screen interface

The HMI interface is a 6PIN green terminal and power supply to and communication with HMI by the mainboard are performed via the port. Table 6.7.1 shows the definition of HMI interface.

Table 6.7.1

Pin	Signal	Definition	Instruction
1	OVCC	+24V power output, 500mA	Panel power supply
2	TXD_HMI	Connecting to the HMI sending end	Serial port communication TXD signal
3	RXD_HMI	Connecting to the HMI receiving end	Serial port communication RXD signal
4	TXD	Reserved communication interface	RS232 reserved communication interface
5	RXD	Reserved communication interface	RS232 reserved communication interface
4	GND	Power reference ground	—

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6.8 CN4 reserved serial port interface

CN4 reserved serial port interface is a 5-pin green terminal without wiring. Chart 6.8.1 shows the definition of CN4 interface.

Table 6.8.1

Pin	Signal	Definition	Description
1	OVCC	+24V power supply, 500mA	Power supply
2	485+	TXD signal	Serial communication TXD signal
3	485-	RXD signal	Serial communication RXD signal
4	GND	GND	—
5	Input0	Reserved input interface	

6.9 CN6 external start and interlock interface

The CN6 interface is a 4PIN green terminal. Table 6.9.1 shows the definition of CN6 interface.

Table 6.9.1

| Pin	Signal	Definition	Instruction
1	GND	Reference ground	Generally connecting to the start button switch on the welding head-
2	Start	External start switch input	Generally connecting to the start button switch on the welding head+
3	Injector	Safety clamp signal input	The pin must be connected to the safety clamp and the safety clamp shall be clamped onto the metal material before welding.
4	Interlock	Safety lock signal input	The pin must be connected to the nozzle of the handheld head. The nozzle touches the metal material at the moment of welding.

6.10 CN7 general input interface 1

The CN7 interface is a 6PIN green terminal and of NPN type. Table 6.10.1 shows the definition of CN7 interface.

Table 6.10.1

引脚	信号	定义	说明
1	GND	Reference ground	—
2	Cool	Water-cooling machine alarm input	NPN type input
3	GND	Reference ground	—
4	Input1	Reserved	NPN type input
5	Input2	Reserved	NPN type input
6	Input3	Reserved	NPN type input

6.11 CN8 general output interface

The CN8 interface is a 6-pin green terminal. By using the OC output, it can directly drive relays, with a maximum current of up to 500mA. The wiring diagram is shown in Table 6.11.1.
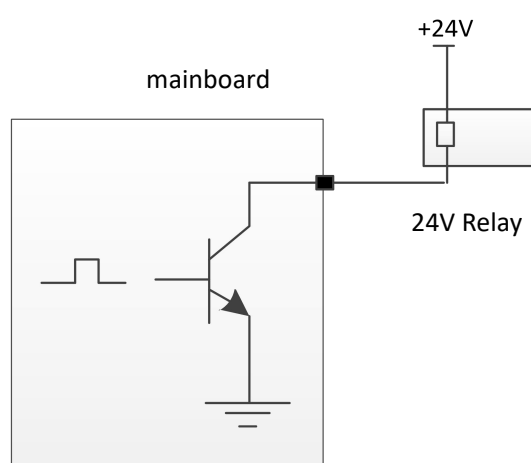
Output terminal relay wiring diagram

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Table 6.11.1

引脚	信号	定义	说明
1	OVCC	+24V power output	Power supply, capable of delivering a maximum output of 500mA
2	Auxi.air	shielding gas	Used for gas blowing control protection, it can directly drive the solenoid valve
3	Output1	retain	OC output, capable of driving relays
4	Output2	retain	OC output, capable of driving relays
5	Output3	retain	OC output, capable of driving relays
6	OVCC	+24V power output	Power supply, capable of delivering a maximum output of 500mA

6.12 CN9 common input interface 2

The CN9 interface is a 4-pin green terminal of NPN type. The definition of the CN9 interface is given in Table 6.12.1.

Table 6.12.1

Pin	Signal	Definition	Instruction
1	GND	Reference ground	—
2	Input4	Underpressure alarm input	
3	Input5	Reserved	—
4	OVCC	+24V power output	Power supply, maximum output is 500mA

6.13 Galvanometer interface

The system provides two DB9 galvanometer interfaces, one DB9 male connector and one DB9 female connector.

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Chapter 7 HMI Operating Instruction

7.1 HMI function introduction

Handheld laser welding control system operating panel ("HMI" for short) adopts a 7-inch configuration TFT touch screen with beautiful interface and convenient operation. It can set laser related parameters. On the main interface, the input and output IO status, alarm information and motion state can be displayed in real time. Refer to the following figure for the HMI main interface.

Main interface of HMI

Swing off: to set galvanometer motor swing on or off

Safety lock: to start or close the safety lock. When the lock is started, during the welding, the laser will stop when the welding head does not touch the welding material.

Automatic wire feeding off: to control whether to start automatic wire feeding during welding. It will start automatic wire feeding only when laser emits light.

Emit laser: to start emitting laser or stopping emitting laser

Alarm status area: when alarm signal enables, protective gas low pressure, cool water flow alarm, laser alarm and temperature alarm status will be displayed in real

time. When the safety lock is started, its status will be displayed in real time. When the alarm signal is not triggered, the alarm icon is blue; when it is triggered, the alarm icon is blue and red alternately.

Homepage/ Wire feeding parameter/ Diagnosis/ System parameter: to display the type of parameter on the current page. Click an icon to enter the switch of the corresponding parameter page. For instance, if the icon on the homepage turns on, the parameter in the current display area is the parameter of the homepage. When it needs to switch to wire feeding parameter, just click the position of wire feeding, and the icon of this parameter will turn on.

Blowing manually/ Wire feeder: for manual blowing test and the wire feeding and wire withdrawing tests of wire feeder. For example, long press manual blowing key, and it will blow all the time; loosen this key, and it ill stop blowing. For manual wire feeding and wire withdrawing, long press the corresponding small triangle area.

7.2 HMI operation introduction

7.2.1Parameter setting:

Parameter setting includes: Home page, System parameter, Wire feeding parameter and Diagnosis page

Home page: used to set parameters related to laser, swing and process library when welding.

Process library: click the white box area in process library. The set process library parameter can be selected.

Welding model: to set welding mode, continuous and pulse modes.

Power: to set the peak power of laser when welding

PWM frequency: used to set the frequency of laser PWM modulating signal

Duty cycle: used to set duty cycle of PWM signal with the range from 1% to 100%

Swing frequency: used to set motor swing frequency

Swing length: used to set motor swing length

Wire feeding parameter: used to set system parameter, including wire feeding, slow rise and fall parameters

Light emission time: the time that processing lasts when single point welding mode is set.

7.2.2 Point welding mode: click to enter the single point light emission mode

System parameter: used to set the basic parameters of device. Generally, the setting is performed by manufacturers. Before entering the page, users need to enter password.

System password: 666888

Pulse on time: the time to start light emission in pulse mode

Pulse off time: the time to stop light emission in pulse mode

Slow rise time: used to set the time that the laser analog voltage rises from initial power to the maximum power when it is enabled.

Slow fall time: used to set the time that laser analog voltage falls from the maximum power to initial power when it is stopped.

Light on power: used to set the initial power of laser, the percentage of welding power

Light on asymptotic time: the time to control the light on power of laser to rise slowly to the set power

Light off power: used to set the light off power of laser, the percentage of welding power

Light off asymptotic time: the time to control the light off power to fall slowly

Language: to switch language

Advance gas on delay: when starting processing, users can set gas activation delay. When the external start button is pressed, after blowing delay for some time, the laser can emit light.

Gas off delay: when stopping processing, users can set gas closure delay. When processing is stopped, stop the laser first. After delay for some time, stop gas blowing.

Automatic swing: used to set whether the galvanometer swings automatically. When automatic swing function is enabled and the safety lock is connected, But if the safety lock is not connected, make the motor not carry out automatic swing after delay for some time.

Device parameter: used to switch to the device parameter page. It requires password.

Authorization: for the authorization management of mainboard

Device number: used to set the bluetooth number of control system. When users have multiple devices, they can define the number for management.

Offset in middle: for the setting of the offset in middle of red light.

7.2.3 Wire feeding parameter: used to set parameters related to wire feeding, wire supplement and withdrawal.

Wire withdrawal speed: the wire withdrawal speed of motor when the start button is loosened.

Wire withdrawal time: the time for motor wire withdrawal

Wire supplement speed: the speed of motor wire supplement

Wire supplement time: the time for motor wire supplement

Wire feeding delay time: wire feeding after light delay for a period, generally it's 0.

Continuous wire feeding: used to change wire for the wire feeder. Click once for continuous wire feeding, click again to stop it.

Continuous wire withdrawal: used to change wire for the wire feeder. Click once for continuous wire withdrawal, click again to stop it.

Diagnosis: to monitor the IO status of current system

7.2.4 Device parameter: used to set parameters related to device

Laser rated power: used to set the rated power of laser

Maximum deflection angle of galvanometer: used to set the range of the maximum deflection angle of galvanometer.

Maximum frequency: set the maximum frequency of laser PWM signal. When

PWM frequency set by welding parameter exceeds the maximum frequency, the frequency will be limited to the maximum value.

Maximum swing length: set the maximum length during swing. When the length set by welding parameter exceeds the maximum length, the length will be limited to the maximum length.

Wire feeding step: used to set the step during motor wire feeding.

Direction of motor wire feeding: used to set the direction polarity of motor wire feeding.

Galvanometer correction coefficient: when there is a nuance in the set length and the actual length, it can be modified by this parameter. When there is no need for correction, it is usually set as 1.

Lens temperature alarm enable: enable lens temperature alarm. When the temperature exceeds the limited value, the alarm signal will be generated.

Lens temperature alarm limited value: the limited value of lens temperature

Laser alarm enable: used to enable laser alarm. When laser generates alarm, the alarm signal will be generated.

Laser alarm level: used to set laser alarm to trigger the level logic.

Water-cooling machine alarm enable: used to enable water cooling machine alarm. When the water cooling machine generates alarm, the alarm signal will be generated.

Water-cooling machine alarm level: used to set water-cooling machine alarm to trigger the level logic.

Low pressure alarm enable: used to enable gas alarm. When gas low pressure generates alarm, the alarm signal will be generated.

Low pressure level: used to set low pressure alarm to trigger the level logic.

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Chapter 8 Monitoring Protection Device

8.1Temperature parameter setting of Protective Lens

[Home Page]→[System Parameter]→[Equipment Parameter]→[Input Password: 666888] →next page→ lens temperature alarm limit value.

It is suggested to set the set value of lens temperature to 50. After the lens temperature exceeds the set value, the alarm caution will arise on the home page and the display light on the side of the handheld plumb joint will turn to red.
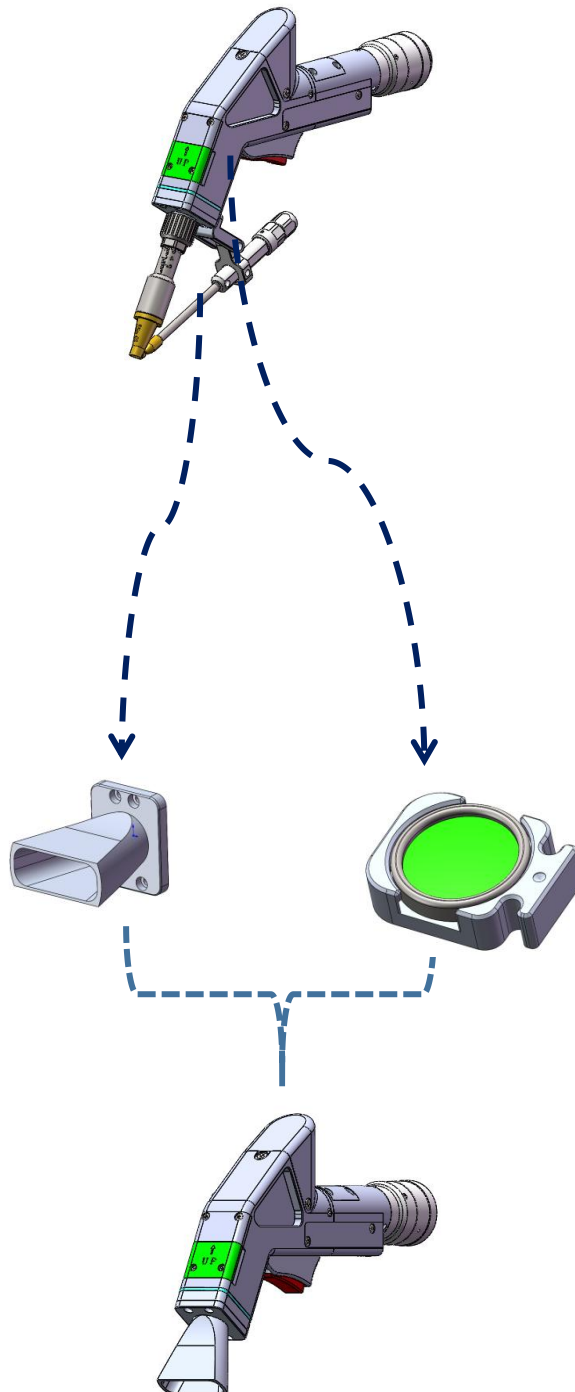
Chapter 9 Cleaning Module Replacement

9.1 The schematic diagram of the structural part replacement is as follows

9.2 Module replacement

Wire feeding bracket module: loosen the 2-M3 screw and take out the module (Figure 1)

Copper nozzle connecting part: loosen the 4-M2.5 screw and take out the module (Figure 2)
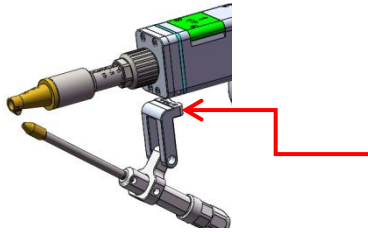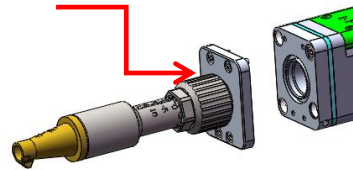
**Figure1**   **Figure2**

9.3 Assembly and Replacement

Assembly and Replacement

Outer case assembly: install them in order of 1,2 and 3.

Focusing drawer assembly: loosen 4-M2.5 screw and take out the focusing module directly. Pay attention that the side with a small dot in the middle is on the top when replacing and cleaning the focusing module. And the replaced welding focusing module should be protected from dust for easy replacement.
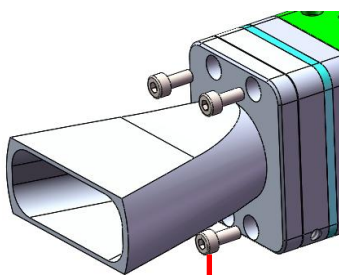
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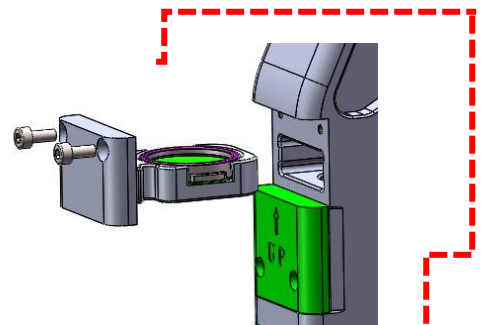
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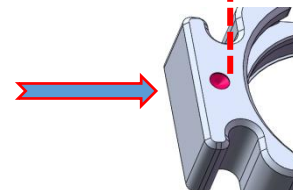
# Chapter 10 Processing Mode Switch

10.1 Select processing type

As for the welding mode switching to 110mm cleaning mode, inputting password-666666 will be reminded by clicking [Processing Type] on the panel pursuant to [System Parameter]->[Authorization]->[Processing Type]. After the password is put correctly, enter the system type selection interface, as shown in the figure:
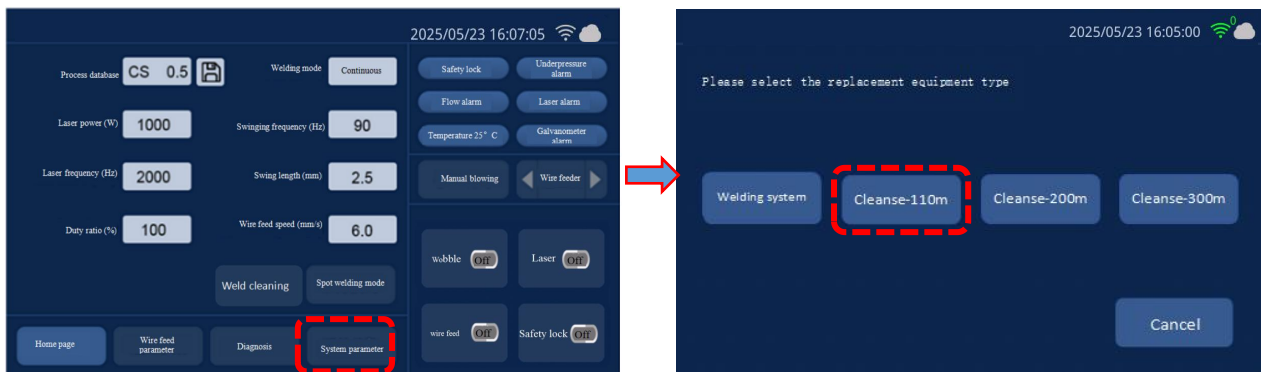
## 10.2 Hint of module replacement

After the user chooses the processing type, the system shall use the text and picture for prompting for the gun head component to be replaced. The system will remind power-on anew by clicking [Confirm] after the user confirms the corresponding hardware components and replacement conditions. The equipment is powered down by the use interface to replace the corresponding component.
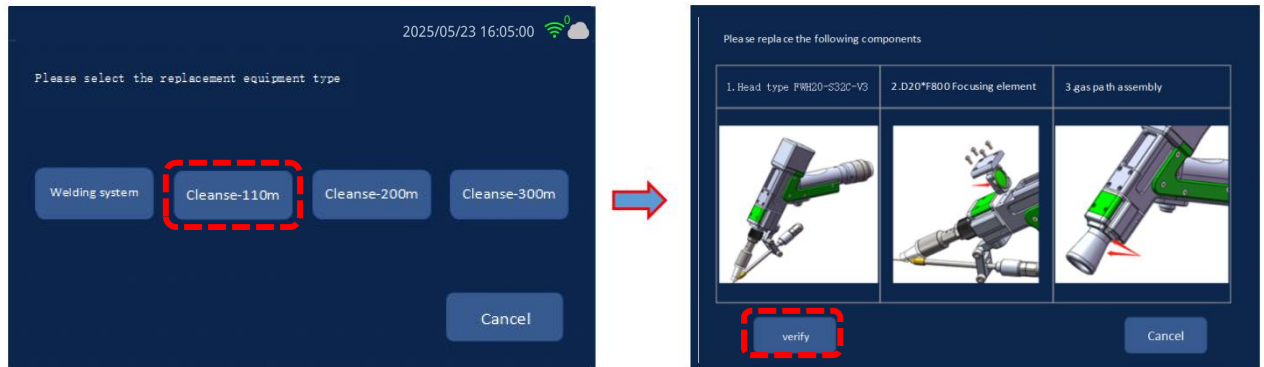
10.3 Switch completion

After the replacement of hardware component by the user is over, the equipment can be powered on anew. Whether you confirm the replacement of the hardware component will be reminded again at the moment. The user shall click [Confirm] after confirming the replacement of component is over and the system processing mode switch will be over.
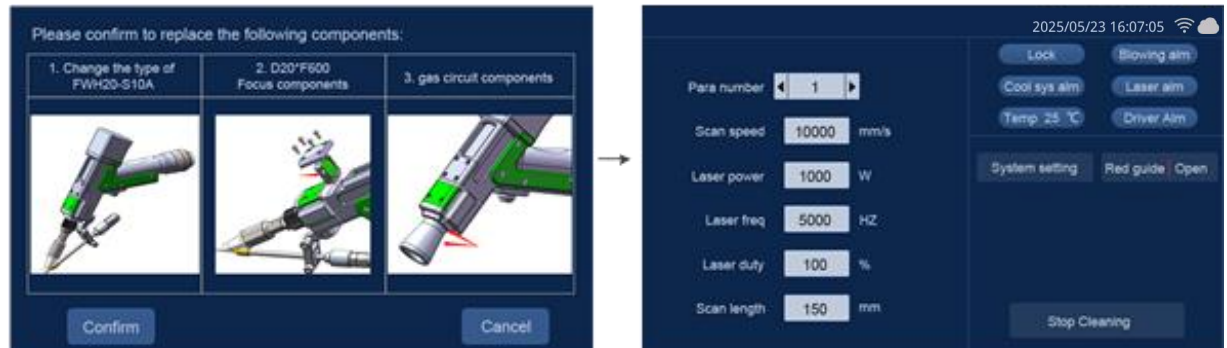
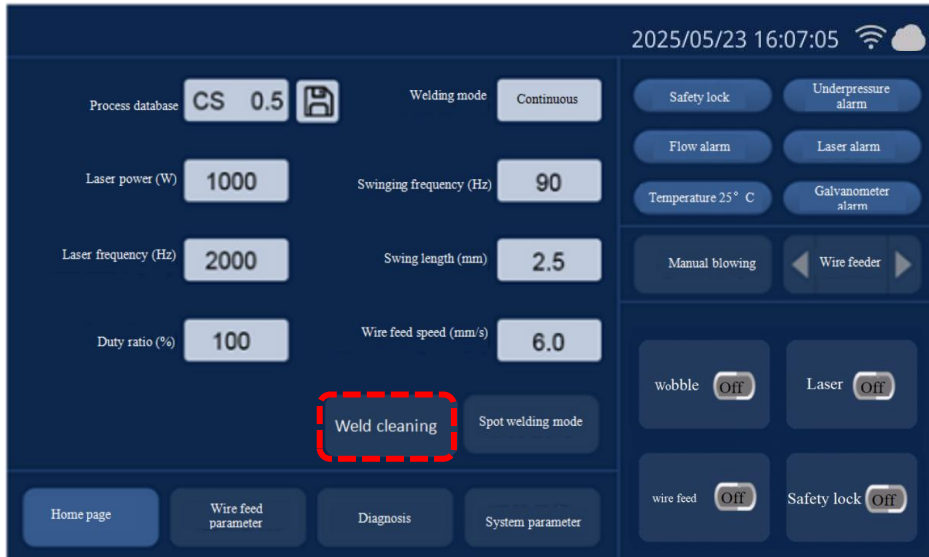# Chapter 11 Cleaning and Replacement of Weld Seams

11.1 The schematic diagram of the structural part replacement is as follows
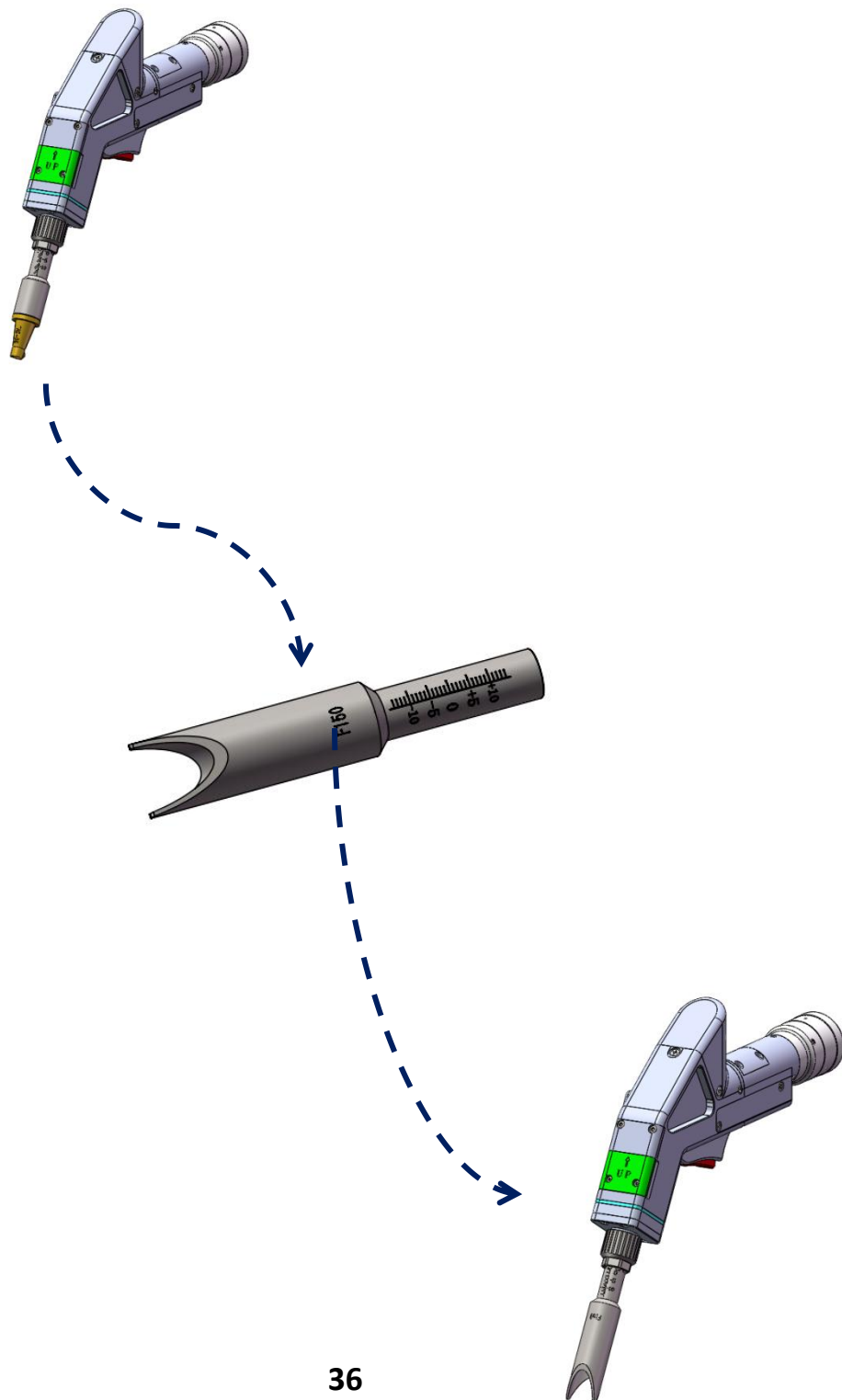
11.2 System switching

The system is easy to switch, the nozzle can be replaced, and the maximum cleaning width of welding seam is 1-12 mm.

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Chapter 12 Introduction to the APP

12.1 Function Introduction

The RDWelder mobile APP is an application suitable for remote control of handheld welding products, supporting various types of product applications such as single pendulum welding, double pendulum welding, single pendulum cleaning, and double pendulum cleaning. Users can connect the board card through this APP to achieve the purpose of wireless connection control. It can effectively solve the problem of the processing station being far from the equipment and constantly traveling back and forth. It supports remote viewing of equipment status and parameter adjustment, facilitating equipment management and maintenance. The APP also has rich technical center resources. It is provided for customers to install and maintain equipment, review process data, assist in troubleshooting, and refer to application cases.

## 12.2 Equipment connection

12.2.1 Connection mode

The handheld APP and control card support two connection modes: AP mode and STA mode.

- In AP mode, the APP is directly connected to the control card. The control card emits a WIFI hotspot signal. Customers can use mobile devices such as mobile phones to connect to the WIFI hotspot signal emitted by the control card. After the connection is completed, the board card can be controlled using the APP. Both the touchscreen and the APP use WIFI ICONS for status display.
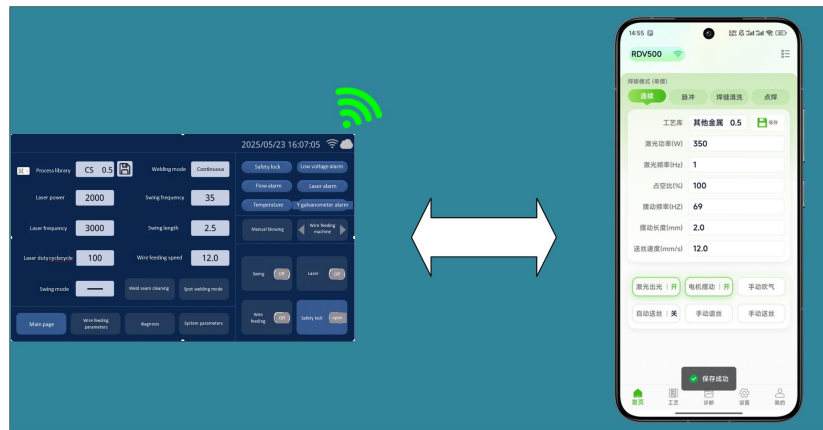
- In STA mode, the APP and the control card are connected to the cloud via the Internet. After setting the control card to STA mode, it is necessary to connect to WIFI to access the network. Access the server through traffic data to obtain the device status and perform operation control. Both the touchscreen and the APP use Internet of Things cloud ICONS for status display.
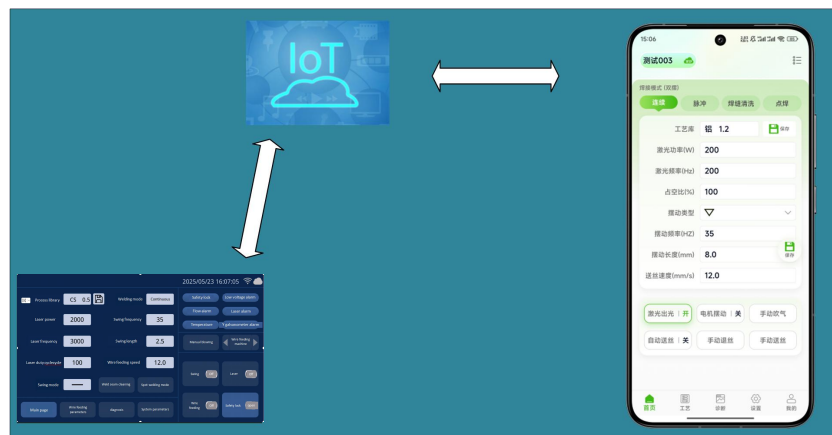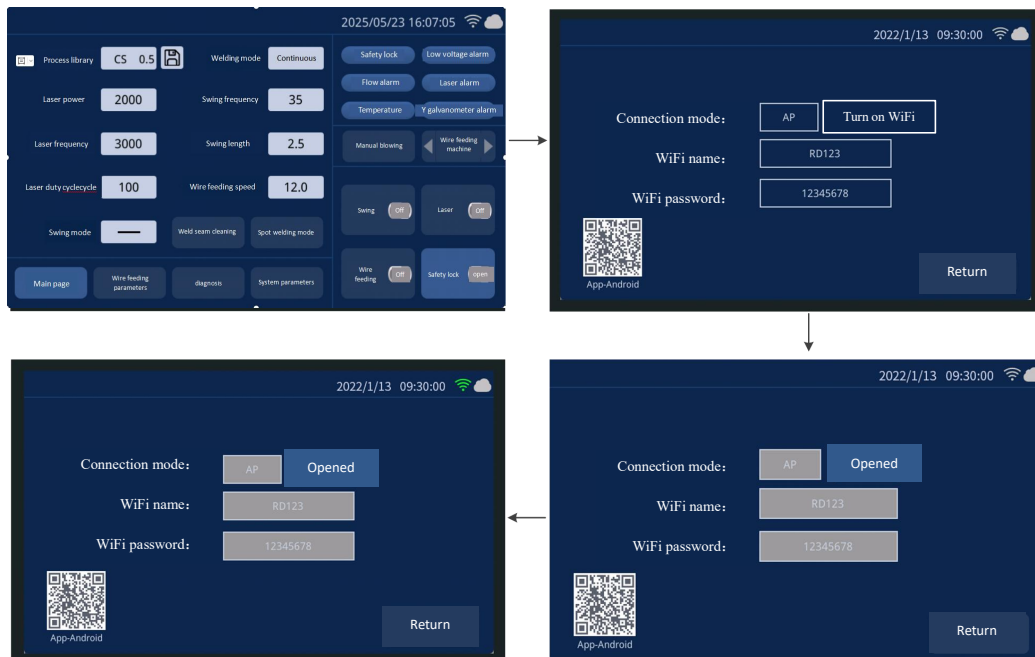

12.2.2 AP mode connection

Board card Settings：
- Click the upper right corner of the touch screen to enter the WIFI configuration page and configure the WIFI hotspot.
- Set the connection mode to AP and set the name and password of the WIFI hotspot. If the WIFI is turned on, you need to first click the ＜ Turned On ＞ button to turn off the WIFI. When the WIFI icon goes off, you will enter the configurable WIFI setting state.
- After the reconfiguration is completed, click the ＜ Turn on WIFI＞ button, and the system will turn on WIFI again.

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- After the WIFI hotspot configuration is completed, the WIFI configuration mode will be turned off, the WIFI icon will light up, and the mobile phone APP can connect to the WIFI on the board card.

APP Settings:

- Click the icon on your mobile phone to launch the APP.
- The device connection status in the upper left corner of the motor enters the ＜ Device Management ＞ page.
- Select the direct connection of the device, enter the phone Settings page to set up the WIFI connection, and connect to the WIFI hotspot of the control card.
- After the connection is completed, you can enter the APP to check that the mobile APP has been connected to the device.
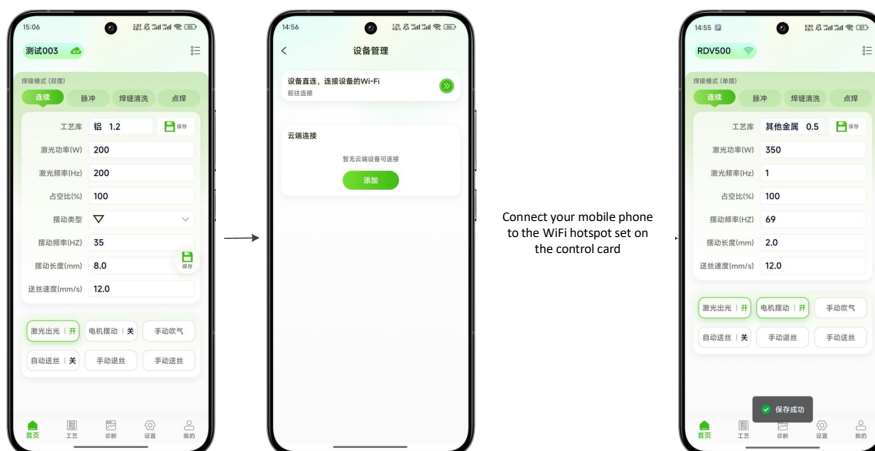

Connect your mobile phone to the WiFi hotspot set on the control card

12.2.3 STA mode connection

Board card Settings：
- Click the upper right corner of the touch screen to configure the WIFI hotspot and enter the WIFI configuration page.
- Set the connection mode to STA and connect to an external WIFI. If the WIFI is turned on, you need to first click the < Turned On > button to turn off the WIFI. When the WIFI icon goes off, you will enter the configurable WIFI setting state.
- After the configuration is completed, click the < Turn on WIFI> button, and the system will connect to an external WIFI.
- After the WIFI connection is completed, the WIFI configuration mode will be turned off, the remote icon will light up, and the device will be in an online state.
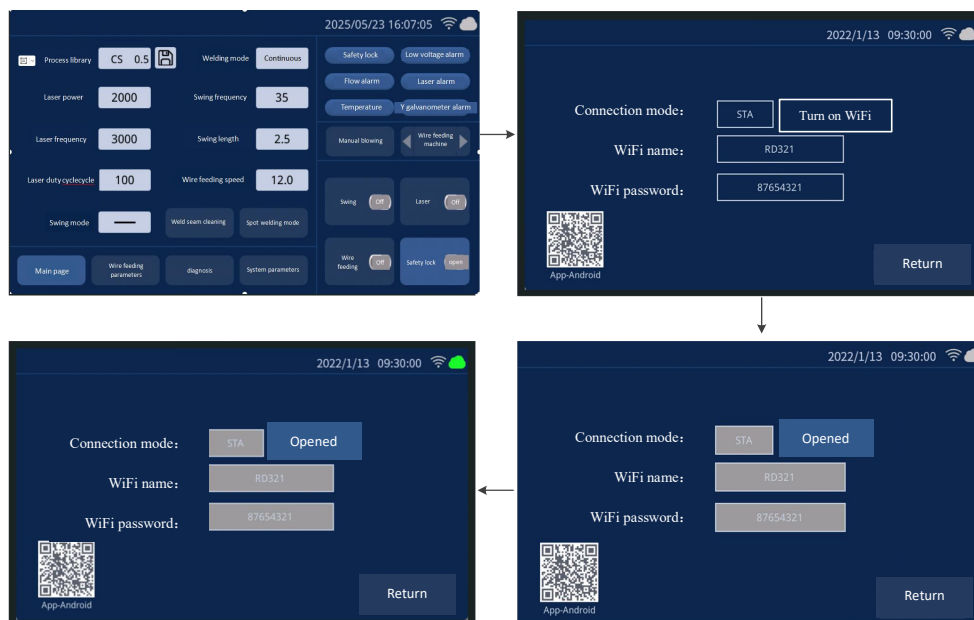
APP Settings：

Click the icon on your mobile phone to launch the APP.

The device connection status in the upper left corner of the motor enters the < Device Management > page.

You can view the added cloud devices on the device management page. The highlighted cloud logo indicates that the device is online, while the grayish-white status indicates that it is offline.

After selecting the online device, click "Connect" to complete the device connection.

Note: The STA mode requires users to register an account and then add the device serial number to their personal account before remote management can be carried out.

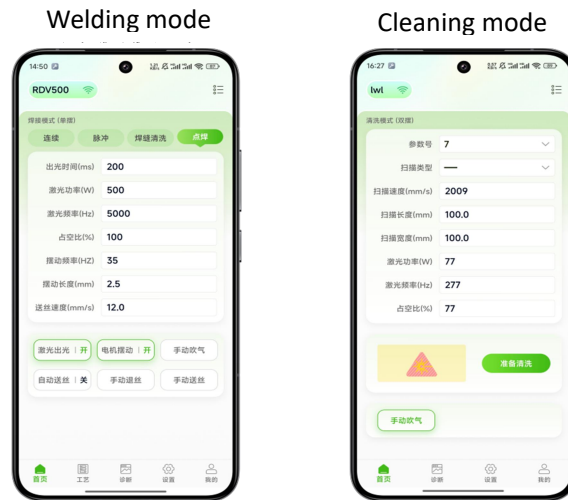## 12.3 APP download method

Android：

https://mantisolo.com/versionQrCode.html?qrform=6a7a13d4f48d72e6e 02b0b9af8e3bc13&company_code=003&platform=APP

Apple: Search for "RDWelder" in the App store

12.4 APP function

Welding mode

Cleaning mode

The RDWelder mobile APP supports single pendulum welding, single pendulum cleaning, double pendulum welding and double pendulum cleaning. After the APP is connected to the board card, it can automatically adapt to the current processing mode of the control card.

Welding mode:

[Home Page] : Supports management of process parameters, processing status, blowing adjustment, and wire feeding control. The entry to 〈 Technology Center 〉 is located in the upper right corner.

【 Process 】 : Welding process library, where users can manage process parameters.

【 Diagnosis 】 : Manage the status of the equipment, support the query of alarm records, and enable central correction.

【 Settings 】 : Go to the parameter setting page to manage ordinary setting parameters. You can enter the authorization management. After entering the password, you can manage advanced parameters.

[My] : Personal user page for managing personal information.

Cleaning mode:

[Home Page] : Supports management of process parameters, processing status, and blowing adjustment. The entry to 〈 Technology Center 〉 is located in the upper right corner.

【 Diagnosis 】 : Manage the status of the equipment, support the query of alarm records, and enable central correction.

【 Settings 】 : Go to the parameter setting page to manage ordinary setting parameters. You can enter the authorization management. After entering the password, you can manage advanced parameters.

[My] : Personal user page for managing personal information. Style.

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Chapter 13 Introduction to Wisdom Cloud

13.1 Function Introduction

The smart cloud system enables devices to access the Internet, allowing users to view the device status on the web page for remote management.

13.2 Smart Cloud Login

By visiting https://fiot.chanelink.com/ address, see page client login page, the following figure, the user account login, new user registration, password can be recovered, and so on.
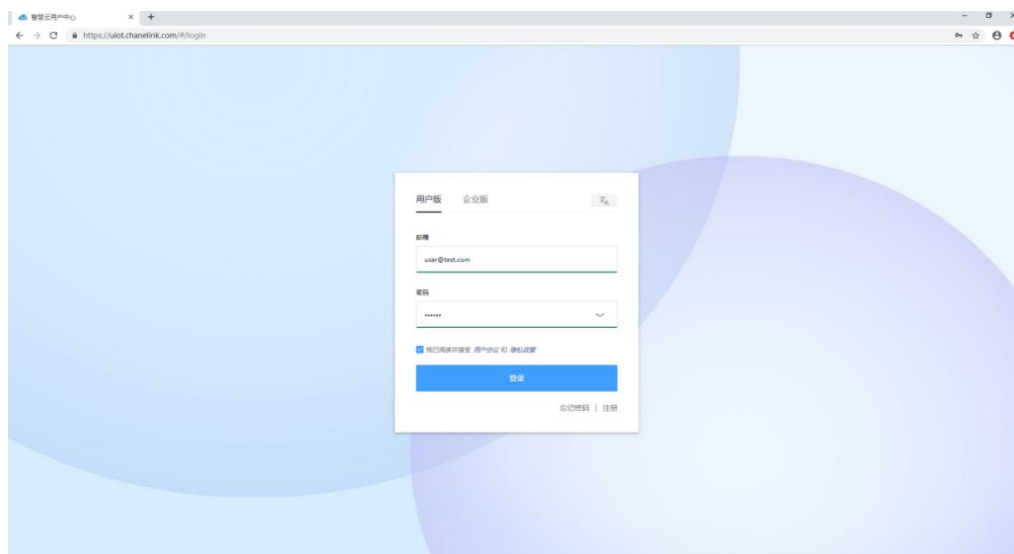
13.3 User Center

After successful login, you will be redirected to the home page of the User Center, as shown in the following figure. Users can view the added application functions, such as device management, My Profile, remote assistance, technical support, etc.
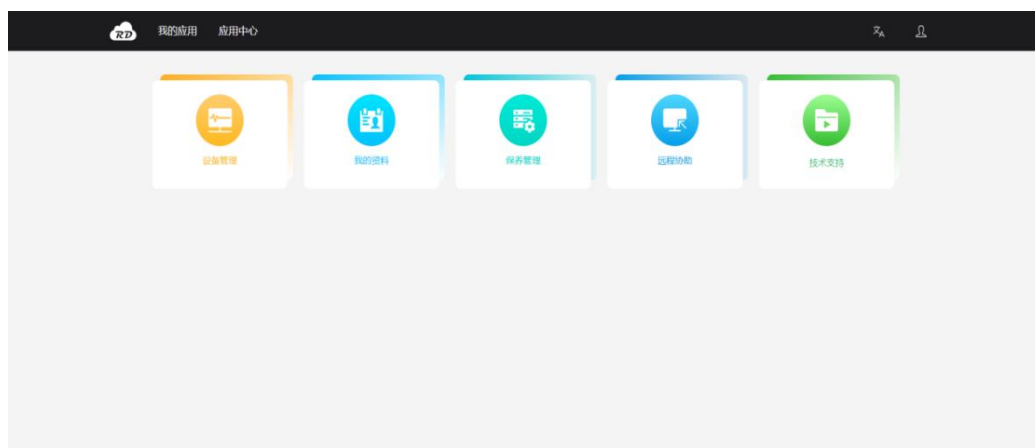
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My application, as seen in the above picture, the one added by this user, can manage the added applications.
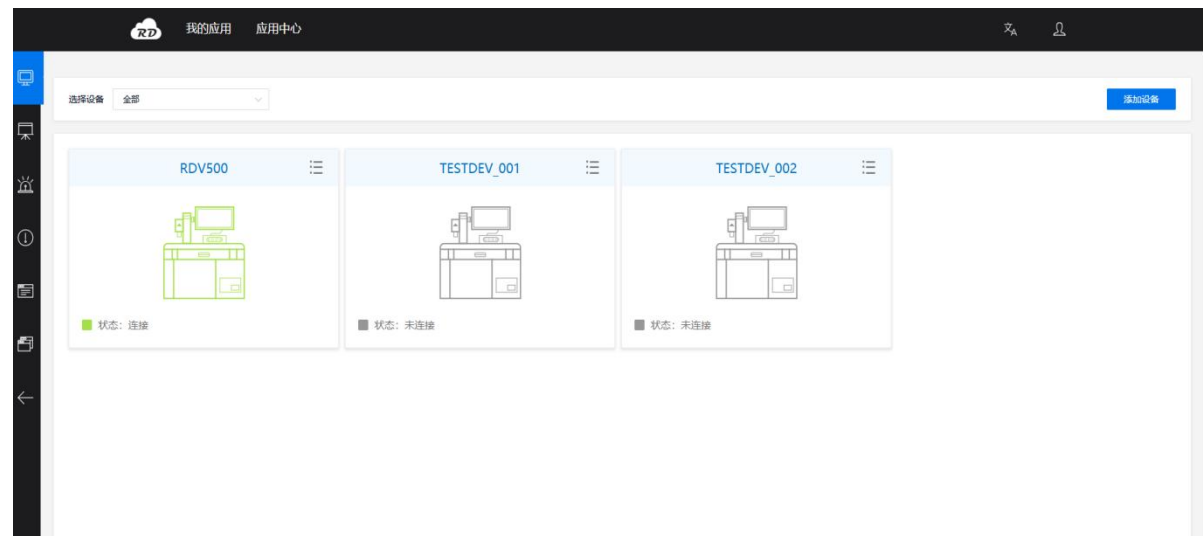Application Center, where applications can be added.
Personal information, click this button to go to my profile, you can modify person information.
Log out. Click this button to exit to the login page.

13.4 Equipment Management

In "My Applications", click on "Device Management" to jump to the "Device Management" page, as shown in the following figure.

The left side is the menu bar, which opens the device monitoring page by default.
The device nickname entered when adding the device.
The connection status of this device indicates whether the device is connected to the Internet.
Equipment operation list (expands when the mouse hovers).
The equipment operation list has the functions of editing, detailing and unbinding. The device can be edited, unbound and details viewed.
The "Add Device" button allows you to add devices to your personal account.

13.5 Remote assistance

In "My Apps", click on "Remote Assistance" to be redirected to the Remote assistance page, as shown in the following figure.

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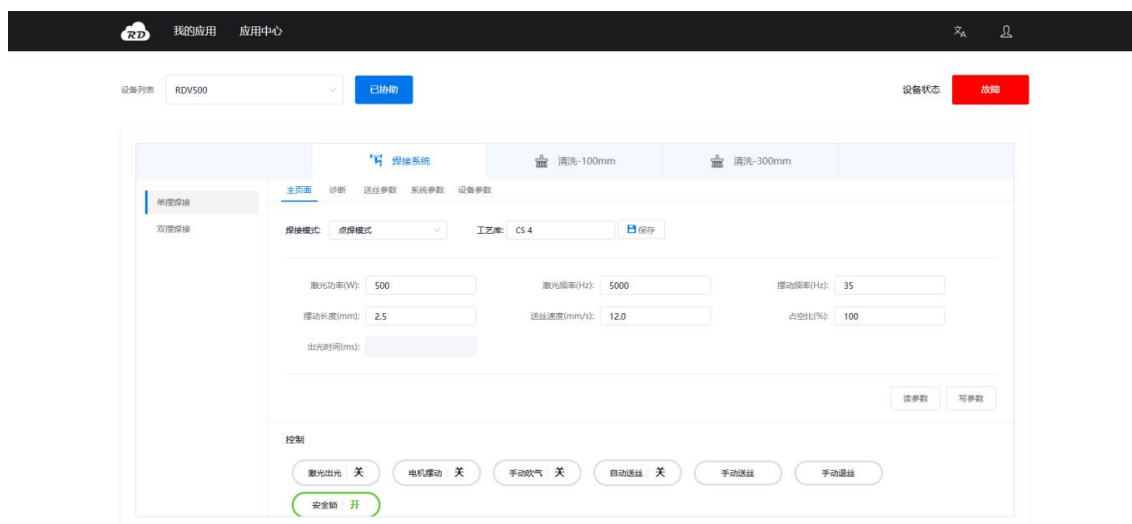
　　You can view the devices under the added personal account in the device list. After confirming the need for a remote assistance device, a remote connection can be made to check the device status and manage parameter configuration.

13.6 Technology Center

　　In "My Applications", click on "Technical Support" to be redirected to the technical support page, as shown in the following figure.
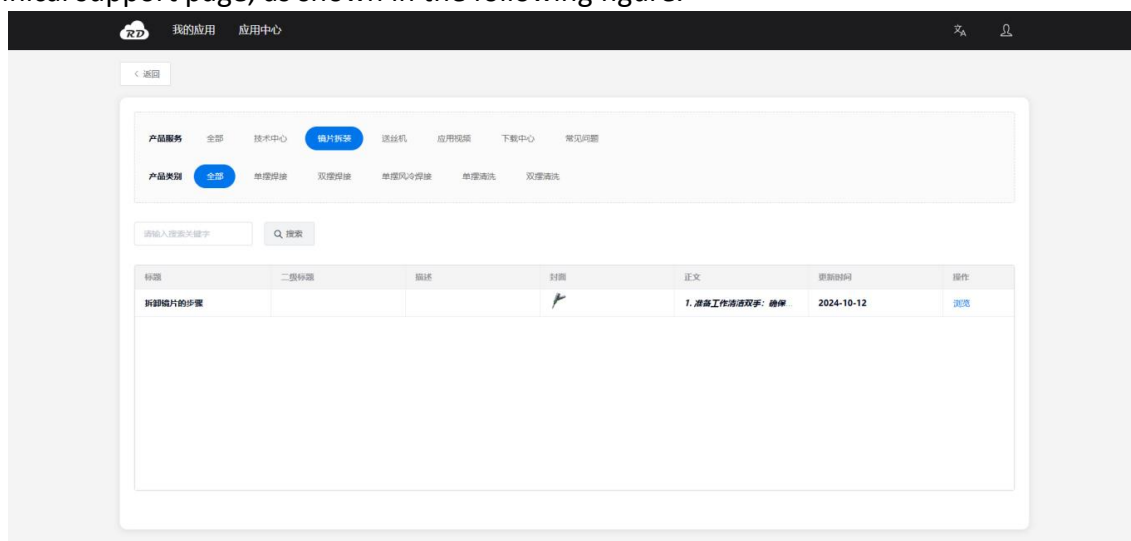
On the technical center page, you can query various product information, including downloading instruction manuals and viewing application videos in the download center.

Thanks for using our products!

Web: www.relfar.com

Tel: 0755-23143635

Address:2F, Building 7, Jiuyang Industrial Park, 57 Hexiu West Road, Baoan District, Shenzhen, Guangdong Province