YP Dental D500 Milling Machine
User Manual

Please read the user manual carefully before using it for the first time

2024-07

Yingpai Medical device (Zhengzhou) Co., Ltd

Preface

Dear user:

Thanks for choosing YP Dental's products. The company's products adopt modern design concepts, advanced manufacturing processes, high standard quality systems, and professional after-sales services, and strive to provide you with high-quality products and the best services.

This manual introduces the device parameters, installation and commissioning, operation, maintenance and troubleshooting. Please read the manual carefully before using the device to ensure that the user uses and maintains this device correctly.

YP Dental D500 is a dry-milling five-axis dental milling machine that can process various soft materials, such as zirconia, wax, resin, PMMA, PEEK, and help laboratories or clinics complete the production of various restorations such as crowns, brackets, bonded bridges, Marlon bridges, and more.

The company reserves the right to change the content of the manual without assuming any responsibility.

If you have any device related issues or parts ordering services, please call YP Dental after-sales service department. We warmly welcome your call and guarantee to provide you with service within 24 hours. To ensure efficient communication, please prepare the following information in advance:

device ID:	device model:
device use time:	Parts to order:
Description of after-sales issues:	

Maintenance checklists

D500 Maintenance checklists									
Num	**Content**	**Frequence**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Cleaning of processing chamber	Every day							
2	Cleaning of tool setting probe								
3	Cleaning of device shell								
4	Milling burs inspection								
5	Cleaning of vacuum cleaner								
6	Device calibration	Every month							
7	Internal cleaning of device	Three months							
8	Clean and lubricate the screw and guide rail								
The lifetime of milling burs is about 1500 minutes. Replace milling burs according to the actual situation									

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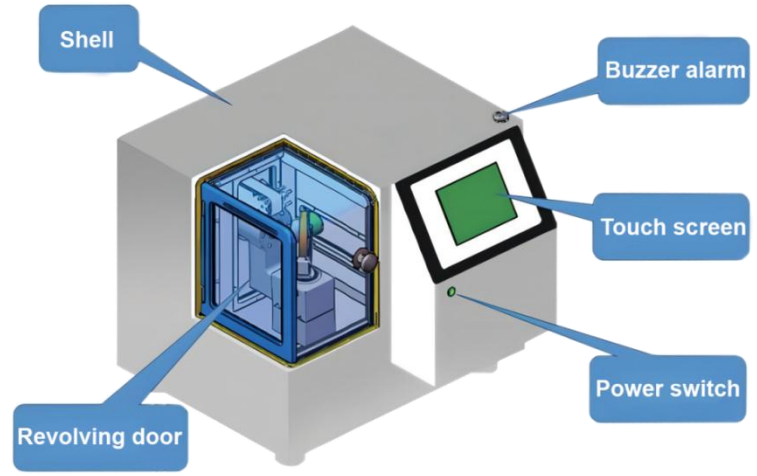
Chapter 1 Device Introduction

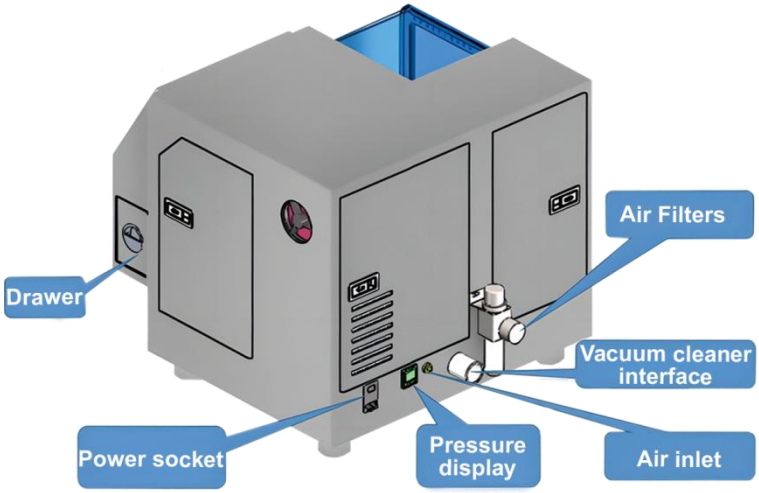
1.1 D500 milling machine introduction

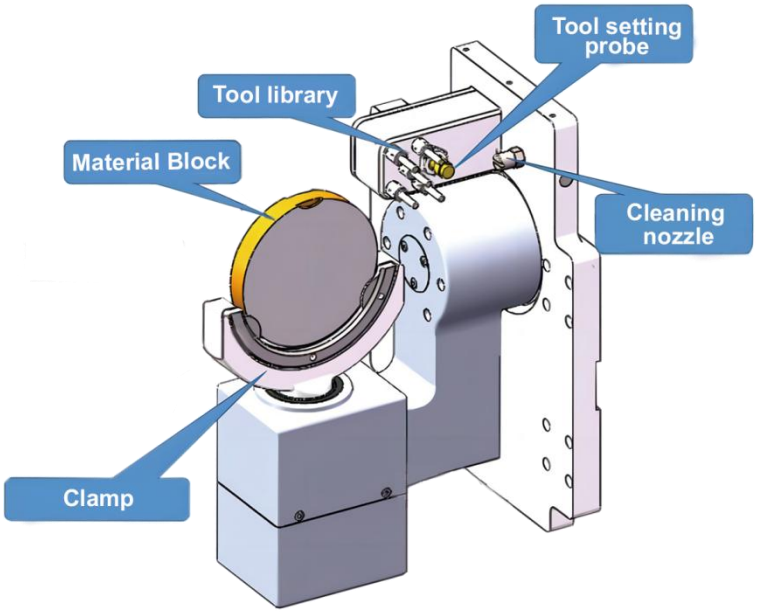
YP Dental D500 is a dry-milling five-axis simultaneous dental milling machine with a compact body and easy operation. It is equipped with a servo motor system to achieve high-precision and high-efficiency processing operations. D500 is equipped with a 40mm diameter spindle which uses an air-cooled device, three burs for milling soft materials, and a 98.5mm diameter C-clamp. It can quickly and accurately complete the processing of various dental soft materials such as zirconia, wax, resin, PMMA, PEEK, etc. Specific parameters are shown in the table below:

Device Name	YP Dental D500 Milling Machine
Device Size	580mm*570mm*520mm
Device Weight	80kg
Power Input	Single Phase AC 220V 50/60Hz 5kW
Air-pressure Input	Above 0.6Mpa
Spindle Speed	60000rpm
Spindle Power	500W
Spindle Cooling Method	Air Cooling
Five-Axis Control	Servo Motors
Processing Accuracy	Positioning accuracy: 0.01mm Repeated accuracy: 0.005mm
Rotation Axis Angle	A axis: ±25°, B axis: 360°
Clamp	98.5mm diameter C-clamp
Tool Diameter	4mm
Number of Tools	3
Tool Changing Method	Automatic tool change
Processing Method	Dry milling
Processing Materials	Zirconia, Wax, Resin, PMMA, PEEK
Processing Time	Zirconia: 8min, Wax: 3min

1.2 Device schematic diagram







Chapter 2 Device Installation

2.1 Preparation before installation

(1) Site requirements:

- The milling machine size is 580mm*570mm*520mm.
- The workbench where the device is placed can bear 200kg and there must be enough space to operate the machine.
- The area where the device is placed must be flat, clean and stable.

(2) Environmental requirements:

- The milling machine should be placed in a dry environment.
- Flammable and explosive items are not allowed to be placed around the milling machine.

(3) Power requirements:

- The milling machine uses a single-phase AC 220V 50/60Hz 10A three-plug power supply.
- The power supply voltage must be stable and must have a grounding wire (it is recommended to be equipped with a voltage stabilizer).
- The rated power of the power supply must be ≥5kW.

(4) Air requirements:

- This machine requires compressed air. User need to prepare a compressor separately.
- The total air source interface of the milling machine requires an 8mm diameter air hose, and the air pressure must be maintained above 0.6Mpa and remain stable.
- The air needs to pass through an air filter to ensure that the air is clean and dry, otherwise it will reduce the life of the device components (It is recommended that users equip a separate air drying filter).

(5) Vacuum cleaner requirements:

- This machine requires a vacuum cleaner for sucking up milling waste generated from milling.

- The vacuum cleaner must meet the following conditions: static pressure≥4kPa，air flow≥2m3/min，and the vacuum cleaner can use the included vacuum cleaner hose (45mm diameter).

(6) Software requirements:

- Users need to purchase layout software. The layout software supported by the D500 milling machine includes Work NC, Hyperdent, and Millbox (WorkNC is recommended).
- User need to prepare a computer to install layout software. The configuration requirements are:

Operating system	Win10 or Win11 (64-bit version)
Memory	16G or more
CPU	i5 10th or i7 or above
Graphics card	GTX1660 or above
Processor	quad-core or above
Hard drive	500G or more solid-state drive

2.2 Device unpacking inspection

(1) The device should not be dumped during transportation. After the device arrives at the site, check whether the outer packaging of the device is in good condition and take photos for record;

(2) Use tools to disassemble the wooden box used for packaging. Pay attention to safety when disassembling the wooden boards to avoid hitting people and milling machines;

(3) After unpacking, check whether the appearance of the device is damaged, collided, or has paint peeling;

(4) Check whether the device model meets the purchase requirements;

(5) Check the device, accessories, tools, manuals and other documents to see if they are complete and without any damage according to the device packing list;

(6) If there are any problems with the device unpacking and acceptance, please contact YP Dental in time and we will solve them for you as soon as possible;

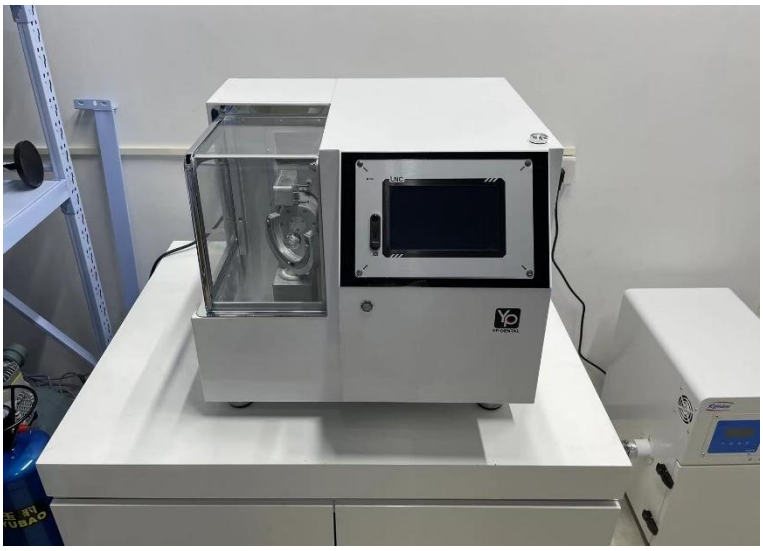
(7) After the device is unpacked and accepted, contact YP Dental in time for device installation guidance. The company has technical personnel responsible for the installation and commissioning of the device.

2.3 Device installation

2.3.1 Place the device

(1) Place the milling machine on the workbench. Unloading and placement are operations that must be performed by 4 persons or more. It is strictly forbidden to move the device shell and movable door. Instead, the device base should be moved to prevent the device from falling or bumping during the transportation process;

(2) After the device is placed, check that the device and the workbench are not in a shaking state;



2.3.2 Connect the air hose and vacuum cleaner hose

(1) Install the air filter: The filter is fixed with 2 screws, and the 8mm diameter air hose of the external air source is connected to the filter inlet [1];

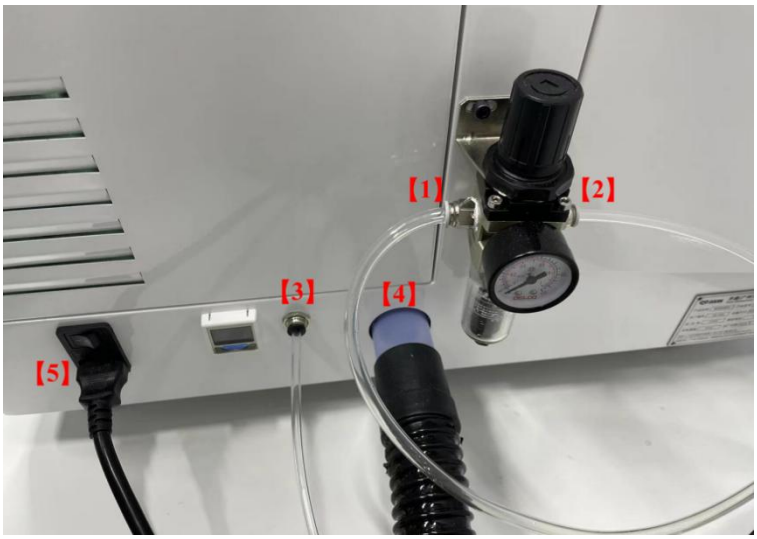
(2) Connect the air inlet hose: Use a 6mm diameter air hose to connect the filter outlet[2] and the device air inlet [3]. The air pressure must be maintained above 0.6Mpa;

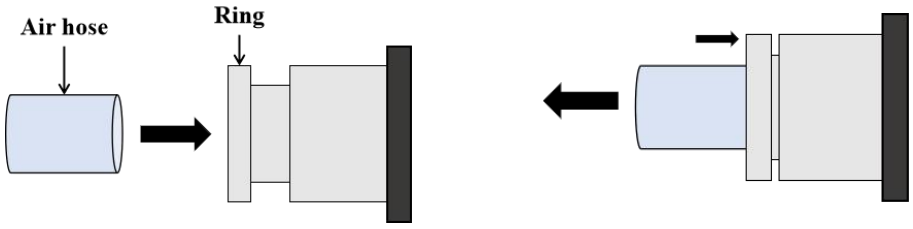
(3) Securely insert the air hose as far as it will go. Lightly tug on the hose to make sure it does not come loose;

(4) Connect the vacuum cleaner: Insert the vacuum cleaner hose into the vacuum hose interface [4] of the device;

2.3.3 Connect the power cord

(1) Connect the power cord: The power supply is single-phase AC 220V 50/60Hz. After the power cord is plugged in, turn on the power button [5]. The power supply must have a ground wire, otherwise the internal components of the device may be damaged.



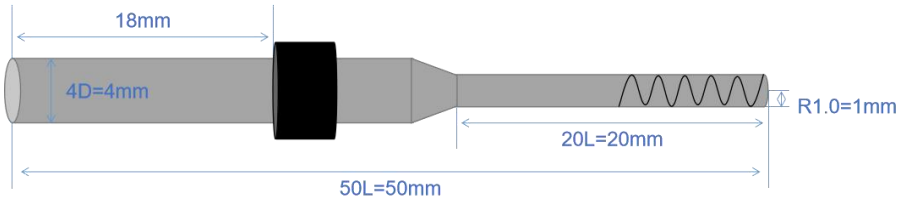


To attach: Securely insert the air hose as far as it will go

To detach: Press and hold the ring and pull out the hose.

2.3.4 Tool information confirmation

T1-T3 are positions for soft material milling burs, T4 and T5 are spare tool positions. The above tool information will be slightly adjusted in terms of related tool numbers and parameters as the process changes, and will ultimately be determined by the device manufacturer's process.



Tool NO.	Processing materials	Tool length	Clearance length	Shank diameter	Head diameter	Tool specifications
1	Soft materials	50mm	20mm	4mm	2.0mm	R1.0*20L*4D*50L
2	Soft materials	50mm	16mm	4mm	1.0mm	R0.5*16L*4D*50L
3	Soft materials	50mm	16mm	4mm	0.6mm	R0.3*16L*4D*50L
4						
5						

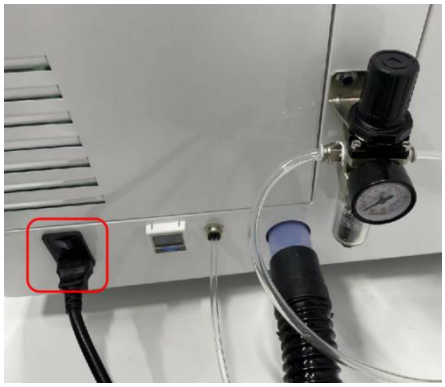
Chapter 3 Device Commissioning

3.1 Confirm the power supply

(1) Insert the triangle plug of the device into the socket, make sure the power connector on the device is firmly connected, then turn on the main power switch button;

(2) The power supply is single-phase AC 220V 50/60Hz, and the allowable voltage range is 210V-230V;

(3) Open the rear cover of the device and use a multimeter to measure the voltage of the input power supply. If the power supply voltage is unstable, a voltage stabilizer needs to be added in front of the device to prevent the device from being damaged due to voltage fluctuations.



3.2 Confirm the air pressure

(1) Check the digital pressure display, the air pressure should be more than 0.6Mpa and remain stable.

3.3 Turn on the power switch

(1) Click the power button (ON/OFF) and the boot animation appears on the screen. Wait for 2-3 minutes for the power-on process;

(2) Check whether the D500 is turned on normally and whether the lighting in the processing chamber is working properly;

(3) Open the processing chamber door and check whether the processing chamber is clean;

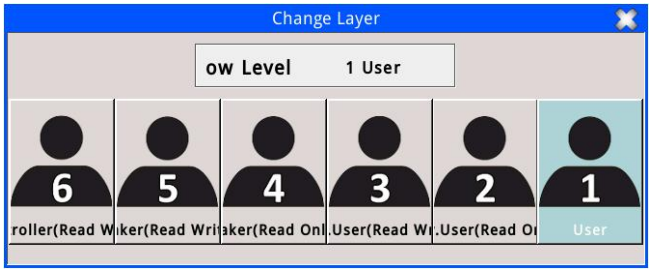
(4) Check whether each processing axis is deformed and whether there are tools or metal rod on the spindle.

3.4 Function interface introduction

Home: Click  to return to the main interface.

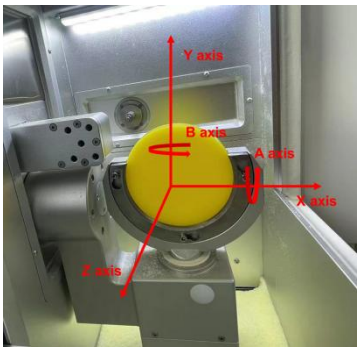
Buzzer: Switch the buzzer On/Off.

Setting: Switch user level. Users typically use level 1, while other levels are reserved for engineers to debug the machine.



File Name: Display the NC file that the device is ready to run or currently running. The device can only recognize the NC file.

Object's Coordinate: Displaying the current coordinates of each axis during the operation of the device, with five axes including linear axes X, Y, Z, and rotary axes A, B, where axis A rotates around the X-axis and axis B rotates around the Y-axis.



Tool No.: Display the current tool number.

Time: Indicates the time already processed.

Upload: Upload the NC file for processing work.

Start: Start the machining program.

Stop: Stop the machining program and the spindle will halt as well. Clicking【Start】will restart the machining process from the beginning of the program.

Pause: Pause the machining program and the spindle keeps rotating. Clicking【Start】will continue the machining process.

Point: The clamp and spindle return to the safe position for easy loading and unloading of the material tray..

Release: To control the clamping force of the spindle chuck. Press and hold【Release】to open the chuck, allowing for the installation or removal of tools. Releasing【Release】will close the spindle chuck.

Progress bar: Display the completed processing progress in percentage form.

Next page: Click  go to the next page.

Previous page: Click  go to the previous page.

Calibration: Advanced calibration function of the device.

Authorization: Authorization information of the device.

Tool life: Display the usage time of each tool in the form of a progress bar.

3.5 Remove the spindle metal protection rod

(1) When the device is shipped, there is a metal rod inside the spindle to protect the spindle. The metal rod needs to be manually removed for the first use;

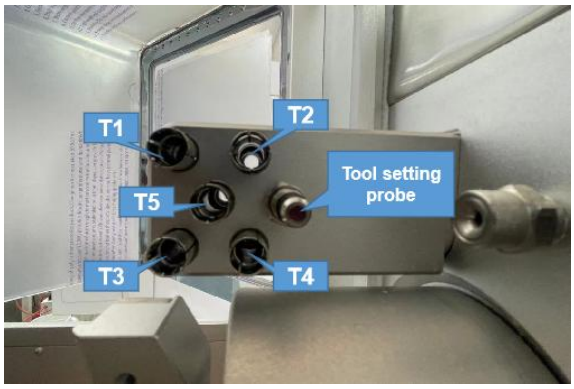
(2) Hold the metal rod with left hand to prevent it from falling, long press the 【Release】with right hand to open the spindle chuck, remove the metal rod, and then release the【Release】to close the spindle chuck.

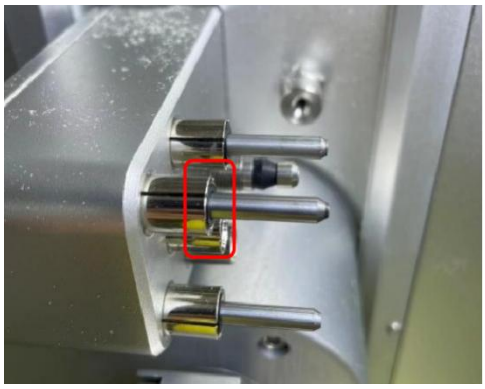
3.6 Install tools

(1) Install the tools to the corresponding positions of the tool library according to the tool number. Make sure that the number of each tool is consistent with the tool library number. If the tool is placed in the wrong position, it will break during processing;

(2) The installation depth of the tool is shown in the figure, and the black positioning ring is kept flush with the edge of the tool holder.

Tool NO.	Processing materials	Tool length	Clearance length	Shank diameter	Head diameter	Tool specifications
1	Soft materials	50mm	20mm	4mm	2.0mm	R1.0*20L*4D*50L
2	Soft materials	50mm	16mm	4mm	1.0mm	R0.5*16L*4D*50L
3	Soft materials	50mm	16mm	4mm	0.6mm	R0.3*16L*4D*50L
4						
5						





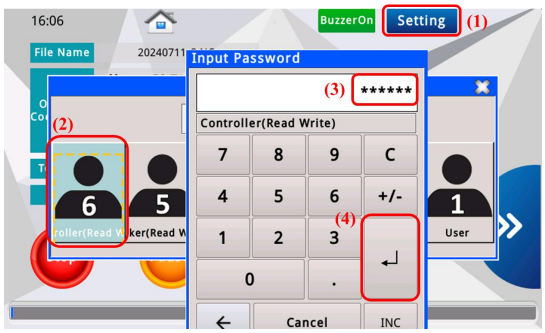
3.7 Tool life setting

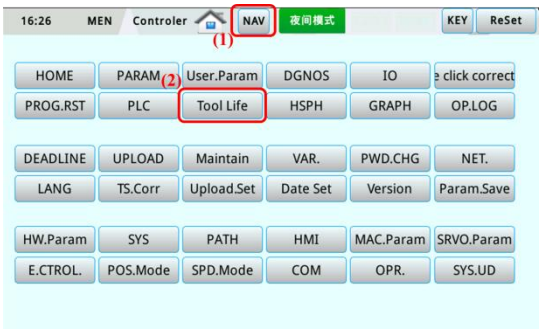
(1) Click【Setting】, the system will popup the change layer interface, select【Level 6】(password: 123321) and click the【Enter】;

(2) Click【NAV】to enter the navigation interface, click【Tool Life】, and enter the tool life setting interface;

(3) Click【R】in sequence to reset the current life of the tool, then enter the life of each tool under 【Maximum Life】, click【Enter】, and the tool life setting is completed;

(4) Select【Supplier】, enter the user levels switching interface, select【Level1】(no password), and click Confirm.





Chapter 4 Milling Process

4.1 Turn on the device and vacuum cleaner

(1) After the device commissioning is completed, click the power button (On/Off) to enter the startup process. Wait for 1-2 minutes during the startup process;

(2) Check the air pressure display on the back of the device, and the gas pressure should be maintained above 0.6Mpa;

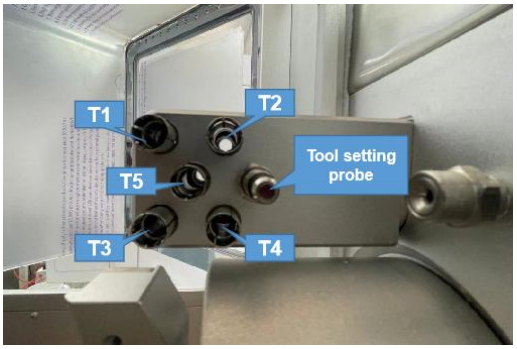
(3) D500 milling machine needs to be connected to a vacuum cleaner during operation. Turn on the vacuum cleaner switch, and confirm that the vacuum cleaner is working properly;

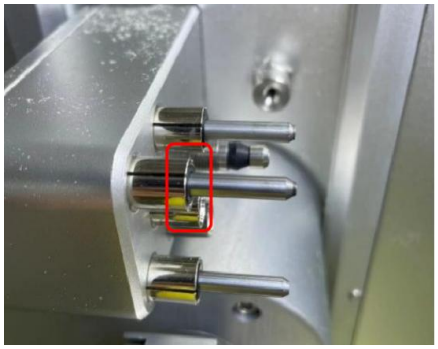
(4) Clean the inside of the processing chamber to ensure it is clean and dry.

4.2 Check the tool

(1) The milling burs for soft materials are T1, T2, and T3. Check whether the milling burs number is consistent with the tool number. The milling burs specifications and corresponding tool numbers are shown in the following table.

(2) When installing milling burs, ensure that milling burs is parallel to the tool holder and the black positioning ring is flush with the edge of the tool holder.





Tool NO.	Processing materials	Tool length	Clearance length	Shank diameter	Head diameter	Tool specifications
1	Soft materials	50mm	20mm	4mm	2.0mm	R1.0*20L*4D*50L
2	Soft materials	50mm	16mm	4mm	1.0mm	R0.5*16L*4D*50L
3	Soft materials	50mm	16mm	4mm	0.6mm	R0.3*16L*4D*50L

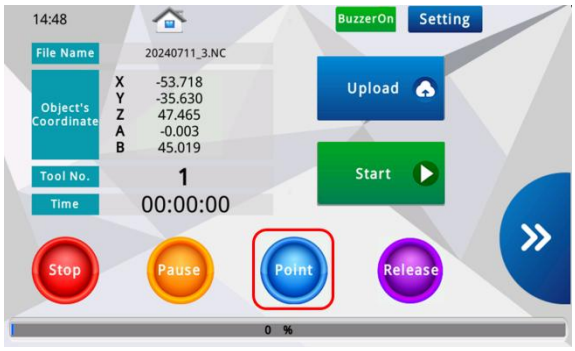
4.3 Install material tray

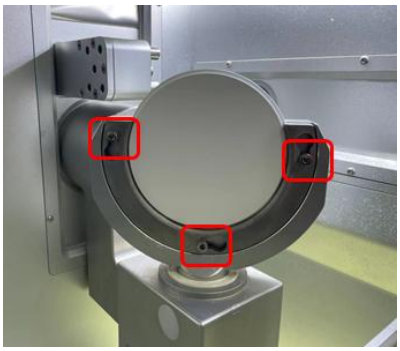
(1) D500 clamp supports the installation of circular trays with a diameter of 98mm or 98.5mm;

(2) Click【Point】and wait for the clamp and spindle to return to the safe position;

(3) When installing the material tray, the edge of the fixing ring should be flush. Tighten the three bolts using an hex key in a crisscross pattern to ensure even force distribution and prevent the tray from tilting due to uneven force.

(4) Close the processing chamber door.



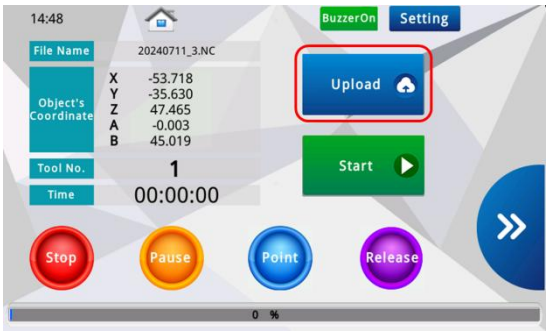


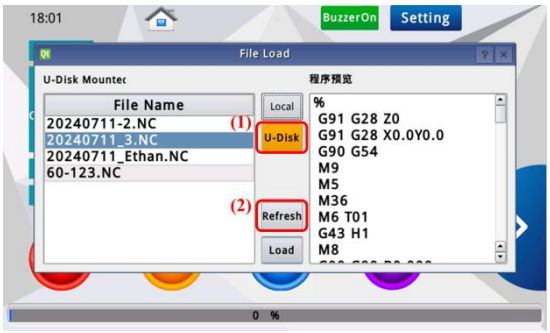
4.4 Load NC program using USB flash drive

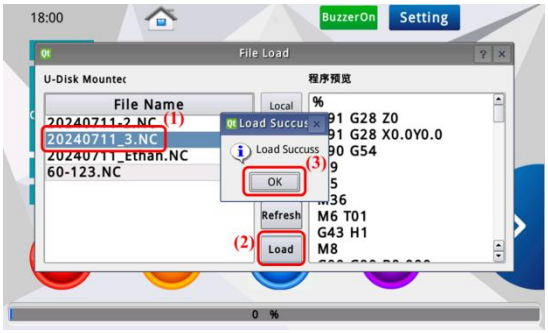
(1) Copy the NC program generated by layout software to the USB flash drive (The file name cannot contain special symbols, and the file name should not exceed 20 characters). Insert the USB flash drive into the USB port of the device;

(2) Click the【Upload】to enter the program loading interface, select【U-Disk】, click【Refresh】, the interface will display the NC files stored in the USB flash drive (It is recommended that the number of NC files stored in the USB flash drive should not exceed 10, and the total memory should not exceed 200MB).

(3) Select the NC program to be processed, click【Load】, click【OK】in the pop-up window, return to the main interface, and the program loading is complete;







4.5 Start the processing program

(1) Check the NC program name on the main interface to ensure that the program name is the same as the device loading name. Unplug the USB flash drive;

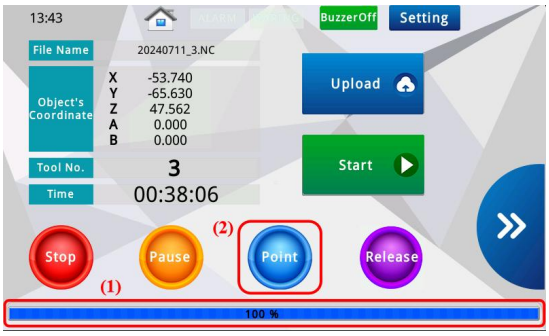
(2) Click【Start】, the program starts running, and the device starts working;

(3) The processing time and processing progress of the program can be observed on the main interface.

4.6 Disassemble material tray

(1) When the processing is completed, the spindle will return to the safe position and stop rotating. Confirm that the processing progress on the main interface shows 100%.

(2) Click【Point】, wait for the clamp to return to the safe position, use a hex key to loosen the three retaining screws and then remove the material tray.



4.7 Pause Processing

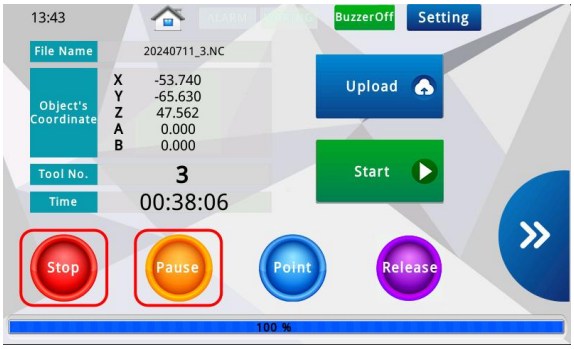
(1) When the device is running, click【Pause】, the device will pause processing, and the spindle will continue to rotate;

(2) Click【Start】, the program will continue processing from the pause line;

4.8 Stop Processing

(1) When the device is running, click【Stop】, the program will stop processing and the spindle will stop rotating;

(2) Click【Start】, the program will restart processing.



4.9 Precautions for use

(1) Use materials allowed by the device for layout and processing.

(2) Use the burs that have been tested and qualified by the manufacturer, and place them in the corresponding tool library.

(3) Do not use materials that do not match the size of the fixture (Fixture size: 98.5mm diameter disk).

(4) Utilize software or strategies that have been tested for stability by the manufacturer for layout and processing.

(5) Avoid using USB flash drives with viruses for file transfer; regularly disinfect USB drives.

(6) Do not reach into the processing chamber during equipment operation for any reason.

(7) In case of an emergency during equipment operation, press the "Stop" button on the main interface immediately.

Chapter 5 Useful Functions

5.1 Continue Processing after Tool Breakage

The life of D500 milling burs is about 1500 minutes. If milling burs are not replaced in time, it will cause damage during the processing. During the processing, if the program stops due to a broken tool or a tool detection alarm, D500 supports resuming the processing. In order to ensure the integrity of tool processing, the continued processing after the tool breaks needs to start from the starting line of the broken tool. The specific operation steps are as follows;

(1) First confirm the damaged tool number. Let's take T02 as an example. It is found that the T02 tool is damaged during the program processing;

(2) Click【Pause】and then click【Stop】in sequence to wait for the spindle to stop rotating. Click【Point】and wait for the clamp and spindle to return to the safe position. Remember not to move the workpiece;

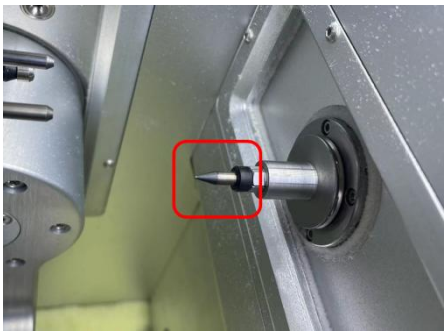
(3) Manually replace the damaged tool and install it in the position before the tool (in the case of tool breakage, the tool will usually remain on the spindle), and check that the main interface【Tool No.】is 2;

(4) Use an air gun to purge the workpiece to prevent the broken tool from remaining in the workpiece and causing the new tool to break during continued processing;

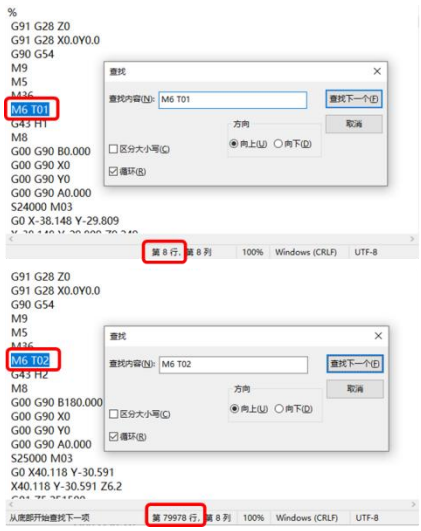
(5) Find the running NC file (Such as "*20240711_3.NC*") and open it with Notepad. By searching the NC file, it is found that the T01 tool starts processing from line 8 and the T02 tool starts processing from line 79978.

(6) Use Notepad software to delete the content from the first tool start processing line to the line before the broken tool start processing line (Delete from line 8 to line 79977), and save the file as "*20240711_3-1*";

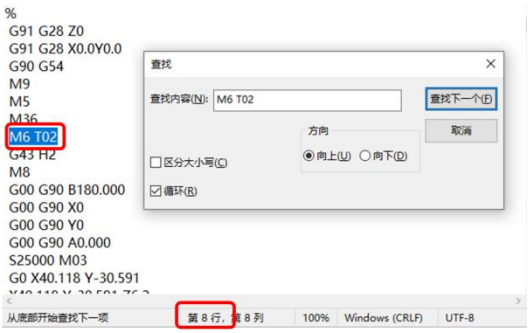
(7) Reload the new saved file "*20240711_3-1*" and click【Start】. The device will start processing from the T02 tool path.




17:13
BuzzerOff
Setting
File Name
20240711_3.NC
(5)
Object's Coordinate
X 3.680
Y -28.637
Z 2.500
A 0.000
B 180.000
(4)
Tool No.
2
Time
00:20:04
Upload
Start
(2)
(1)
(3)
Stop
Pause
Point
Release
35 %


%
G91 G28 Z0
G91 G28 X0.0Y0.0
G90 G54
M9
M5
M6 T01
G43 H1
M8
G00 G90 B0.000
G00 G90 X0
G00 G90 Y0
G00 G90 A0.000
S24000 M03
G0 X-38.148 Y-29.809
查找
查找内容(N): M6 T01
查找下一个(F)
取消
方向
向上(U)
向下(D)
区分大小写(C)
循环(R)
第 8 行，第 8 列
100%
Windows (CRLF)
UTF-8

G91 G28 Z0
G91 G28 X0.0Y0.0
G90 G54
M9
M5
M6 T02
G43 H2
M8
G00 G90 B180.000
G00 G90 X0
G00 G90 Y0
G00 G90 A0.000
S25000 M03
G0 X40.118 Y-30.591
X40.118 Y-30.591 Z6.2
查找
查找内容(N): M6 T02
查找下一个(F)
取消
方向
向上(U)
向下(D)
区分大小写(C)
循环(R)
从底部开始查找下一项
第 79978 行，第 8 列
100%
Windows (CRLF)
UTF-8


%
G91 G28 Z0
G91 G28 X0.0Y0.0
G90 G54
M9
M5
M6 T02
G43 H2
M8
G00 G90 B180.000
G00 G90 X0
G00 G90 Y0
G00 G90 A0.000
S25000 M03
G0 X40.118 Y-30.591
查找
查找内容(N): M6 T02
查找下一个(F)
取消
方向
向上(U)
向下(D)
区分大小写(C)
循环(R)
从底部开始查找下一项
第 8 行，第 8 列
100%
Windows (CRLF)
UTF-8


17:42
BuzzerOff
Setting
File Name
20240711_3-1.txt
(1)
Object's Coordinate
X -53.717
Y -35.633
Z 47.374
A -0.001
B 45.043
Tool No.
2
(2)
Time
00:00:08
Upload
Start
(3)
Stop
Pause
Point
Release
0 %

5.2 Advanced Calibration Function

Long-term use of the device or changes in the surrounding environment of the device may affect the processing accuracy of the device. The YP Dental D500 milling machine can manually calibrate the processing axis to ensure the accuracy of the device's processing workpieces. The specific operation steps are as follows:

(1) Prepare a test disc (wax disc), disc size: diameter 98mm, thickness 10mm;

(2) Prepare a digital display vernier caliper (accuracy 0.01mm);

(3) Turn on the device, install the test disc and tool (refer to 4.1-4.3);

(4) Use a USB flash drive to upload the "calibration file" and start the processing program (refer to 4.4);

(5) Wait for the program processing to be completed, take out the test disc, and use a grinding tool to grind the calibration block down, with the opening of the calibration block facing up, keeping the position and direction of the calibration block on the test disc unchanged;

(6) Click【Calibration】on the main interface to enter the device calibration interface, record the G54 coordinate data before calibration;

(7) Measure the wall thickness and thickness of the calibration block, and fill in the corresponding digital box on the calibration interface. Each data must be measured more than 3 times. If the 3 measurement data are the same, it means that the measurement data is valid. Ensure the position and direction of the calibration block

(8) Click【X CORR】and【Z CORR】, wait for the device to automatically calibrate. The X-coordinate value of G54 coordinate system and the Z-axis offset value will be changed accordingly.

(9) To confirm that the coordinates of the machine have been calibrated back to the standard value range, it is necessary to cut the calibration block again and measure the wall thickness and thickness of the calibration block. Standard range: Calibration block wall thickness = 1±0.02mm, calibration block thickness = 6±0.02mm. If the calibrated value is not within the standard range, it is necessary to perform the

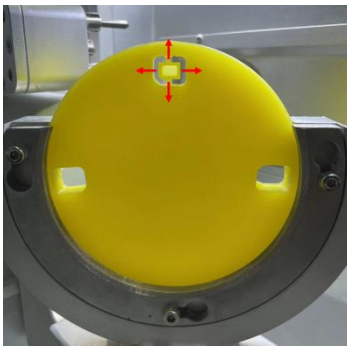
calibration procedure again.

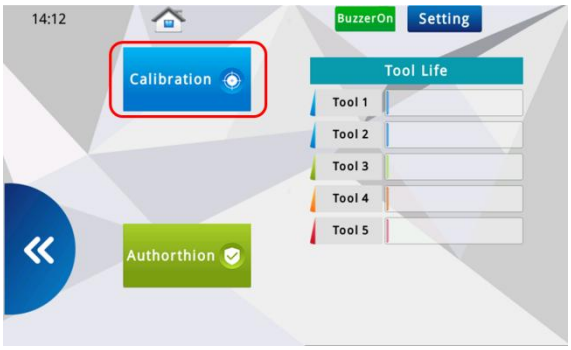
(10) Calibration cycle:

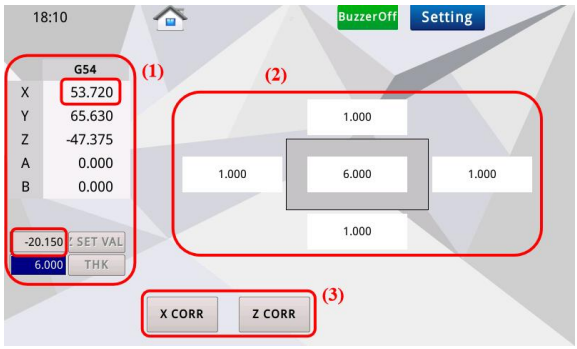
① When the machine has abnormal phenomena such as positioning or serious joints, the calibration procedure can be performed at any time.

② It is recommended to calibrate once every two weeks when the frequency of use is high, and once a month when the frequency of use is low.

(11) Customers need to prepare enough calibration wax discs with a diameter of 98mm and a thickness of 10mm. It is recommended that customers reserve more than 5 pieces.







5.3 Connect the device to the computer

YP Dental D500 milling machine supports the operation of the device through the computer-controlled operation interface of the device. The method to connect the device to the computer is as follows:

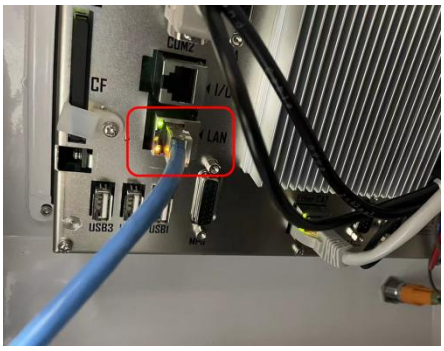
(1) Preparation for connecting the device to the computer: Computer, network cable. Open the right-side door of the device and use a network cable to connect the LAN port of the device to the LAN port of the computer;

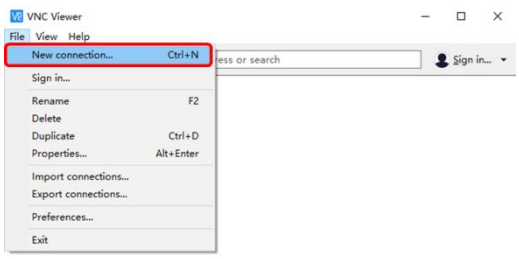
(2) Ask the manufacturer to send the VNC Viewer installation package. After the application is installed, click the VNC Viewer icon to enter the software;

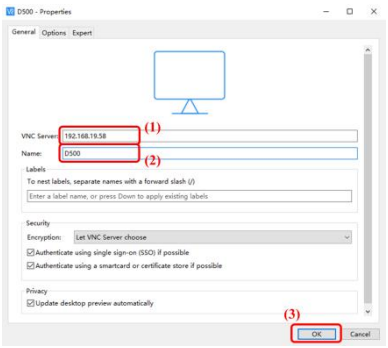
(3) Click【File】select【New connection】to add the device. Enter the device's VNC Server: *192.168.19.58*, enter Name: *D500*, and click【OK】;

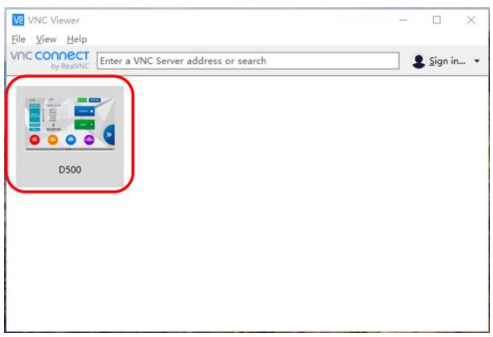
(4) The device is successfully connected. Double-click the

(5) D500 icon to open the device. Through VNC Viewer, you can use the computer to control the device for processing operations.









Chapter 6 Maintenance

6.1 Device Maintenance

(1) After completing work every day, use a brush to clean the dust in the processing chamber of the device to ensure that there is no accumulation of dust on the surface of the spindle and tool setting probe;

(2) The equipment processing chamber should be cleaned before switching milling materials;

(3) Based on the usage of the equipment, the dust inside the vacuum cleaner should be cleaned promptly to ensure its suction power;

(4) It is recommended to clean the inside of the device every 3 months. Power off the device and use a dry and clean cloth to manually clean the inside of the device to ensure that the inside of the device is clean and free of debris.

(5) The machine requires internal mechanical component maintenance every 3 months. Use the provided grease spray to coat the positions of the lead screw and guide rail.

6.2 Precautions when Performing Maintenance

(1) When cleaning the equipment, do not use solvents such as gasoline, alcohol, and thinners, otherwise it may cause a fire;

(2) The processing tools and spindle motor will become hot, so be careful of high temperature burns;

(3) The processing needle is sharp, so be careful to avoid injury;

(4) Do not turn the rotating shaft by hand, otherwise it may cause equipment failure.

6.3 Special Statement

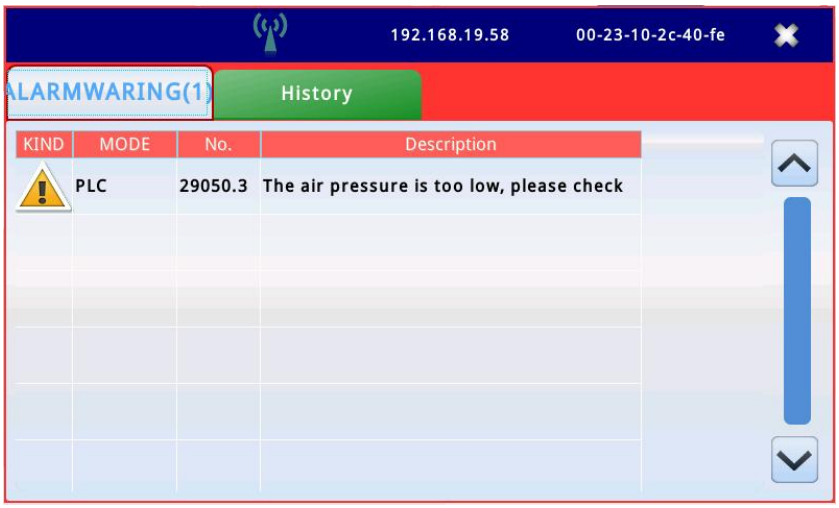
(1) If you purchase this device to process other materials besides the above materials, please make an assessment based on the device parameters. The user shall bear all responsibilities for any unexpected situations caused by the user processing products made of other materials;

(2) Without the consent and permission of our company, users are strictly prohibited from disassembling the external and internal parts and electrical accessories of the device. Our company does not bear the corresponding responsibility for the damage to the device caused by this.

Chapter 7 Common Alarm Messages and Solutions

7.1 Air pressure problem

When this fault occurs, the software interface pops up the prompt box shown below, which means that the system detects that the gas pressure has not reached the minimum gas pressure set by the digital pressure switch. When this fault occurs, the current operation will be interrupted.



Solution:

① Check whether the air pressure is insufficient;

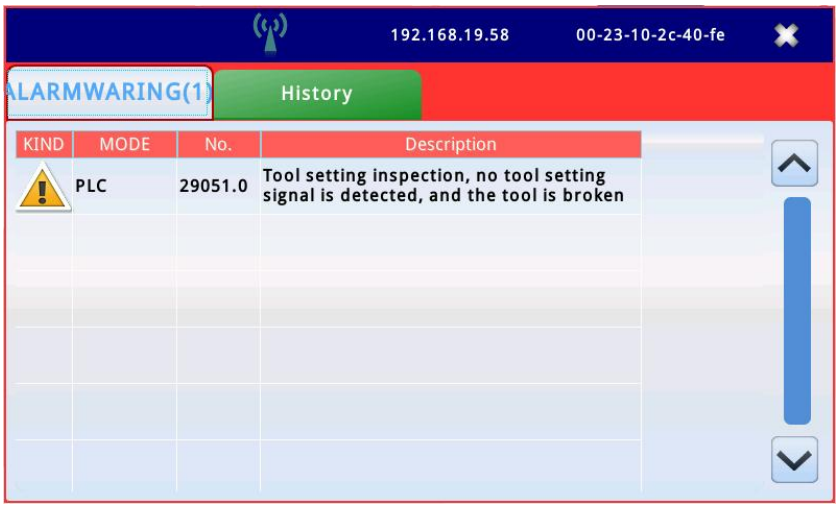
② Check whether the air hose is leaking or blocked;

③ Check whether the filter is damaged;

After the gas pressure returns to normal, the alarm will be automatically eliminated.

7.2 Tool error reporting

When this fault occurs, the following prompt box will pop up on the software interface, indicating that the device failed to set the tool during the tool change process. Possible reasons include incorrect tool number settings before machining, damage to the tool during the machining process, or failure to clamp the tool due to insufficient air pressure causing the spindle chuck not to open during the tool change. This prompt will interrupt the machining process..



Solution:

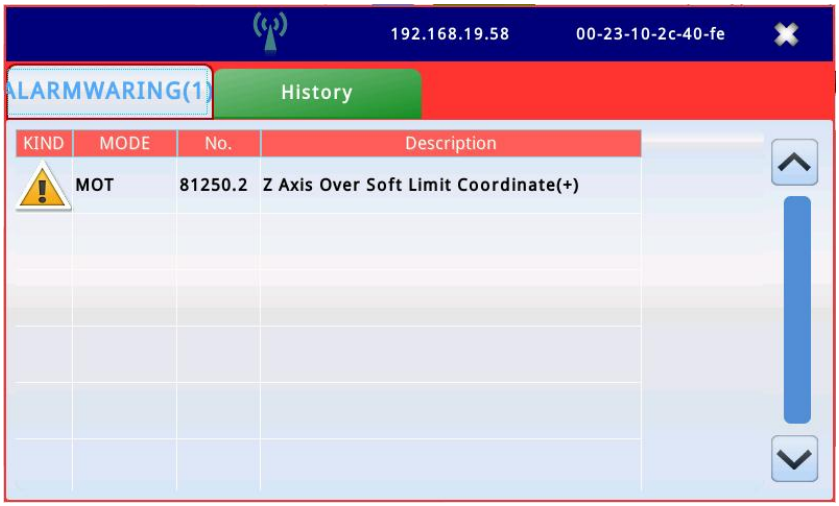
① If the tool is not in the spindle, check if the tool number on the main interface is 0. If the tool number is not 0, manually set it to 0.

② If the tool is not on the spindle, click【Release】to observe whether the spindle chuck will open. If it does not open, check the air pressure problem.

③ If the tool is on the spindle, check whether the tool is damaged. If the tool is damaged, replace the tool in time;

7.3 Limit error

When this fault occurs, the following prompt box will pop up on the software interface, indicating that the motion axis touched the mechanical limit switch during operation, causing the machine to have an error. There are two reasons for the limit: machine limit and motion limit.



(1) Machine limit

Reason analysis: Manual touching of the moving axis has caused a deviation in the origin position of the moving axis;

Solution: If "Z axis exceeds the positive limit value of the software limit" appears. Close the alarm interface, switch to user【Level 6】(password: 123321), click【KEY】, click【Manual】, click【Z-】, and the alarm will automatically disappear.

(2) Motion limit

Reason analysis: The next motion stroke of the machining program exceeds the limited stroke.

Solution: Close the alarm prompt box, then click【Stop】, revise or regenerate the NC file, and then restart the machining program.