CAMDENT

SHEN ZHEN CAMDENT MEDICAL TECHNOLOGY CO, LTD

SDM5T

-Dental metal milling machine

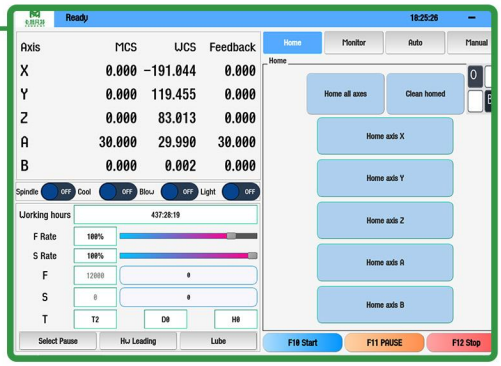
INSTRUCTION MANUAL

Catalog

Catalog

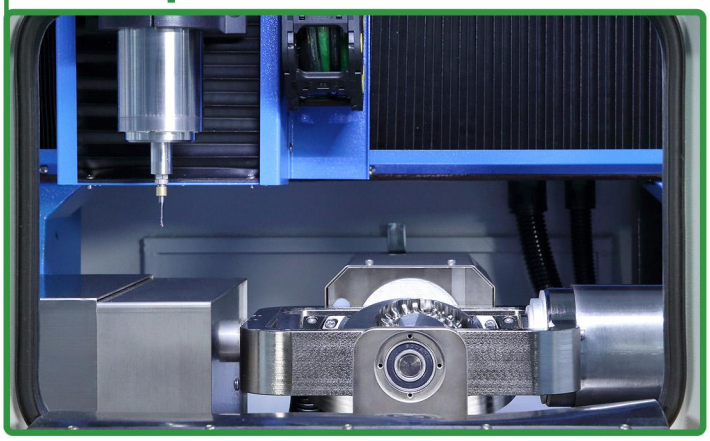
01. Equipment Introduction

1. SDM5T Product Introduction

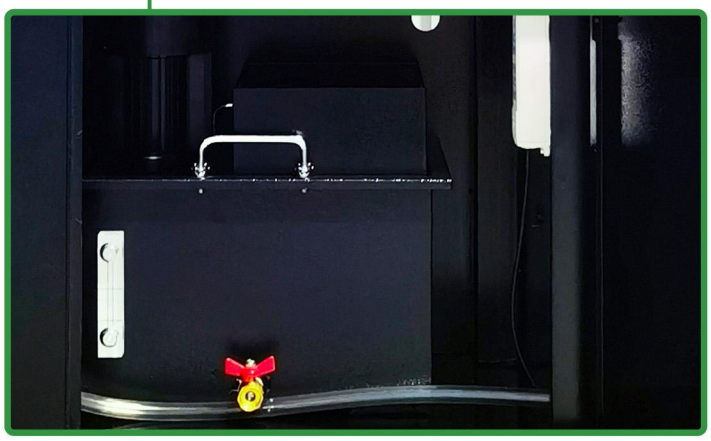


control Panel

Workplace



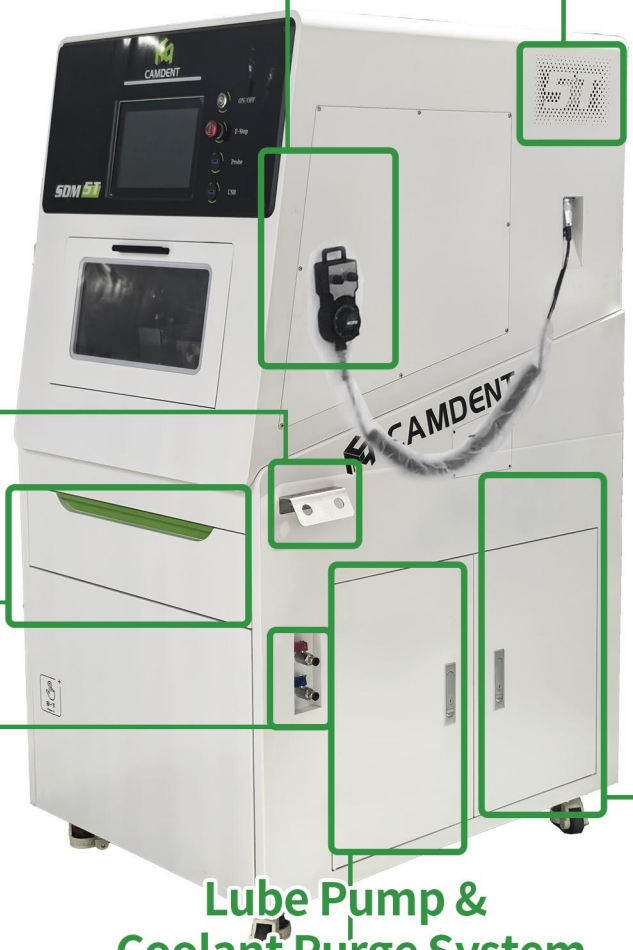
Built-in water



Handwheel auxiliary tool

Cooling fan

Air Gun Water Gun



Side

Power interface

Network port

Gas source

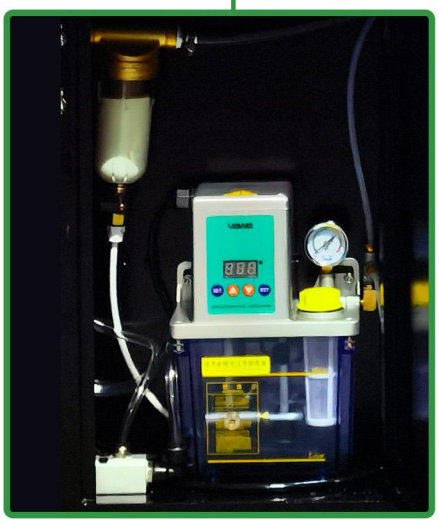
Tray

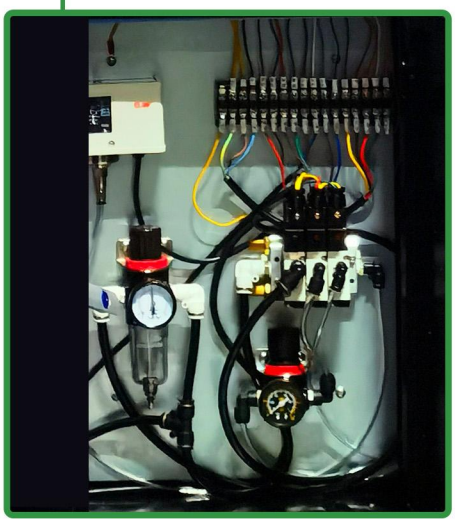
Lube Pump & Coolant Purge System

Pneumatic Components

Air inlet

Water inlet





02. Installation Environment

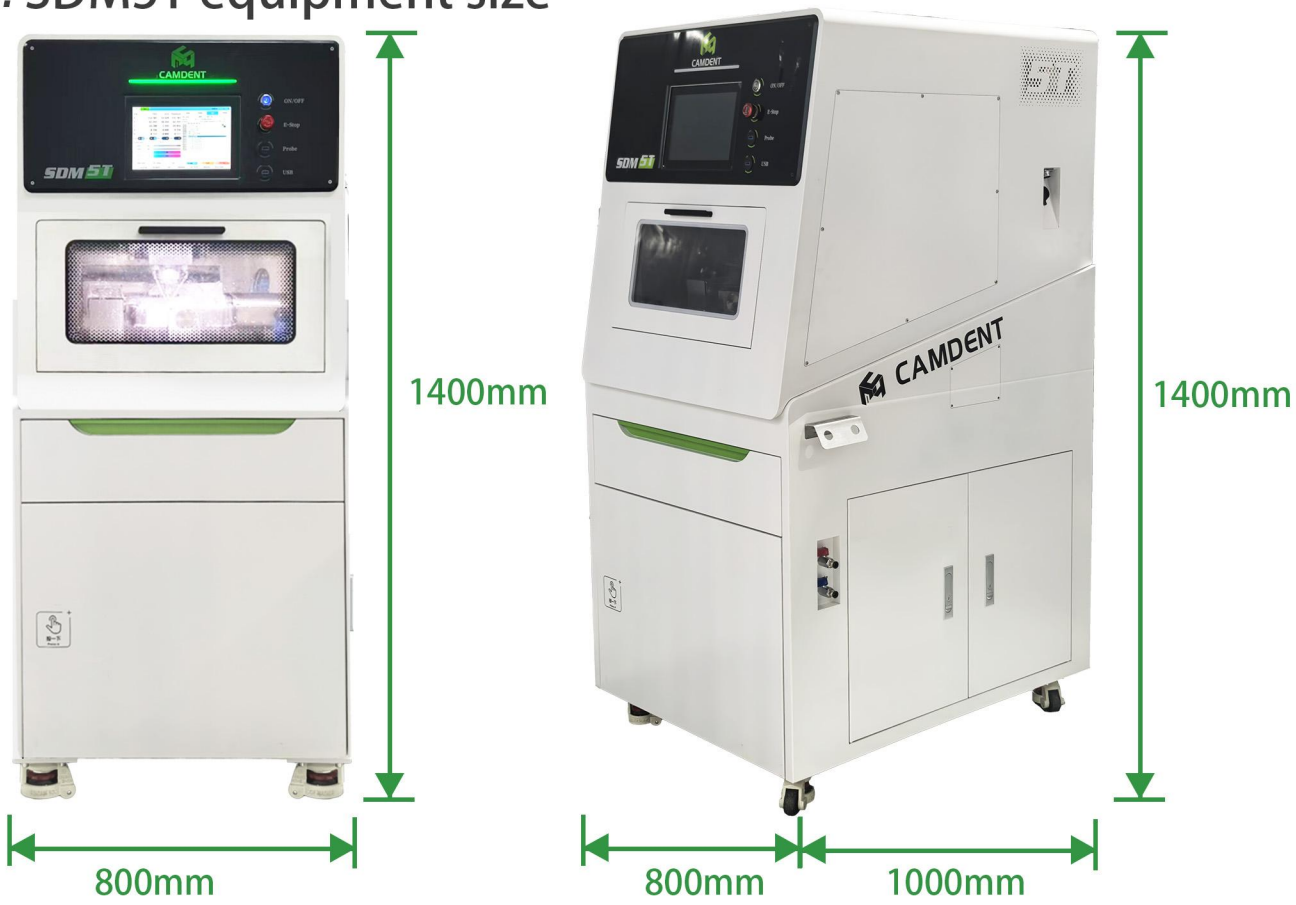
1. SDM5T installation environment confirmation

Since this product is a high-precision metal milling machine, it has certain environmental requirements. Please confirm the following installation environment requirements before installation to ensure that the machine can operate normally.

Classification	Influencing factors	Specific requirements and instructions
Indoor environment	Temperature	18℃~28℃
	Ventilation	Ventilate regularly, Keep indoor air clean
	Environment	clean
	Illumination	No direct sunlight or exposure
Electrical environment	Voltage	220V
	Frequency	50HZ/60HZ
	Air pressure	0.6Mpa

03. Equipment accessories and installation

1. SDM5T equipment size



2. SDM5T equipment accessories list

		Camdent SDM5T equipment accessories list				
picture						
name	SDM5T milling machine	toolbox	oxygen tube	water pipe	hand wheel	tower
quantity	1	1	2	1	1	1
unit	tower	box	tower	tower		

*This list is the standard accessories that should be included in the package, and does not include other accessories you choose or use instead

2. SDM5T equipment accessories list

2.1 Tool Box List

Toolbox opened diagram

Packing list

Item	Name	Specification	Quantity	Unit	Remarks
1	Machine body	SDM5T	1	set	XOUT002237
2	Collect	6mm	1	pc	on the machine
3	Special Spanner		1	pc	TOOL BOX
4	Wax disk	98*12mm blue	1	pc	
5	Power cable	2m, 2.5m²	1	pc	
6	Socket head wrench	2.5MM	1	pc	
7	Socket head wrench	3MM	1	pc	
8	Socket head wrench	4MM	1	pc	
9	Screw	M4*8	1	set	
10	Screw	M4*10			
11	Screw	M4*12			
12	Screw	M5*10			
13	Screw	M5*12			
14	Screw	M5*25			
15	Set screw	M5			
16	Brush		1	pc	
17	USB flash drive	32GB	1	pc	
18	Fuse	5A,6A	3	pcs	
19	Cleaning brush	For collect	2	pcs	
20	Calibration disc		1	pc	
21	USB 2.0 CABLE	1.5M	2	pcs	
22	Probe	Auto calibration	2	pcs	
23	Medentika premill holder		1	pc	
24	Glass ceramics holder		1	pc	
25	Arum premill holder		1	pc	
26	Air gun		1	pc	
27	Water gun		1	pc	
28	jnet Hook for Air gun& Water gun		2	pcs	
29	Air tube	Black	2	pcs	in the machine
30	Water tube	Transparent	1	pc	
31	Handwheel	HPB1-RA51-CM2	1	pc	

Checklist (in toolbox)

Magnetic hook

Probe

USB flash drive

Small brush

Air gun water gun

Screwdriver

Collet removal wrench

Fuse

Power cable

brush

Calibration disc

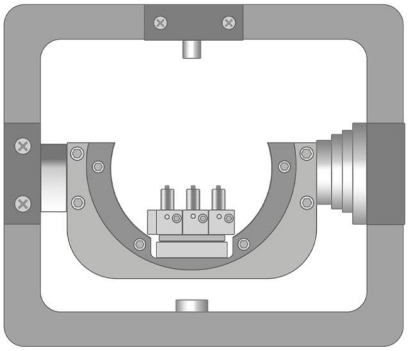
USB cable

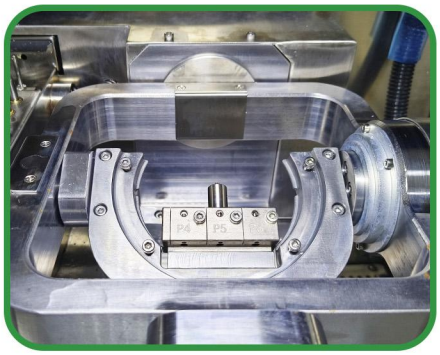
screw

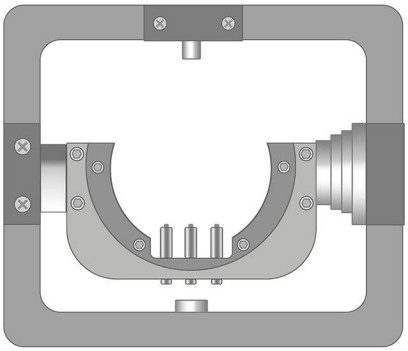
Wax disk

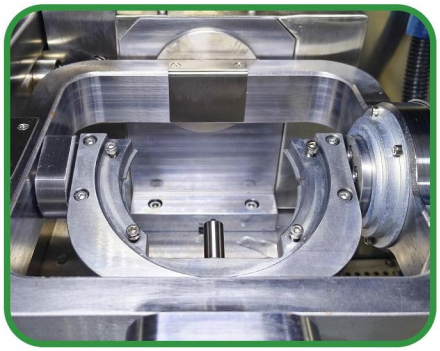
2. SDM5T equipment accessories list

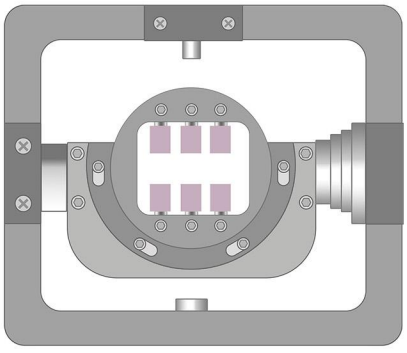
2.2 SDM5T clamp display

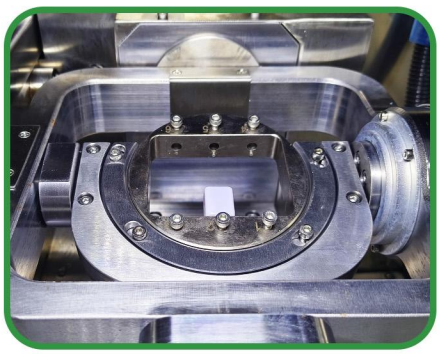


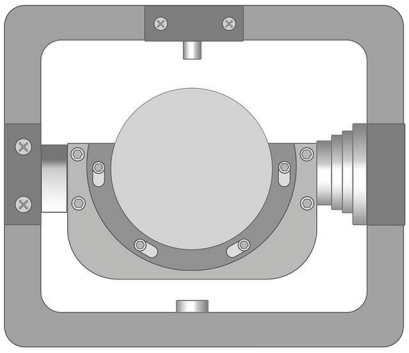


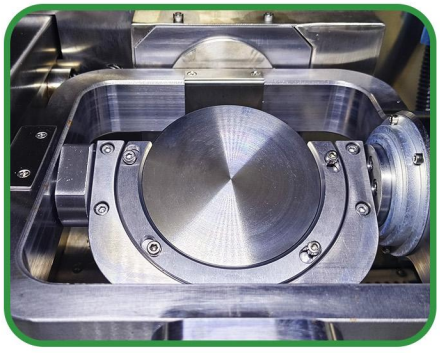












3. SDM5T Equipment Installation Guide

1. Open the packaging box and check whether the device is damaged.

清单

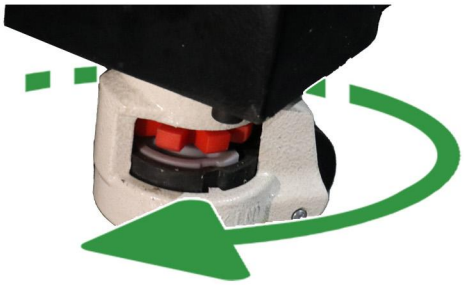
序号	名称	规格	数量	单位	备注
1	机器	SDM5T	1	set	
2	夹头	6mm	1	pc	在机器上
3	夹头拆卸扳手		1	pc	
4	蜡盘	98*12mm蓝色	1	pc	
5	电源线	2m, 2.5m²	1	pc	
6	内六角扳手	2.5MM	1	pc	
7	内六角扳手	3MM	1	pc	
8	内六角扳手	4MM	1	pc	
9	螺丝	M4*8			
10	螺丝	M4*10			
11	螺丝	M4*12			
12	螺丝	M5*10	1	set	
13	螺丝	M5*12			
14	螺丝	M5*25			
15	定位螺丝	M5			工具箱
16	毛刷		1	pc	
17	USB闪存盘	32GB	1	pc	
18	弹垫丝	5A.6A	3	pcs	
19	小毛刷	用于清洁	2	pcs	
20	标准盘		1	pc	
21	USB 2.0 电线	1.5M	2	pcs	
22	探针	用于自动标准	2	pcs	
23	玻璃降温夹具		1	pc	
24	Arum背板夹具		1	pc	
25	气枪		1	pc	
26	水枪		1	pc	
27	气枪水枪磁铁挂码		2	pcs	
28	空气管	黑色	2	pcs	
29	水管	透明	1	pc	在机器上
30	辅助手轮	HPB1-RA81-CM2	1	pc	

		Camdent SDM5T equipment accessories list				
picture						
name	SDM5T milling machine	toolbox	oxygen tube	water pipe	hand wheel	tower
quantity	1	1	2	1	1	1
unit	tower	box	tower	tower	indivual	indivual

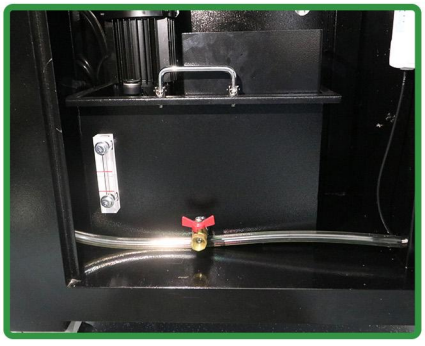
*This list is the standard accessories that should be included in the package, and does not include other accessories you choose or use instead

2.Check the accessories according to the packing list。

3. Place the rear bottom pallet and move the machine onto the pallet.



4. Turn clockwise to raise the wheel, and turn counterclockwise to lower the wheel.



5. Connect the power cord, air supply system, and cooling water system as required.

04. Equipment Operation Gu

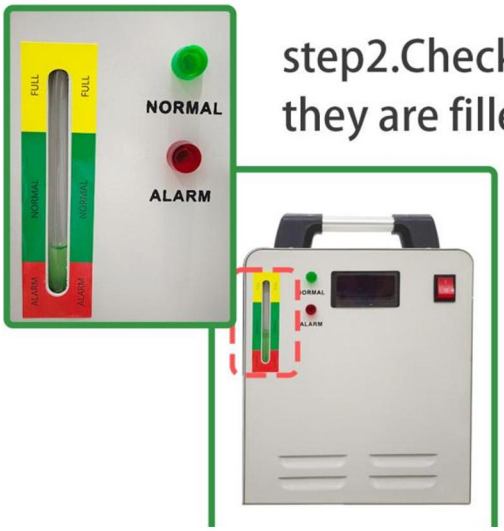
1. SDM5T User Guide

1. Preparation before startup

step1.Check the air pressure. Around 0.6MPa is the normal air pressure.

water tank

oil tank



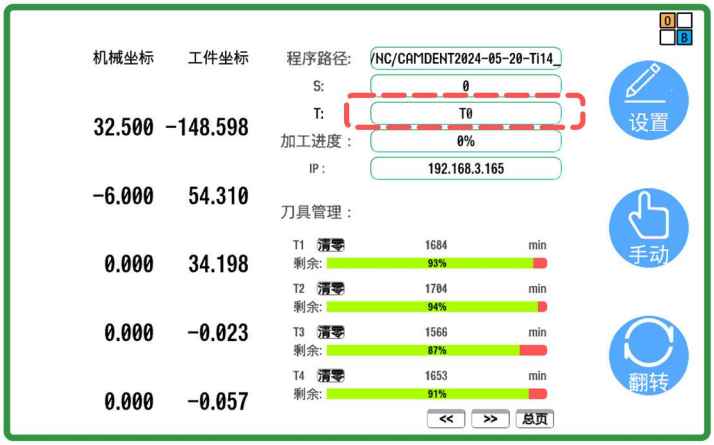
step2.Check the water tank and oil tank, and make sure they are filled with enough water and oil.

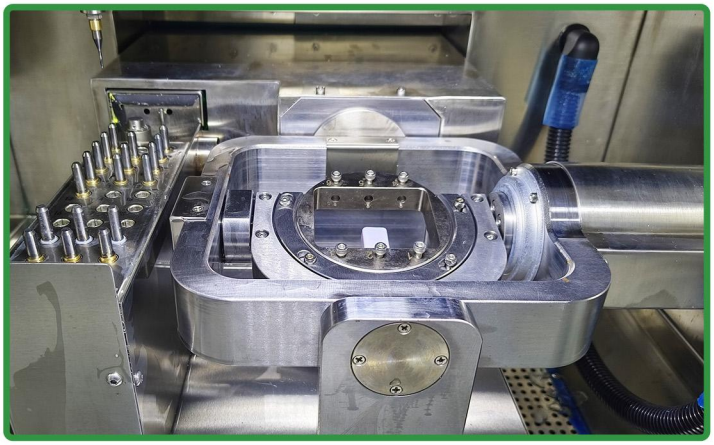
step3.Check the antifreeze and power supply of the chiller.

Step4.After connecting the power, press the power button to turn on the device.

Step5.Place the needle according to the position marked on the tool magazine.

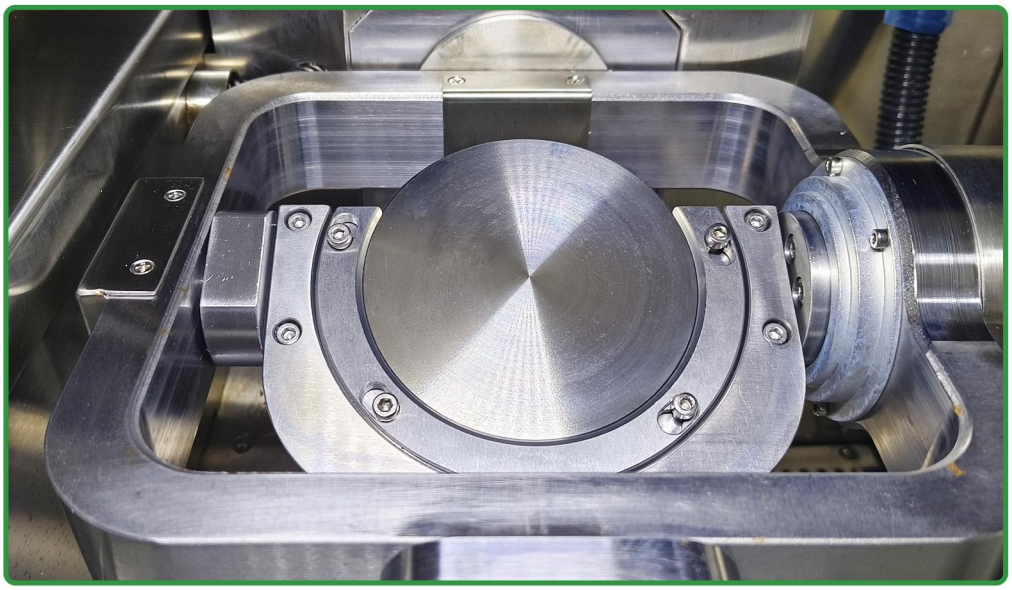
Step6.Check whether the machine's tool gripping condition is consistent with the control panel.





*T0 refers to the no-tool state.

Step7.Installing the material disc.



Step8.Select the file and click to start processing.

2. Precautions for using SDM5T

1.It is strictly forbidden to open the working chamber during processing。

2.During processing, you need to wait until the machine stops completely before picking up the finished parts.

3.Regular maintenance and cleaning

4.Check the water tank and fuel tank before use

3. Problems and solutions after SDM5T alarm

1.The brake system is not turned on.

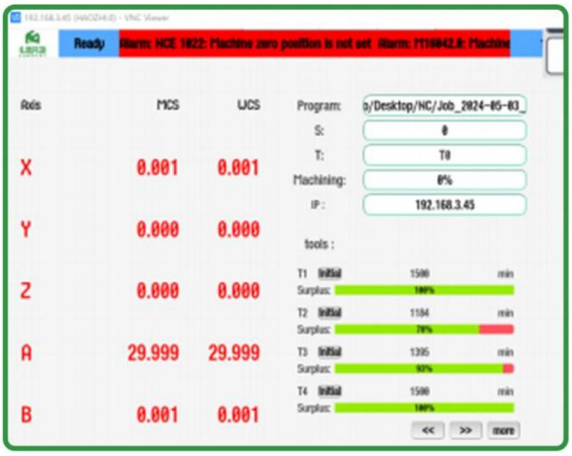
Click the reset button to reset the system.

2.Insufficient air pressure

Check whether the air compressor and air pipe are normal, and check whether the air pressure reaches the 0.6MPa required by the machine

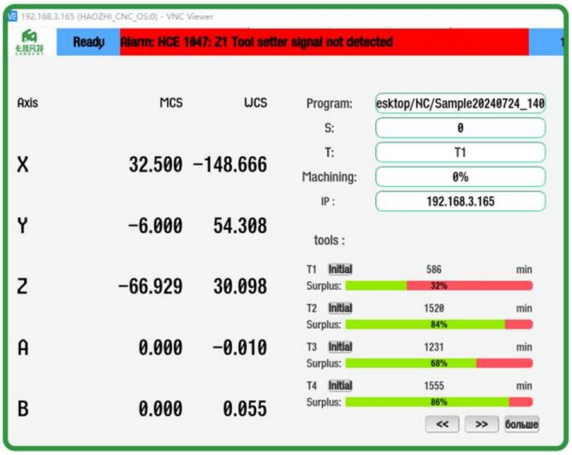
3.The machine zero position is not set

Click the home button to solve it.



4.No tool setting signal is detected

Check whether the tool is broken and replace it in time.

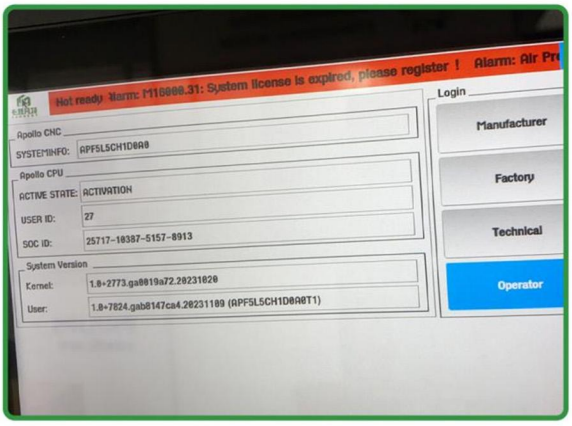


5. Forward software limit/position limit

Click the reset button to reset.

6. The information has expired, please register in time

Ask the technician to obtain new license information.

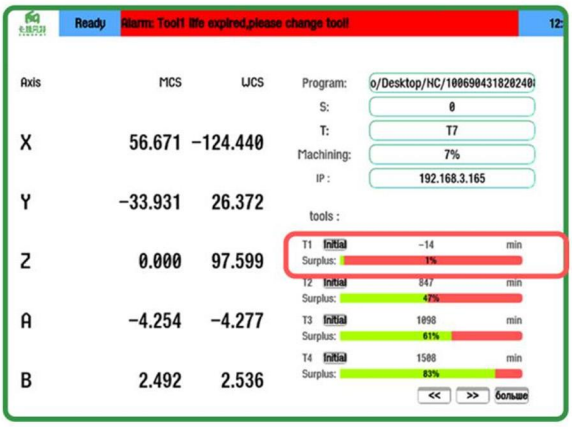


7. The tool setting value has a large deviation. Please check and re-set the tool.

Check if the tool is broken. Replace the tool and re-set the tool.

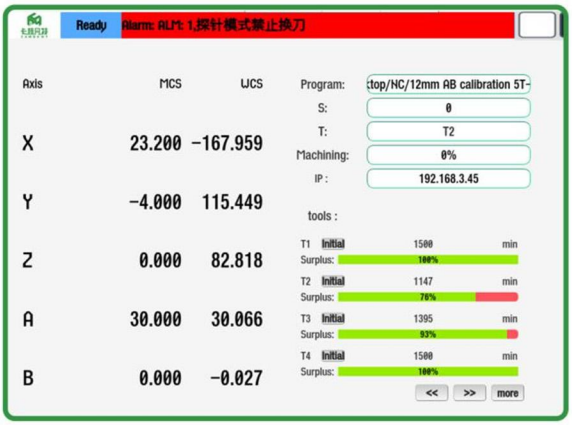
8. Tool life is 0

Check and replace the tool, and initialize the life value in the tool life



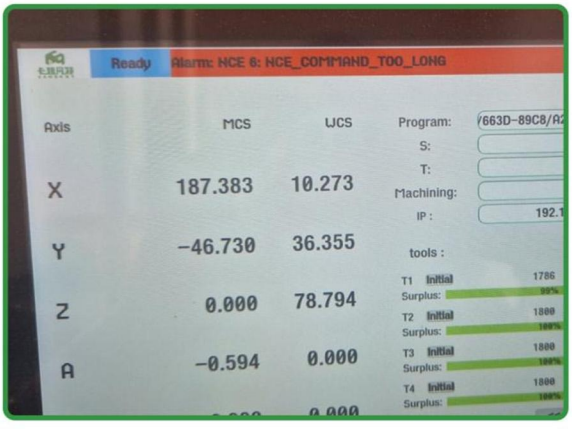
9. Unable to change tool in probe mode

Check the Probe interface and remove the USB flash drive or data cable from the interface.



10. The file was not copied completely.

Please re-import the NC file into the machine.



4. SDM5T Calibration Method
Automatic calibration

Step1. First install the titanium premill fixture, and install the titanium premill on P1, P2, P3

Step2. Place the calibration probe in tool magazine No. 14.

Step3. Click T to change tool to No. 14, and connect the probe and machine with a data cable.

*Arum P1 P2 P3
Medentika11.5 P4 P5 P6
Different titanium premill use different calibrations

Step4. Click Settings, enter the password (769816), enter automatic calibration, select P1,P2, P3, and click Run.

*Arum P1 P2 P3
Medentika11.5 P4 P5 P6
Different titanium premill use different calibrations

Disc calibration

(Please make sure the disc calibration is clean for accurate calibration)

step1. First install the disc fixture and the calibration disc (install the same as the material disc)

step2. Place the calibration probe in tool magazine No. 14.

step3. Click T to change tool to No. 14, and connect the probe and machine with a data cable.

step4. Click Settings, enter the password (769816), enter automatic calibration, select B , A , X , Y , Z , and click Run.

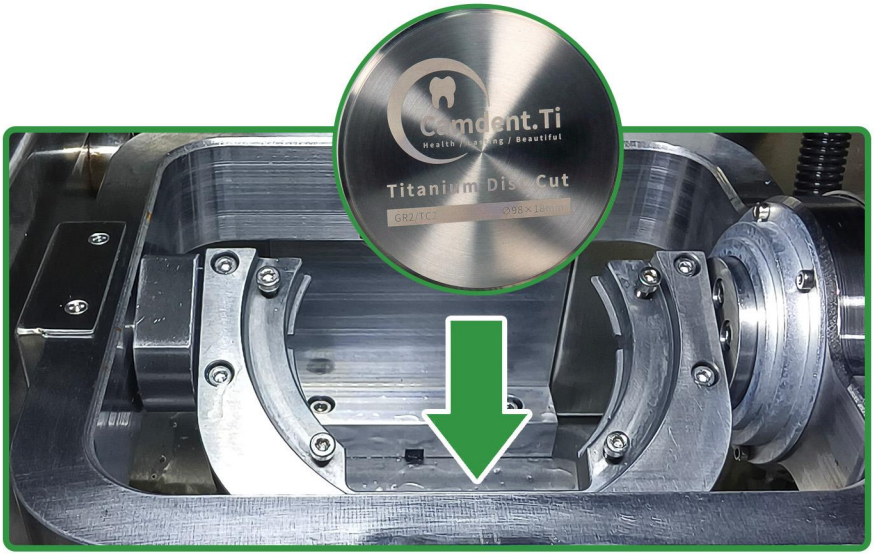
*Manual calibration method is shown in the zip file video.

5. SDM5T Installation and precautions of various fixtures

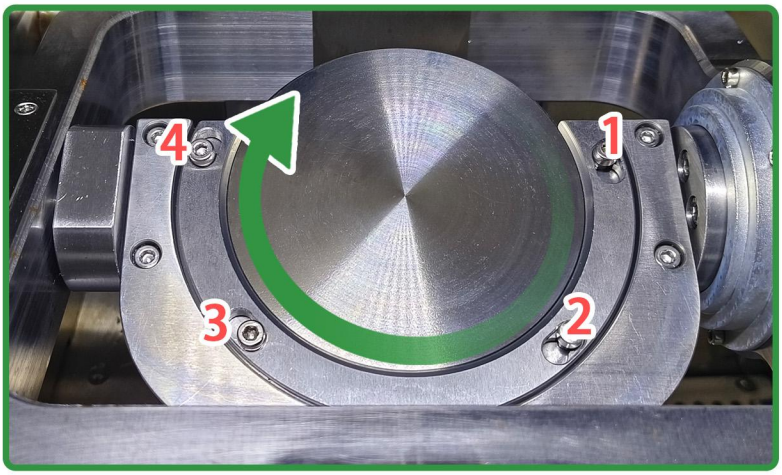
*Please clean the fixture and the location where the fixture is installed before changing the fixture or tray each time to ensure that the fixture is installed tightly and the accuracy of the machine is guaranteed.

Mounting disc

step1. Place the tray in the corresponding position.



step2. After placing the gland, turn it clockwise until it is in place and tighten the screws.

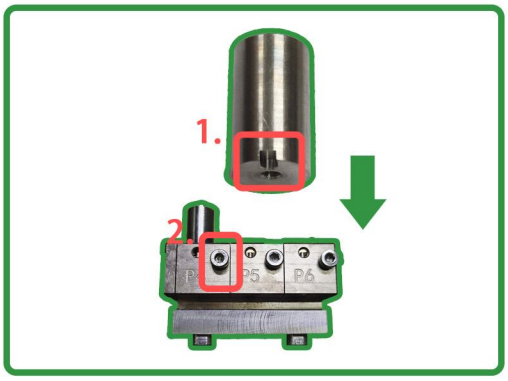


*Pay attention to the direction of the cap,
the chamfered one should face upwards
Wrong direction may cause the tray to be unstable,
affecting processing

It is not necessary to remove all the screws to remove the material tray. Just loosen the screws slightly so that the pressure cover can be turned counterclockwise, then remove the pressure cover and then the material tray.

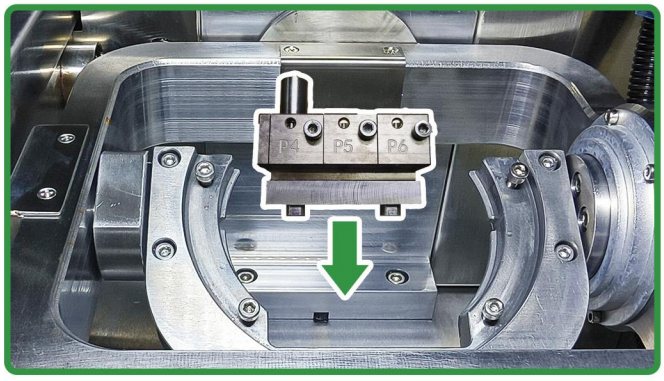
titanium premill/fixture Installation（Medentika）

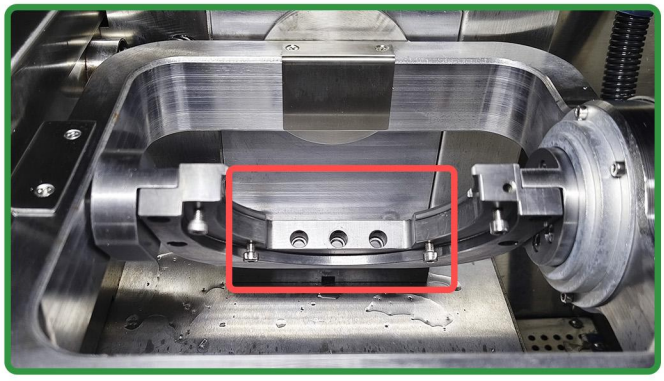
step1. When installing the titanium premill fixture, pay attention to the direction of the titanium premill and then fix it with screws.



*1. Pay attention to the installation direction of the titanium premill.
When installing, the notch should face us.
2. Screw fixing position

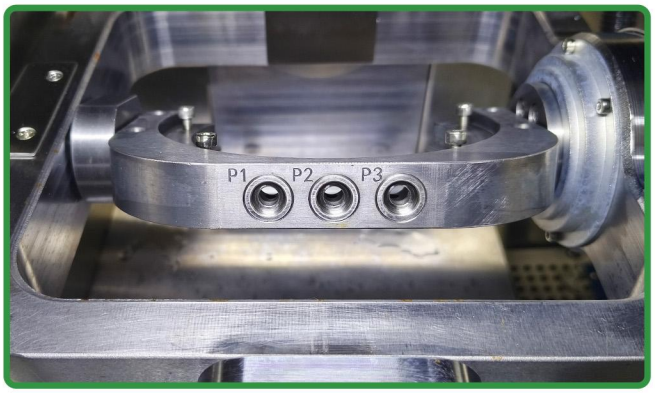
step2. When installing the titanium premill fixture, pay attention to the direction of the fixture。

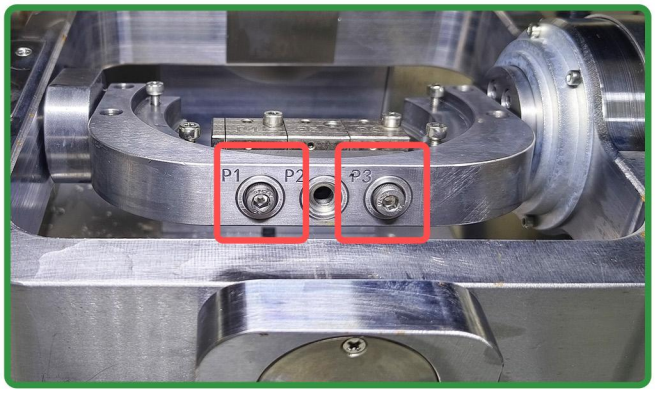




* Pay attention to the installation direction of the fixture and the corresponding raised area in the middle。

step3. Stabilize the clamp with screws。

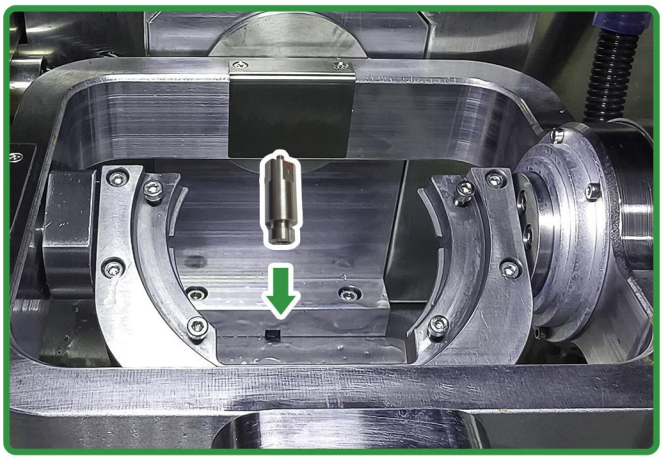


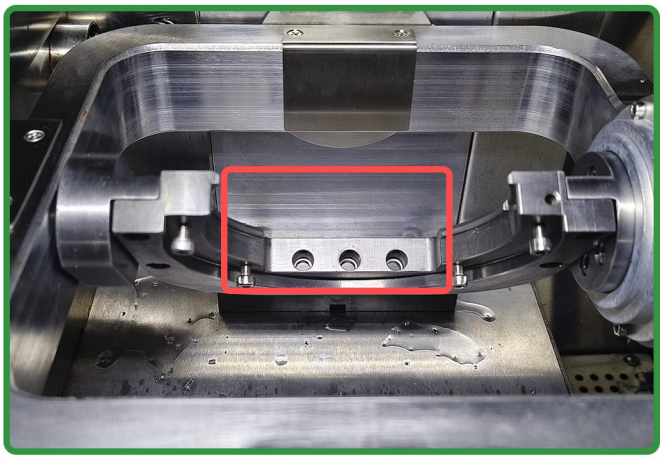


*Pay attention to the installation direction of the clamp and only install it in the corresponding two places.

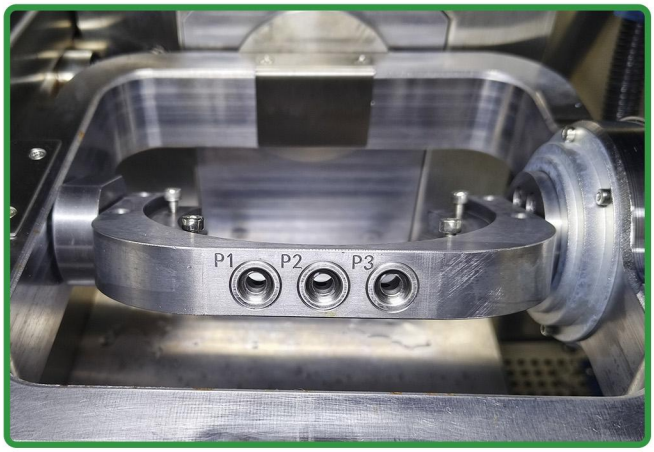
titanium premill/fixture Installation（Arum）

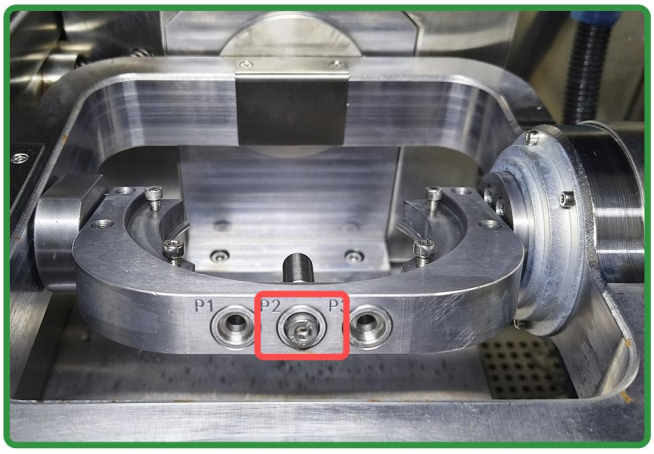
step1. The first screw should be appropriate, not too loose or too tight. The titanium column can be rotated 30° after installation, not 360°.





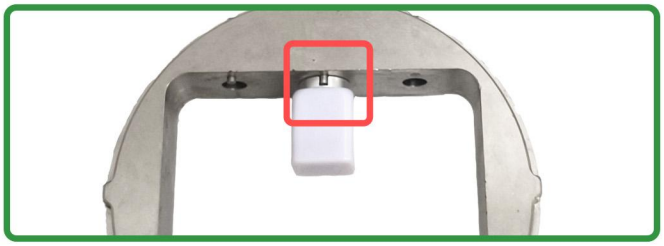
step2. After the second screw is installed, the titanium premil should be stably fixed and unable to rotate.

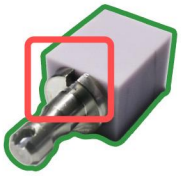




Glass ceramic fixture and glass ceramic installation

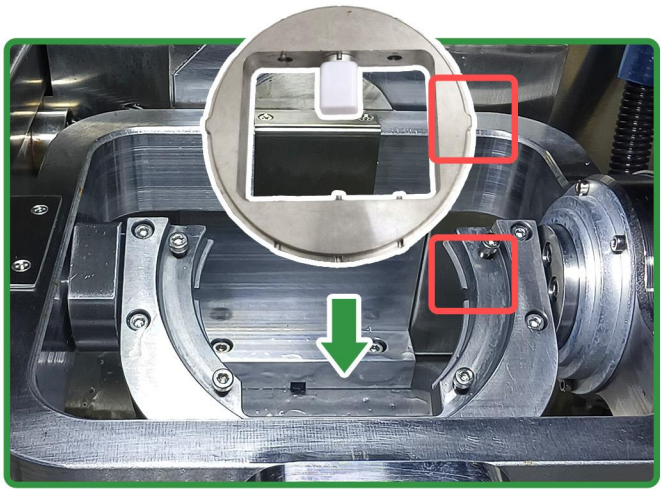
step1. When installing glass ceramics, pay attention to the direction of the glass ceramics.





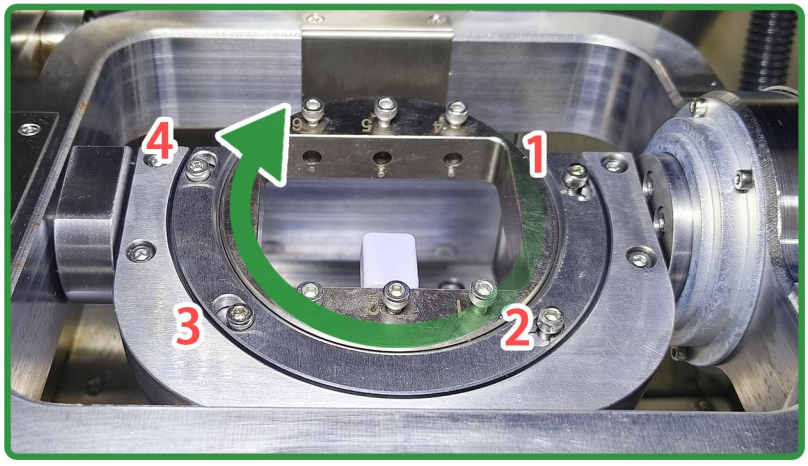
*Note that the chipped side of the glass ceramic should be installed towards us.

step2. When installing the glass ceramic fixture, pay attention to the direction of the fixture.



*Note that the back of the clamp is shown at this time.

step3. Stabilize the glass ceramic with screws.

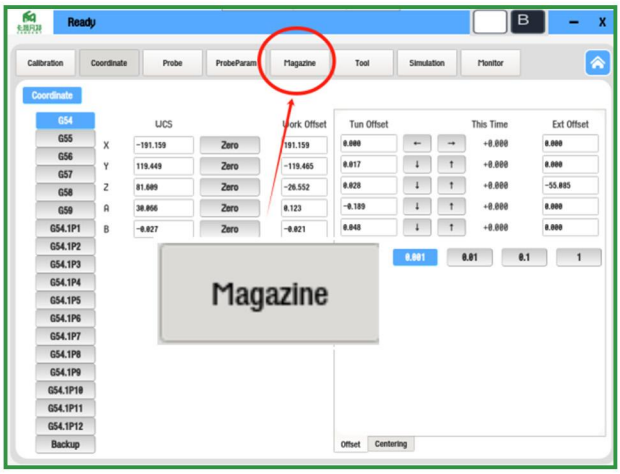


* Pay attention to the direction of the gland, the chamfered one should face upwards. Wrong direction may cause the tray to be unstable, affecting processing.

05. Spindle Maintenance Protocol

5.1 Spindle Calibration

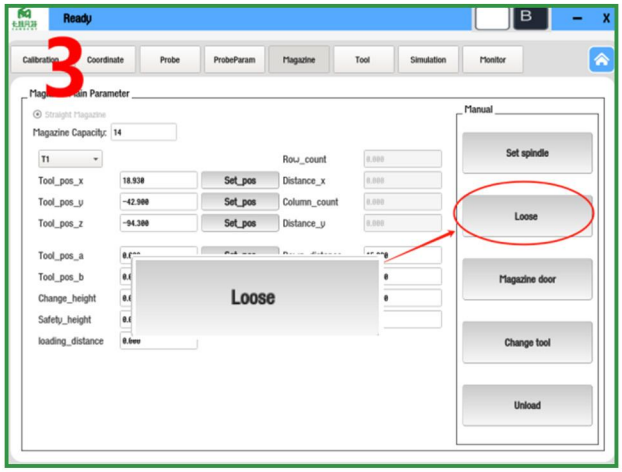
1. Collet Disassembly Procedure



*For spindle collet maintenance, utilize the dedicated collet disassembly wrench from the toolkit.

step1. Access the Settings interface via the home screen (authentication code: 769816)

step2.Navigate to the Tool Magazine submenu.

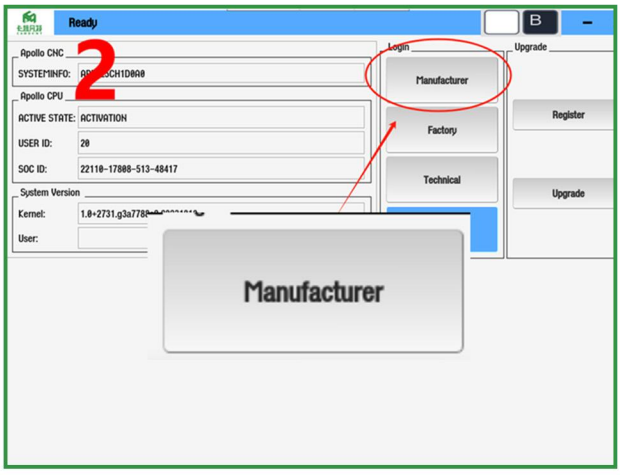


step3. Verify tool absence in the collet and activate the Release command.

step4. Perform collet disassembly and maintenance using the dedicated wrench.

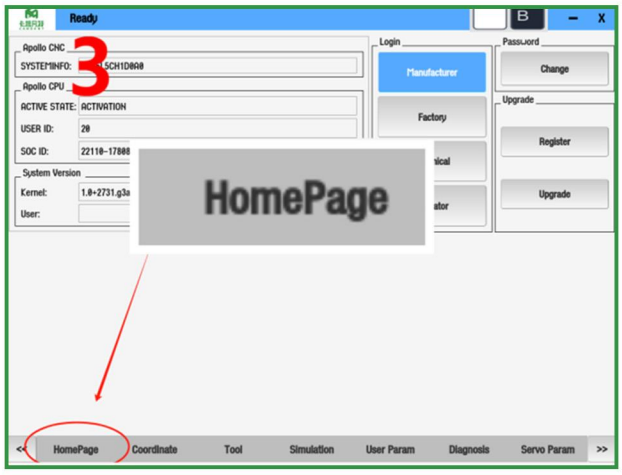
2. Adjustment of Spindle Coolant Nozzles

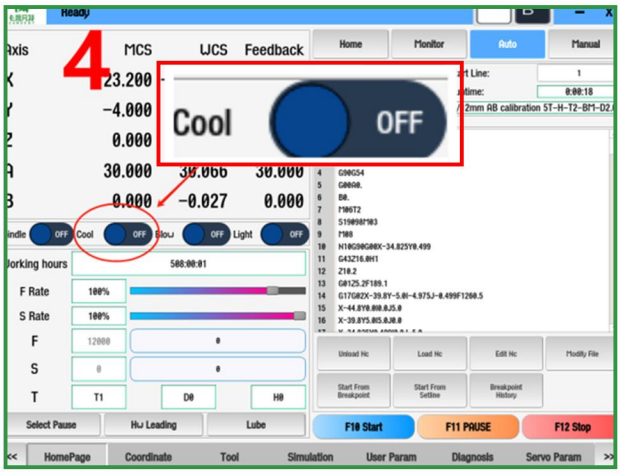
During high-speed tool rotation for cutting operations, significant heat is generated. To ensure optimal cooling efficiency of the coolant on the tool, adjustment and calibration of the spindle coolant spray nozzles are required.



step1.Navigate to the CAMDENT logo on the main interface and click to enter.

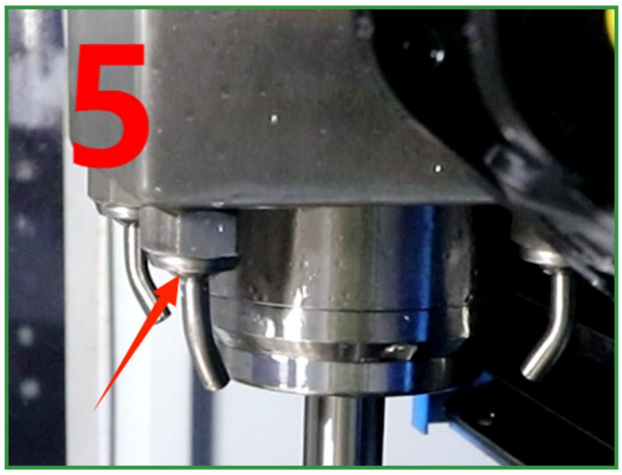
step2.Locate the Manufacturer Options (enter password 769816) and proceed.

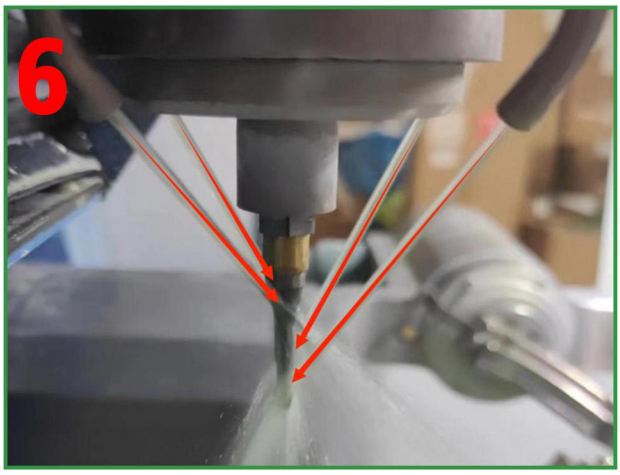




step3.Access the Main Control Interface within the manufacturer settings.

step4.Manually activate or deactivate the coolant supply via this interface.



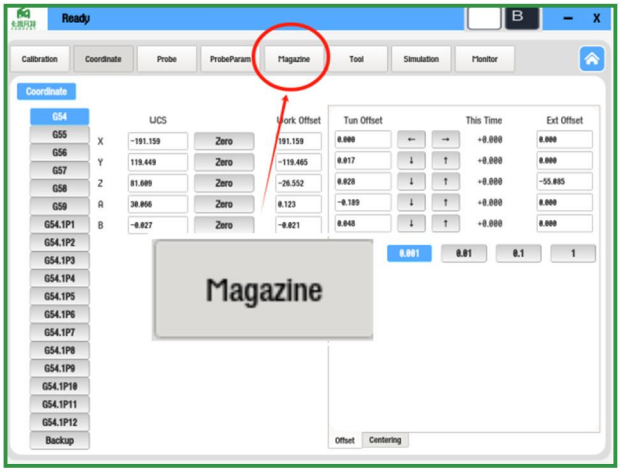


step5.Adjust the rotation angle and positioning of the nozzles.

step6.Optimize nozzle layout: Position two nozzles above the tool and two nozzles toward the tool’ s cutting edge.

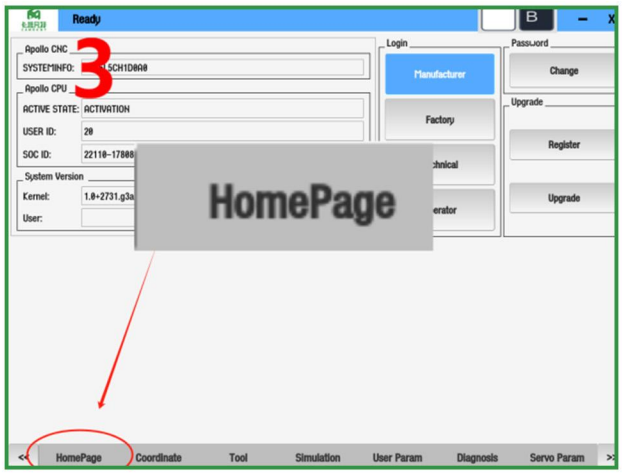
5.2 Cleaning and Maintenance of Coolant Tank & Filtration Unit

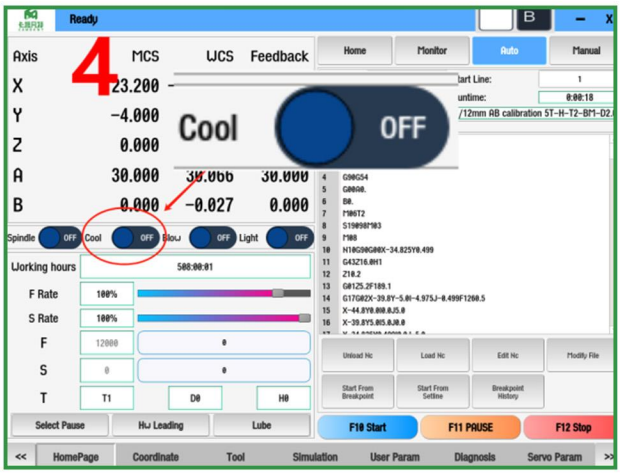
1. Manual Activation of Coolant Supply



step1.Locate the CAMDENT logo on the homepage and click to enter.

step2.Access the Manufacturer Options (enter password 769816) to proceed.



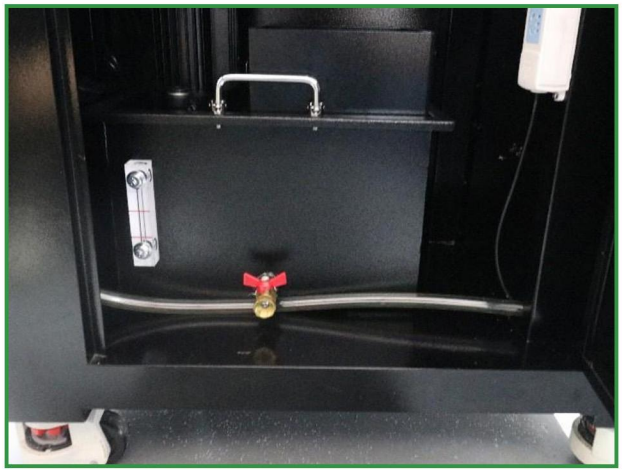


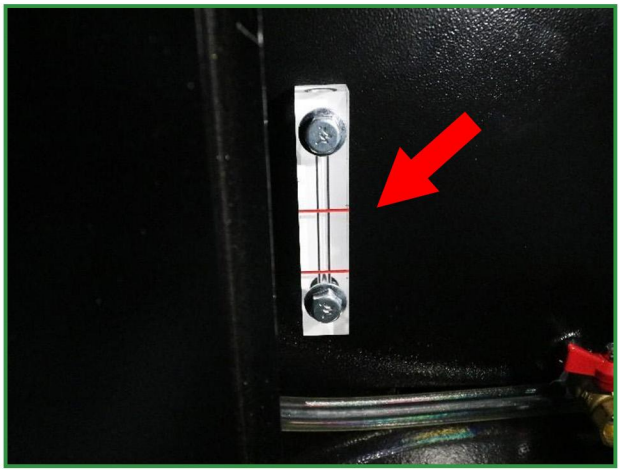
step3.Navigate to the Main Control Interface within the manufacturer settings.

step4.Use this interface to manually activate or deactivate the coolant supply.

1. Coolant Tank Usage

*Ensure the tank interior is clean and free of debris. Install the filtr -ation mesh, secure pipeline connections, and verify power supply

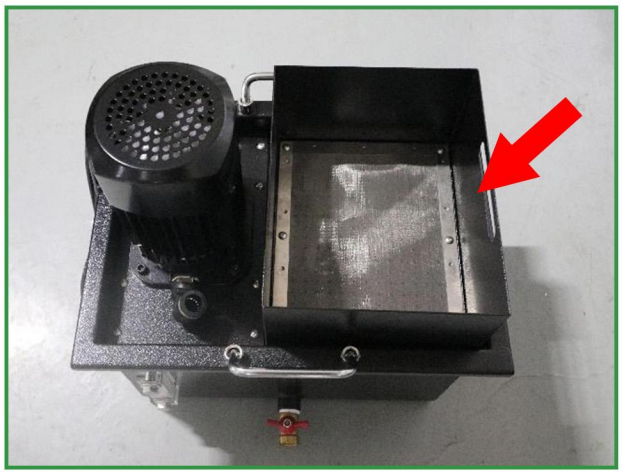




step1.Fill the cleaned tank with coolant and position it in the designated location

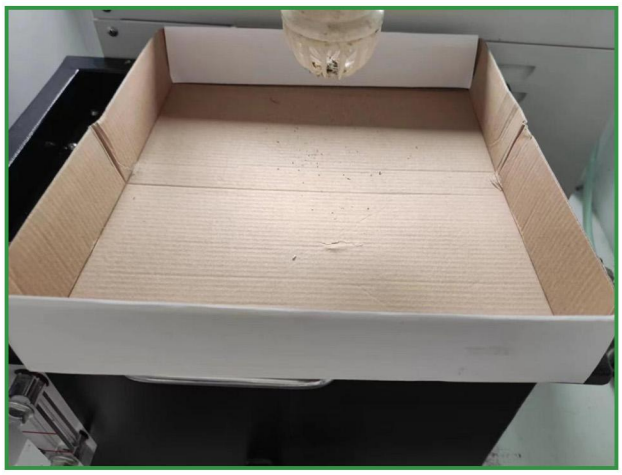
step2.Periodically check coolant levels during operation and replenish promptly.

* Insufficient coolant may cause tool wear or breakage.



step3.Metal particles may accumulate in the filtration mesh and tank after prolonged use. Clean these residues promptly to maintain filtration efficiency

*3.*Zirconia Cutting & Cleanup



step1.Replace the standard coolant tank with a dedicated container during zirconia cutting. Zirconia powder’s fine particles can clog filtration systems, leading to operational inefficiencies.

step2.Remove >90% of loose zirconia powder using an industrial vacuum, focusing on the cutting zone.Use a soft-bristle brush to dislodge residual powder from hard-to-reach areas, followed by vacuuming to minimize airborne particles.Rinse the equipment surface with low-pressure water while collecting wastewater in a bucket for proper disposal

* Wet cutting is strictly prohibited before cleaning the equipment after zirconia machining.

4.Filter Maintenance

Failure to remove the coolant tank during zirconia cutting or incomplete post-processing cleanup may result in filter clogging. The following solutions are recommended:

1.Rotate the filter counterclockwise to disassemble it. Clean metal-zirconia debris with water and compressed air , then air-dry for reuse

2.: Replace the filter with a new unit.

*Ensuring the directional arrow aligns with the coolant flow。

5.3 Lubrication System

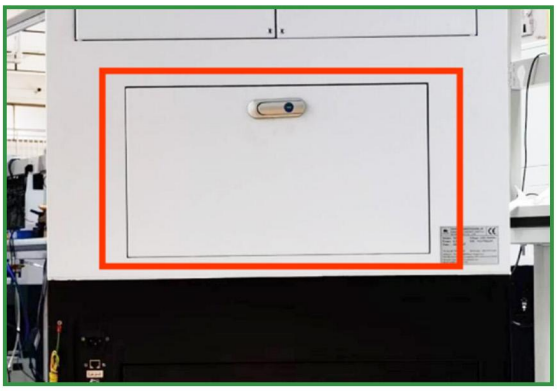
To ensure smooth machine motion, regularly replenish lubricant for lead screws to maintain optimal operation.

*1.*Lubricant Refilling

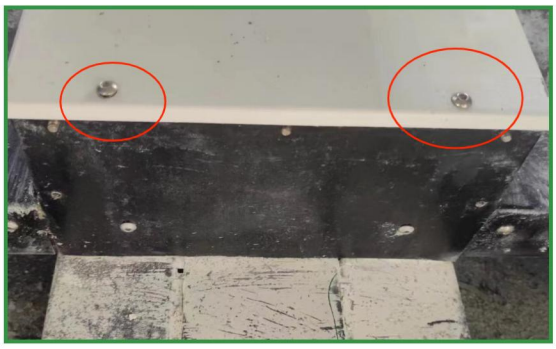
Open the lubricant reservoir cover, refill oil to the level indicated by calibration marks, and monitor the oil level every three months to ensure adequacy.

5.4 Y-Axis Maintenance

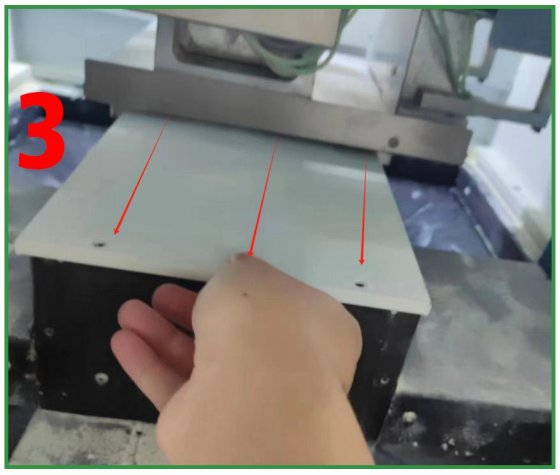
*1.*Y-Axis Guide Rail Disassembly & Cleaning



step1.Open the rear access panel of the machine.

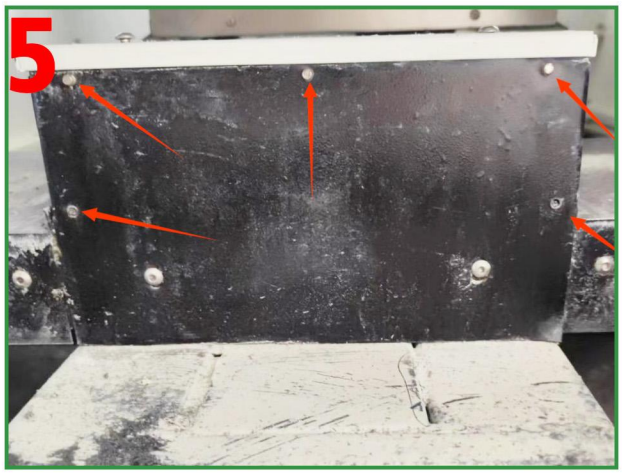


step2.Remove the securing screws with a screwdriver.



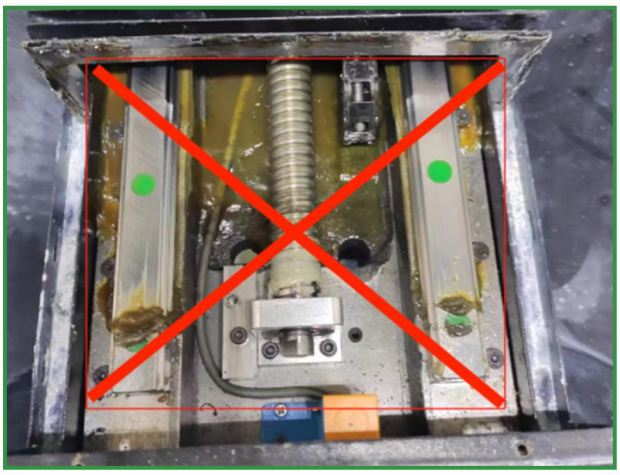
step3.Remove the guide rail cover plate from the rear section.

step4.Clean debris from the front and rear dust covers using a soft-bristle brush.



step5.Unscrew the fasteners securing the dust cover.

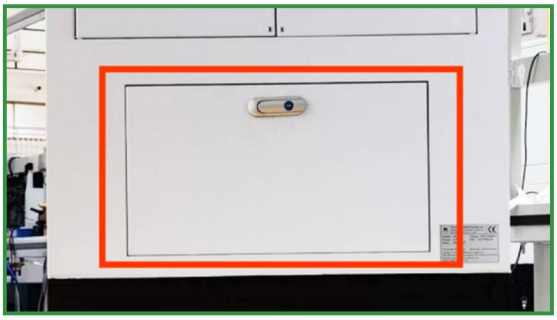
step6.Clean the guide rail beneath the dust cover (avoid dislodging debris into internal components).



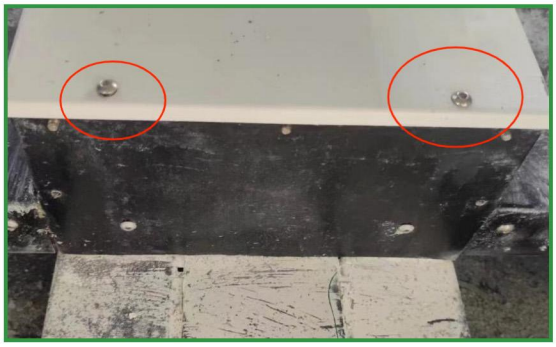
step7.Rinse the guide rail surface with water if necessary (prevent water ingress into internal parts).

step8.Reinstall the dust cover and plate in the correct sequence, ensuring full alignment.

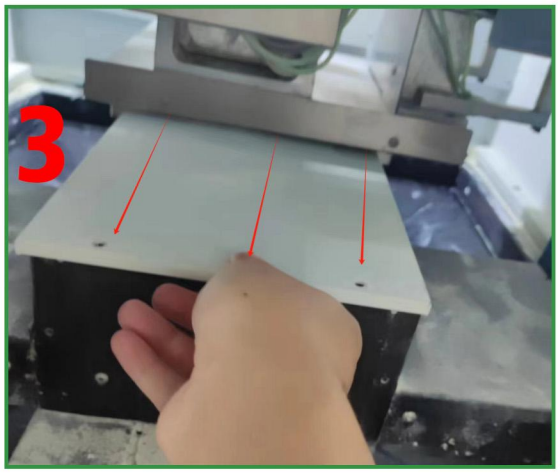
2. Y-Axis Lead Screw Maintenance



step1.Open the rear access panel of the machine.



step2.Remove the securing screws with a screwdriver.



step3.Remove the guide rail cover plate from the rear section.

step4.Unscrew the fasteners securing the dust cover.

step5.Inspect the lead screw for rust, wear, or structural damage.

step6.Activate the manual lubrication system for lead screw maintenance.

5.5 Tool Magazine Maintenance

*1.*Tool Magazine

***If foreign object debris becomes lodged in the tool magazine due to human factors and cannot be removed, disassemble the tool magazine following the approved procedure.**

step1.Remove the securing screws on the left side of the tool magazine.

step2.Detach the tool magazine access door.

step3.Loosen the alignment screws and relocate them to a non-interference area.

step4.Unscrew the cover plate fasteners and remove the plate.

step5.Disassemble the affected components and thoroughly clean foreign debris.

step6.Perform lead screw maintenance by activating the manual lubrication system.

*2.*Tool Selection

***To ensure machine stability, strictly use OEM-certified cutting tools.**