



USER MANUAL

5 Axis Bridge Saw

GQ-3220DS

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3.1.0 加工界面(Processing interface)

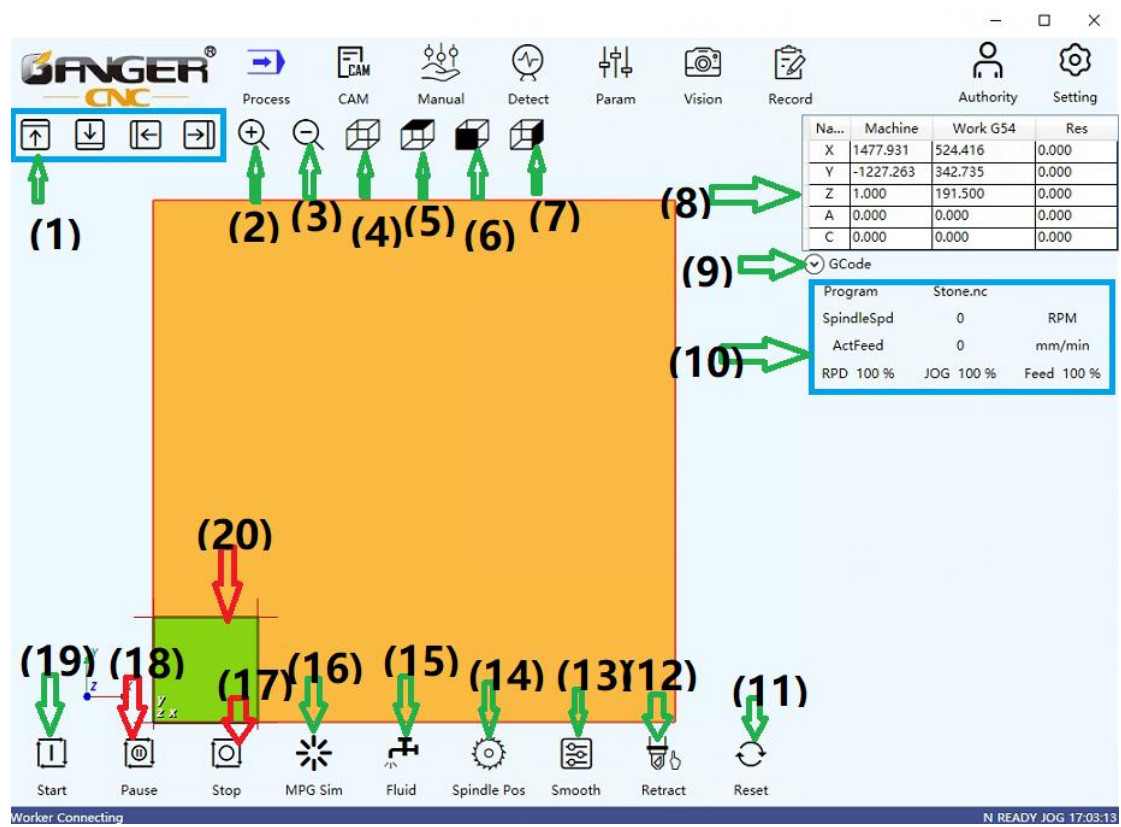


图 3.1

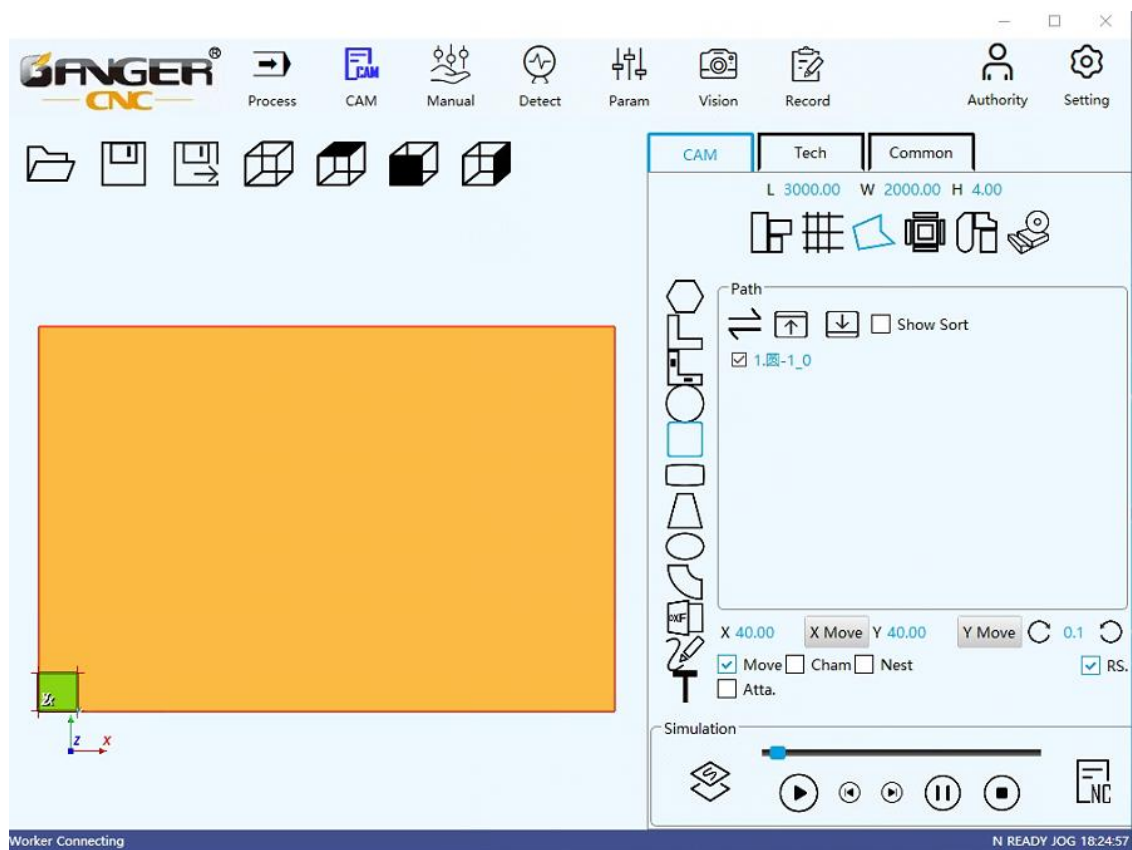
序号 Serial number	名称 Name	功能说明 Function Description
(1)	CAM 模拟画面控制按钮 CAM simulation screen control button	控制模拟画面向上/下/左/右方向移动 Control the simulation screen to move up/down/left/right
(2)	CAM 模拟画面放大按钮 CAM simulation screen zoom in button	放大 Zoom in
(3)	CAM 模拟画面缩小按钮 CAM simulation screen zoom out button	缩小 Zoom out
(4)	CAM 模拟画面切换等角视图 CAM simulation screen switching isometric view	切换为等角视图 Switch to isometric view
(5)	CAM 模拟画面切换俯视图 CAM simulation screen switching top view	切换为俯视图 Switch to top view
(6)	CAM 模拟画面切换前视图 CAM simulation screen switching front view	切换为前视图 Switch to front view

	CAM simulation screen switching front view	Switch to front view
(7)	CAM 模拟画面切换右视图 CAM simulation screen switching right view	切换为右视图 Switch to right view
(8)	机械坐标显示 Mechanical coordinate display	显示各轴实时机械坐标 Display real-time mechanical coordinates of each axis
(9)	加工 G 码显示或隐藏按钮 Process G-code show or hide button	加工 G 码显示或隐藏 Process G-code show or hide
(10)	加工状态信息显示 Processing status information display	显示加工状态信息 Display processing status information
(11)	重置 Reset	复位重置 Reset
(12)	退刀 Retract the saw blade	加工中异常停机时使用退刀将锯片退出工件功能 Use the function to retract the saw blade when the machine stops abnormally during processing.
(13)	铣平台 Smooth(Milling platform)	将平台加工平整功能（需配合参数页面铣平台参数设定） The function of processing the platform flat (needs to set parameter of the milling platform on the parameter page)
(14)	主轴正转 Spindle pos(Spindle CW)	控制主轴正转 Control spindle forward rotation
(15)	切削液 Cutting fluid	冷却液、水泵开关 Coolant, water pump switch
(16)	手轮模拟 Hand wheel	使用手摇轮控制加工进度 Use handwheel to control processing progress
(17)	停止 Stop	停止按钮 Stop button
(18)	暂停	暂停按钮，暂停后再次按暂停时会取消暂停，继续加工

	Pause	Pause button. Pressing “Pause” again after pausing will cancel the pause and continue processing.
(19)	启动 Start	启动加工按钮 Start processing button
(20)	CAM 模拟画面 CAM simulation screen	模拟 CAM 加工动作 Simulate CAM processing

3.1.1 CAM

图 3.2



3.1.2 手动界面 （ Manual interface ）

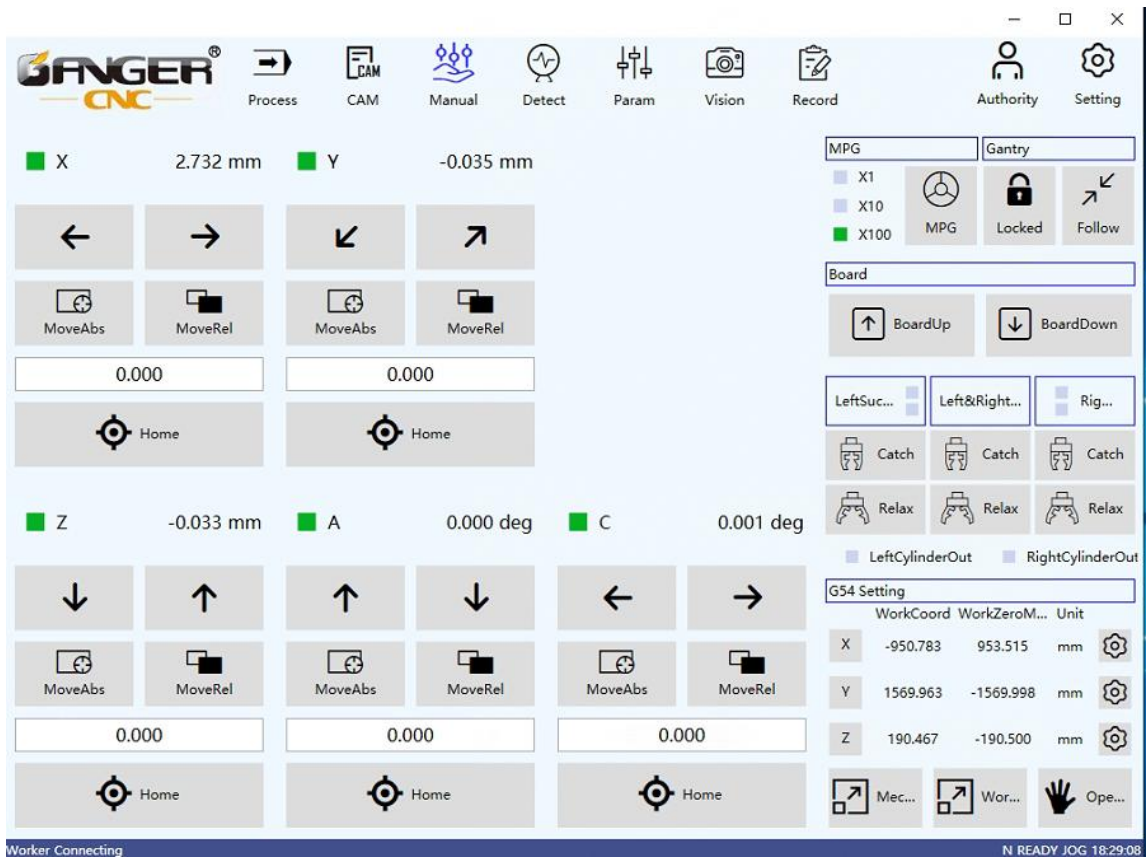
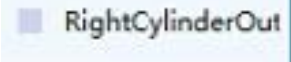


图 3.3

图示 Illustration	功能名称 Function Name	功能说明 Function Description
	寸动按钮 Inching button	按钮按下对应轴寸动，松开按钮，对应轴停止 Press the button and the corresponding axis will move. Release the button and the corresponding axis will stop.
	相对定位 Relative positioning	在输入框输入数值后，点击相对定位，对应轴会相对当前位置移动输入的数值 After entering a value in the input box, click Relative Positioning, and the corresponding axis will move the entered value relative to the current position.

	绝对定位 Absolute positioning	在输入框输入数值后，点击绝对定位，对应轴会相对零点位置移动输入的数值 After entering a value in the input box, click Absolute Positioning, and the corresponding axis will move the entered value relative to the zero position.
	回原点 Return to origin	对应轴回零点按钮 Corresponding axis return to zero point
	手轮 Hand wheel	手轮控制按钮和倍率监控 Handwheel control button and magnification monitoring
	龙门锁住 Gantry locked	为方便调试，龙门可解开或锁住 For convenient testing, the gantry can be unlocked or locked.
	龙门跟随 Gantry follow	龙门偏差较小时，可手动让龙门跟随 When the gantry deviation is small, the gantry can be manually followed
	翻板上升 Table up	控制翻板上升（配合参数翻板页面参数使用） Table up (used with the parameters of table flip page)
	翻板下降 Table down	控制翻板下降（配合参数翻板页面参数使用） Table down (used with the parameters of table flip page)
	左吸盘 Left suction cup	左吸盘状态显示 Left suction cup status display
	取料 take the slab	对应吸盘手动取料 Corresponding suction cup manually takes slab
	放料 Put the slab	对应吸盘手动取料后放料 Corresponding suction cup manually takes and puts slab
	左气缸伸出 Left cylinder extends	左气缸状态监控 Left cylinder status monitoring

	右气缸伸出 Right cylinder extends	右气缸状态监控 Right cylinder status monitoring
	坐标设定 Coordinate setting	对应各轴工件坐标设定按钮 Workpiece coordinate setting for corresponding each axis

3.1.3 侦测页面(Detection interface)

根据客户现场接线，显示客户 DI/DO。

Displays DI/DO based on customer field wiring.

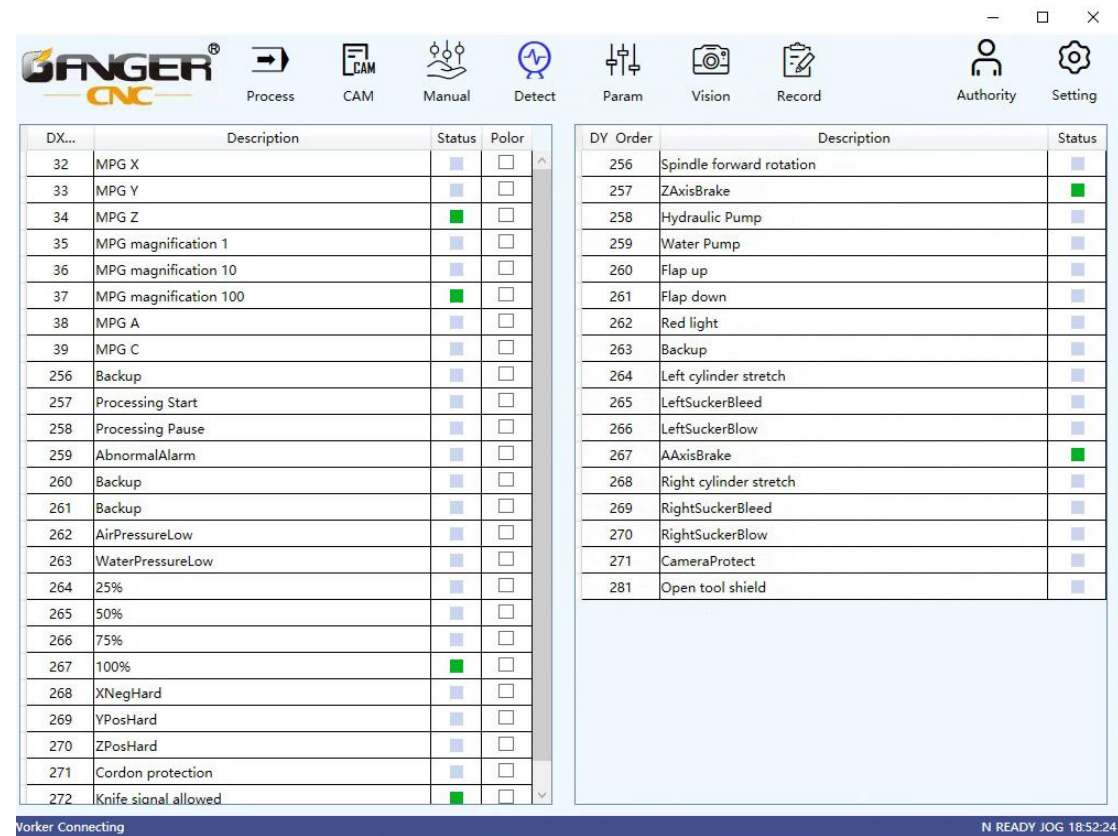


图 3.4

3.1.4 参数页面(Parameter interface)

3.1.4.1 参数主页面(Parameter main interface)

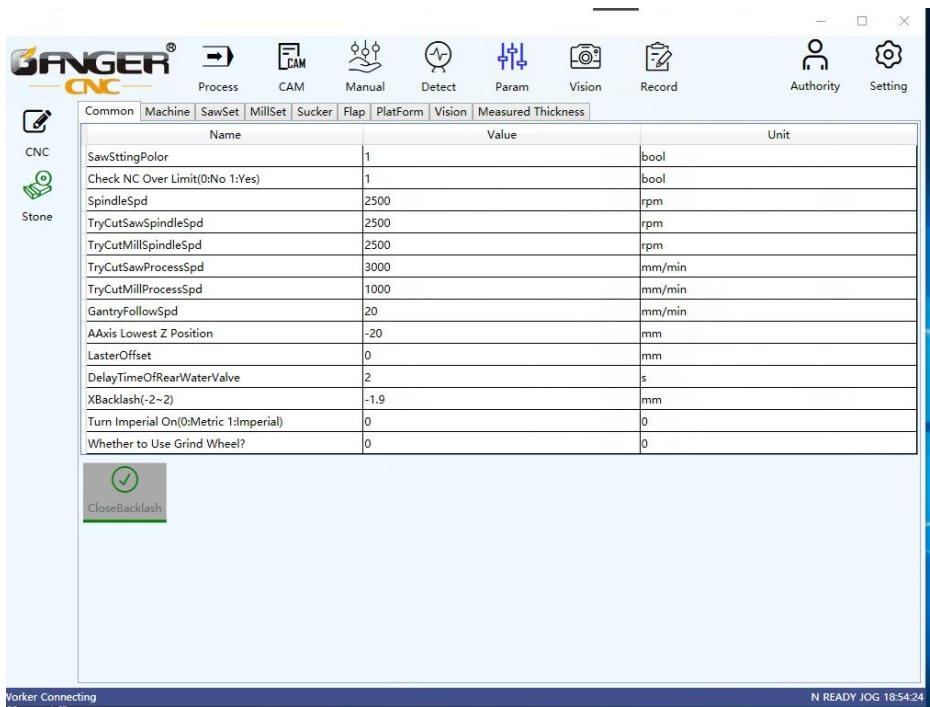


图 3.5

3.1.4.2 参数 CNC 网络设定页面(Parameter CNC network setting interface)

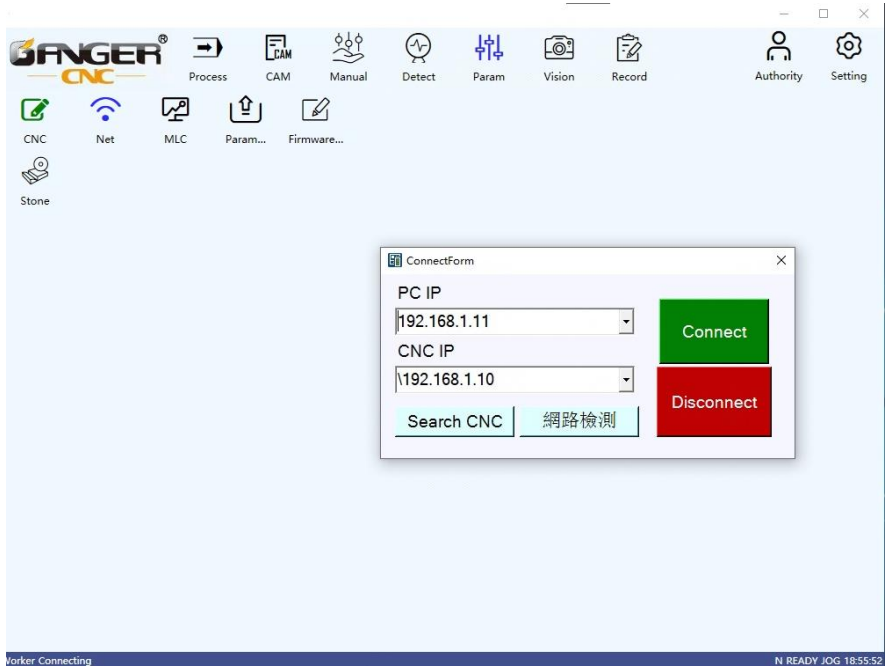


图 3.6

第一次开启 UI 时，需要在此页面搜寻 CNC 并点击联机。联机成功后左下角为联机中

When opening the UI for the first time, you need to search for CNC on this page and click Connect. After the connection is successful, the lower left corner indicates "Connecting".

3.1.4.3 参数 STONE 通用页面（Parameter STONE general interface

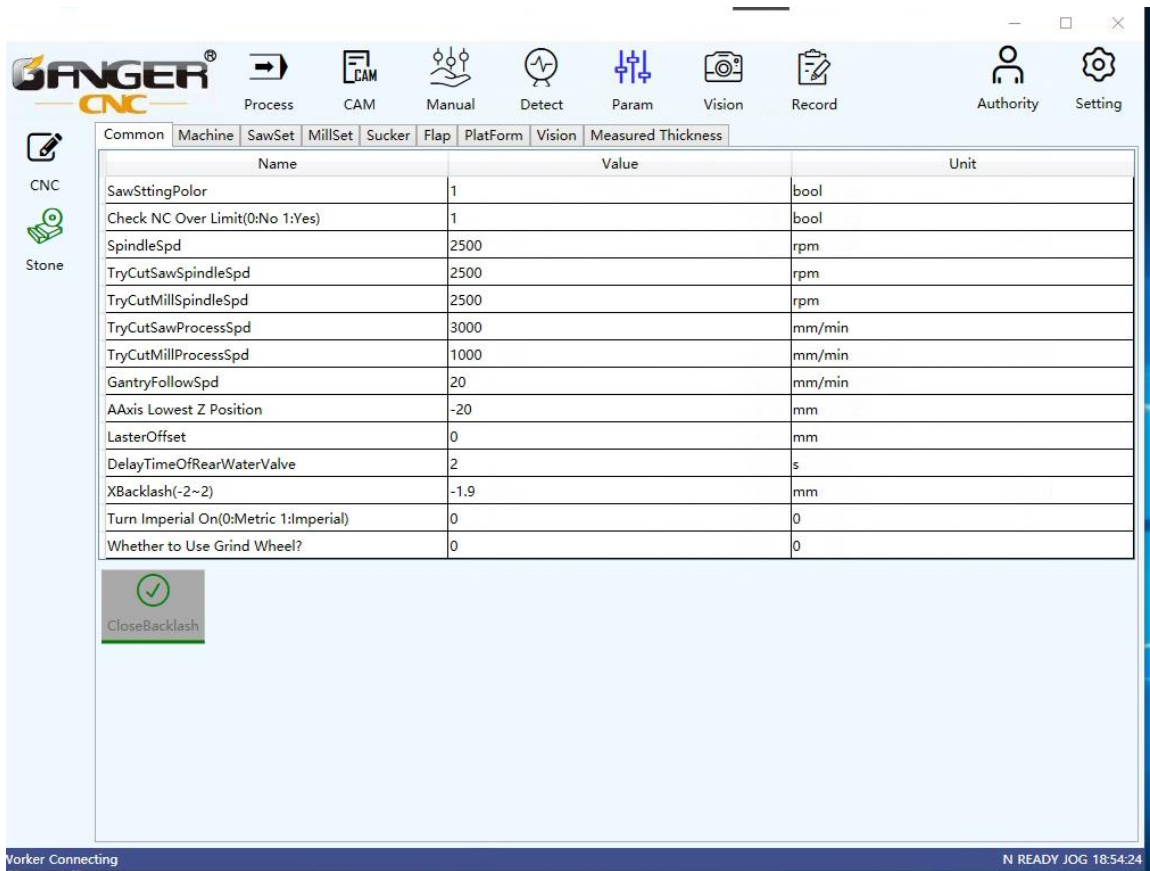


图 3.7

功能名称	功能说明
Function Name	Function Description
对刀仪信号极性（0：常闭 1：常开） Saw setting signal polarity (0: Normally closed 1: Normally open)	对刀仪信号常开/常闭切换 Tool setter signal normally open/normally closed switching
是否检查 NC 越界（0：不检查 1：检查） Check NC Over Limit(0: No , 1: Yes)	G 码中路径可能有超过机台行程，开启或关闭 G 码越界检查 The path in the G code may exceed the machine stroke. Turn on or off the G code out-of-bounds to check.
试切锯片主轴转速 Try Cut Saw spindle speed	锯片初始主轴转速 Saw blade initial spindle speed
试切铣刀主轴转速 Try Cut Mill spindle speed	铣刀初始主轴转速 Milling tools initial spindle speed

试切锯片进给率 Try Cut Saw process speed	锯片初始进给率 Saw blade initial feed rate
试切铣刀进给率 Try Cut Mill process speed	铣刀初始进给率 Milling tools initial feed rate
龙门跟随速度 Gantry follow speed	龙门追随功能时的速度 Speed during gantry following function
注油工作时间 (此时间内完成注油) Oil filling working time (oil filling is completed within this time)	注油持续时间 Oil filling duration
注油循环时间 (每隔此时间开始注油) Oil filling cycle time (oil filling starts every this time)	前一次注油与下一次注油之间的间隔时间 The time between the previous oil filling and the next oil filling.
A 轴最低 Z 轴机械位 A Axis Lowest Z position	A 轴较低时 , 为了避免 Z 轴再继续下降会造成 A 轴碰撞 , 所以设定 Z 轴低于此位置时 , A 轴不可以寸动或者使用手轮动。 When the A axis is low, to avoid the collision of the A-axis if the Z-axis continues to drop, therefore, set A axis can't move in inching or using handwheel when Z axis is lower than this position.
后端水阀延时侦测时间 Delay Time of Rear Water Valve	后端水阀安装在出水口附近 , 当启动水泵后 , 水需要此时间才可到达出水口检测点 The rear water valve is installed near the water outlet. When the water pump is started, it takes this time for the water to reach the water outlet detection point.
龙门误差容忍值 Laster Offset	龙门偏差超过此值后 , 影响加工品质 When the gantry deviation exceeds this value, it will affect the processing quality.
公英制单位切换 (0 : 公制 1 : 英制) Switch between metric and imperial units (0: metric 1: imperial)	公英制切换 Switch between metric and imperial systems
开启背隙补偿 XBacklash(-2~2)	切割圆形时需要开启背隙补偿 Backlash compensation needs to be turned on

	when cutting circles
--	----------------------

3.1.4.4 参数机械页面（Parameter mechanical interface）

按照图中步骤操作

Follow the steps in the picture



图 3.8

3.1.4.5 参数锯片对刀设定页面（Parameter saw blade setting interface）

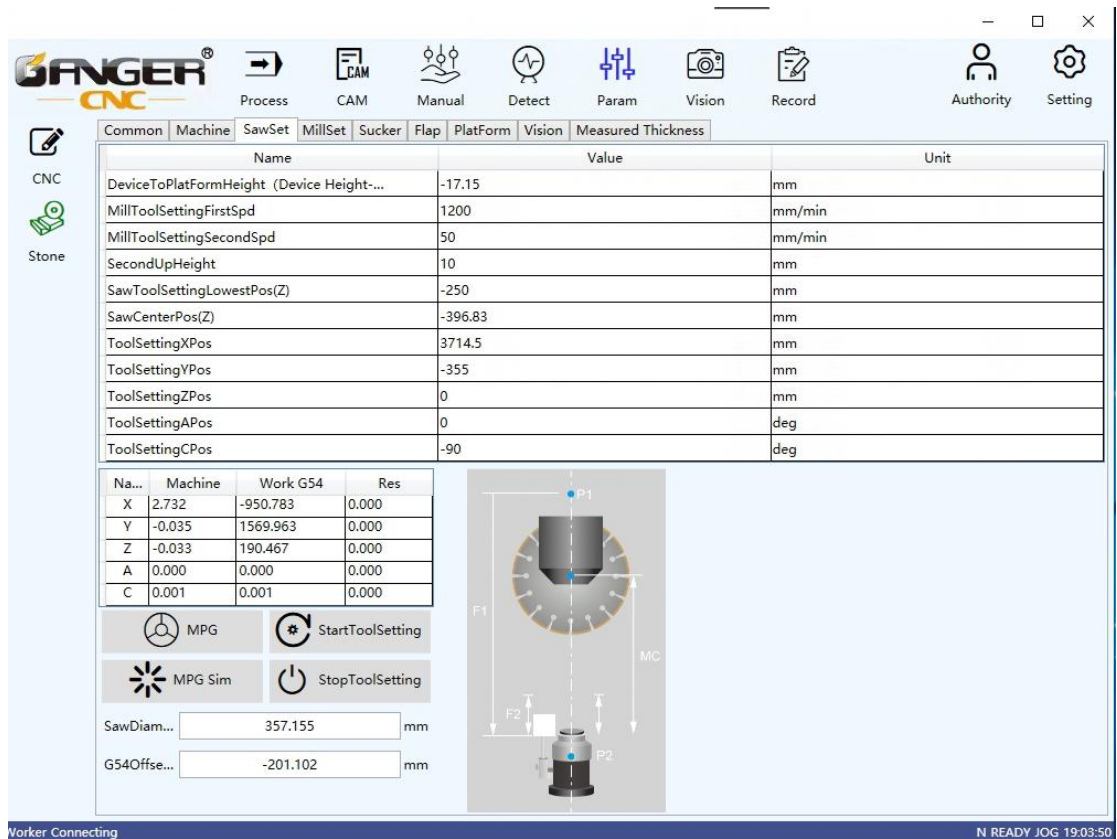


图 3.9

功能名称 Function Name	功能说明 Function Description
对刀仪与平台高度差 (对刀仪高度-平台高度) Device To Plat Height(Device Height-Platform Height)	对刀仪在平台上方数值为正 ,对刀仪在平台下方数值为负 The value of the tool sensor above the platform is positive, and the value of the tool sensor below the platform is negative.
对刀一段速 Mill Tool Setting First Speed	对刀时从 z0 到对刀仪上方安全位置速度 Speed from Z0 to the safe position above the tool setting gauge during tool setting.
对刀二段速 Mill Tool Setting Second Speed	对刀时从安全位置到触碰到对刀仪的速度 The speed from the safe position to touching the tool setter during tool setting.
二次对刀上移高度	触碰到对刀仪后抬起再次下移对刀的高度

Second Up Height	After touching the tool sensor, lift it, and move down the height of tool setting again.
锯片对刀最低机械位 (Z) Saw Tool Setting Lowest Position(Z)	为在对刀时保护锯片和对刀仪 ,锯片对刀时最低的位置设定 In order to protect the saw blade and tool sensor during tool setting, it is the lowest position when setting the saw blade.
锯片中心机械位 (Z) Saw Center Position(Z)	标准锯片的下沿触碰到对刀仪, 锯片中心 Z 的机械坐标值 When the lower edge of the standard saw blade touches the tool sensor, the mechanical coordinate value of the saw blade center Z
锯片对刀 X 位置 Tool Setting X Position	对刀仪所在的 X 轴机械位置 The X-axis mechanical position of the tool sensor
锯片对刀 Y 位置 Tool Setting Y Position	对刀仪所在的 Y 轴机械位置 The Y-axis mechanical position of the tool sensor
锯片对刀 Z 位置 Tool Setting Z Position	对刀开始时 Z 轴的机械位置 The Z-axis mechanical position at the start of tool setting
锯片对刀 A 位置 Tool Setting A Position	对刀开始时 A 轴的机械位置 The A-axis mechanical position at the start of tool setting
锯片对刀 C 位置 Tool Setting C Position	对刀开始时 C 轴的机械位置 The C-axis mechanical position at the start of tool setting

3.1.4.6 参数铣刀对刀设定页面(Parameter milling cutter setting interface)

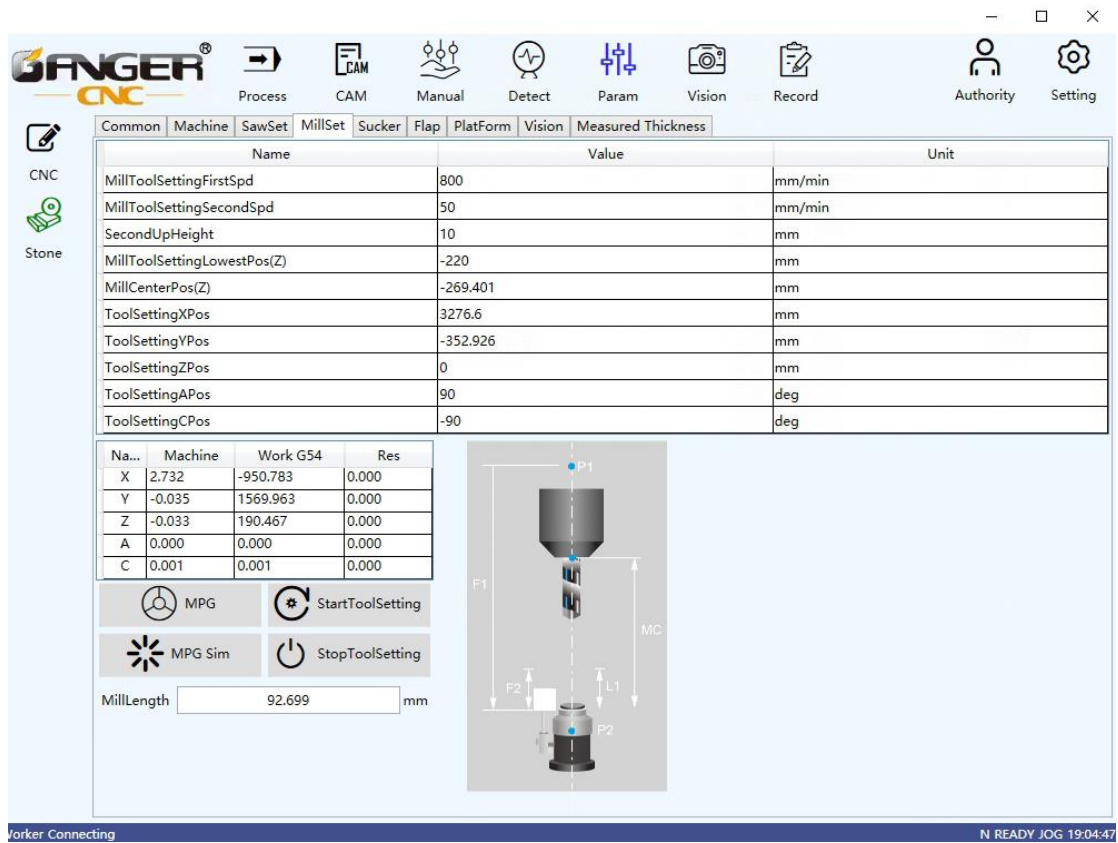


图 3.10

3.1.4.7 参数吸盘设定页面（Parameter sucker setting interface）

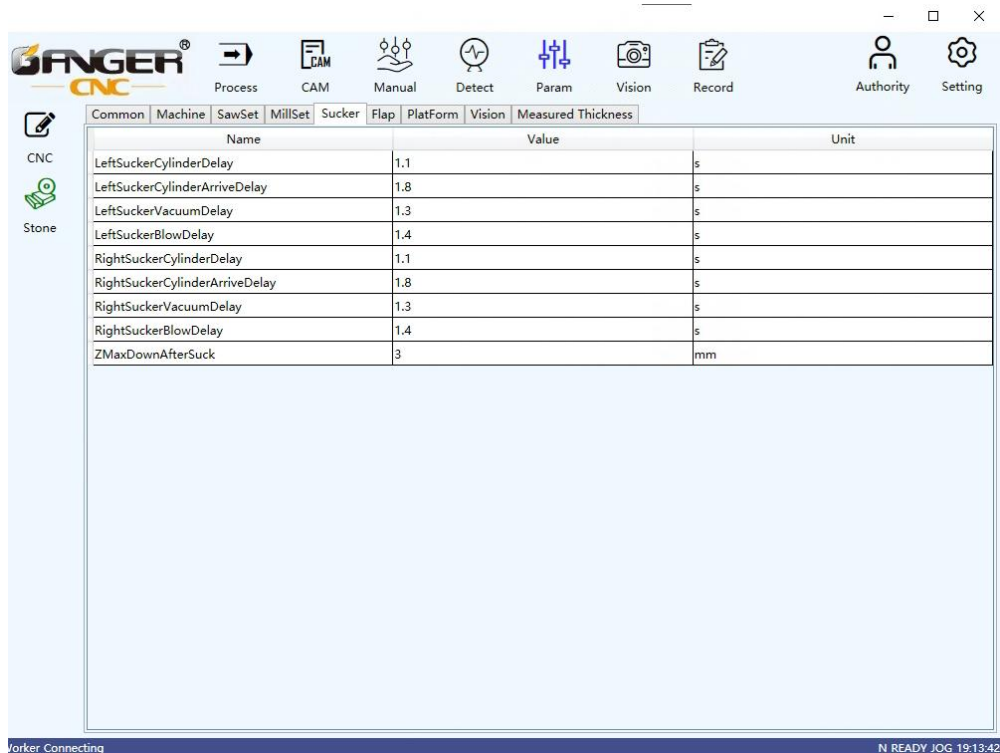


图 3.11

3.1.4.8 参数翻板设定页面（Parameter table flip setting interface）

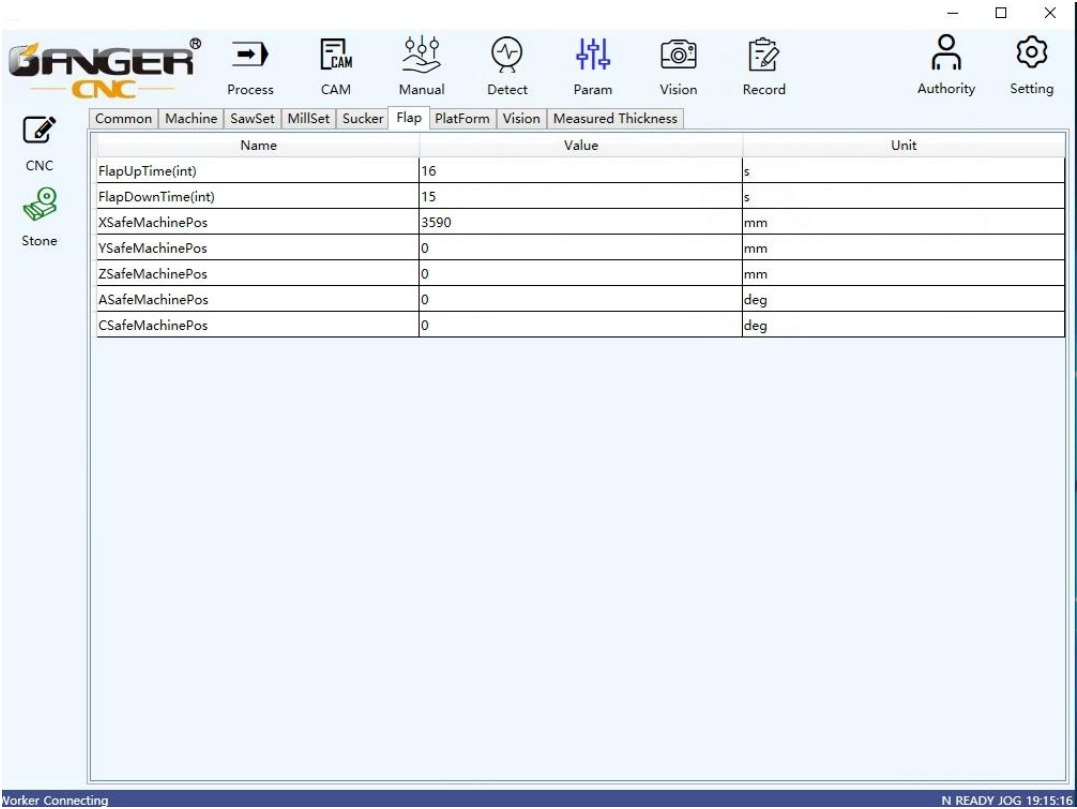


图 3.12

3.1.4.9 参数铣平台设定页面（Parameter milling platform setting interface）



图 3.13

3.1.5 参数视觉页面 (Parameter visual interface)

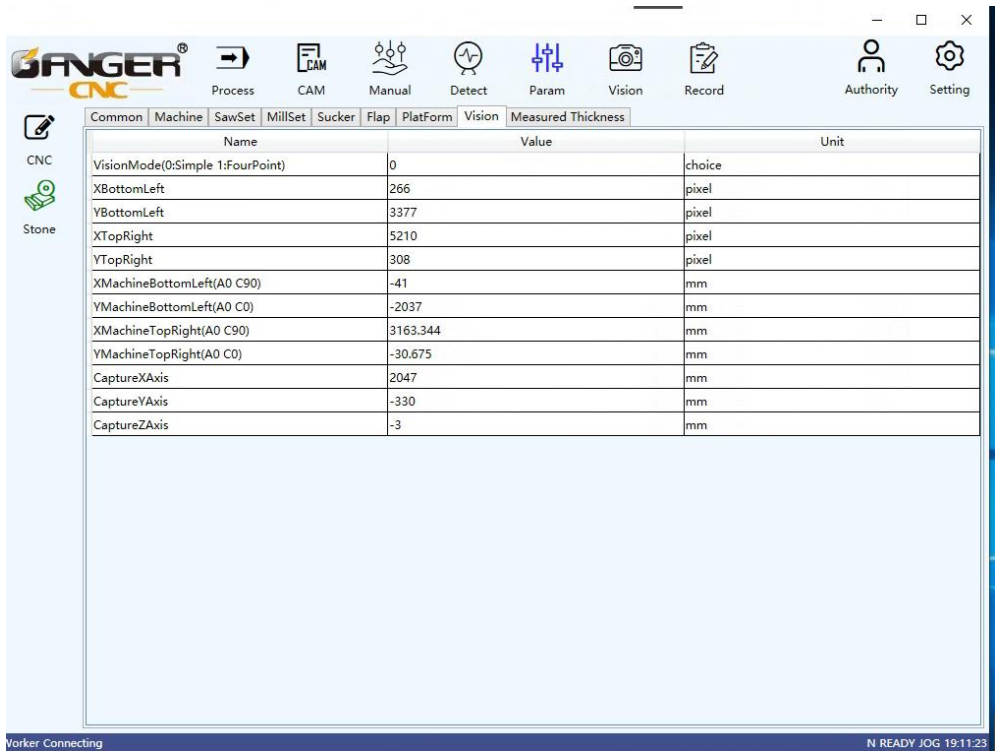


图 3.14

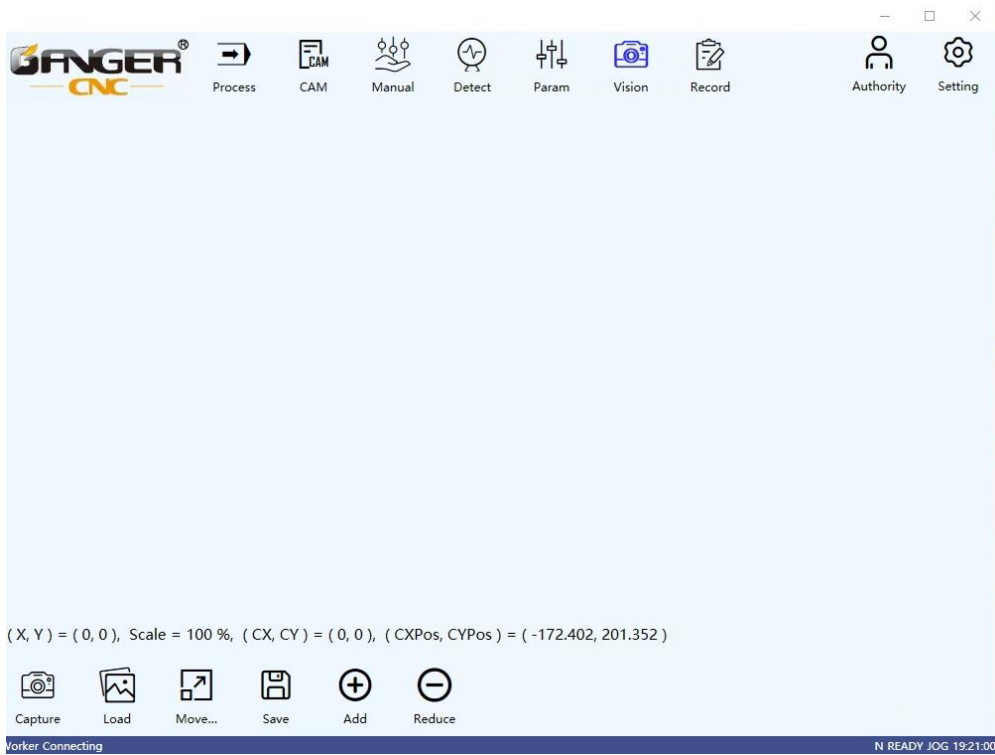
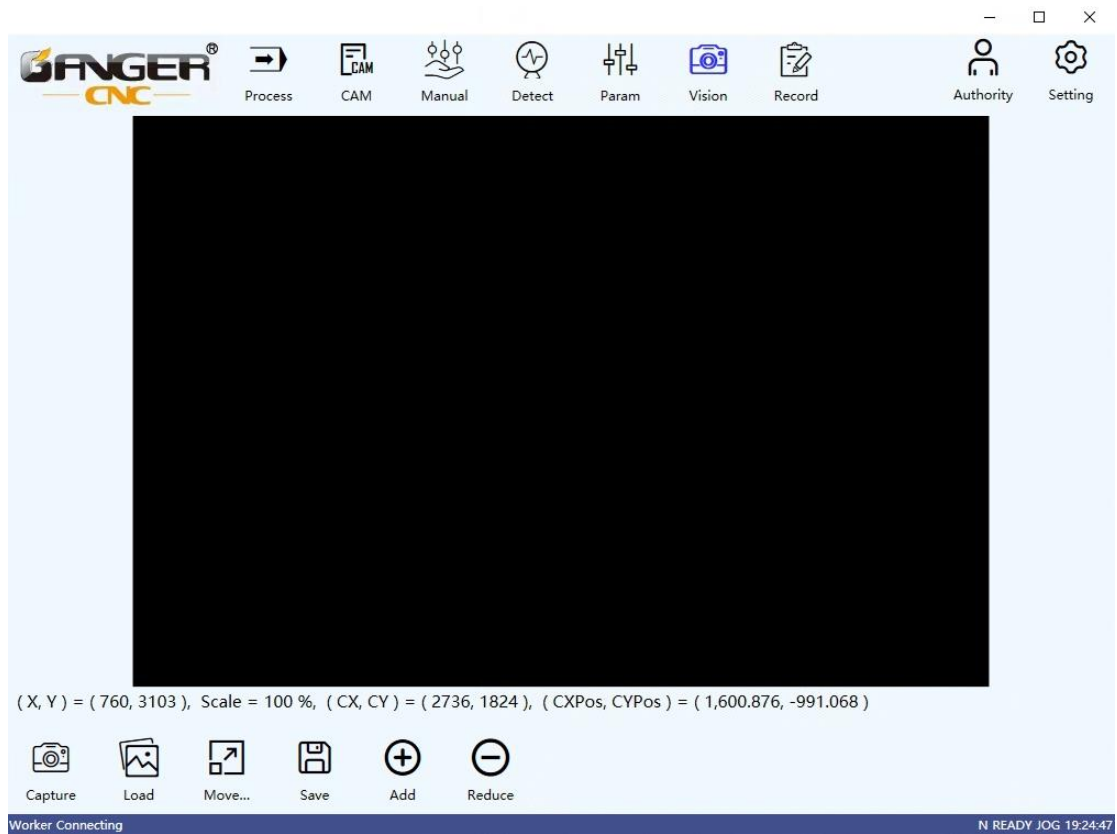
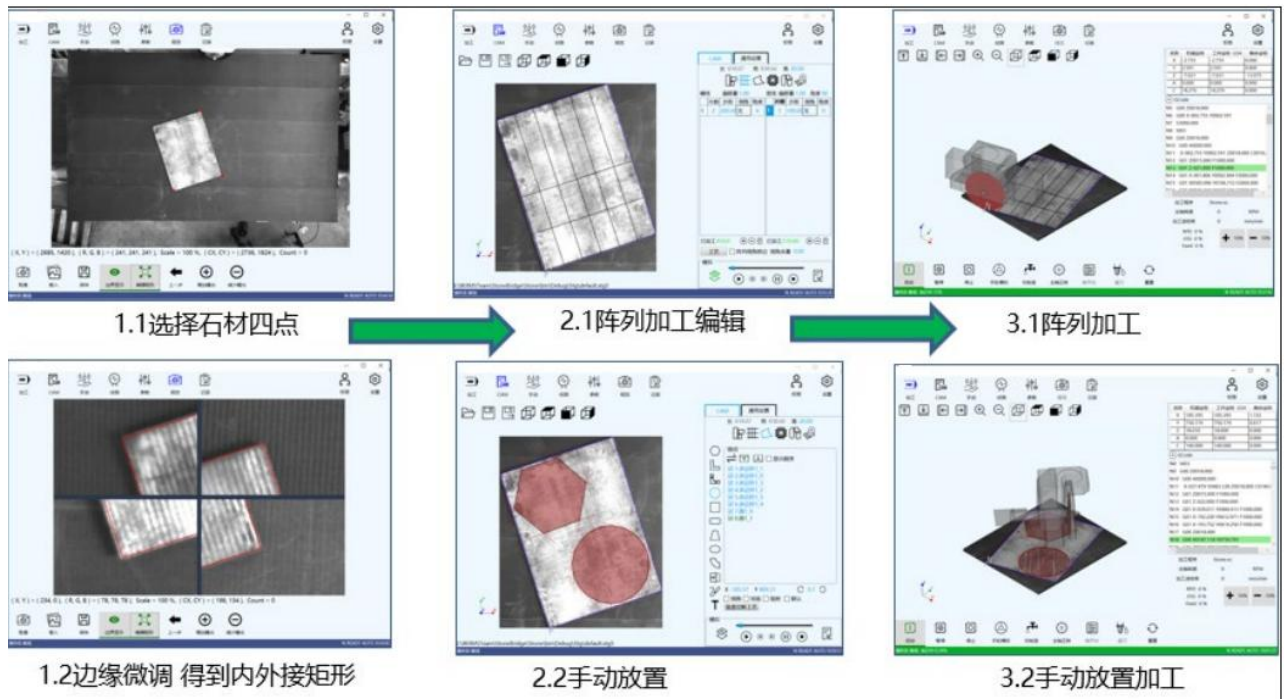


图 3.15



3.1.5.1.安装 Gige 相机 Install Gige camera

3.1.5.2.点击取像拍摄出当前图像 Click to capture the current image



3.1.5.3 功能描述: Function description:

3.1.5.3.1. 从相机取像

Capturing images from the camera

3.1.5.3.2. 点选出石材四点，透过计算得到外接矩形和内接矩形位置及尺寸并将信息传递 CAM

Click to select four points of the stone slab, calculate the positions and sizes of the circumscribed rectangle and inscribed rectangle, and transfer the information to CAM

3.1.5.3.3. CAM 上可进行阵列加工及手动排版放置工件

Array processing and manual layout and placement of workpieces can be performed on the CAM.

3.1.5.4 图像区域鼠标操作 Mouse operation in image area

3.1.5.4.1. 左键双击：出现红色十字线，十字线交叉中心的坐标为(CX,CY)数值

Double left click: a red cross line appears, and the coordinates of the intersection center of the cross line are (CX, CY) values.

3.1.5.4.2. 右键双击：恢复自适应 (FitAll)

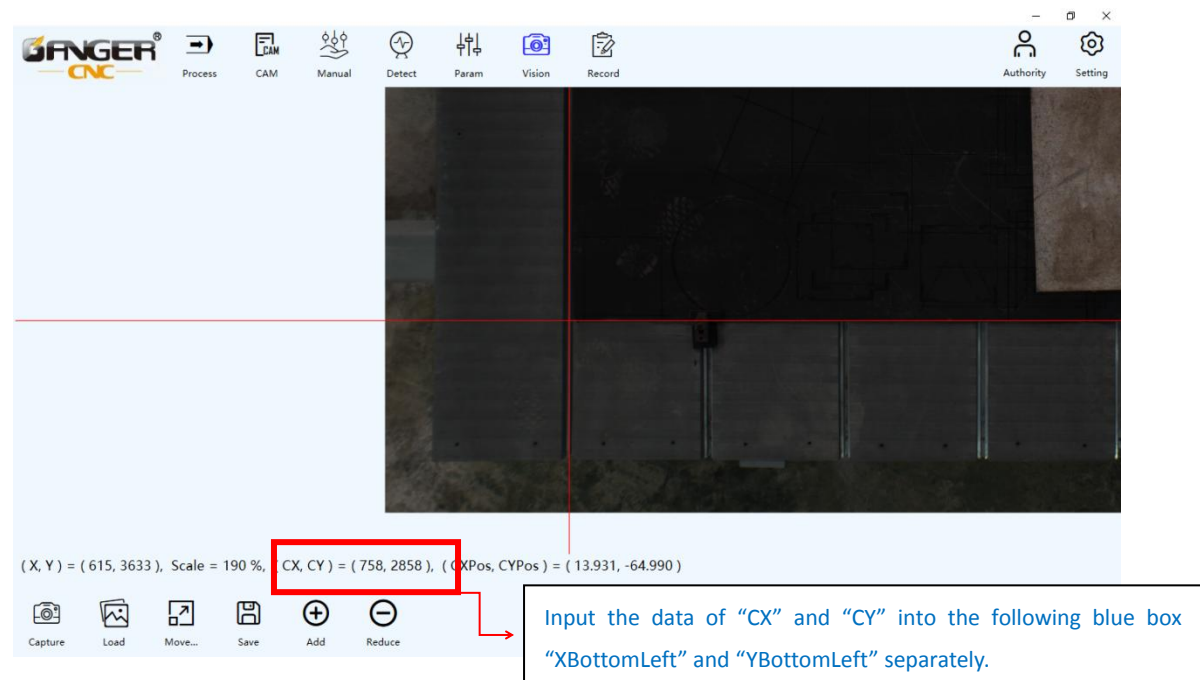
Double right click: Restore adaptive (FitAll)

3.1.5.4.3. 中间滚轮滚动：放大/缩小

Middle wheel scrolling: zoom in/out

3.1.5.4.4. 中间滚轮按住拖拽：拖动图像

Press and drag the middle wheel: drag the image



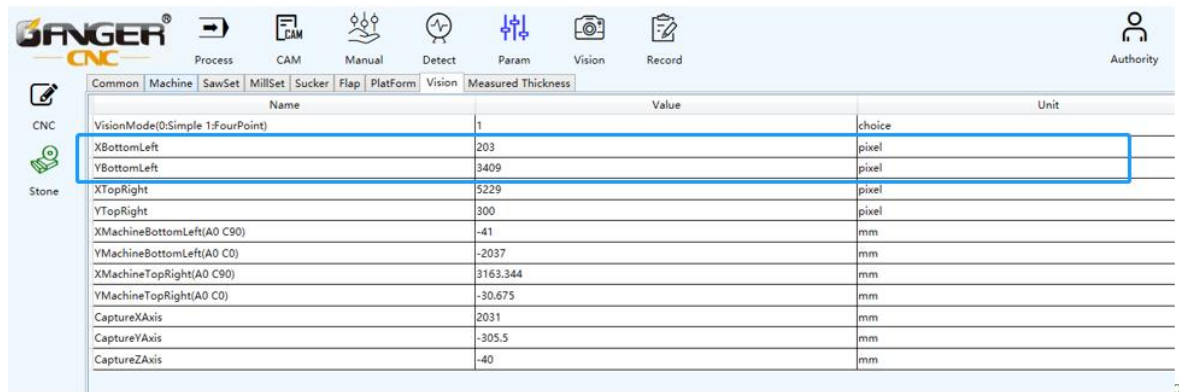


图 3.15

左下角像素点参数设置 (Lower left corner pixel parameter settings)

1. 左键双击显示红色十字线

Double left click to display the red cross line.

2. 配合滚轮拖拽及放大缩小，将十字中心对准加工平台左下角

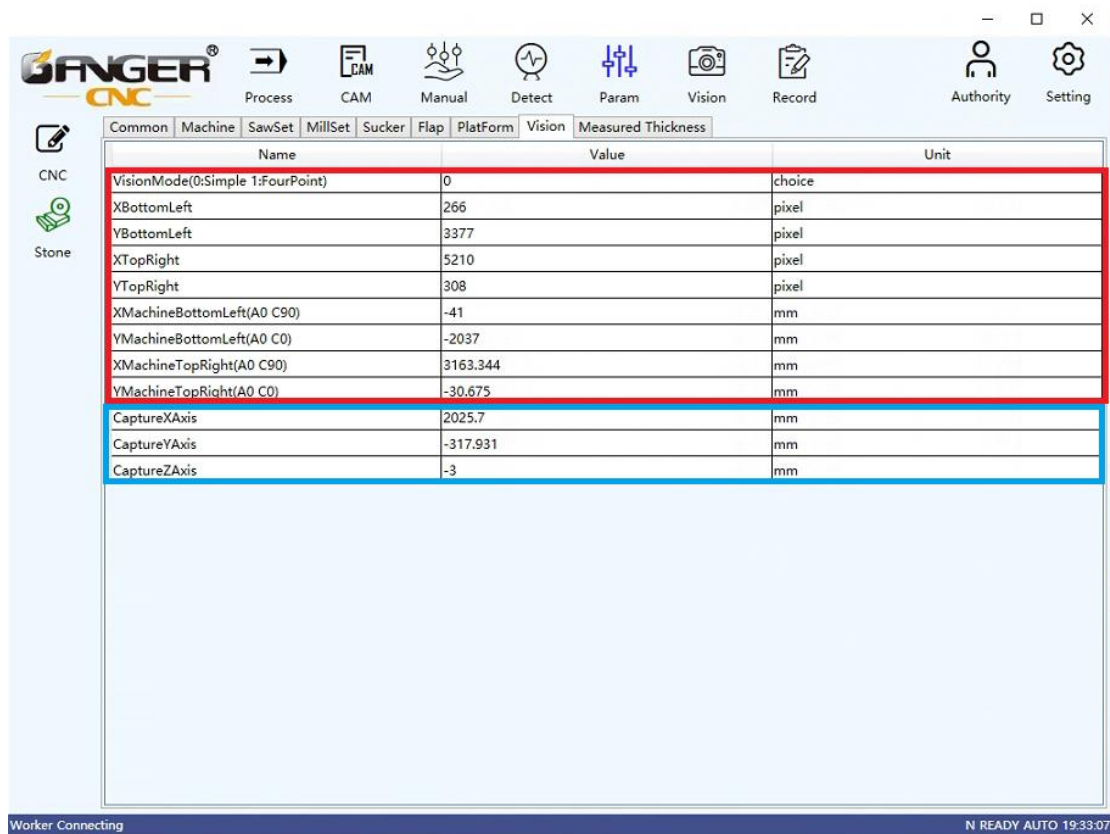
Use the scroll wheel to drag and zoom in and out, and align the center of the cross with the lower left corner of the processing platform.

3. 将 CX,CY 数值填入【参数】-【视觉】对应的【左下角像素点 X】，【左下角像素点 Y】

Fill in the CX, CY values into [Parameters]-[Visual] corresponding [X Bottom Left pixel], [Y Bottom Left pixel]

右上角像素点坐标操作一致

The upper right corner pixel coordinates are with same operation.



机械位设定 (蓝框)

Mechanical bit setting (blue box)

4. 与对石材左下角方式一致，换到平台左下角及右上角，注意 C 轴的角度 (C0 取得 Y 位置，C90 取得 X 位置)

In the same method as the lower left corner of the stone, change to the lower left corner and upper right corner of the platform, paying attention to the angle of the C axis (C0 gets the Y position, C90 gets the X position)

相机拍摄位置设定

Camera shooting position settings

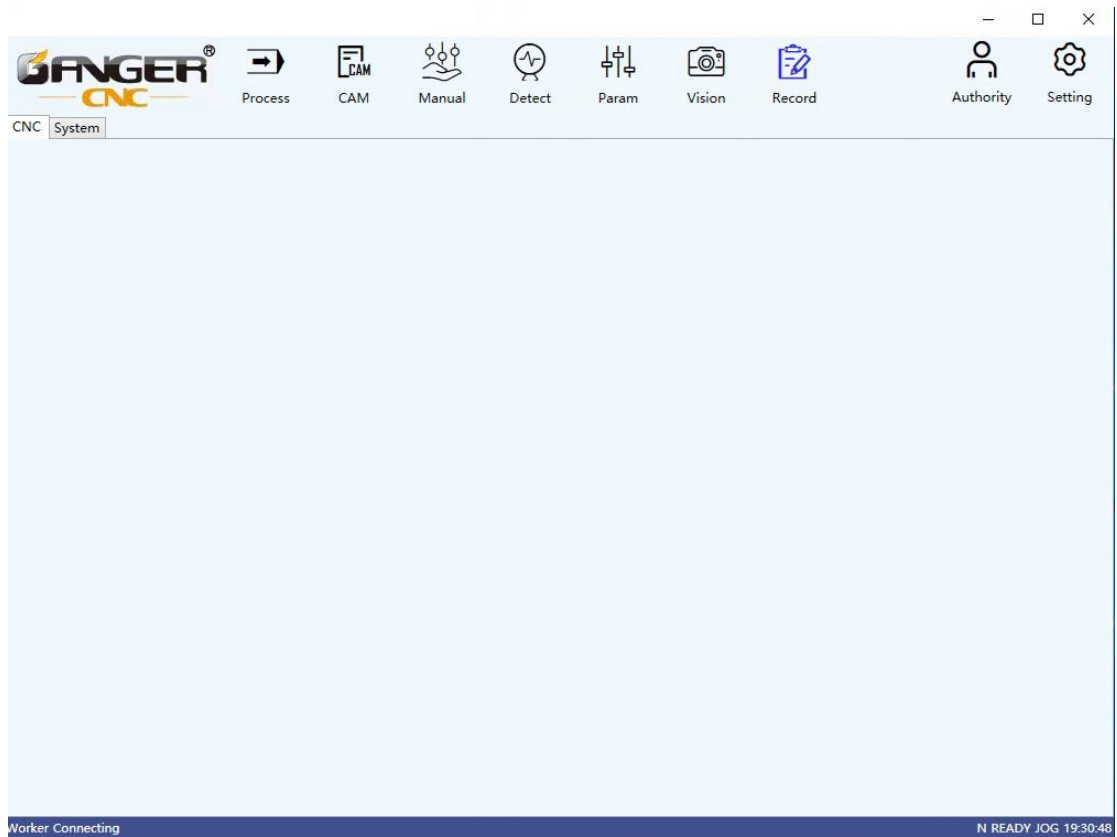
手动输入拍摄位置的伺服机械坐标

Manually enter the servo mechanical coordinates of the shooting position

3.2 记录页面 (Record interface)

记录当前系统和 CNC 报警等信息

Record information such as current system and CNC alarms



Chapter 4 CAM

4.1 CAM

4.2 CAM 主画面 Interface

启动 CAM 界面后会显示主画面，主画面分为功能区、显示区与工具栏三大区块。

Starting the CAM interface, the main screen will be displayed. The main screen is divided into three major areas: the functional area, the display area and the toolbar.

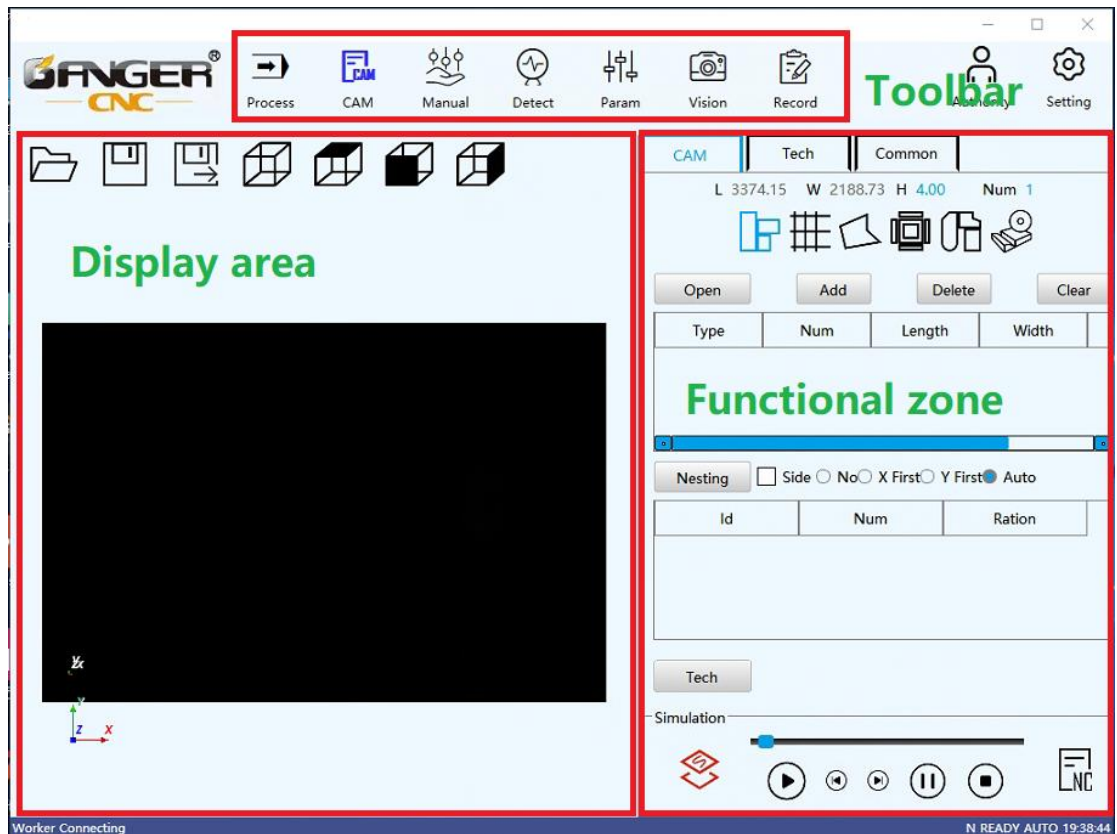


图 4.1 CAM 主界面

4.2.1 工具栏 (Toolbar)

工具栏包括加工，CAM，手动，侦测，参数，记录各个界面按钮

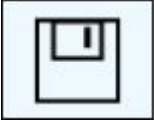
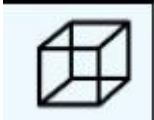
The toolbar includes Process, CAM, Manual, Detect, (Param) Parameter, Vision and Record.

4.2.2 显示区 (Display area)

CAM 界面工具栏包含工件检视、旋转、储存、开启项目文件功能。

The CAM interface toolbar includes work-piece viewing, rotation, saving, and opening project file functions.

图示 Illustration	功能名称 Function Name	功能说明 Function Description
	开启旧档 Open old files(saved)	开启扩展名为 stg5 的档案，读取 CAD/CAM 软件中

	files in controller)	CAD、刀具库、通用参数对话框的参数。 Open the file with the extension stg5 and read the parameters of the CAD, tool library, and general parameter dialog boxes in the CAD/CAM software.
	储存档案 Save files	将 CAD/CAM 软件中 CAD、刀具库、通用参数对话框的参数，储存为扩展名 stg5 的档案。 Save the parameters of CAD, tool library, and general parameter dialog boxes in CAD/CAM software as files with the extension stg5.
	另存新檔 Save a new file	开启旧档并且修改后 ,另存新檔可额外储存一份不同党档名的 stg5 档案，储存档案则是会覆盖原档 After opening the old file and modifying it, you can save a stg5 file with a different party file name by saving a new file. (Attention:Save files will overwrite the original file)
	工件等角视图 Isometric view of work piece	点击此按钮可将工件观看视角切换为等角视图 Click this button to switch the viewing angle of the workpiece to the isometric view
	工件上视图 Work piece top view	点击此按钮可将工件观看视角切换为俯视图 Click this button to switch the viewing angle of the workpiece to the top view
	工件前视图 Work piece front view	点击此按钮可将工件观看视角切换为前视图 Click this button to switch the viewing angle of the workpiece to the front view
	工件右视图 Workpiece right view	点击此按钮可将工件观看视角切换为右视图 Click this button to switch the viewing angle of the workpiece to the right view

3D 画面显示区用以显示生成的工件、刀具模型与加工路径线条，点击鼠标右键移动鼠标位置可旋转工件观看视角，点击鼠标中键移动鼠标位置可平移工件位置，滚动鼠标滚轮针对仿真显示区中心位置放大缩小工件倍率。

The 3D drawing display area is used to display the generated workpiece, tool model and machining path lines. Click the right mouse button and move the mouse position to rotate the workpiece viewing angle. Click the middle mouse button and move the mouse position to move the workpiece position. Roll the mouse wheel to Zoom in or zoom out the workpiece Simulation magnification

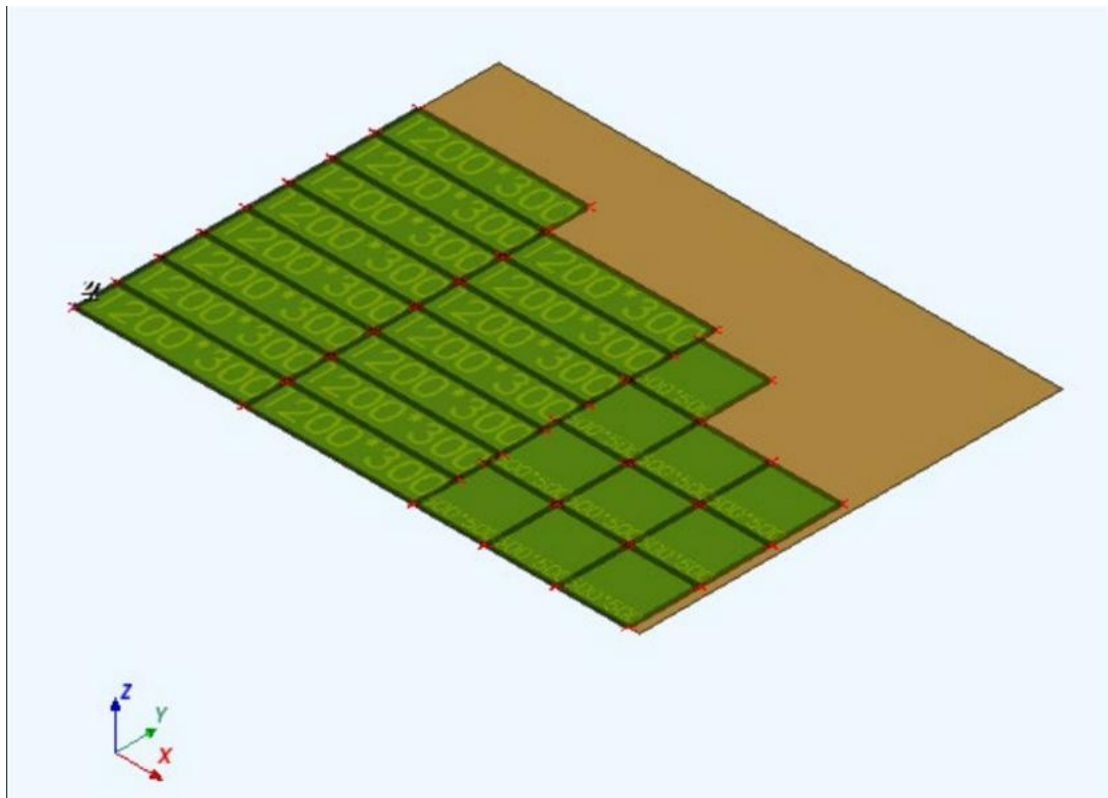


图 4.2 3D 画面显示区

4.2.3 功能区 (Function zone)

功能区分别包含三个页签：(1) CAM、(2) 工艺、(3) 通用设置。

The functional area contains three tabs: (1) CAM, (2) Tech (process technique), (3) Common(common parameters)

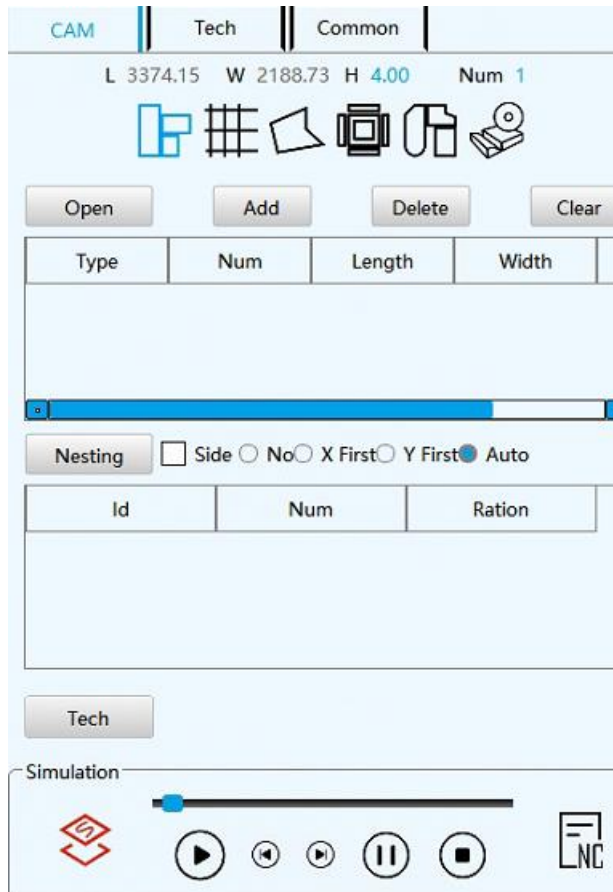


图 4.3 功能区界面

基本操作流程如下：

The basic operation process is as follows:

1. 工艺页面和通用设置页面设定加工参数。

Set processing parameters in Tech (process technique) and Common (common parameters)

2. CAM 页面定义工件尺寸与加工特征。

The CAM is to set the work-piece size and machining characteristics.

3. 点击 CAM 页面中模拟功能的路径生成按钮，CAM 界面会自动生成可加工路径。

Click the path generation button  of Simulation in the CAM page, and the CAM interface will automatically generate a machinable path.

4. 点击模拟功能的开始按钮，CAM 界面开始模拟加工顺序并显示于 3D 图面显示区。



Click the start button of the Simulation , and the CAM interface starts to simulate the processing sequence and displays it in the 3D drawing display area.

5. 确认无误后点击程序加载输出 NC 文件至运动控制软件。



After confirming that it is correct, click to generate its NC file and save in controller software.

4.3 功能介绍 （ Features ）

4.3.1 CAM 页签 （ CAM ）

CAM 页面提供 6 个不同的加工功能，包含：排版加工、阵列加工、异型加工、桌面加工、厨台加工及仿型加工。

The CAM provides 6 different processing functions, including: Nest processing, array processing, special-shape processing, table top processing, kitchen top processing and profiling processing.

4.3.2 排版加工 (nest processing)

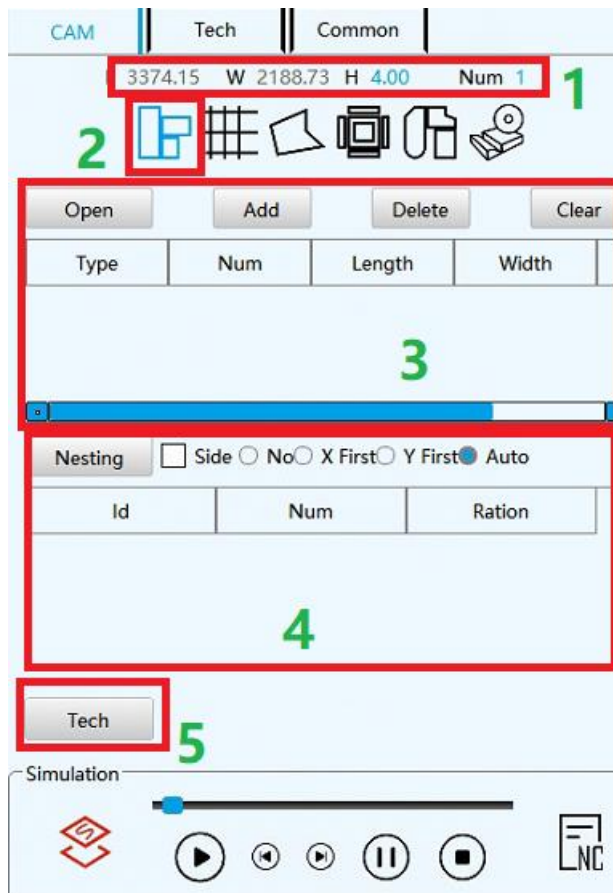


图 4.3 功能区界面

(1) 调整可放置加工件的素材尺寸大小，排版加工则可以设定素材数目。

Adjust the size of raw slab, and quantity, (marked 1)

(2) 自动排版。

Automatic Nesting, (marked 2)

(3) 加工件列表，可设定欲排版的加工件数目及尺寸，并显示排版后的剩余数量。

Cut size list, you can set the cut shape, length, width, and numbers
it will show the remain quality after nesting finished (marked 3)

Open：可导入外部的 Excel 档案添加加工件。

Open：External Excel files can be imported to add work pieces.

新增：新增一项加工件。

Add: Add a new processing part.

删除：删除选中的加工件。

Delete: Delete the selected work piece.

清空：清除列表中所有的加工件数据。

Clear: Clear all work piece data in the list.

(4) 排版及结果列表，若排版的素材数量大于 1，选中不同编号，可在 3D 显示区显示相对应的排版结果。

Nesting and result list, if the quantity of raw slab to nest is more than 1 piece, selecting different numbers of slab to display the corresponding nesting results in the 3D display area. (marked 4)

排版：计算素材及各加工件的尺寸及数量，自动规划出合适的排版结果。默认为自动安排加工路径顺序，水平/竖直分离则是优先将余料的水平/垂直方向的最大空间移走，再开始切割剩余的工件。

Nesting: Calculate size and quantity of the slab and cut piece, automatically plan appropriate nest results. automatically arrange the processing path sequence. Horizontal/vertical separation gives priority to removing the largest horizontal/vertical space of the remaining material before starting to cut the remaining workpiece.

修边：勾选修边功能，则加工时锯片会先修整素材的左边和下边缘，再进行加工。

SIDE: If the SIDE function is chosen, the saw blade will trim the left and front edges of the slab before processing.

加工工艺参数设定，排版加工界面所设定的工艺参数仅会套用在排版加工。

Tech (Processing parameter setting shown in below table photo 4.5), the process parameters set in the nesting interface will only be applied to Nest process

PartTech

Saw Tech

Feedrate 2500.00

Chamfer F 1500.00

Z Feedrate 500.00

Spindle 3000

Per Dis 5.00

Line Extend Dis 0.00

Back F 2000.00

Chamfer Back F 1000.00

Chamfer Z F 500.00

Chamfer Up F 300.00

B. Per Dis 3.00

Extend Depth 0.00

Mill Tech

Feedrate 1000.00

Z Feedrate 300.00

Helix Rad 5.00

Helix Enter ☐

Spindle 3000

Per Depth 5.00

Helix Per Len 6.00

Drill Hole ☐

Ration ☐ Max F: 2000.00

	Min(Con.)	Max	F	XY F	PerDepth	BPerDepth	Chamfer F	Chamfer XY F	hamfer PerDept	iamfer BPerDep
1	0.00	20.00	-	-	-	-	-	-	-	-
2	20.00	25.00	100.00	39.99	2.00	1.00	100.00	39.99	2.00	1.00
3	25.00	35.00	100.00	52.13	3.00	1.00	100.00	52.13	3.00	1.00
4	35.00	50.00	100.00	65.75	4.00	1.00	100.00	65.75	4.00	1.00
5	50.00	70.00	100.00	77.38	5.00	1.00	100.00	77.38	5.00	1.00
6	70.00	95.00	120.00	102.76	6.00	2.00	120.00	102.76	6.00	2.00
7	95.00	125.00	200.00	181.81	7.00	3.00	200.00	181.81	7.00	3.00
8	125.00	160.00	300.00	282.44	6.00	3.00	300.00	282.44	7.00	3.00
9	160.00	200.00	400.00	384.53	7.00	3.00	400.00	384.53	7.00	3.00
10	200.00	245.00	600.00	584.24	7.00	3.00	500.00	486.86	7.00	3.00
11	245.00	295.00	700.00	687.16	7.00	3.00	600.00	588.99	7.00	3.00
12	295.00	350.00	800.00	789.49	7.00	3.00	700.00	690.80	7.00	3.00
13	350.00	410.00	900.00	891.34	7.00	3.00	800.00	792.30	7.00	3.00
14	410.00	480.00	1000.00	992.95	7.00	4.00	900.00	893.66	7.00	4.00

OK

Cancel

图 4.5 加工工艺弹窗界面 Photo 4.5 Interface of Tech

4.3.3 阵列加工 (Array processing)

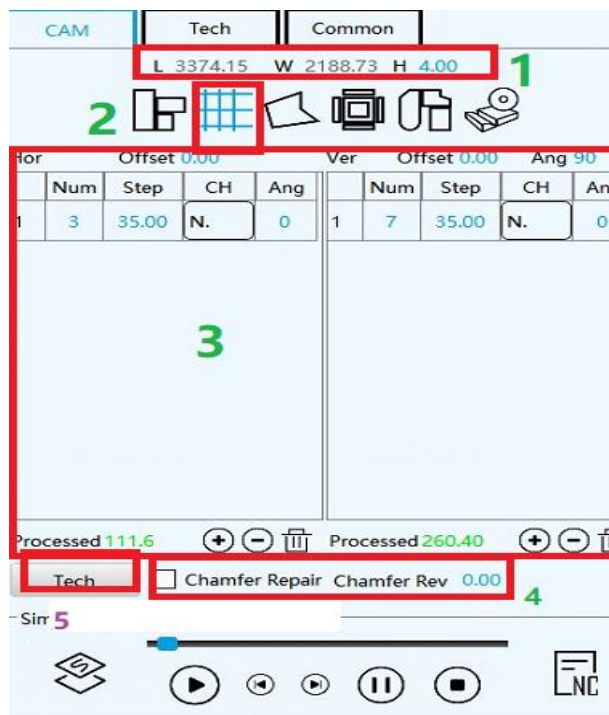


图 4.6 阵列加工页面

(1) 调整可放置加工件的素材尺寸大小。

Adjust the size of raw slab, (marked 1)

(2) 阵列加工。

Array processing. (marked 2)

(3) 横/竖线：设定阵列加工的方向，竖线可设定倾斜角度。

Horizontal/vertical line: Set the direction of array processing, and the vertical line can set the tilt angle. (marked 3)

偏移量：阵列加工的第一条横/竖线距离素材下/左方一定长度再开始加工。

Offset: The first horizontal/vertical line of array processing must be a certain distance from the bottom/left of the material before processing is started.

片数：横/竖成品的数量。

Number of pieces: The number of horizontal/vertical finished products.

步距：两条横/竖线之间的距离。

Step (step distance): the distance between two horizontal/vertical lines.

倒角：设定横/竖线加工时是否要倒角，分为无倒角、前倒角、后倒角、前后双边倒角。

CH(Chamfer/miter): Set chamfer/miter cut needed or not, options: no chamfering, front chamfering, back chamfering, and front+back chamfering.

角度：设定倒角的倾斜角度。

An(Angle): Set the inclination angle of the chamfer.

已加工：自动计算加工总长，包含所有工件及锯片宽度。若超出素材则以红字显示。

Processed: Automatically calculate the total processing length, including all work pieces and saw blade widths. If it exceeds the material, it will be displayed in red letters.



: 新增一组横/竖线设定



: Add a new line of horizontal/vertical line settings



: 删除选中的横/竖线设定



: Delete selected horizontal/vertical line settings



: 清空列表中所有的横/竖线设定



: Clear all horizontal/vertical line settings in the list

(4) 阵列倒角修边：勾选后，素材下/左方会先进行修边再开始加工。

Chamfer Repair: When chosen, the bottom/left side of the material will be trimmed first before starting processing.

倒角余量：倒角避免和其他加工刷蹭的余量。比如：倒角加工路径与垂直切割之间或者倒角与倒角加工路径之间避免刷蹭干涉的距离。

Chamfer Rev: The allowance for chamfering to avoid scratches with other processing. For example: the distance between chamfering processing path and vertical cutting or between chamfering and chamfering processing path to avoid scratch interference.

(5) 加工工艺参数设定，阵列加工界面所设定的工艺参数仅会套用在阵列加工。

Processing process parameter setting, the process parameters set in the array processing interface will only be applied to array processing.

4.3.4 异形加工 (Special-shapes processing)

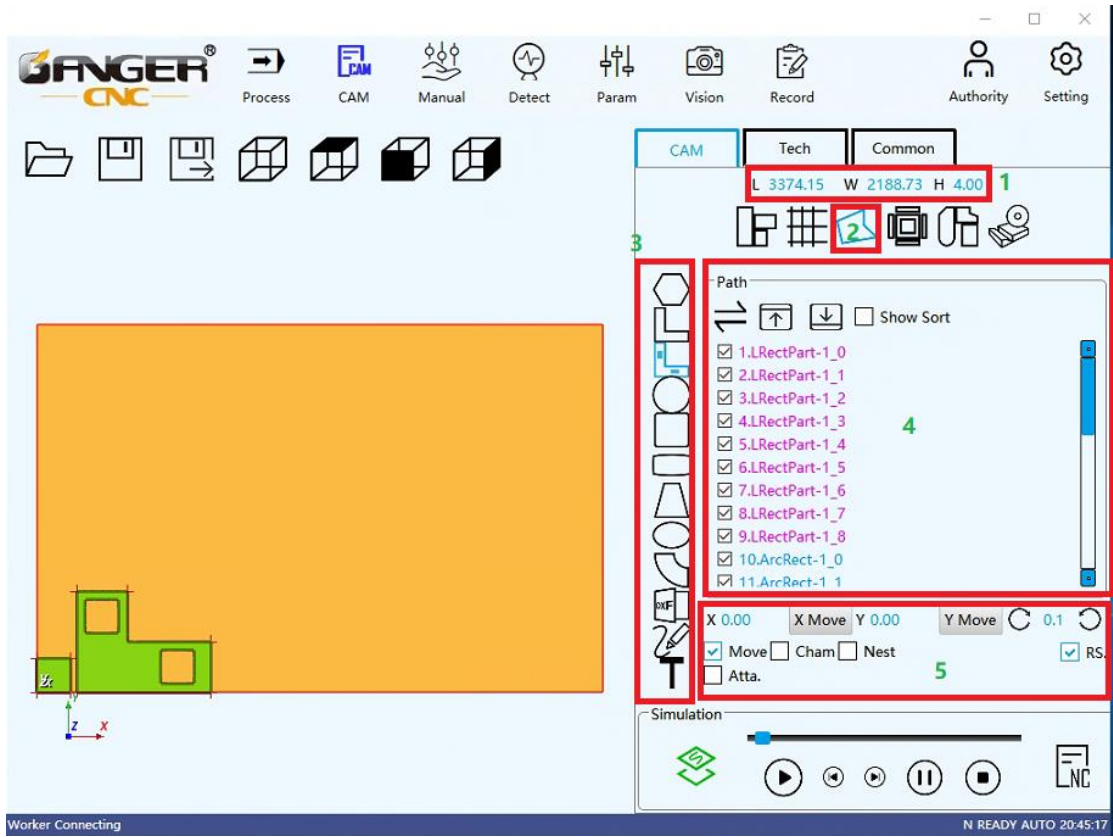


图 4.7 异形加工界面

(1) 调整可放置加工件的素材尺寸大小。

Adjust the size of raw slab, (marked 1)

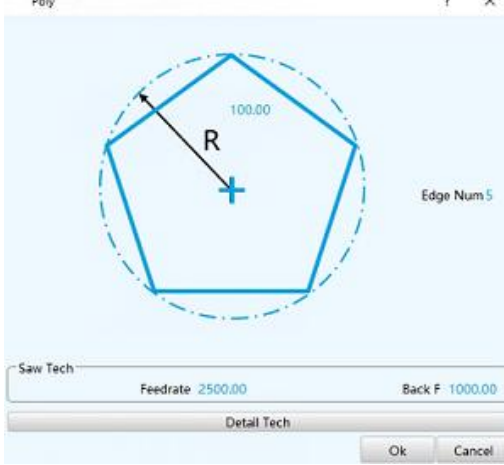
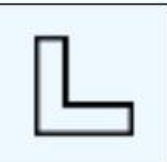
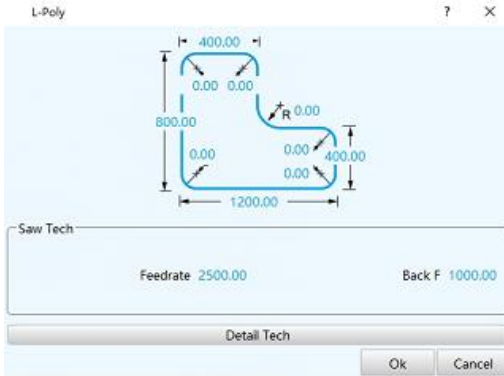
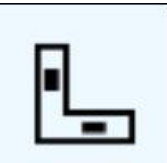
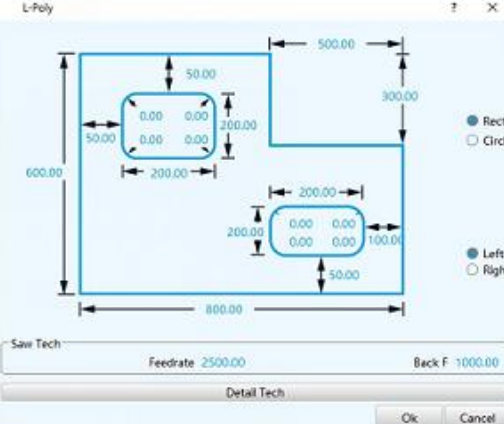
(2) 异形

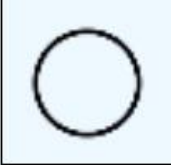
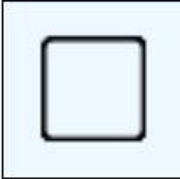
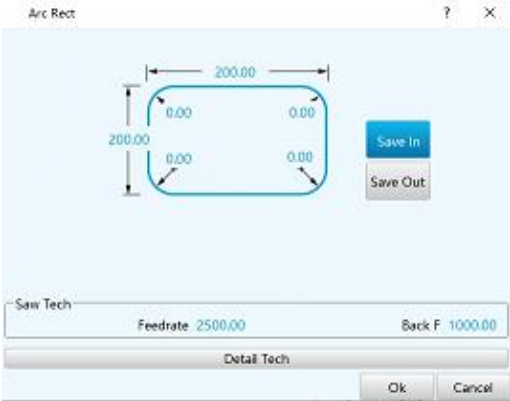
Special-shapes (marked 2)

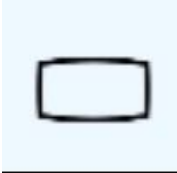
(3) 异形加工图形设定：

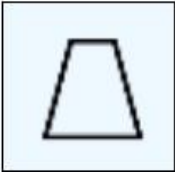
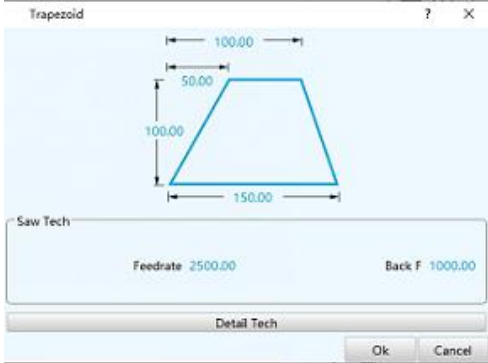
Special-shapes processing graphics settings:

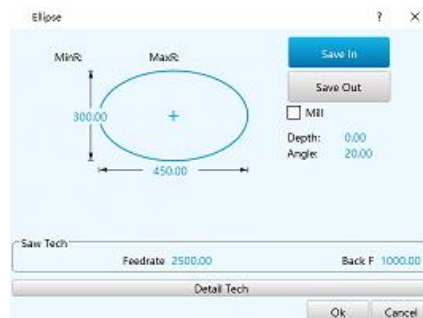
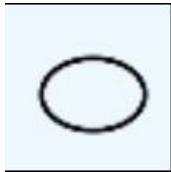
图示	弹窗	功能说明
Illustration	Pop-ups	Function Description

		1. 设定多边形的边数及外接圆半径。 Set the number of sides and the radius of the circumscribed circle of the polygon. 2. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 3. 点击工艺细节，可设定详细的工艺参数。 Click Detail tech to set detailed process parameters. 4. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定 L 形的长宽及圆角角度。 Set the length, width and fillet angle of the L shape. 2. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 3. 点击工艺细节，可设定详细的工艺参数。 Click on the Detailed tech to set detailed process parameters. 4. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定 L 形盆孔的长宽、开口方向。 Set the length, width and opening direction of the L-shaped basin hole. 2. 盆孔可选圆或矩形，可设定尺寸及位置。 The basin hole can be round or rectangular, and the size and position can be set. 3. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 4. 点击工艺细节，可设定详细的工艺参数。

		Click on the Detail Tech to set detailed process parameters. 5. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定圆形的半径尺寸。 Set the radius size of the circle. 2. 设定保内或保外加工。保内圆形可依照深度及角度参数来加工圆底斜角。 Set Save-in or Save-out processing. The(save in, to get a round top) inner circle can be processed with round bottom bevel according to the depth and angle parameters. 3. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 4. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters. 5. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定矩形长宽尺寸、四个角的圆角半径。 Set the length and width of the rectangle and the radius of the four corners. 2. 设定保内或保外加工。 Set Save-in or Save-out processing. 3. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 4. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters.

		5. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定马肚边各项尺寸参数： Set size all parameters of the horse belly shape: ①：Y+/Y- 切出延伸量 Y+/Y- cut out extension ②：外接矩形宽 Width of bounding rectangle ③：小圆弧半径 Small arc radius ④：小圆弧切割起点延伸量 Small arc cutting starting point extension amount ⑤：外接矩形中圆弧半径 Radius of arc in bounding rectangle ⑥：外接矩形大圆弧半径 Large arc radius of bounding rectangle ⑦：外接矩形宽 Width of bounding rectangle ⑧：X+/X- 切出延伸量 X+/X- cut out extension amount 2. 可勾选设定粗加工及精加工。设定精加工预留量可在粗加工时预留一定距离给精加工。精加工进给量为精加工时，z 向分层进给量。（z 向分层进给量之和为精加工量） You can choose Rough (rough cut) and Refine (fine cut). Setting Refine rev(the reserve distance for Refine cut) when doing rough cut. The Refine step is the Z-direction layer feed step during refine cut. (Refine

		steps=sum of Z-direction layer feed step) 3.侧线偏移为小圆弧切线与小圆弧相切法线方向偏移值。 The Side ext is The offset value of the tangent line of the small arc and the tangent normal line of the small arc. 4.可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 5.点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters. 6. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 设定梯形尺寸。 Set the trapezoid size. 2. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feed rates of the saw blade can be set independently. 5. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters. 4. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.



1. 设定椭圆形尺寸。

Set the size of the ellipse.

2. 保内加工可勾选是否用铣刀加工，保外加工则固定使用铣刀加工。

For **Save-in** processing, you can check whether to use a milling cutter for processing or not, **Save-out** processing will use milling cutter only

3. 自动计算显示椭圆的最大、最小半径，以利设定圆弧进给率。

Automatically calculate and display the maximum and minimum radius of the ellipse to set the arc feed rate.

4. 可单独设定锯片的加工顺、逆进给率。

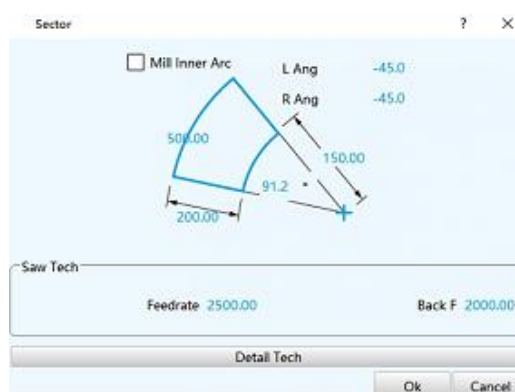
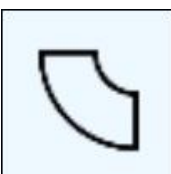
The processing forward and reverse feedrates of the saw blade can be set independently.

5. 点击工艺细节，可设定详细的工艺参数。

Click on the Detail Tech to set detailed process parameters.

6. 点击确定，该工件即会生成在素材上。

Click OK and the set shape will be generated on the material.



1. 设定扇形尺寸。

Set the size of the sector.

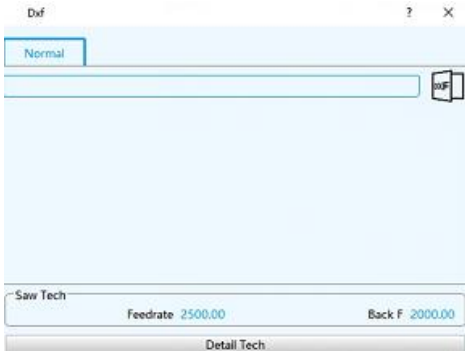
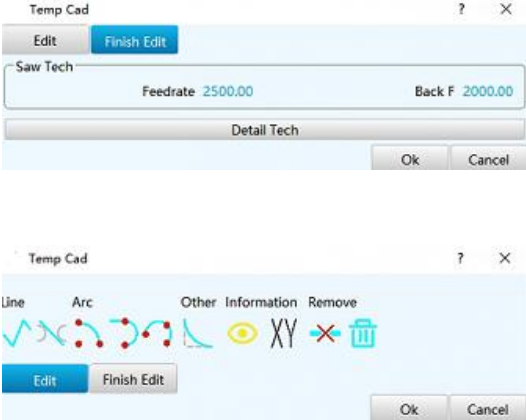
2. 可设定扇形左右两端面的倾斜角度。

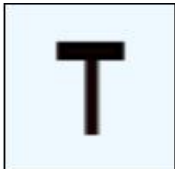
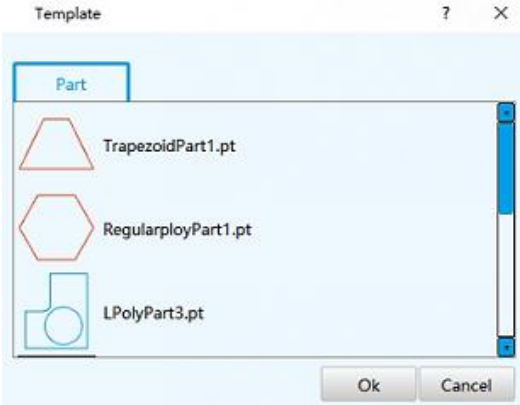
The inclination angle of the left and right end faces of the sector can be set.

3. 勾选铣内圆，则会用铣刀加工扇形的内圆弧，不勾选则用锯片加工。

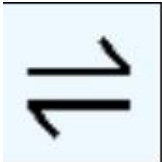
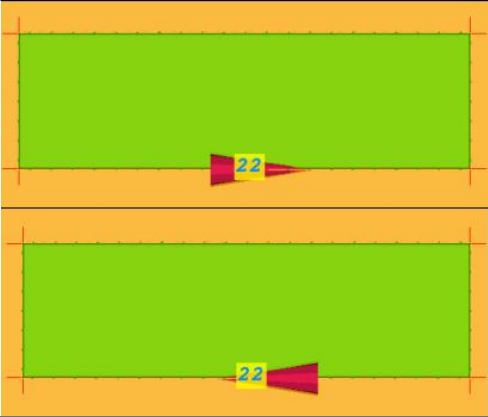
If Mill Inner Arc is chosen, the milling cutter will process the sector internal arc, and otherwise, saw will cut the internal arc

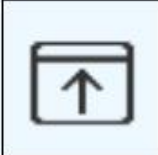
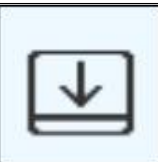
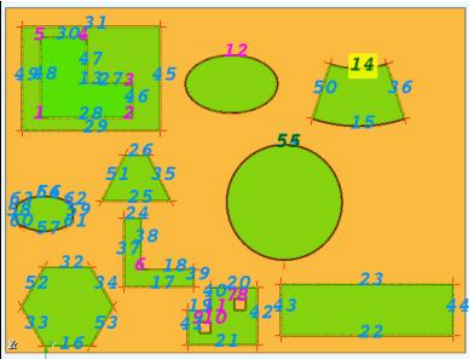
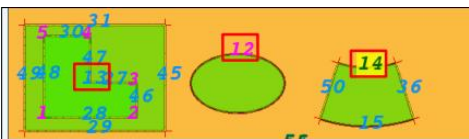
4. 可单独设定锯片的加工顺、逆进给率。

		The processing forward and reverse feedrates of the saw blade can be set independently. 5. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters. 6. 点击确定，该工件即会生成在素材上。 Click OK and the set shape will be generated on the material.
		1. 点击右上角的 DXF 图示可选择并导入 DXF 档案。 Click the DXF icon in the upper right corner to select and import a DXF file. 2. 显示要导入的 DXF 预览图。 Displays a preview of the DXF 3. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 6. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters. 5. 点击确定，该工件即会生成在素材上。 Click OK and imported shape will be generated on the material.
		1. 在上图的自绘制弹窗点击编辑按钮，进入下图的工具栏弹窗。 Click the Edit button to enter the toolbar pop-up window 2. 点选要绘制的直线/圆弧线段图标，呈现黄色高亮即可在素材上绘制图形。 Click the icon of the straight line/arc segment and it is available draw graphics when it is highlighted in yellow.

		3. 点击完成编辑，再点击确认，即会在素材上生成该图形的工件。 Click Finish Edit, then click Confirm, and the draw shape of the graphic will be generated on the material. 4. 可单独设定锯片的加工顺、逆进给率。 The processing forward and reverse feedrates of the saw blade can be set independently. 5. 点击工艺细节，可设定详细的工艺参数。 Click on the Detail Tech to set detailed process parameters.
		1. 设定好尺寸的工件、自绘制的封闭图形皆可存成模板供日后调用，不须重复绘制或设定。 Workpieces with well-set dimensions and self-drawn closed graphics can be saved as templates for future use, without repeated drawing or settings. 2. 点击欲添加的模板图形，再点击确定，该图形之工件即会生成在素材上。 Click the template graphic you want to add, and then click OK. The set shape will be generated on the material.

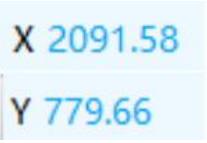
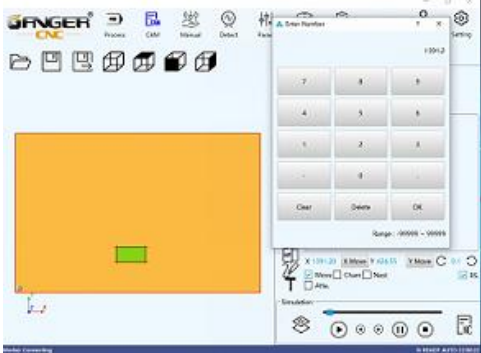
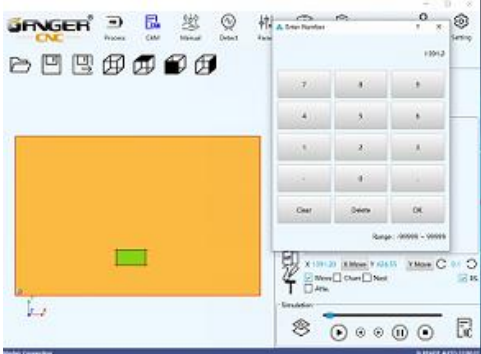
(4) 路径列表： (Path list)

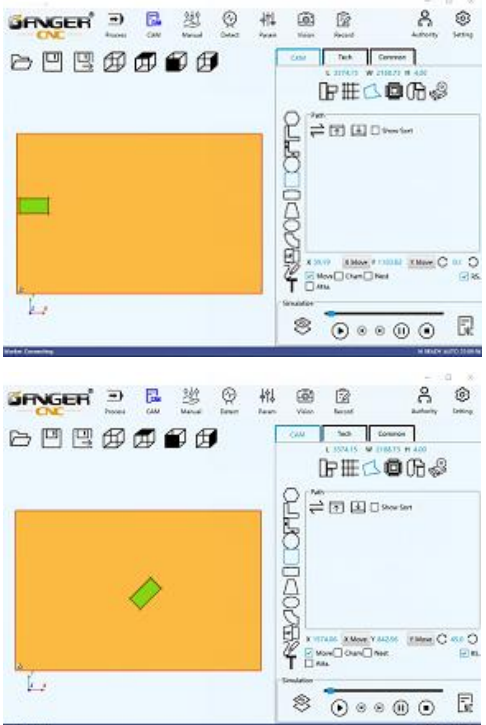
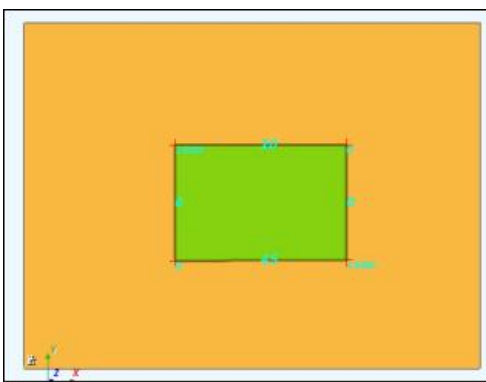
图示 Illustration	功能说明 Function Description	图例 Legend
	1. 调整加工路径方向。 Adjust the processing path direction. 2. 每段路径可单独调整方向。 each path direction can be adjusted individually.	

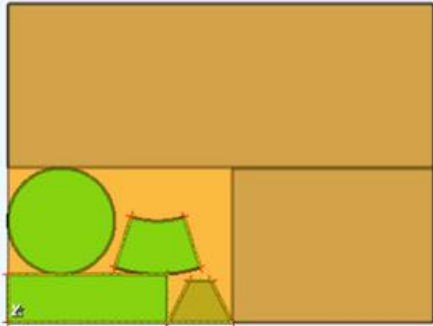
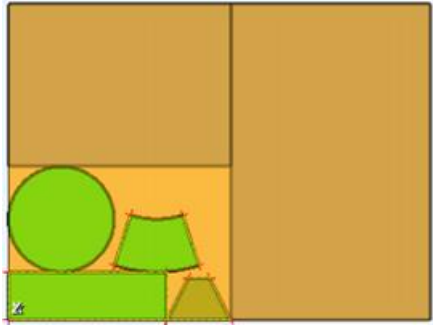
	调整加工路径顺序，将选中路径之加工顺序往前移。 Adjust the order of processing paths and move the selected path forward.	<table><tr><td>☒ 1.LRectPart-1_0</td><td>☒ 1.LRectPart-1_0</td></tr><tr><td>☒ 2.LRectPart-1_1</td><td>☒ 2.LRectPart-1_1</td></tr><tr><td>☒ 3.LRectPart-1_2</td><td>☒ 3.LRectPart-1_2</td></tr><tr><td>☒ 4.LRectPart-1_3</td><td>☒ 4.LRectPart-1_3</td></tr><tr><td>☒ 5.LRectPart-1_5</td><td>☒ 5.LRectPart-1_4</td></tr><tr><td>☒ 6.LRectPart-1_4</td><td>☒ 6.LRectPart-1_5</td></tr><tr><td>☒ 7.LRectPart-1_6</td><td>☒ 7.LRectPart-1_6</td></tr><tr><td>☒ 8.LRectPart-1_7</td><td>☒ 8.LRectPart-1_7</td></tr><tr><td>☒ 9.LRectPart-1_8</td><td>☒ 9.LRectPart-1_8</td></tr><tr><td>☒ 10.LRectPart-1_17</td><td>☒ 10.LRectPart-1_17</td></tr><tr><td>☒ 11.LRectPart-1_9</td><td>☒ 11.LRectPart-1_9</td></tr></table>	☒ 1.LRectPart-1_0	☒ 1.LRectPart-1_0	☒ 2.LRectPart-1_1	☒ 2.LRectPart-1_1	☒ 3.LRectPart-1_2	☒ 3.LRectPart-1_2	☒ 4.LRectPart-1_3	☒ 4.LRectPart-1_3	☒ 5.LRectPart-1_5	☒ 5.LRectPart-1_4	☒ 6.LRectPart-1_4	☒ 6.LRectPart-1_5	☒ 7.LRectPart-1_6	☒ 7.LRectPart-1_6	☒ 8.LRectPart-1_7	☒ 8.LRectPart-1_7	☒ 9.LRectPart-1_8	☒ 9.LRectPart-1_8	☒ 10.LRectPart-1_17	☒ 10.LRectPart-1_17	☒ 11.LRectPart-1_9	☒ 11.LRectPart-1_9
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☒ 3.LRectPart-1_2	☒ 3.LRectPart-1_2																							
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☒ 11.LRectPart-1_9	☒ 11.LRectPart-1_9																							
	调整加工路径顺序，将选中路径之加工顺序往后移。 Adjust the order of processing paths and move the selected path backward.	<table><tr><td>☒ 1.LRectPart-1_0</td><td>☒ 1.LRectPart-1_0</td></tr><tr><td>☒ 2.LRectPart-1_1</td><td>☒ 2.LRectPart-1_1</td></tr><tr><td>☒ 3.LRectPart-1_2</td><td>☒ 3.LRectPart-1_2</td></tr><tr><td>☒ 4.LRectPart-1_3</td><td>☒ 4.LRectPart-1_3</td></tr><tr><td>☒ 5.LRectPart-1_5</td><td>☒ 5.LRectPart-1_5</td></tr><tr><td>☒ 6.LRectPart-1_4</td><td>☒ 6.LRectPart-1_6</td></tr><tr><td>☒ 7.LRectPart-1_6</td><td>☒ 7.LRectPart-1_4</td></tr><tr><td>☒ 8.LRectPart-1_7</td><td>☒ 8.LRectPart-1_7</td></tr><tr><td>☒ 9.LRectPart-1_8</td><td>☒ 9.LRectPart-1_8</td></tr><tr><td>☒ 10.LRectPart-1_17</td><td>☒ 10.LRectPart-1_17</td></tr><tr><td>☒ 11.LRectPart-1_9</td><td>☒ 11.LRectPart-1_9</td></tr></table>	☒ 1.LRectPart-1_0	☒ 1.LRectPart-1_0	☒ 2.LRectPart-1_1	☒ 2.LRectPart-1_1	☒ 3.LRectPart-1_2	☒ 3.LRectPart-1_2	☒ 4.LRectPart-1_3	☒ 4.LRectPart-1_3	☒ 5.LRectPart-1_5	☒ 5.LRectPart-1_5	☒ 6.LRectPart-1_4	☒ 6.LRectPart-1_6	☒ 7.LRectPart-1_6	☒ 7.LRectPart-1_4	☒ 8.LRectPart-1_7	☒ 8.LRectPart-1_7	☒ 9.LRectPart-1_8	☒ 9.LRectPart-1_8	☒ 10.LRectPart-1_17	☒ 10.LRectPart-1_17	☒ 11.LRectPart-1_9	☒ 11.LRectPart-1_9
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☒ 10.LRectPart-1_17	☒ 10.LRectPart-1_17																							
☒ 11.LRectPart-1_9	☒ 11.LRectPart-1_9																							
☐ Show Sort	勾选显示顺序，则素材上显示所有加工件之加工路径顺序。 Choose Show Sort, the processing path sequence of all processed parts will be displayed on the material.																							
<table><tr><td>☐ 1.LRectPart-1_0</td></tr><tr><td>☐ 2.LRectPart-1_1</td></tr><tr><td>☒ 3.LRectPart-1_2</td></tr><tr><td>☒ 4.LRectPart-1_3</td></tr></table>	☐ 1.LRectPart-1_0	☐ 2.LRectPart-1_1	☒ 3.LRectPart-1_2	☒ 4.LRectPart-1_3	1. 方框默认所有路径皆勾选，取消勾选则该路径不加工。 By default, all paths boxes are selected. non-selected boxes, the path will not be processed. 2. 编号表示路径加工顺序。 The number indicates the path processing sequence. 3. 名称表示此路径为哪个工件的第几条加工路径。 The name indicates number of processing path on its shape																			
☐ 1.LRectPart-1_0																								
☐ 2.LRectPart-1_1																								
☒ 3.LRectPart-1_2																								
☒ 4.LRectPart-1_3																								

	4. 颜色表示加工类型。 Color indicates processing type. 粉红：铣刀加工 Pink: milling cutter processing 蓝色：锯片加工 Blue: saw blade processing 绿色：锯片倒角加工 Green: saw blade chamfering	
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(5) 其他参数设定(Other parameter settings)

图示 Illustration	功能说明 Function Description	图例 Legend
	1. 显示素材上选中图形的 XY 坐标值。 Displays the XY coordinate of the selected graphic on the material. 2. 可直接修改数值将图形移动到指定坐标。 We can move the graph to the specified coordinates by modify XY coordinate 3. 矩形此点为图形左下角。 This start point of the rectangle is the lower left corner of the graph.	
	输入数值以增加 (减少) 图形在 X/Y 方向的坐标值 Enter a value to increase (decrease) the XY coordinate of the graphic	

	调整选中图形的旋转角度，中间数值为每次旋转的度数，再将图形顺/逆时针旋转。 Adjust the rotation angle of the selected graphic. The value is the degree of each rotation, rotate the graphic clockwise/counterclockwise.	
	1. 平移：图形添加后，可直接用鼠标拖曳放至任意位置。 Move: After the graphic is added, it can be directly moved to any position with the mouse. 2. 吸附：鼠标拖曳放开后，图形会自动贴齐附近图形的边线。 Atta.(Adsorption): After moving and releasing by the mouse, the graphics will automatically snap to the edges of nearby graphics.	
	1. 勾选倒角，并双击图形加工线段上的数字0，可为该线段设定倒角角度。 Choose Cham (chamfer) and double-click the processing line number 0 to set the chamfering angle for it 2. 若有勾选 45 度则左键双击设定倒角角度时会自动设为 45 度。	

	If 45° is chosen,when double-clicking the left button to set the chamfer angle 45 automatically for processing line 3. 再次左键双击会恢复倒角角度 0 度 Re-Double-clicking with the left button on chamfer 45 set -processing line ,it will back to 0 degree.	
Nesting ☐ Side ☐ No ☒ Auto ☐ X First☐ Y First	1. 勾选排版，则在软件上排列时工件可以紧密贴合，加工时先以吸盘将各工件分开再进行完整加工。 If Nesting is selected, the workpieces will be fit closely together During processing, the workpieces will be separated by suction cups first, then complete the whole processing. 2. 勾选修边，则会先将素材边缘做加工修整。 If choose Side, the edge of the material will be processed and trimmed first. 3. 无：不先移走素材剩余空间，直接进行断头式加工。 None: Without moving away the remaining material first, processing directly. 自动：自动判断 x 或 y 方向的剩余空间，并以较大者优先移走，再进行加工。 Auto: Automatically determine the remaining space in the X or Y direction, and move away the larger one first before processing. x 优先：以 x 方向为主来移除素材剩余空间，再进行加工。 X First: Use the X direction as the main focus	 x 优先  y 优先

	to move away the remaining space of the material before processing. Y 优先：以 Y 方向为主来移除素材剩余空间，再进行加工。（不懂） Y First: Use the Y direction as the main priority to remove the remaining space of the material before processing	
	勾选默认后再生成路径，即会生成软件计算后默认的加工路径 Choose RS then generate path, will generate the default processing path calculated by the software.	

4.3.5 桌面加工 (Desktop processing)

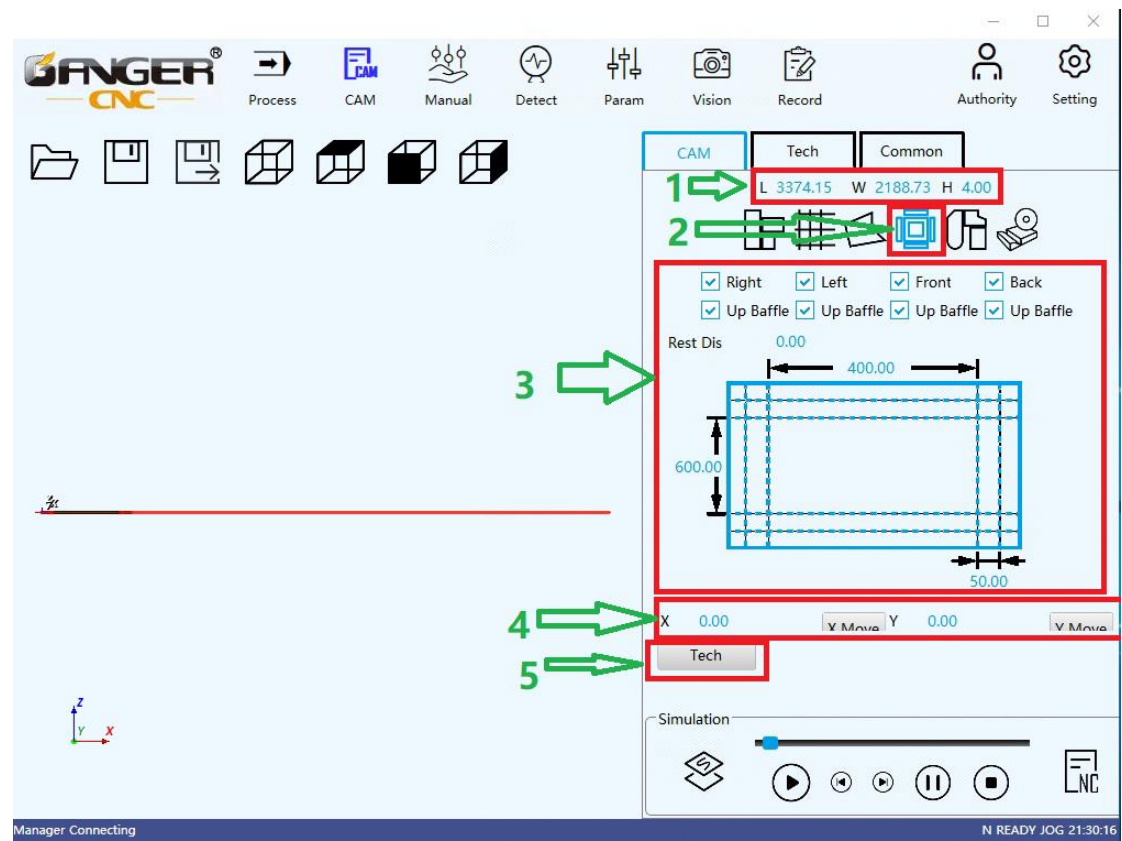


图 4.8 桌面加工页面

(1) 调整可放置加工件的素材尺寸大小。

Adjust the slab size where workpieces can be placed

(2) 桌面下挂。

Hanging under the desktop.

(3) 设定桌面及挡板尺寸；预留距离为桌面与挡板之间的预留量。

Set the size of the tabletop and baffle; the reserved distance is the amount reserved between the tabletop and the baffle.

勾选前后左右，以决定各个方向是否需要挡板加工；挡板预设下挡板，勾选上挡板则该方向改为加工成上挡板。

Check the front, rear, left, and right to determine whether baffles need to be processed in each direction; the baffle is preset to be the lower baffle, and the upper baffle is checked to change the

direction to be processed into the upper baffle.

(4) 桌面图形默认贴齐素材左下角,可直接输入 XY 坐标将图形放至指定位置。也可点击 X 偏移/Y 偏移,再输入数值来逐次增加/减少 XY 坐标值。

Desktop graphics are aligned with the lower left corner of the material by default. You can directly enter the XY coordinates to place the graphics at the specified location. You can also click X Offset/Y Offset and enter a value to gradually increase/decrease the XY coordinate value.

(5) 加工工艺参数设定,桌面加工界面所设定的工艺参数仅会套用在桌面加工。

Processing process parameter setting, the process parameters set in the desktop processing interface will only be applied to desktop processing.

4.3.6 厨台加工 (Kitchen countertop processing)

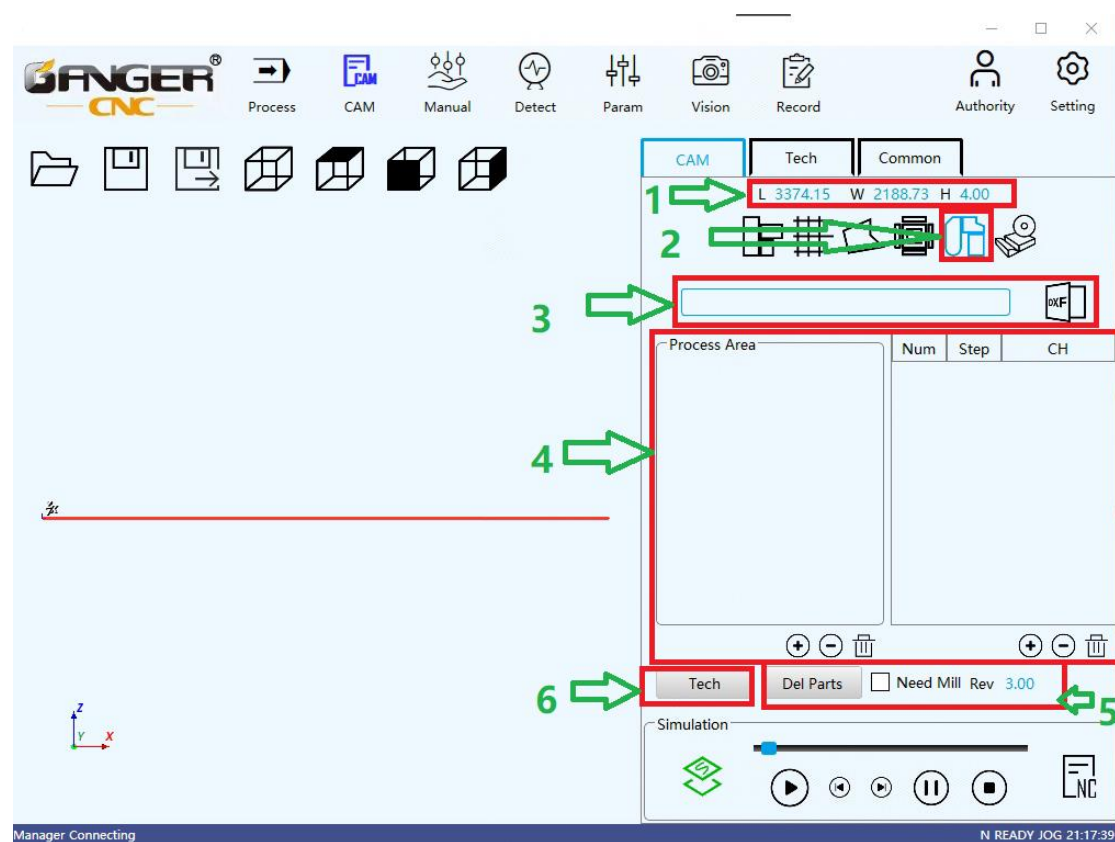


图 4.9 厨台加工界面

(1) 调整可放置加工件的素材尺寸大小。

Adjust the slab size where workpieces can be placed.

(2) 厨台。

kitchen countertop.

(3) 点击 DXF 图示导入欲加工的厨台 DXF 文件，同异形加工的方式放置在素材上。

Click the DXF icon to load the DXF file of the kitchen countertop to be processed, and place it on the slab in the same way as special-shaped processing.

(4) 未放置图形的素材空间，可以做阵列加工。在加工区域列表新增加工区域，各区域再设定数目、步距、倒角等参数。

The slab where graphics are not placed can be processed by array. Add a new processing area to the processing area list, and set the number, step, chamfer and other parameters for each area.

(5) 若导入之 DXF 文件 有不需要的图形放置素材外，可点击删除外部工件按钮一次删除。勾选铣阴角则会用铣刀加工厨台阴角。预留量参数则是套用在阵列加工的倒角预留量。

If the imported DXF contains unnecessary graphic, place the graphic beyond the processing range, click the Delete External Artifacts button to delete them all at once. If check "Need Mill" box, the milling tools will be used to process the inner corners of the kitchen countertop. The reserve parameter is the chamfer reserve applied to array processing.

(6) 加工工艺参数设定，厨台加工界面所设定的工艺参数仅会套用在厨台加工。

Processing technology parameter setting, the process parameters set in the kitchen counter processing interface will only be applied to kitchen counter processing.

4.3.7 仿形加工 (Profiling processing)

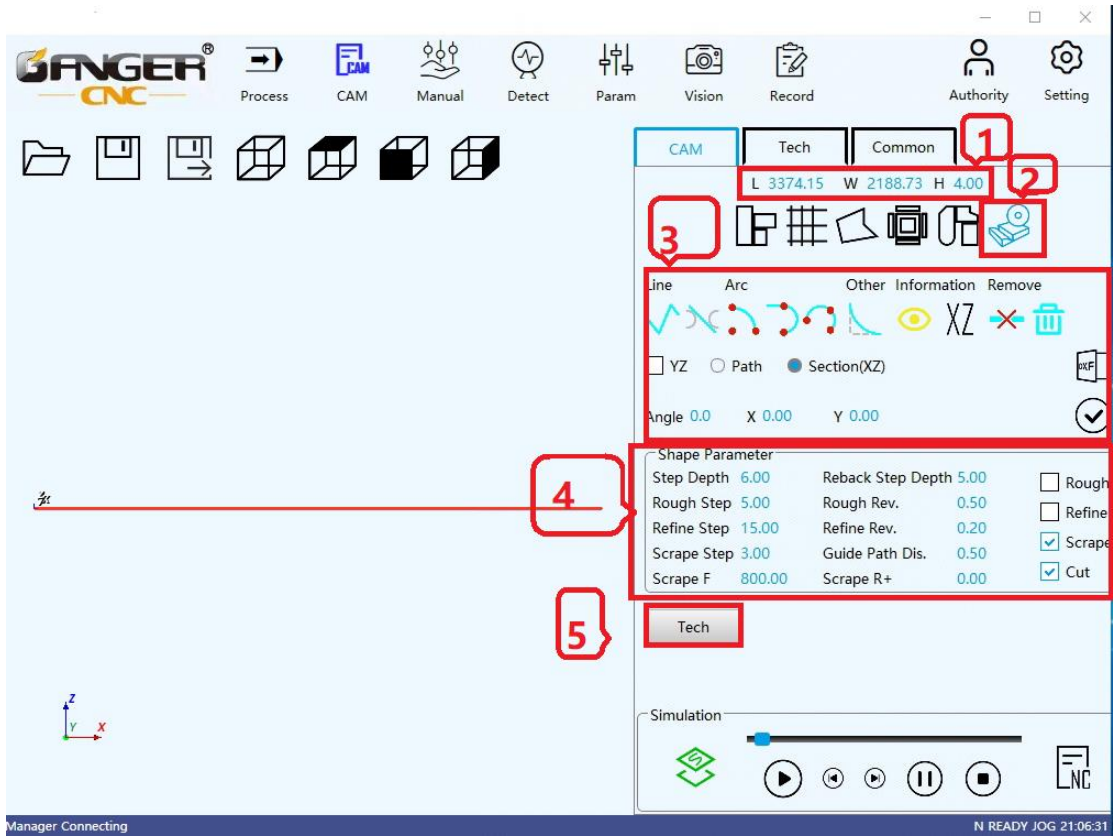


图 4.10 仿形加工界面

(1) 调整可放置加工件的素材尺寸大小。

Adjust the slab size where workpieces can be placed.

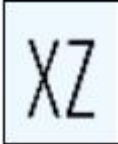
(2) 仿形。

Profiling

(3) 绘制功能：

Drawing function:

图示 Illustration	功能说明 Function Description
	1. 两种直线线段(左至右)：直线、相切线。 Two types of straight line segments (left to right): straight line and tangent line.

	2. 三种圆弧线段(左至右)：圆心端点、相切弧、三点画弧。 Three types of arc segments (left to right): center endpoint, tangent arc, and three-point arc. 3. 点击图示呈黄色高亮，即可在素材上做绘制。 Click on the icon to highlight it in yellow, and you can draw on the material. 4. 鼠标中键停止绘图。 Middle mouse button stops drawing.
	线段夹角处倒圆角。 Round the corners for line segments.
	显示/隐藏绘制坐标、半径、圆心等信息。 Show/hide drawing coordinates, radius, circle center and other information.
	：绝对坐标，坐标原点为绘制起点。 Absolute coordinates, the origin of the coordinates is the starting point of drawing. ：绝对坐标，坐标原点为工件原点。 Absolute coordinates, the coordinate origin is the workpiece origin. ：相对坐标。 Relative coordinates.
	：移除绘制的最后一条线段。 Remove the last line segment drawn.

	: 清除所有绘制线段。 Clear all drawn line segments.
☒ Section(XZ)	1. 点击轮廓线 (XZ), 开始在 XoZ 平面绘制轮廓线。 Click on the outline (XZ) to start drawing the outline on the XoZ plane. 2. 需绘制为开放轮廓。 Needs to be drawn as an open outline.
☐ Path	1. 点击导引线, 自动切换至 XoY 平面绘制导引线。 Click the guide line to automatically switch to the XoY plane to draw the guide line.
☐ YZ ☐ Path	1. 勾选 YZ 方框再点击导引线, 可进行 YoZ 平面的导引线绘制。 Check the YZ box and click the guide line to draw the guide line on the YoZ plane. 2. 可在仿形件表面做出波浪效果。 It can create a wave effect on the surface of the profiling parts.

	1. 角度：仿形件外接矩形旋转角度。 Angle: rotation angle of the external rectangle of the profiling part. 2. X/Y 坐标：仿形外接矩形左下角原点在 XoY 坐标系下的坐标值。 X/Y coordinates: The coordinate value of the origin of the lower left corner of the contoured circumscribed rectangle in the XoY coordinate system.
	轮廓线可导入 DXF 端面线段。 Contour lines can be imported as DXF end face segments.
	轮廓线和导引线都绘制完成后，点击打勾生成仿形件 3D 模型。 After the contour lines and guide lines are drawn, click it to generate a 3D model of the profiling part.

(4) 仿形参数说明：

Description of profiling parameters:

参数名称 Parameter name	说明 Description
顺进给量 forward feed amount	锯片刀刃顺切切进石材的进给量。 The feed rate of the saw blade cutting into the stone.
逆进给量 Reverse feed amount	锯片刀刃逆切切进石材的进给量。 The feed rate of the saw blade cutting into the stone in reverse direction.
粗偏移量 Coarse offset	粗加工时，x+方向锯片每刀偏移量。 During rough machining, the offset of each saw blade in the X+ direction.
粗预留量 coarse reserve	粗加工时，锯片每刀进给到距离仿形条轮廓线最高点距离。（粗加工时要给精加工留有余量） During rough machining, the distance between each cut of the saw blade and the highest point of the contour line. (Roughing should leave a

	allowance for finishing.)
精偏移量 fine offset	精加工时，X+方向锯片每刀偏移量。 During finishing, the offset of each cut in the X+ direction.
精预留量 Fine reserve amount	精加工时，锯片每刀进给到距离仿形条轮廓线最高点距离。（精加工时要给二次精加工留有余量） During finishing, the distance between each cut of the saw blade and the highest point of the contour line. (During finishing, reserve allowance for the second finishing.)
刮光偏移量 Scrape offset	刮光加工时，锯片每刀在 Y+方向偏移量。 During scraping processing, the offset of each cut in the Y+ direction.
刮光进给率 scraping feed rate	刮光加工时，加工合成速度。 The processing speed during scraping processing.
导引线延伸量 Guide line extension	导引线两端切出石材设置的延伸量。 Cut out the extension in the stone setting at both ends of the guide line.
粗加工 Roughing	选中则执行粗加工工序。 If selected, the roughing process will be executed.
精加工 Finishing	选中则执行精加工工序。 If selected, the finishing process will be executed.
刮光加工 Scratching	选中则执行刮光工序。 If selected, the scraping process will be performed. 上述执行顺序：粗加工->精加工->刮光。 The above execution sequence: roughing -> finishing -> scraping.
切断 cut off	对应上述 3 种工艺勾选后的最后一道工序后执行，切断确保仿形条脱离石材，方向与导引线切线方向垂直 After the last process, which corresponds to the three processes ticked above, the cut off is made to ensure that the profiling strip is detached

	from the stone, in a direction perpendicular to the tangential direction of the guide line.
--	---

(5) 加工工艺参数设定，仿形加工界面所设定的工艺参数仅会套用在仿形加工。

Regarding the processing parameter setting, the process parameters set in the profiling processing interface will only be applied to profiling processing.

4.3.8 加工模拟 （ Processing simulation ）

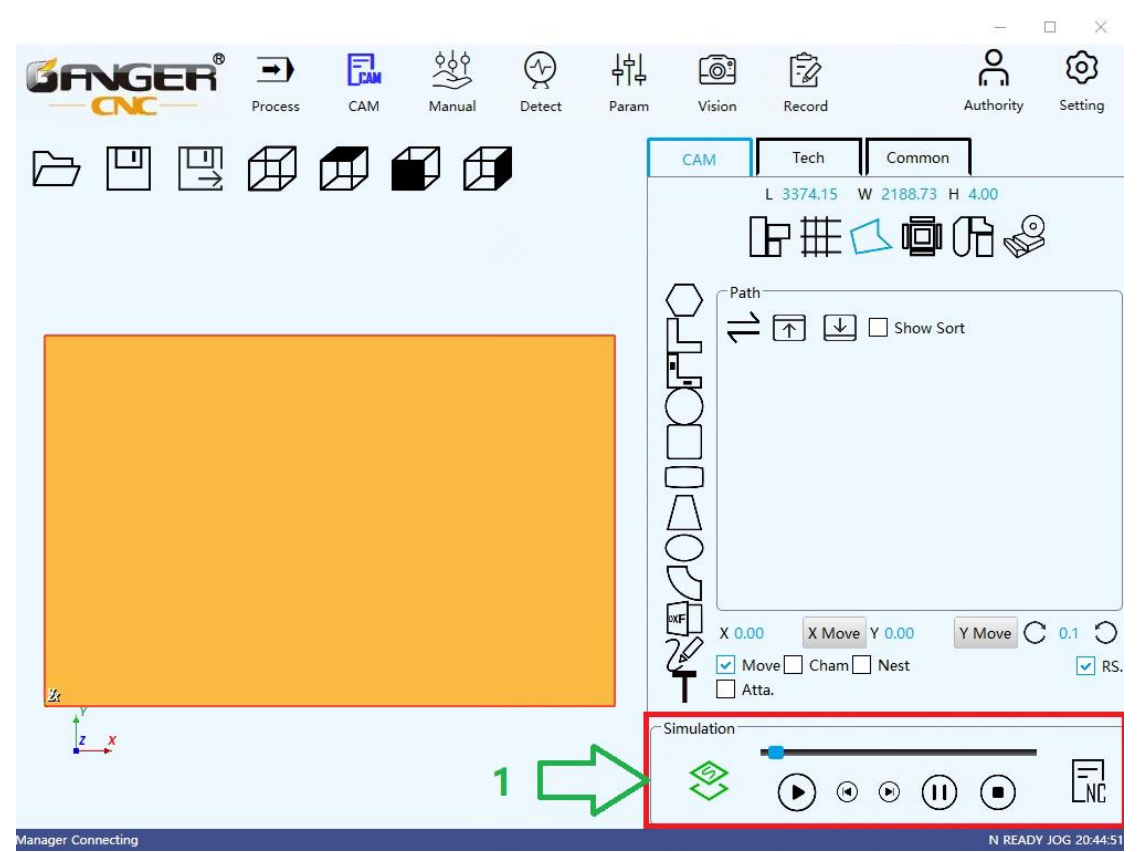


图 4.11 加工模拟画面

每个加工页面皆有模拟功能区：

Each processing page has a simulation functional area:

图示	说明
----	----

Illustration	Description
	生成加工路徑 Generate machining path  : 加工路徑生成成功。 The processing path is generated successfully.  : 加工路徑生成失敗。 Processing path generation failed.
	生成加工 NC 檔並輸出。 Generate machining NC files and output them.
	加工模擬控制 Processing simulation control  : 開始加工模擬。 Start machining simulation.  : 模擬動畫單步回退。 Simulate animation single-step backward.  : 模擬動畫單步前進。 Simulate animation single-step forward.  : 暫停加工模擬，再次開始時會從暫停處繼續播放。 Pause the processing simulation, start it again , it will continue to play from the pause point.  : 停止加工模擬，再次開始時會從頭開始播放。 Stop the processing simulation, start it again , it will play from the beginning.  : 調整模擬播放速度快慢，可用滑鼠拖曳或滾輪移動。 To adjust the simulation playback speed, drag it with the mouse or move it with the wheel.

4.4 工艺页签 (CAM “Tech” tab)

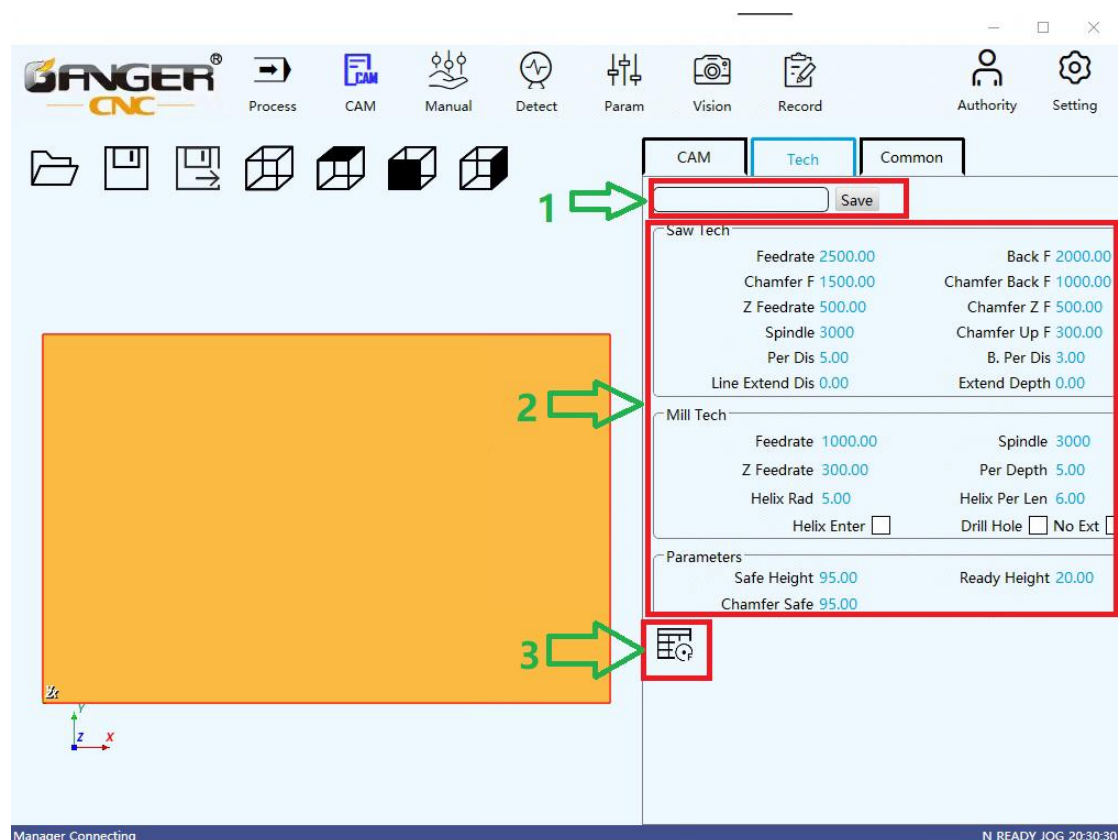


图 4.12 工艺页签界面

工艺页签所设定的参数值，会预设套用在上述六种加工的工艺参数中，各个加工可再依

不同需求，在各自接口中的工艺参数弹窗设定不同参数值。

The parameter values set in the “Tech” tab will be applied to the process parameters of the above six types of processing by default. Each process can be set different parameter values in the process parameter pop-up window in the respective interface according to different needs.

(1) 设定完成的工艺参数档可保存，日后可直接调用不需重新输入。

The set process parameter file can be saved and can be used directly in the future without re-entering.

(2) 可设定锯片、铣刀的各项参数。

Various parameters of saw blades and milling tools can be set.

(3) 设定圆弧进给率参数，点击后会跳出圆弧进给率弹窗。

Set the arc feed rate parameters, click it to pop up the arc feed rate interface.

Arc F ? X

Ration ☐ Max F: 2000.00

	Min(Con.)	Max	F	XY F	PerDepth	BPerDepth	Chamfer F	Chamfer XY F	hamfer PerDepth	lamfer BPerDepth
1	0.00	20.00	-	-	-	-	-	-	-	-
2	20.00	25.00	100.00	39.99	2.00	1.00	100.00	39.99	2.00	1.00
3	25.00	35.00	100.00	52.13	3.00	1.00	100.00	52.13	3.00	1.00
4	35.00	50.00	100.00	65.75	4.00	1.00	100.00	65.75	4.00	1.00
5	50.00	70.00	100.00	77.38	5.00	1.00	100.00	77.38	5.00	1.00
6	70.00	95.00	120.00	102.76	6.00	2.00	120.00	102.76	6.00	2.00
7	95.00	125.00	200.00	181.81	7.00	3.00	200.00	181.81	7.00	3.00
8	125.00	160.00	300.00	282.44	6.00	3.00	300.00	282.44	7.00	3.00
9	160.00	200.00	400.00	384.53	7.00	3.00	400.00	384.53	7.00	3.00
10	200.00	245.00	600.00	584.24	7.00	3.00	500.00	486.86	7.00	3.00
11	245.00	295.00	700.00	687.16	7.00	3.00	600.00	588.99	7.00	3.00
12	295.00	350.00	800.00	789.49	7.00	3.00	700.00	690.80	7.00	3.00
13	350.00	410.00	900.00	891.34	7.00	3.00	800.00	792.30	7.00	3.00
14	410.00	480.00	1000.00	992.95	7.00	4.00	900.00	893.66	7.00	4.00
15	480.00	560.00	1200.00	1193.77	7.00	4.00	1100.00	1094.29	7.00	4.00
16	560.00	760.00	1300.00	1296.32	7.00	4.00	1200.00	1196.60	7.00	4.00
17	760.00	1000.00	1400.00	1397.71	7.00	4.00	1300.00	1297.87	7.00	4.00
18	1000.00	1500.00	1500.00	1498.91	7.00	4.00	1500.00	1498.91	7.00	4.00
19	1500.00	2500.00	1600.00	1599.58	7.00	4.00	1600.00	1599.58	7.00	4.00
20	2500.00	4000.00	1800.00	1799.82	7.00	4.00	1800.00	1799.82	7.00	4.00

OK Cancel

图 4.13 圆弧进给率界面

4.5 通用设置页签 (CAM “Common” setting tab)

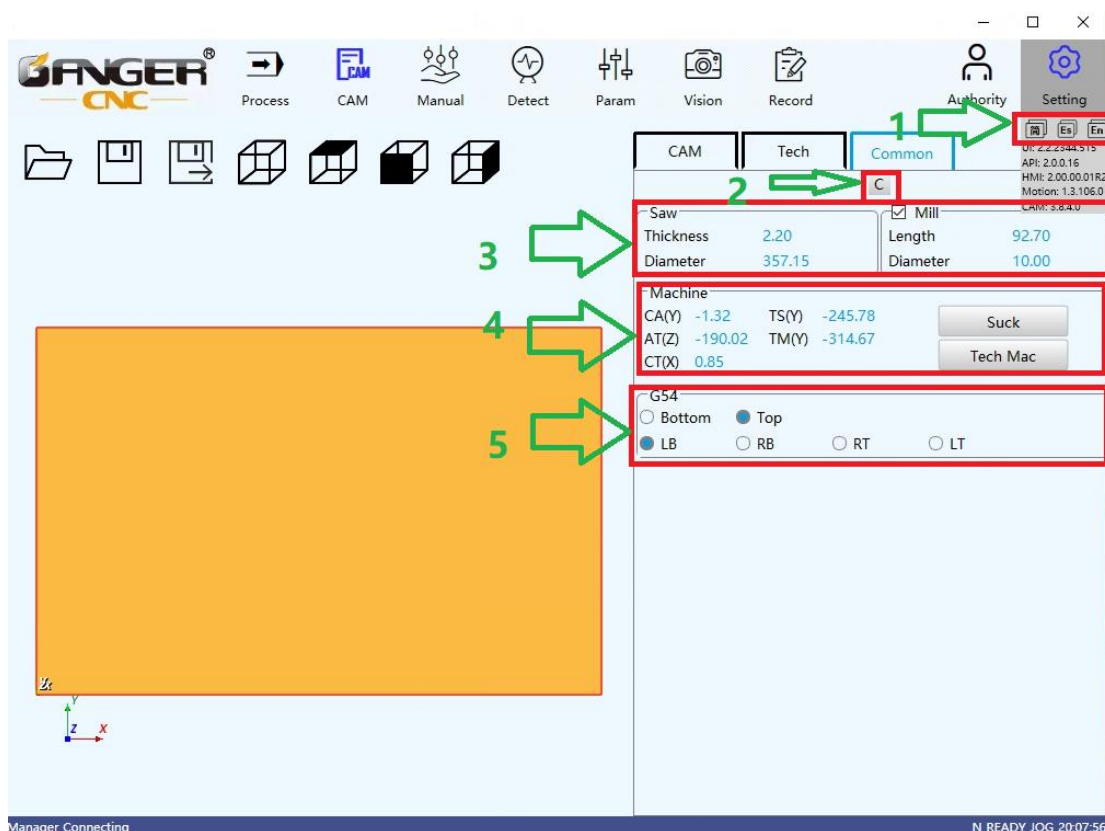


图 4.24 通用设置界面

(1) 可设定界面文字为简体中文或英文或者西班牙语

Controller Language can be set to Simplified Chinese or English or Spanish

(2) A 轴补偿，点击后会跳出 A 轴补偿弹窗，可设定不同角度的补偿值。

Click C to get the A-axis compensation pop-up , we can set the compensation values for different angles.

A Correction?×

C

A

Compensate

Dep Com.

0

0

0.00

0.00

Update

	C	A	Compensate	Dep Com.
1	0	45	-0.2	0
2	90	45	0.4	0
3	180	45	1.1	0
4	270	45	0.9	0

Del

Clear

图 4.15 A 轴补偿界面 A-axis compensation Po-up

(3) 设定锯片厚度及直径；勾选是否有铣刀，并设定铣刀长度及直径。

Set the thickness and diameter of the saw blade; check whether there is a milling cutter, and set the length and diameter of the milling cutter.

(4) 设定机器的机构参数。

Machine: Set the mechanical parameters of the machine.

吸盘：点击后跳出吸盘设定弹窗，分左右结构及前后结构，可设定吸盘相关参数。

Suck: Click to get the suction cup setting pop-up , which is divided into left and right structures and front and back structures. Suction cup related parameters can be set.

机构验证：点击后跳出机构验证弹窗。

Tech Mach:Organization verification: Click to get the organization verification pop-up

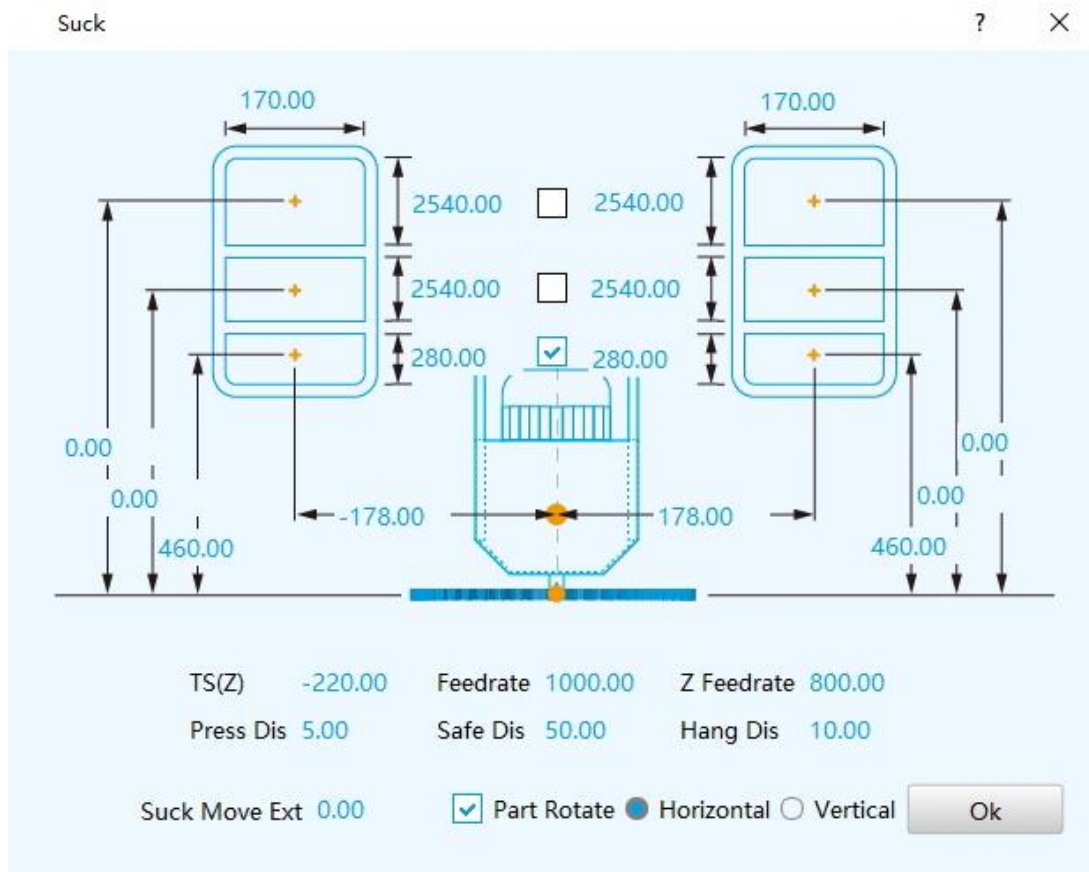


图 4.16 吸盘设定界面 suction cup setting pop-up

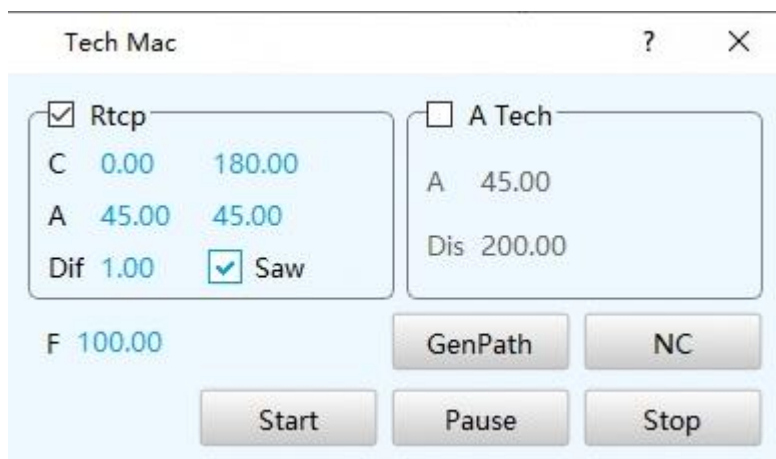


图 4.17 机构验证界面 Tech Mach:Organization verification

(5) G54 原点可设定长方体素材的八个顶点。

The G54 original point allows to set eight vertices of rectangular

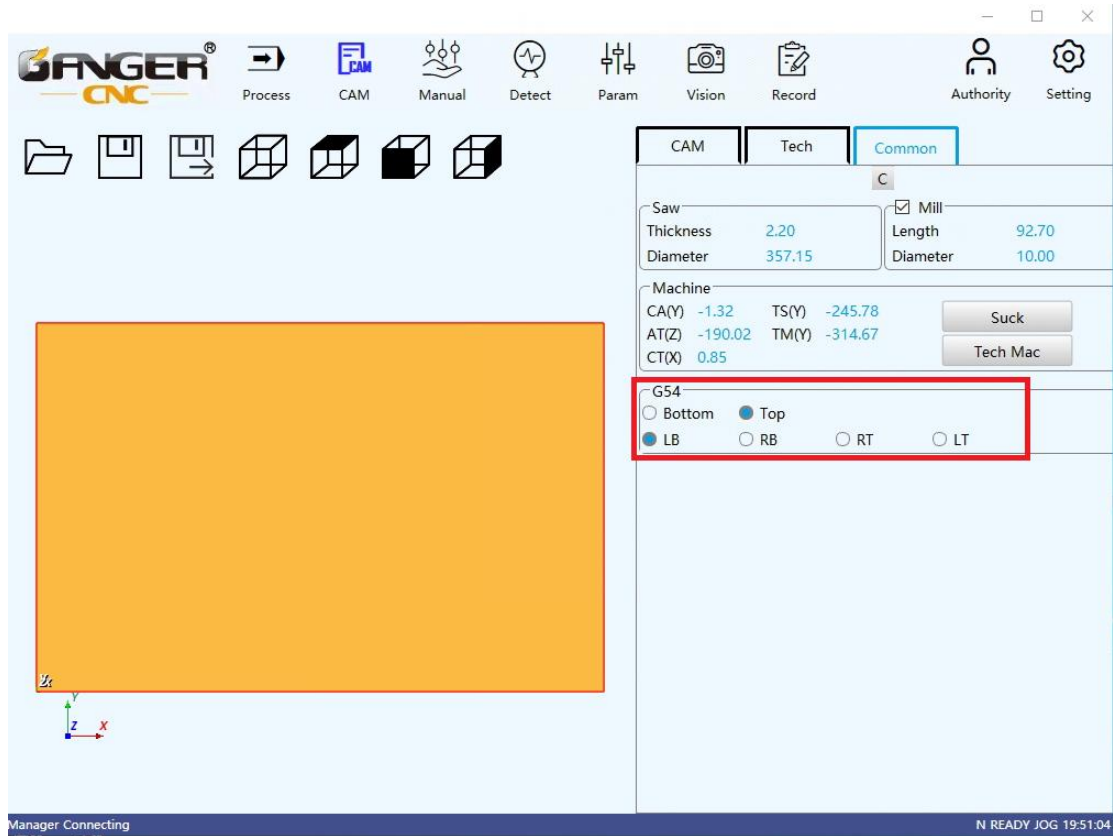


图 4.18 G54 原点位置 G54 original

Chapter5 Alarm Handling

This chapter introduces the alarm types, displays, alarm causes and handling methods of the system.

报警主要分两种：系统报警和驱动器报警(驱动器报警请参考相应驱动器手册)。

There are mainly two types of alarms: system alarms and driver alarms (for driver alarms, please refer to the corresponding driver manual).

5.1 概述 (Outline)

汇总 GANGER CNC 所有警报内容，包含警报码、警报名称与警报排除方法。

Compile all alarm contents of GANGER CNC, including alarm codes, alarm names and alarm troubleshooting methods.

5.2 CNC 警报 (CNC alarm)

CNC 控制器上警报主要分成下列三类，本文件主要说明【系统警报】，其余为用户自定义，故不说明。

The alarms on the CNC controller are mainly divided into the following three categories. This document mainly explains [system alarm], and the rest are user-defined, so they are not explained.

警报种类 Alarm type	警报码 Alarm code	警报说明 Alarm description
系统警报 System alarm	----	因为系统异常或操作错误所引发的警报，部分系统警报会夹带数据，所夹带的数据根据不同的警报所代表的意义不同。 Because of alarms caused by system abnormalities or operational errors, some system alarms will entrain data, and the entrained data has different meanings depending on the alarm.
用户自定义警报 User-defined alarms	A _	由用户自行撰写的警报，搭配 MLC 程序，一旦触发 A_ 装置，对应 A_ 装置的警报便会产生。 The alarm written by the user, combined with the MLC program, once the A_ device is triggered, the alarm corresponding to the A_ device will be generated.
用户宏警报 User macro alarms	M _	搭配变量号码 #20020=_ 使用，可使控制器处于异警状态，并显示对应的宏警报。 Used with variable number #20020=_ , the controller can be placed in an alarm state and display the corresponding macro alarm.

5.2.1 系统警报 (System alarm)

系统警报依功能又区分为 MLC 相关警报和 NC 相关警报

System alarms are divided into MLC-related alarms and NC-related alarms according to their functions.

系统警报分类 System alarm classification	警报码范围 Alarm code range	异常动作 Abnormal behavior	说明 Description
MLC 相关警报 MLC related alarms	A000 ~ AFFF	MLC 系统异常 MLC system abnormality	-
HMI 相关警报 HMI related alarms	8000 ~ 8FFF	HMI 异常 HMI abnormality	-
Servo 相关警报 Servo related alarms	F000 ~ F0FF	-	-
NCK 相关警报 NCK related alarms	0	NCK 内部异常 NCK internal exception	此类警报是原厂 RD 使用,用来保护程序异常,如有出现请回报错误码(10 进制)由原厂 RD 处理 This type of alarm is used by the original RD to protect program exceptions. If it occurs, please report an error code (decimal) and the original RD will handle it.
	0001 ~ 1FFF	NCK 内部异常 NCK internal exception	因为系统异常或操作错误所引发的警报,部分系统警报会夹带数据,所夹带的数据根据不同的警报所代表的意义不同 Because of alarms caused by system abnormalities or operational errors, some system alarms will entrain data. The entrained data has different meanings depending on the alarm.

5.3 NCK 相关报警 (NCK related alarms)

5.3.1 NCK 内部错误(0x0000) NCK internal error(0X0000)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	警报码 Alarm code	警报说明 Alarm description
0000	NCK 内部错误 - NC Kernel Internal error NCKINTERNAL (NCK 内部名称)	此类警报是原厂 RD 使用 ,用来保护程序系统发生问题 This type of alarm is used by the original RD to protect the program system from problems.
		请回报错误码(10 进制)由原厂 RD 进行处理 Please report the error code (decimal) for processing by the original RD.

5.3.2 G code 档案管理相关错误(0x0001 ~ 0x01FF)

G CODE file management related errors(0X0001 ~ 0X01FF)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name	异警原因与处置 Causes and handling of abnormal alarms
0002	找不到指定档案号, 行号, N Label GCODE_GPROGREQ_NOTFOUND	找不到指定的档案讯息 The specified file message cannot be found
0003	保留 Reserve	-
0004	一键呼叫宏文件错误 GCODE_ONETOUCH_MACRO_ZERO	宏号码错误 Wrong macro number

0005	一键呼叫宏模式错误 GCODE_ONETOUCH_MACRO_MODE	模式错误 Mode error
------	--	--------------------

5.3.3 G code 档案管理相关错误(0x0200 ~ 0x03FF)

G CODE file management related errors(0X0200 ~ 0X03FF)

异警码(16 进制) Abnormal alarm code (16 entries)	异警名称 中 - 英 Abnormal alarm name	异警原因与处置 Causes and handling of abnormal alarms
0201	未定义的运算符 - G code undefined operator SYNTAX_ERR_UNDEFINE_OPERATOR	不支持此语法 This syntax is not supported
0202	1 行里禁止重复出现的运算符重复出现 - G code operator repeat SYNTAX_ERR_OPTOR_REPEAT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0203	必须写在行头的运算符没写在行头 - G code operator block head essential SYNTAX_ERR_OPTOR_BLK_HEAD_ESSENTIAL	
0204	禁止写在行头的运算符写在行头 - G code token block head prohibit SYNTAX_ERR_TOKEN_BLK_HEAD_PROHIBIT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0205	必须写在行尾的运算符没写在行尾 - G code operator block end essential	语法格式错误, 修正正

	SYNTAX_ERR_OPTOR_BLK_END_ESSENTIAL	确语法 Grammatical format error, correct the correct grammar
0206	出现前 1 个禁止的 token - G code previous token prohibit SYNTAX_ERR_PREVIOUS_TOKEN_PROHIBIT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0207	出现前面禁止的 token - G code front token prohibit SYNTAX_ERR_FRONT_TOKEN_PROHIBIT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0208	NC, Macro 语句禁止写同一行 - G code NC, Macro-statement in the same Block SYNTAX_ERR_NC_MACRO_ST_IN_THE_SAME_BLK	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0209	方括号错误 - G code square breaket SYNTAX_ERR_SQUARE_BREAKET	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
020A	出现禁止的运算符 - G code operator violation SYNTAX_ERR_OPTOR_VIOLATION	语法格式错误, 修正正 确语法

		Grammatical format error, correct the correct grammar
020B	无法分辨多载运算符 - G code overload operator violation SYNTAX_ERR_OVERLOAD_OPTOR_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
020C	EOB 违规 - G code end of block violation SYNTAX_ERR_EOB_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
020D	关系运算符违规 - G code operator relational violation SYNTAX_ERR_OPTOR_RELATIONAL_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
020E	IF 语句错误, IF 后面没操作数 - G code statement violation IF SYNTAX_ERR_STATEMENT_VIOLATION_IF	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
020F	WHILE 语句错误, WHILE 后面没操作数 - G code statement violation WHILE SYNTAX_ERR_STATEMENT_VIOLATION_WHILE	语法格式错误, 修正正确语法 Grammatical format

		error, correct the correct grammar
0210	除数为 0 - G code division by zero SYNTAX_ERR_DIVISION_BY_ZERO	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0211	赋值运算符违规, 前面出现违规的 token - G code assignment violation SYNTAX_ERR_ASSIGNMENT_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0212	宏程序调用重数太多 - G code Too many macro nesting SYNTAX_ERR_TOO_MANY_MACRO_NESTING	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0213	没有 END 语句 - G code missing end statement SYNTAX_ERR_MISSING_END_STATEMENT	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0214	DO 非法循环数 - G code illegal loop number DO and END SYNTAX_ERR_ILLEGAL_LOOP_NUMBER_DO_AND_END	语法格式错误, 修正正确语法 Grammatical format error, correct the

		correct grammar
0215	没有 DO 语句 - G code missing DO statmemt SYNTAX_ERR_MISSING_DO_STATE MENT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0216	需要指定 D - G code D code need specify INSTRUCT_D_CODE_NEED_SPECIFY	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0217	D 值超过最大值 - G code D code exceed maximun INSTRUCT_D_CODE_EXCEED_MAXI MUM	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0218	需要指定 H - G code H code need specify INSTRUCT_H_CODE_NEED_SPECIFY	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0219	H 值超过最大值 - G code H code exceed maximun INSTRUCT_H_CODE_EXCEED_MAXI MUM	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar

021A	车床刀补号 T 值超过最大值 - T code exceed maximum INSTRUCT_TGEOMNUM_CODE_EXCEED_MAXIMUM	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
021B	G53.1 必须在 G68.2 指令后才能执行 - used G53.1 need G68.2 assign INSTRUCT_G53_1_NO_G68_2	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
021C	T 码数量超过 - T code count exceed INSTRUCT_T_CODE_CNT_EXCEED	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
021D	G code 指令不支持 - G code instruct not support INSTRUCT_G_CODE_NOT_SUPPORT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
021E	机器人手系设定错误 - Robot hand setting error INSTRUCT_ROBOT_HAND_SETTING_ERROR	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
021F	机器人工具设定错误 - Robot tool setting error	语法格式错误, 修正正

	INSTRUCT_ROBOT_TOOL_SETTING_ERROR	确语法 Grammatical format error, correct the correct grammar
0220	机器人工件设定错误- Robot workpiece setting error INSTRUCT_ROBOT_WORKPIECE_SETTING_ERROR	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0221	机器人坐标系设定错误 - Robot coordinate setting error INSTRUCT_ROBOT_COORDINATE_SETTING_ERROR	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0222	语法错误 没有指定数值 - Syntax error Word missing number SYNTAX_ERR_WORD_MISSING_NUMBER	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0223	语法错误 太多数值 - Syntax error too many digit SYNTAX_ERR_TOO_MANY_DIGIT	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0224	GOTO 语句错误, GOTO 后面没操作数 - G code statement violation GOTO SYNTAX_ERR_STATEMENT_VIOLATION_GOTO	语法格式错误, 修正正 确语法

		Grammatical format error, correct the correct grammar
0225	END 语句错误, END 后面没操作数 - G code statement violation END SYNTAX_ERR_STATEMENT_VIOLATION_END	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0226	DO 语句错误, DO 后面没操作数 - G code statement violation DO SYNTAX_ERR_STATEMENT_VIOLATION_DO	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0227	程序操作类报警, 遗失行号 - G code missing BlkNr SYNTAX_ERR_MISSING_BLKNR	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0228	程序操作类报警, 遗失 NLabel - G code missing NLabel SYNTAX_ERR_MISSING_NLABEL	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0229	程序操作类报警, 找不到指定行号 - G code not found BlkNr SYNTAX_ERR_NOTFOUND_BLKNR	语法格式错误, 修正正确语法 Grammatical format

		error, correct the correct grammar
022A	程序操作类报警, 找不到指定 NLabel - G code not found NLabel SYNTAX_ERR_NOTFOUND_NLABEL	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
022B	程序操作类报警, 找不到指定 DO - G code not found DO SYNTAX_ERR_NOTFOUND_DO	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
022C	程序操作类报警, 找不到指定 END - G code not found END SYNTAX_ERR_NOTFOUND_END	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
022D	程序操作类报警, 跳档, 层数超过上限 - G code prog call overflow SYNTAX_ERR_PROGCALL_OVERFLOW	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
022E	程序操作类报警, 跳档, 遗失 P_ - G code prog call missing P SYNTAX_ERR_PROGCALL_MISSING_P	语法格式错误, 修正正确语法 Grammatical format error, correct the

		correct grammar
022F	程序操作类报警, 跳档, 遗失 B_ - G code Jumping Stalls, Lost B SYNTAX_ERR_PROGCALL_MISSING_B	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0230	程序操作类报警, 跳档, 错误 B_ - Jump Stall, Error SYNTAX_ERR_PROGCALL_VIOLATION_B	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0231	程序操作类报警, 钻孔循环, 错误轴 - Drill cycle, Error axis SYNTAX_ERR_CANNEDCYC_VIOLATION_AXIS	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0232	程序操作类报警, 钻孔循环, 遗失 P_Q_ - G code canned cycle missing P, Q SYNTAX_ERR_CANNEDCYC_MISSING_P_Q	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0233	程序操作类报警, 钻孔循环, 找不到指定 Q_ - Drill cycle not found Q SYNTAX_ERR_CANNEDCYC_NOTFOUND_Q	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar

0234	程序操作类报警, 再启动, 断点搜寻, 找不到指定目标 - G code restart not found target SYNTAX_ERR_RESTART_NOTFOUND_TARGET	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0235	变量不存在 - Variable does not exist SYNTAX_ERR_VAR_NOT_EXIST	确认该行 g-code 里的 #变量是否写错 Confirm whether the # variable in the g-code of this line is written correctly
0236	工件坐标扩充数值格式错误 - workpiece extension coordination number format error INSTRUCT_WORKPIECE_P_SETTING_ERROR	工件坐标扩充数值必须是整数 The workpiece coordinate expansion value must be an integer
0237	工件坐标扩充数值超过最大值 -workpiece extension coordination number exceed maximum INSTRUCT_WORKPIECE_P_EXCEED_MAXIMUM	工件坐标扩充数值超过最大值限制 The workpiece coordinate expansion value exceeds the maximum limit
0238	IF 使用违规 - Use of irregularities SYNTAX_ERR_VIOLATION_IF	修正此行 G-code 的写法 Correct the writing of

		this line G-Cdoe
0239	THEN 使用违规 - Use of irregularities SYNTAX_ERR_VIOLATION_THEN	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe
023A	ELSEIF 使用违规 - Use of irregularities SYNTAX_ERR_VIOLATION_ELSEIF	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe
023B	ELSE 使用违规 - Use of irregularities SYNTAX_ERR_VIOLATION_ELSE	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe
023C	ENDIF 使用违规 - Use of irregularities SYNTAX_ERR_VIOLATION_ENDIF	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe
023D	找不到指定的 ENDIF - SYNTAX_ERR_NOTFOUND_ENDIF	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe
023E	IF 使用层数超过上限 (5 层) - Use of more than the MAX number of floors (5) SYNTAX_ERR_OVERFLOW_IF	修正此行 G-Cdoe 的 写法 Correct the writing of this line G-Cdoe

023F	程序操作类报警, PAC 外部内存读写, offset 超过有效范围 SYNTAX_ERR_VIOLATION_OFST	-
0240	程序操作类报警, PAC 外部内存读写, offset 超过有效范围 SYNTAX_ERR_VIOLATION_COMMA	-
0241	需要指定 P - G code P code need specify INSTRUCT_P_CODE_NEED_SPECIFY	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0242	P 值超过最大值 - G code P code exceed maximum INSTRUCT_P_CODE_EXCEED_MAXIMUM	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0243	P 值错误 - G code P number format error INSTRUCT_P_CODE_VALUE_ERROR	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0244	#变量被赋值, 数值超过#变量型别 - SYNTAX_ERR_VAR_ASSIGN_VAL_RANGE_VIOLATION SYNTAX_ERR_VAR_ASSIGN_VAL_RANGE_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0245	多重循环程序段中未指令 P 或 Q -	语法格式错误, 修正正确语法

	SYNTAX_ERR_MULTIPLE_REPETIVE_CYCLES_BLOCK_MISSING_P_Q SYNTAX_ERR_MULTIPLE_REPETIVE_CYCLES_BLOCK_MISSING_P_Q	确语法 Grammatical format error, correct the correct grammar
0246	粗车循环中切削量无效 - SYNTAX_ERR_THE_CUTTING_AMOUNT_IS_ILLEGAL_IN_THE_ROUGH_CUTTING_CYCLE SYNTAX_ERR_THE_CUTTING_AMOUNT_IS_ILLEGAL_IN_THE_ROUGH_CUTTING_CYCLE	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0247	第 2 行违规, 多重循环指令必须连下 2 行 - SYNTAX_ERR_MULTIPLE_REPETIVE_CYCLES_BLOCK_2ND_BLOCKS_VIOLATION SYNTAX_ERR_MULTIPLE_REPETIVE_CYCLES_BLOCK_2ND_BLOCKS_VIOLATION	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0248	单行 M-Code 过多 - SYNTAX_ERR_TOO_MANY_MCODE_IN_1_BLK SYNTAX_ERR_TOO_MANY_MCODE_IN_1_BLK	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
0249	单行多 M-Code 违规 - SYNTAX_ERR_MULTI_MCODE_VIOLATION SYNTAX_ERR_MULTI_MCODE_VIOLATION	语法格式错误, 修正正 确语法 Grammatical format error, correct the correct grammar
024A	单行多 T-Code 违规 - SYNTAX_ERR_MULTI_TCODE_VIOLATION SYNTAX_ERR_MULTI_TCODE_VIOLATION	语法格式错误, 修正正 确语法

		Grammatical format error, correct the correct grammar
024B	单行呼叫指令过多 - SYNTAX_ERR_TOO_MANY_PROG_CALL_IN_1_BLK SYNTAX_ERR_TOO_MANY_PROG_CALL_IN_1_BLK	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
024C	单行有与呼叫指令冲突的 GMST 功能 - SYNTAX_ERR_PROG_CALL_WITH_FORBIDDEN_GMST SYNTAX_ERR_PROG_CALL_WITH_FORBIDDEN_GMST	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
024D	多头机应用在刀具补偿不能指定从动轴移动量 - INSTRUCT_SLAVE_NOT_NEED_SPECIFY INSTRUCT_SLAVE_NOT_NEED_SPECIFY	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
024E	多头轴的参数 HSI 数值设定违规 - SYNTAX_ERR_MULTI_AXIS_PARAMETER_HSI_VIOLATION SYNTAX_ERR_MULTI_AXIS_PARAMETER_HSI_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
024F	多头轴在跳转功能 (G31) 的 V_ 或 XYZBCUVW_ 使用违规 - SYNTAX_ERR_MULTI_AXIS_SKIP_FUNCTION_VIOLATION SYNTAX_ERR_MULTI_AXIS_SKIP_FUNCTION_VIOLATION	语法格式错误, 修正正确语法 Grammatical format

		error, correct the correct grammar
0250	多头轴在可编程参数的输入功能(G10)使用违规- SYNTAX_ERR_MULTI_AXIS_PROGRAMMABLE_PARAMETER_DATAINPUT_ARGUMENT_VIOLATION SYNTAX_ERR_MULTI_AXIS_PROGRAMMABLE_PARAMETER_DATAINPUT_ARGUMENT_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0251	子过程调用的参数违规, 只能是 P_, H(Q)_, L_- SYNTAX_ERR_SUBCALL_ARGUMENT_VIOLATION SYNTAX_ERR_SUBCALL_ARGUMENT_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0252	读写伺服参数在可编程参数的输入功能 (G10) 使用违规- SYNTAX_ERR_GET_SET_SERVO_PARA_DATAINPUT_ARGUMENT_VIOLATION SYNTAX_ERR_GET_SET_SERVO_PARA_DATAINPUT_ARGUMENT_VIOLATION	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0253	参考点返回, 中间点数据错误 SYNTAX_ERR_REFERENCEPOS_INTERMEDIATE_FAIL	语法格式错误, 修正正确语法 Grammatical format error, correct the correct grammar
0x254(596)	对只可读取的#变量赋值 SYNTAX_ERR_ASSIGN_READ_ONLY_VAR	语法格式错误, 修正正确语法 Grammatical format error, correct the

		correct grammar
0x255(597)	单节内同步插值轴数超过规格 ITPAXISCNT_OVER_LIMIT	单节超过同步插值轴数规格 Single block exceeds the specification for the number of synchronous interpolation axes

5.3.4 外部讯号发出的相关错误(0x0400 ~ 0x05FF)

Errors related to external signals(0X0400 ~ 0X05FF)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name	异警原因与处置 Causes and handling of abnormal alarms
0401	紧急停止讯号发出 - emergency stop EMERGENCY_STOP	排除急停讯号 Eliminate emergency stop signals
0402	硬件极限讯号发出 HARDWARE_LIMIT	排除硬件极限讯号 Eliminate hardware limit signals
0403	用户自定义宏警报 - USER_ALARM_MACRO USER_ALARM_MACRO	NCK 回使用者自定义的警报码, HMI 应显示用户自定义的字符串 NCK returns the user-defined alarm code, and the HMI should display the user-defined string

5.3.5 NCK 总线相关错误(0x0600 ~ 0x07FF)

NCK bus related errors(0X0600 ~ 0X07FF)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name	异警原因与处置 Causes and handling of abnormal alarms
0601	逻辑轴参考伺服出现错误 - field bus fault FIELDBUS_FAULT	伺服错误, 若结构 ErrErrorMessage != 代表有 对应动作要处理, 目前 ErrMessage == 1 代表原 点标记清除 Servo error, if the structure ErrErrorMessage != means there is a corresponding action to be processed, currentlyErrMessage == 1 means the origin mark is cleared
0602	NCK 过速度保护 - Overspeed protection POS_ERROR_PROTECT	内部提早保护过速度的情 况, 会将轴 servo off, 重置后解除异警, 且 重新 servo on If the internal early protection is over-speed, the axis servo will be off. After reset, the alarm will be cleared and servo on again.

5.3.6 轴限制错误(0xA00 ~ 0x0BFF)

Axis limit error(0XA00 ~ 0X0BFF)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name	异警原因与处置 Causes and handling of abnormal alarms
0A01	第 1 软件极限错误发出 - software limit 1 error	碰到软件极限, 须离开极限 When the alarm of the limit switch

	SOFT_1_LIMIT_ERROR	is triggered, need to leave way the limit.
0A02	第 1 软件极限清除发出 - software limit 1clear SOFT_1_LIMIT_CLEAR	软件极限 1 解除后, 会发出,画面不显示, 跟清除软限 1 的警报 After software limit 1 is released, an alarm will be issued, the screen will not be displayed, and the software limit 1 will be cleared.
0A03	第 2 软件极限错误发出 - software limit 2 error SOFT_2_LIMIT_ERROR	碰到软件极限, 须离开极限 When the alarm of the software limit is triggered, need to leave way the limit.
0A04	第 2 软件极限清除发出 - software limit 2 clear SOFT_2_LIMIT_CLEAR	软件极限 2 解除后, 会发出,画面不显示, 跟清除软限 2 的警报 After software limit 2 is released, an alarm will be issued, the screen will not be displayed, and the software limit 2 will be cleared.
0A05	硬件极限错误发出 - hard limit error HARD_LIMIT_ERROR	碰到硬件极限, 须离开极限 When the alarm of the limit switch is triggered, need to leave way the limit switch(For example, if "X-limit alarm", then move towards "X+"), and check the wiring of limit switch and check whether the search direction is correct.
0A06	硬件极限清除发出- hardware limit clear HARD_LIMIT_CLEAR	硬件极限解除后, 会发出, 画面不显示, 跟清除硬限的警报 After the hard limit is released, an alarm will be issued, the screen will not be displayed, and the hard

		limit will be cleared.
0A07	伺服未备妥 - servo not ready SERVO_NOT_READY	没有 servo on No servo is on.
0A08	轴原点不存在- The axis origin does not exist. AXES_HOME_NOT_EXIST	请进行原点建立 Please establish the origin

5.3.7 NCK 运动：时间-相关错误(0x1000 ~ 0x11FF)

NCK Movement: Time-related errors(0X1000 ~ 0X11FF)

异常码(16 进制) Abnormal alarm code (Hexadecimal)	异常名称 中 - 英 Abnormal alarm name	异常原因与处置 Causes and handling of abnormal alarms
1001	进给率未指定 - Feedrate not assign FEEDRATE_NOT_ASSIGN	G code 需指定 F 或给定预设参数 G code needs to specify F or given default parameters.

5.3.8 NCK 运动：空间-相关错误(0x1200 ~ 0x13FF)

NCK Movement: space-related errors(0X1200 ~ 0X13FF)

异常码(16 进制) Abnormal alarm code (Hexadecimal)	异常名称 中 - 英 Abnormal alarm name(Chinese-English)	异常原因与处置 Causes and Solution of abnormal alarms
1201	指令单节错误 Instruction block error INSTRUCTION_BLOCK_ERROR	指令单节错误，有提示档名、 行号与代号(reason) Command single-section error with indication of filename, line number and code number(reason).
1202	刀补- 重复点数超出最大范围限制	检 查 G code 重复点超过最

	Knife compensation--repeat number exceed maximum KNIFECOMP_REPEAT_NUM_OVER_ERROR	大范围限制 Check G-code, repeat point exceeds the maximum range limit.
1203	刀补- 进行中切换平面错误 Knife compensation - Error in changing planes during KNIFECOMP_PLANE_CHANGE_ERROR	检查 G code 在刀补进行中不能切换平面 Check G code. The planes cannot be switched during tool compensation.
1204	刀补- 圆弧接直线无法计算出刀补点 Knife compensation-- arc to line calculate point error KNIFECOMP_CALC_ARC2_LINE_ERROR	无法正确计算出刀补点 Unable to calculate tool compensation point correctly
1205	刀补-圆弧接直线干涉错误 Knife compensation-- arc to line interference error KNIFECOMP_IFN_ARC2_LINE	圆弧入口小于刀径，产生干涉 The arc entrance is smaller than the tool diameter, causing interference.
1206	刀补-圆弧指令时,如果改变刀径大小,跳警报 Knife compensation-- circle command change radius size KNIFECOMP_WRONG_RVALUE	刀补在圆弧指令不可以切换刀径尺寸 Tool compensation cannot switch tool radius size during arc command.
1207	刀补-圆弧接圆弧无法计算出刀补点 Knife compensation-- arc to arc calculate point error KNIFECOMP_CALC_ARC2_ARC_ERROR	无法正确计算出刀补点 Unable to calculate tool compensation point correctly.
1208	刀补-直线接圆弧干涉错误 Knife compensation-- line to arc interference error KNIFECOMP_IFN_LINE2_ARC	圆弧入口小于刀径，产生干涉 The arc entrance is smaller than the tool diameter, causing interference.

1209	刀补-直线接圆弧无法计算出刀补点 Knife compensation-- line to arc calculate point error KNIFECOMP_CALC_LINE2_ARC_ERROR	无法正确计算出刀补点 Unable to calculate tool compensation point correctly.
120A	刀补-检查加了刀径后的圆弧半径是否小于 0, 小于 0 时跳警报 Knife compensation-- circle radius less zero KNIFECOMP_CIRCLE_RADIUS_LESS_ZERO_ERROR	G code 路径会造成干涉 G code path will cause interference.
120B	刀补-干涉检查直线相交错误 Knife compensation--line cross interference error KNIFECOMP_IFN_LINE_CROSS_ERROR	G code 路径会造成干涉 G code path will cause interference.
120C	G code 解译逆向运动学计算错误 G code -decode calculate inverse kinematics error GCODE_INVERSEKINEMATICS_ERROR	终点位置超出机器人手臂的工作范围 The end position exceeds the working range of the robot arm.
120D	G05 P 数值无对应 HMI 配方数值 - G05 P value does not match HMI Valid Group Number PARAMETERGROUP_NOT_SET_ERROR	HMI 画面必须填写对应配方数值 The HMI screen must fill in the corresponding recipe value.
120E	G code 解译超过最大移动距离 - G code decode over maximum move distance GCODE_OVER_MAX_MOVE_DISTANCE	运动坐标位置超过最大距离 , 如 X[tan[90]]. 重新修正运动命令坐标位置 The motion coordinate position exceeds the maximum distance, such as X[tan[90]]. Re-correct the motion command coordinate position

5.3.9 NCK 开机错误(0x1400 ~ 0x15FF)

NCK boot error(0X1400 ~ 0X15FF)

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name(Chinese-English)	异警原因与处置 Causes and Solution of abnormal alarms
1401	系统建构失败 - System construct fail SYSBUERR_MSYS_CONSTRUCT_FAIL	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1402	系统 RT 建构失败 - System RT construct fail SYSBUERR_SYSRT_CONSTRUCT_FAIL	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1403	系统 RT SHM 错误 - System RT share memory fail SYSBUERR_SYSRT_SHM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1404	系统 RT 部署配置错误 - System RT deploy config error SYSBUERR_SYSRT_DEPLOY_CONFIG	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1405	路径 UTY 建构失败 - Path UTY construct fail PATHBUERR_UTY_CONSTRUCT_FAIL	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1406	路径 NRT 建构失败 - Path NRT construct fail PATHBUERR_NRT_CONSTRUCT_FAIL	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1407	路径 RT 建构失败 - Path RT construct fail	控制器异常，请与原厂联系

	PATHBUERR_RT_CONSTRUCT_FAIL	The controller is abnormal, please contact the original manufacturer.
1408	路径 UTY SHM 错误 - Path UTY share memory fail PATHBUERR_UTILITY_SHM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1409	路径 NRT SHM 错误 - Path NRT share memory fail PATHBUERR_NRT_SHM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
140A	路径 RT SHM 错误 - Path RT share memory fail PATHBUERR_RT_SHM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
140B	路径保持#变量错误 - Path Retained #variable error PATHBUERR_RETAINEDVAR	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
140C	路径 UTY 部署参数错误 - Path UTY deploy parameter fail PATHBUERR_UTILITY_DEPLOY_FROM_PARAM	参数错误 Parameter error
140D	路径 UTY 部署配置错误 - Path UTY deploy config fail PATHBUERR_UTILITY_DEPLOY_FROM_CONFIG	参数错误 Parameter error
140E	路径 NRT 关联错误 - Path NRT aggregate error PATHBUERR_NRT_AGGREGATED	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
140F	路径 NRT 部署参数错误 - Path NRTdeploy parameter error PATHBUERR_NRT_DEPLOY_FROM_PARAM	参数错误 Parameter error

1410	路径 NRT 部署配置错误 - Path NRT deploy config error PATHBUERR_NRT_DEPLOY_FROM_CONFIG	参数错误 Parameter error
1411	路径 RT 关联错误- Path RT aggregate error PATHBUERR_RT_AGGREGATED	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1412	路径 RT 部署参数错误 - Path RT deploy parameter error PATHBUERR_RT_DEPLOY_FROM_PARAM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1413	路径 RT 部署配置错误 - Path RT deploy config error PATHBUERR_RT_DEPLOY_FROM_CONFIG	参数错误 Parameter error
1414	路径 NRT 注册#变量错误 - Path registered # variable error PATHBUERR_NRT_REGISTER_VAR	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
1415	虚拟轴样式错误 - used virtual axis but fieldbus exist PATHBUERR_VIRTUAL_TYPE_AXIS	某轴有设定虚拟轴, 却存在总线实体轴 A virtual axis is set for an axis, but a bus physical axis exists.
1416	总线站号不完整 - fieldbus axis portincompatible PATHBUERR_PORT_INCOMPATIBLE	伺服缺站, 请确定伺服站号正确 The servo station is missing. Please make sure the servo station number is correct.
1417	Port 号码重复 - Port number repeat PATHBUERR_FIELDBUS_PORT_CONFLICT	调整站号 Adjust port number

1418	信道(路径)数量错误 - Path number count error SYSPARERR_PATH_CNT	不可以跳着选通道 Do not select discontinuous paths, select continuous paths.
1419	轴在路径中的号码错误(X, Y, Z) - Axis name in Path error SYSPARERR_CAXIS_OF_NUM	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
141A	主轴在路径中的号码错误 - Spindle number in path error SYSPARERR_SP_NUM_OF_PATH	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
141B	刀库在路径中的号码错误 - tool magazine number in path error SYSPARERR_MAGA_NUM_OF_PATH	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
141C	轴形式错误 - Axis type error SYSPARERR_AXIS_TYPE	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
141D	路径的卡氏轴与关节轴数量不符 - Path cartesian axis count and joint axis count different PATHPARERR_CAX_JAX_NOT_EQUAL	控制器异常，请与原厂联系 The controller is abnormal, please contact the original manufacturer.
141E	系统 PDO mapping 不匹配 - System PDO mapping error SYSBUERR_SYSPDOMAPPING_INCORRECT	没有正确的 DAT 档案或遗失 No correct DAT file or lost
141F	系统中段运行时间不支持在 A2type -Interpolation time error in A2 Servo SYSBUERR_SYSCYCLETIME_NOTMATCH_A2TYPE	A2 不支持目前的插值时间 A2 does not support the current interpolation time
1420	系统 EtherCAT 连接失败 - EtherCAT connect fail SYSBUERR_SYS_DISCONNECT_EC	检查总线有没有接 Check whether the bus is connected
1421	系统参数错误 SYSTEM_PARAM_ERROR	修正参数的内容 Correct the content of parameters

1422	主轴参数错误 SPINDLE_PARAM_ERROR	修正参数的内容 Correct the content of parameters
1423	刀库参数错误 MAGAZINE_PARAM_ERROR	修正参数的内容 Correct the content of parameters
1424	通道参数错误 PATH_PARAM_ERROR	修正参数的内容 Correct the content of parameters
1425	轴参数错误 - Axis parameter error AXIS_PARAM_ERROR	修正参数的内容 Correct the content of parameters
1426	系统 EIO 连接失败 - EtherCAT IO connect fail SYSBUERR_SYS_DISCONNECT_EIO	到 EIO 参数接口确认是否与参数有冲突的，可利用变更确认储存参数变更值 To check the EIO parameter interface for parameter conflicts, use the change confirmation to store the parameter change value.
1427	系统 EtherCAT OP 模式触发失败 - EtherCAT switch op mode fail SYSBUERR_SYS_TRIGGER_OP_FAIL	检查总线连接是否正常 Check whether the bus connection is normal
1428	系统 EtherCAT OP 模式切换失败 - EtherCAT check op mode fail SYSBUERR_SYS_CHECK_OP_FAIL	检查总线连接是否正常 Check whether the bus connection is normal.
1429	系统 EtherCAT 开卡错误 - EtherCAT hardware open fail SYSBUERR_SYS_ECAT_OPEN_HARDWARE_ERR	请重新启动 Please restart
142A	SYSPARERR_PATH_AXIS_CNT	
142B	系统 EtherCAT 扫站失败 - EtherCAT scan	检查总线连接是否正常

	device fail SYSBUERR_SYS_SCAN_DEVICE_FAIL	Check whether the bus connection is normal
142C	多头机与同步功能设定有冲突 (N2.015) - Multiaxis parameter conflict with syncaxis parameter PATHPARERR_MULTIAxis_SYNCAXIS	检查多头参数 N1.528 、 N1.434 与 同步控制参数 N2.015 是否有冲突 Check whether the multi-axis parameters N1.528, N1.434 and the synchronisation control parameter N2.015 are in conflict.
142D	多头机参数设定错误 - Multiaxis parameter setting error PATHPARERR_MULTIAxis_SET_ERR	检查多头参数 N1.528、N1.434 设定是否正确 Check multiaxis parameters, Whether the setting of N1.528 and N1.434 is correct.
142E	系统 EIO 联机装置类型与设定不匹配 -EtherCAT EIO module type mismatch SYSBUERR_SYS_EIO_PRODUCT_CODE_MISMATCH	检查 EIO 模块类型设定是否正确 Check whether the EIO module type setting is correct
142F	没有找到对应的 EIO 联机装置端口号 - EtherCAT EIO module alias id mismatch SYSBUERR_SYS_EIO_ALIAS_ID_MISMATCH	检查 EIO 模块端口号设定是否正 确 Check whether the EIO module port number setting is correct

5.3.10 原点模式过程执行异常(0x1600 ~ 0x17FF)

HOME mode process execution exception(0X1600 ~ 0X17FF)

异常码(16 进制)	异常名称 中 - 英	异常原因与处置
Abnormal alarm code (Hexadecimal)	Abnormal alarm name(Chinese-English)	Causes and Solution of abnormal alarms

1601	原点模式 4, 触发硬限与搜寻方向不匹配 - Home mode 4, hard limit mismatch the search direction, HOME4_HARDLIMIT_DIR_ERROR	碰到硬件极限, 须离开极限, 且确认硬限配线, 或是搜寻方向是否符合需求 When the alarm of the hard limit is triggered, need to leave way the limit. (For example, if "X- limit alarm", then move towards "X+"), and check the wiring of limit switch and check whether the search direction is correct.
1602	原点模式 4, 触发硬限与搜寻方向不匹配清除 - Home mode 4, hard limit mismatch Search direction clear HOME4_HARDLIMIT_DIR_CLEAR	硬件极限解除后会发出, 画面不显示, 清除 0x1601 的警报 It will appear after hard limit is canceled, the screen will not show, clear the alarm 0x1601.

5.4 Servo 相关报警 SERVO related alarms

异警码(16 进制) Abnormal alarm code (Hexadecimal)	异警名称 中 - 英 Abnormal alarm name(Chinese-English)	异警原因与处置 Causes and Solution of abnormal alarms
F002	伺服的异警号码 - Servo Drive Alarm SERVO_ALARM_CODE	