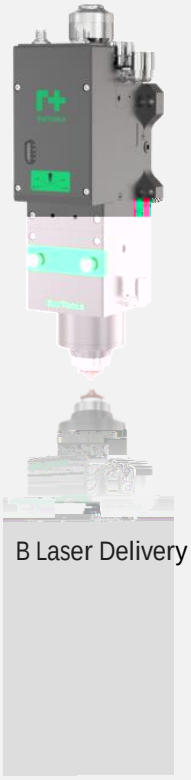
XC6000 SERIES

Motion Control System of Laser Cutting - User Manual

A CNC System



B Laser Delivery

C IOT

- Parts of the laser head such as nozzle, sensor, sensor interface and attached fasteners may not be fully protected by the ground wire due to function fault. These parts may have low voltage. When installing electrical equipment, please pay attention to taking anti electric shock measures for relevant personnel.
- Note that the equipment shall be grounded as specified.

- Never put your hands or other body under the laser head.
- Repair and maintenance work can only be carried out after the power is turned off.
- Do not exceed the specified maximum pressure.
- It must be ensured that the laser head is in normal condition at all times.
- All fasteners such as bolts and nuts must be tightened.

- Avoid direct laser radiation or scattering to the skin.
- Do not stare at the laser beam even when wearing optical equipment.
- Use special laser protective eyeglasses that meet the requirements of safety standards IEC 60825-1.

- In order to avoid corrosion, use the specified coolant and comply with relevant requirements and specified maintenance intervals.

- The corresponding measures shall be specified or explained and observed in order to prevent personnel from being harmed by noise when the cutting air pressure is high.

- Observe the storage temperature range allowed by the technical data.
- Take reasonable measures to prevent fire, vibration or impact.

Do not store in or near the magnetic field.

Raytools AG © Copyright

Raytools AG © Copyright

6.2 System 88
6.3 Alarms 88
6.4 Run Status 89

Raytools AG © Copyright

Raytools AG © Copyright

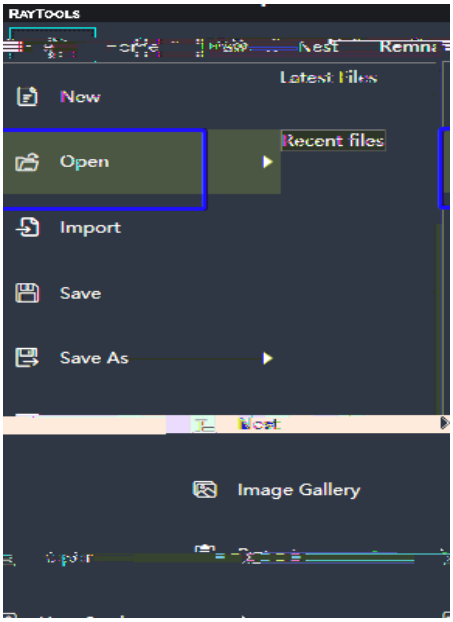
Raytools AG © Copyright

After the machine returned origin, move the cutting head above the smooth sheet to be cut.

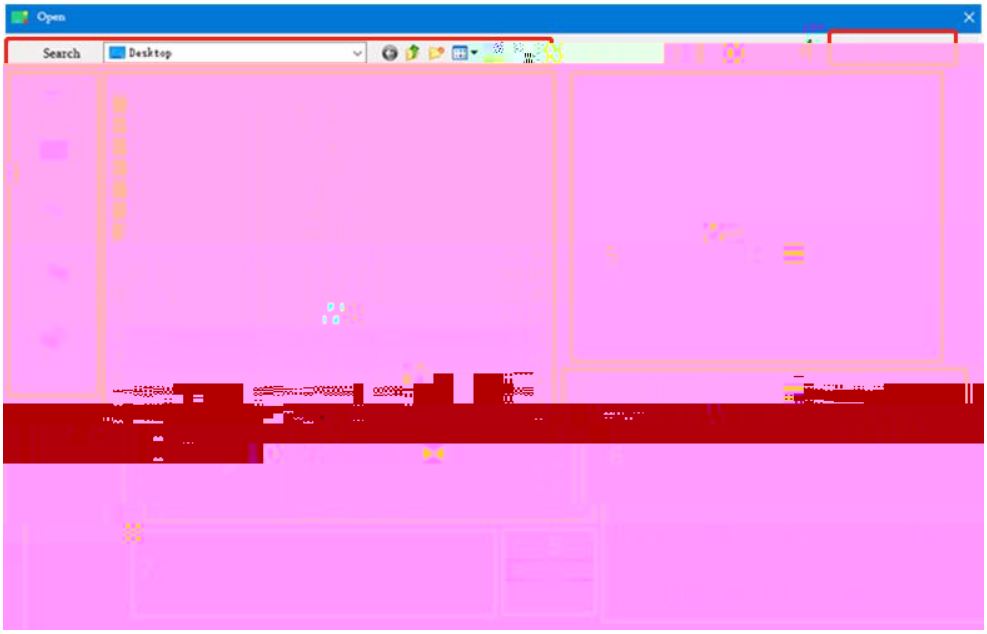
Click on the dropdown button of “Calibrate” in CNC sub-page, and select “Manual Calibrate”, as shown below

After the calibration is completed, double-

After auto tuning, import the graphic to be processed by clicking on “Open” in File sub-page, as shown below:



Open a graphic and enter the following interface. Select the graphic in the disc and click on “Open”. Currently supported file formats include dxf, nc, anc, nsp, nspl, as shown below



Raytools AG © Copyright

After sorting the graphics, check the cutting path by clicking on in CNC sub-page or “Simu” in the control panel.

The graphic will start simulated processing in the drawing area, and the simulation speed can be

: select all same contours in the current drawing, as follows:

a. Select a target graphic (take squares and circles for reference),

b. Click on “Select Same Figure”,

c. All same squares and circles in the drawing are selected.

: Select the graphic to be copied, click on “Copy with base points”, select a base point, and click on “Paste” or press “ctrl + v”, then the graphic will move to the position to be pasted.

: paste the copied graphic.

: delete the graphic, as follows

Select the graphic needs to be deleted in current drawing. Click on “Delete” and the graphic selected will be deleted.

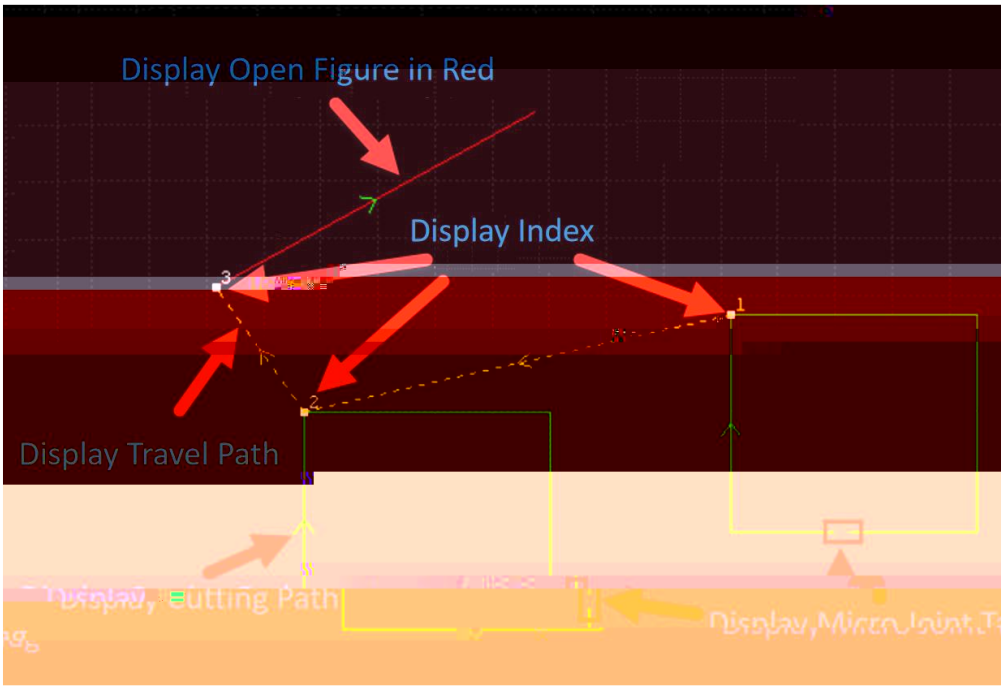
Click on “Display” in the Home sub-page to display more items, as shown below:

: change open graphics into red.

: display the processing sequence of parts/graphics in current drawing.

: display the st display EMC /Span <MCID 16/Lang (en-US)>BDC q0.000008871 0 595.32 841.92 reW*nBT/F1 1

As shown below:



Click on “View” to enter the user parameter setting interface:

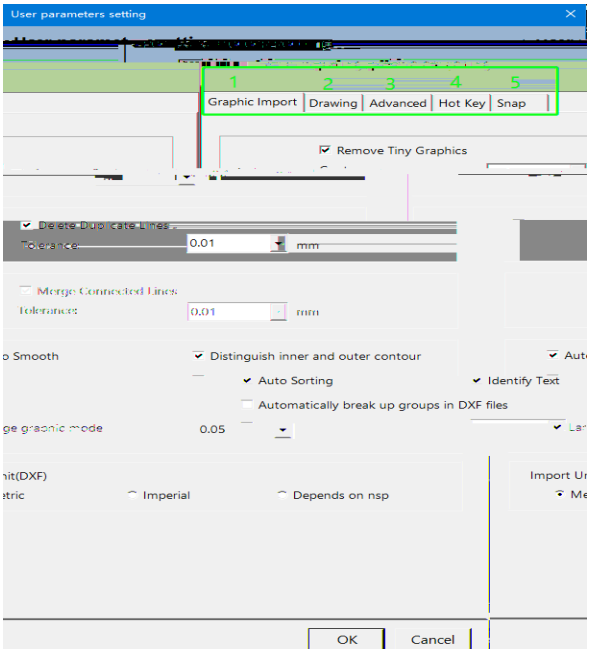
: optimize imported graphics.

: change the color of layers, main interface, grid, etc.

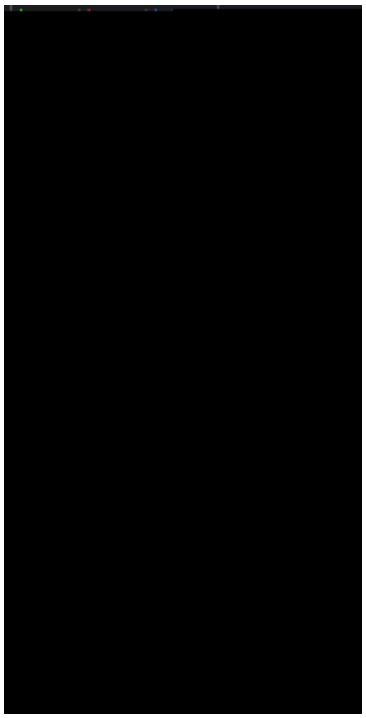
: set advanced parameters such as machine tool name and graphic accuracy.

: set shortcut keys for commonly used functions.

: set the required snap point.



Click on “Transform” in the Home sub-page to display different ways of transforming, as shown below:



: select the graphic to be translated and click on “Translate”. Click on one reference point in the drawing area and move the mouse to drag the graphic to a position. Then click on the drawing area to complete.

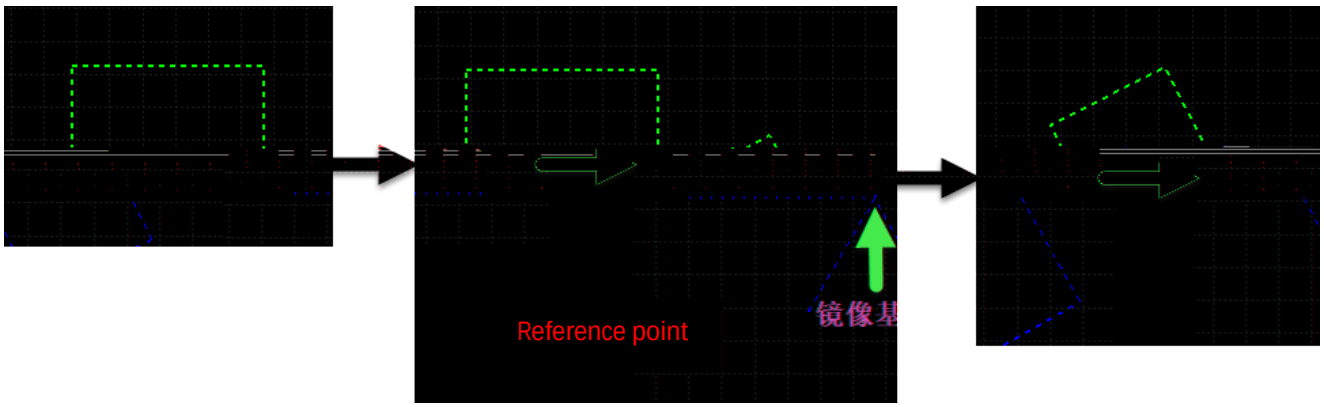
: select the graphic to be zoomed, click on “Zoom”, confirm a based point in the drawing area and another zooming point. Then left click the mouse.

: select the graphic to be aligned and click on “Align” to display different alignment ways, which can be selected to align graphics.

: select the graphic to be flipped and click on “Flip Horizontal”.

: select the graphic to be flipped and click on “Flip Vertical”.

: select the graphic to be flipped and click on “Flip”. Click on the drawing area for a reference point. Move the mouse to drag the graphic to a position and click on the drawing area, as shown below:



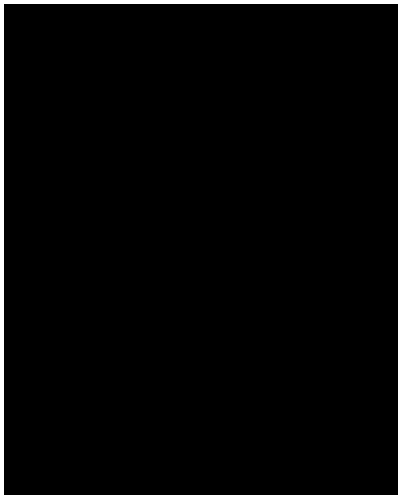
Raytools AG © Copyright

: click the dropdown button of “Leadline” and select “Add leadline”.

: reduce the length to avoid breaking the contour, when the leadline crosses the cutting contour as the leadline is too long.

: the contours are distinguished by their positional relationship. The outermost is the outer contour; the next is the inner contour; then, the outer one, and so on. Open graphics have no contour.

Click on the dropdown button of “Clear" in the Home sub-page to display different options, which can clear previous operations of the graphic, as shown below:



Set the starting point to process graphics.

Click on “Start Point” in the Home sub-page to show two items: Manual Start Point and Auto Start Point.

: click on it and select the contour of the graphic, as shown below:

: select the graphic requiring to modify the start point, click on “Auto Start Point” and set the start point, then click on “OK”, as shown below:

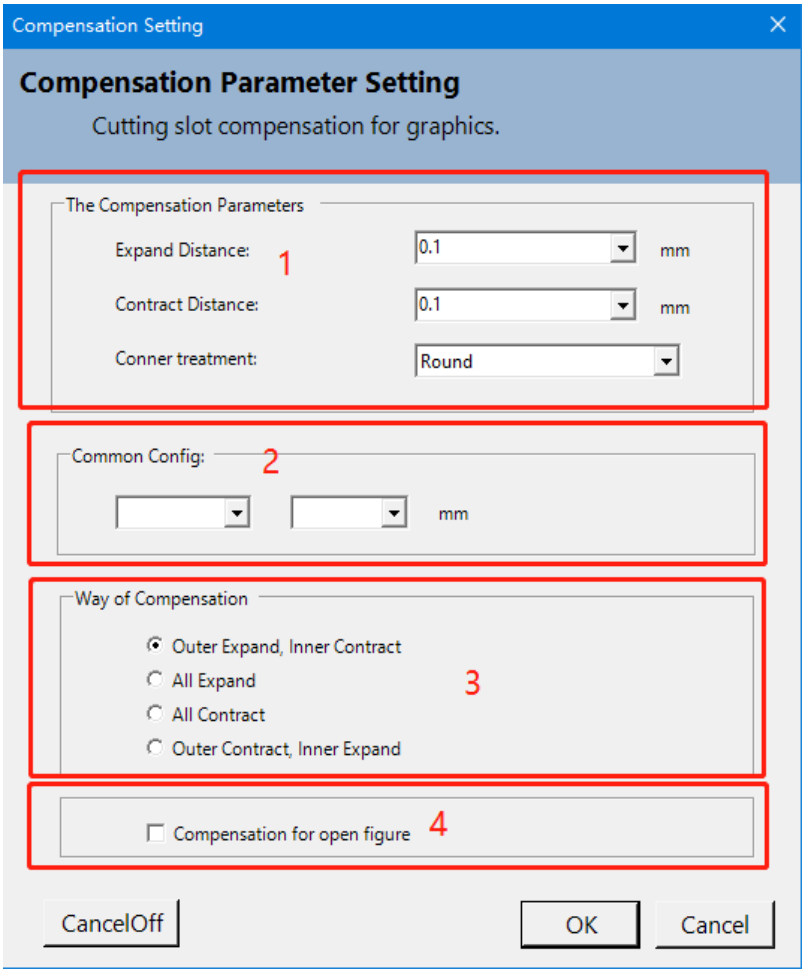
Set the cutting head to a relative position to the graphic as the zero reference (docking position).
Bottom Left is recommended.

Click on “Zero Ref” in the Home sub-page, set relevant parameters and click on “OK”, as shown below:

Note: “Select the zero reference by following the graphic” can be selected in the “Advanced Selection” in the Configuration Tool.

By scaling the graphic, compensate cutting slots to ensure processing accuracy of graphics.

Select the graphics requiring to be compensated, click on "Compensate" in the Home sub-page and set parameters, then click on "OK", as shown below



Expand Distance: the value that increases in equal intervals outwards.
Contract Distance: the value that decreases in equal intervals inwards.
Corner Treatment: select sharp or round processing in corners.

Read the configuration in the compensation library by selecting materials and thickness to quickly apply.
Modify default parameters in the compensation library by selecting materials and thickness.

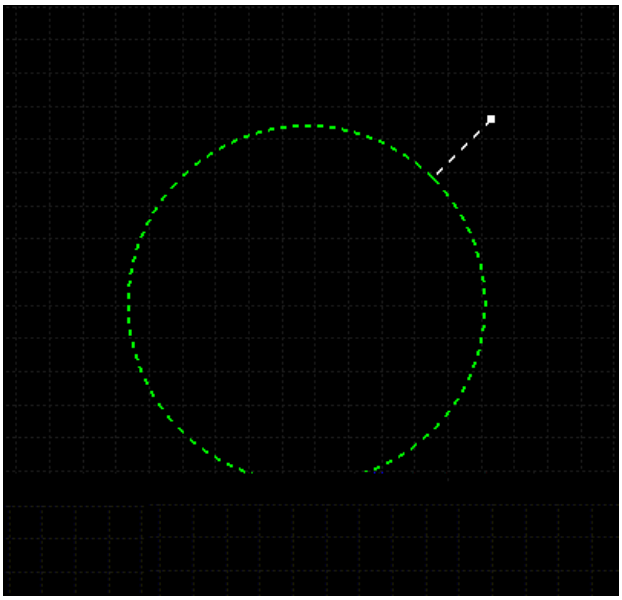
Include Outer Expand, Inner Contract; All Expand; All Contract; Outer Contract, Inner Expand.

Check to compensate open graphics.

Raytools AG © Copyright

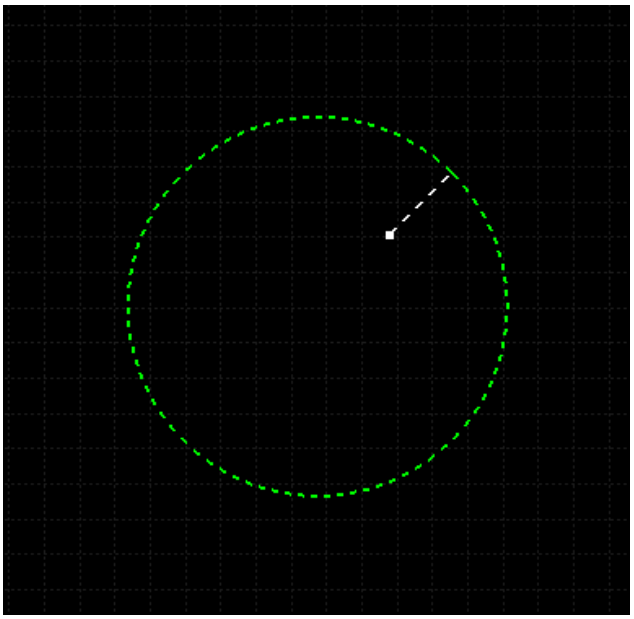
Outer refers to adding a leadline outside the graphic contour.

Select the graphic with a leadline and click on “Outer” to set the leadline as outer leadline, as shown below:



Inner refers to adding a leadline inside the graphic contour.

Select the graphic with a leadline and click on “Inner” to set the leadline as inner leadline, as shown below:



Raytools AG © Copyright

Add Ring Cut to the graphic.

Select the graphic requiring ring cut, click on “Ring Cut” in Home sub-page, and set the parameters in the following interface, then click on “OK”, as shown below:

OutsideCut Type: select the arc or triangle as the contour of outside cutting.

OutsideCut Length: set the perimeter of the contour of outside cutting.

ShortestSide Length:

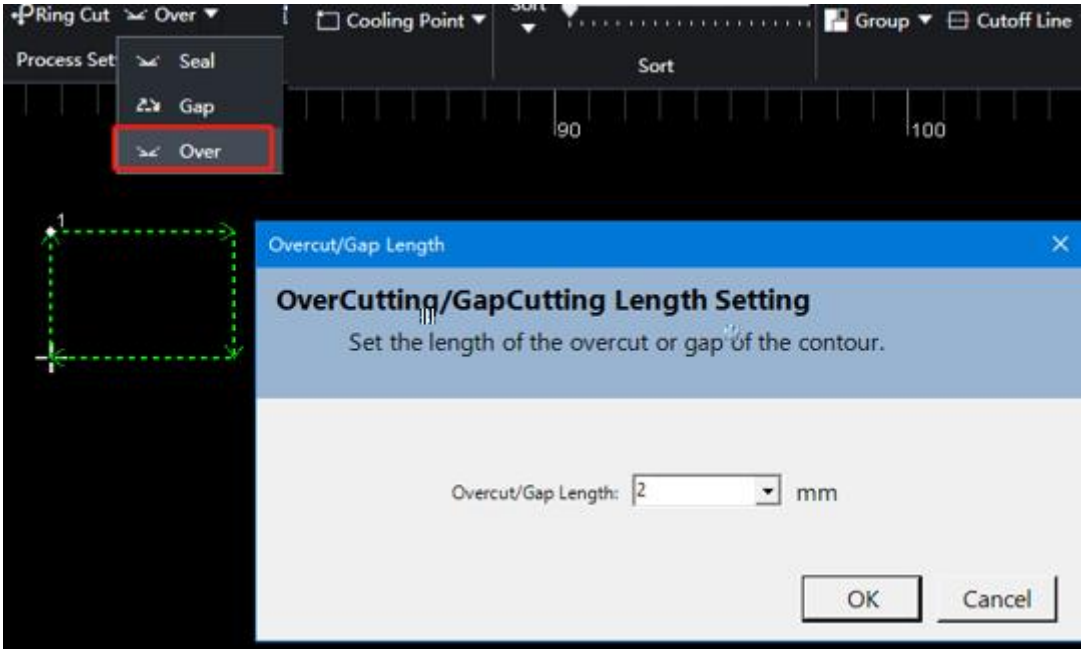
Raytools AG © Copyright

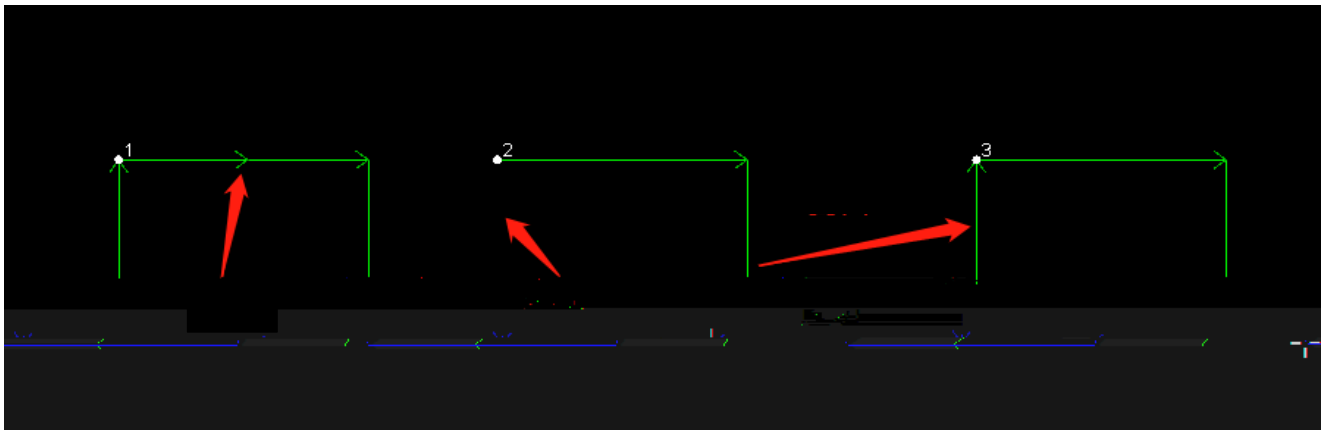
Raytools AG © Copyright

- Joint by Count: add microjoint for each contour by a fixed number.
- Joint by Distance: add microijoint for contours by a fixed distance.

Set the overcut length for the selected contour.

Select the graphic to be overcut and click on “Over” in the Home sub-page. Set the overcut length in the following length and click on “OK”, as shown below:





The cooling point is used to avoid the workpiece being incomplete for overheating.

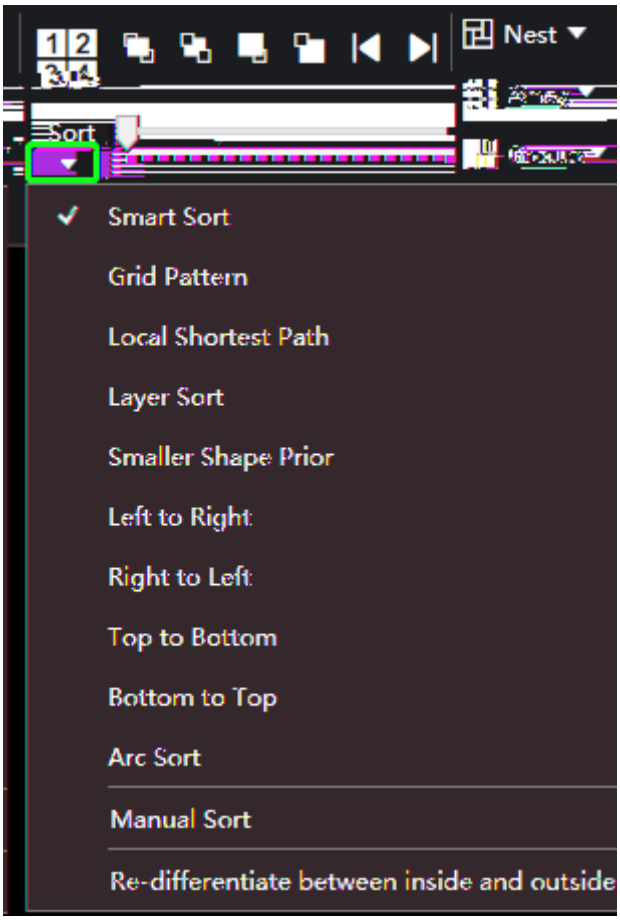
Click on “Manual Cooling Point” in the Home sub-page and select the contour of the graphic, as shown below:

Select the graphic to be added cooling point and click on the drop-down button of “Cooling Point”. Click on “Auto Coolint”.

Raytools AG © Copyright

Sort graphics to cut based on different requirements.

Select the graphics to be sorted and click on “Sort” in the Home sub-page, then graphics will be auto sorted. Click on the drop-down button of “Sort” to show different sorting methods, as shown below.



Four manual sorting buttons can be used to adjust the graphics after auto-sorting, as shown below:

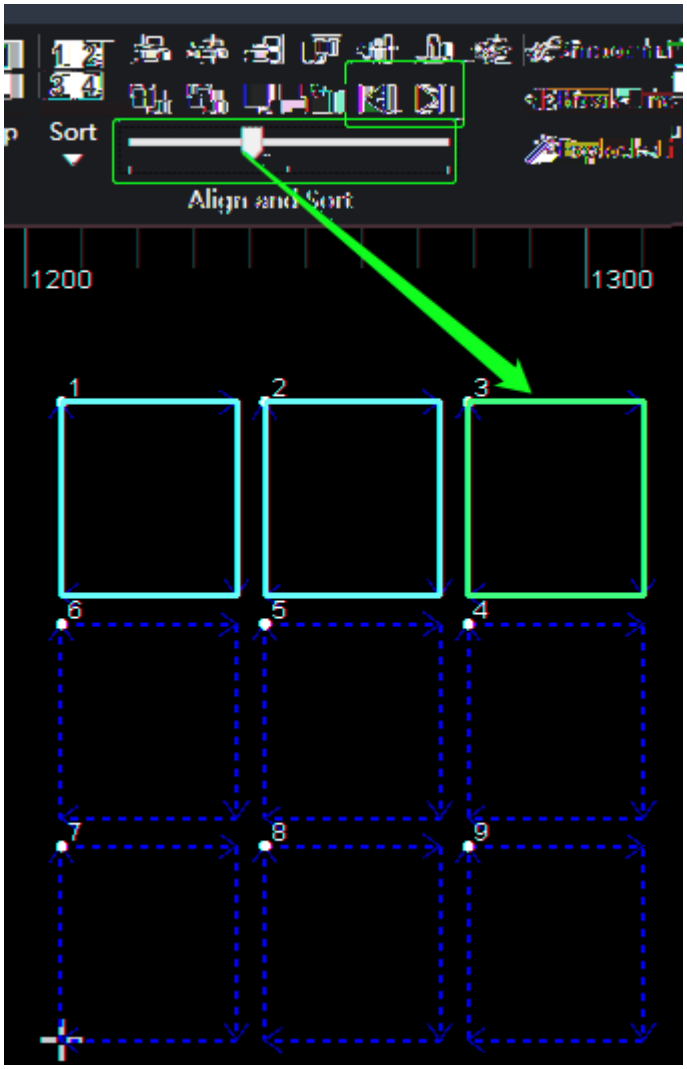
Move first: move the selected graphic to the first.

Move Last: move the selected graphic to the last.

Move front: move the selected graphic forward

Move behind: move the selected graphic backward.

There are corresponding manual buttons and barcodes, used to browse the processing sequence of the graphics corresponding to the processing progress, as shown below:



Orange: the third graphic to process;
Yellow: processed already.

Move before: back to the last processing graphic

Move after: start to process the next graphic.

Refer to Chapter 2.3.4.

1) Rectangular

Select the graphic to be copied in an array, click on the dropdown button of “Array” and click on “RectangDž A tton c

4) Fill

Select the graphic to be copied in an array, click on the dropdown button of “Array” and click on “Fill”, then set parameters in the following interface and click on “OK”. The parameter setting is shown as below:

Grouping several graphics into a whole to fix their relative position when being dragged.

Select several graphics and click on “Group” in Home sub-page to make them a whole. Then the graphic sorting, relative positions and layers are fixed and will not change when a new sorting or dragging starts.

Click the dropdown button of “Group” to show different group methods:

Set cutting path and layer for selected graphics. The parameter setting is shown below:

- Fly Cut Mode:

Circle: select to cut in circular path.

Linear: select to cut in rectangular/polygon-shaped path.

Radar: linear cutting path without smooth arcs.

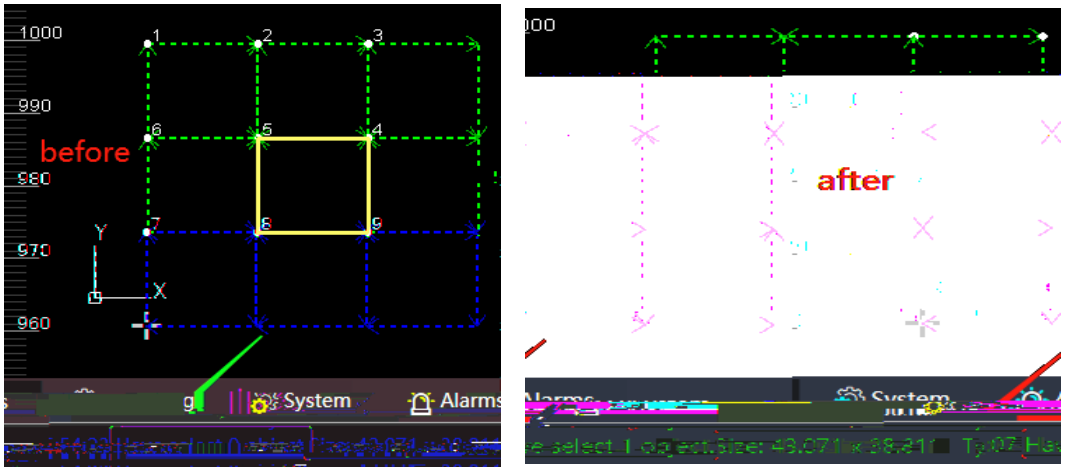
Waist: select to cut in waist-shaped path.

Leadline: select for graphics with leadline

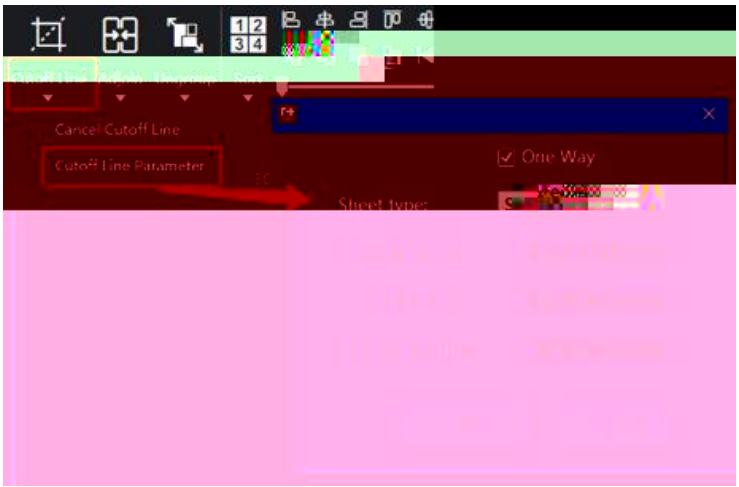
- Sort Mode: select different sort modes to use corresponding fly cutting paths.
- Starting Position: select the start position of the graphic to be processed.
- Tolerance: if the horizontal and vertical length of the graphic is smaller than the tolerance, the graphic will be in a line or an array; if larger, the graphic will be in multiple lines or arrays.
- Max Smooth Joint: if the distance between two graphics is less than the max smooth joint length, an arc tangent will be auto-added to the cutting path to speed up processing and improve efficiency.

Raytools AG © Copyright

Combine workpieces to share one edge for cost reduction and processing efficiency improvement.
Select graphics to be co-edged and click on “Co-edge” in the Home sub-page. Then set co-edge types and sorting methods and Click on “OK”. After co-edging, the graphics will be grouped into one contour to avoid sorting errors. The result of co-edge is shown below:



Cut off the waste sheet after processing. Draw a path to be cut in the sheet and set it as the cutoff line.



The cutoff line includes one way cutting and two ways cutting. As for the former, the cutting head will detect and cut to the edge along the sheet, after cutting actual length; If unchecking “One Way”, the cutting head will detect the edge of sheet in the opposite direction before cutting, by two ways cutting. When reaching the edge, it starts to cut towards start point, and runs in the same way of one way cutting.

- Sheet Type: select thick/thin sheet.
- Avoid Speed: the speed of cutting head when detecting the edge.
- Border Step: the sensitivity judged when detecting the edge of sheet. The greater the value, the lower the

Raytools AG © Copyright

sensibility, and the longer the Z-axis overshoot; The smaller the value, the higher the sensibility, and it's more possible to misjudge undulation position of sheet as its edge.

- Avoid distance: move towards the direction opposite to edge detection from the starting point of the cutoff line, and then start to detect the edge, so as to avoid hitting the sheet when the start point is near the edge.

Bridge is used to connect separate shapes.

After setting the maximum distance of the adjacent curves to and the bridge width, users can add bridge for

selected contours by clicking on

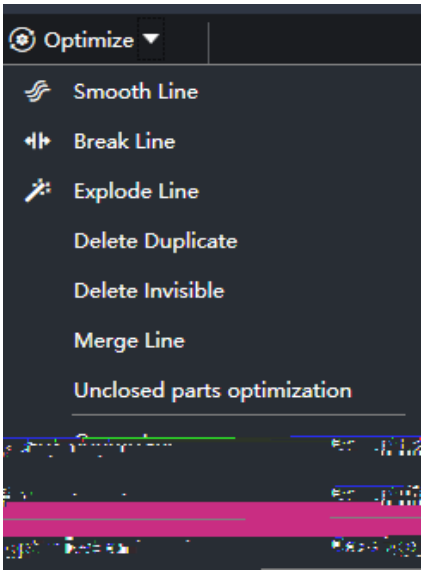
Select the graphic to be bridged and click on "Bridge"

Measure the distance between two points.

There are two measurement methods: linear measurement and curve measurement. Click on “Measure” in the Home sub-page, and click on the start and terminal points in drawing area, according to system logs.

Optimize the graphics.

Click on the dropdown button of “Optimize” in the Home sub-page, to show a list of optimization ways, as shown below:



Raytools AG © Copyright

Raytools AG © Copyright

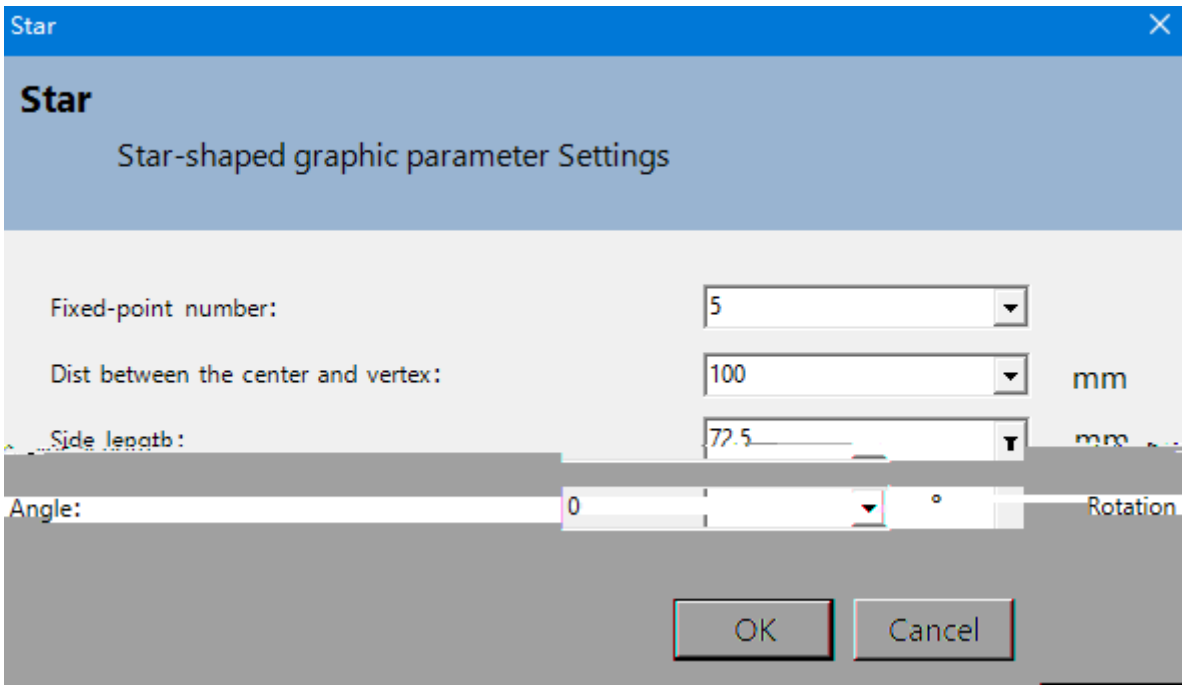
Raytools AG © Copyright

Click on the drop-down button of “Polyline” in Draw sub-page to show different options: Polyline, Polygon, and Star.

: click on “Polyline” and click in the drawing area to set the start point. Drag the mouse and click again, and then repeat to draw graphics with multiple lines. The default is to draw a line, but it’s available to switch it to arc by pressing A on the keyboard, and switch back to line by pressing L. Press C to make the contour closed and press Enter to complete the drawing.

: click on “Polygon” to set the number of edges and choose to be inner or outer tangent to the circle. Click on “OK” in the setting interface. Click in the drawing area to set the center and drag the mouse to click on another point to set the radius of the polygon.

: set relevant parameters in the following interface. The star-shaped graphic will be auto-drawn, after clicking on a point in the drawing area to set the star center.



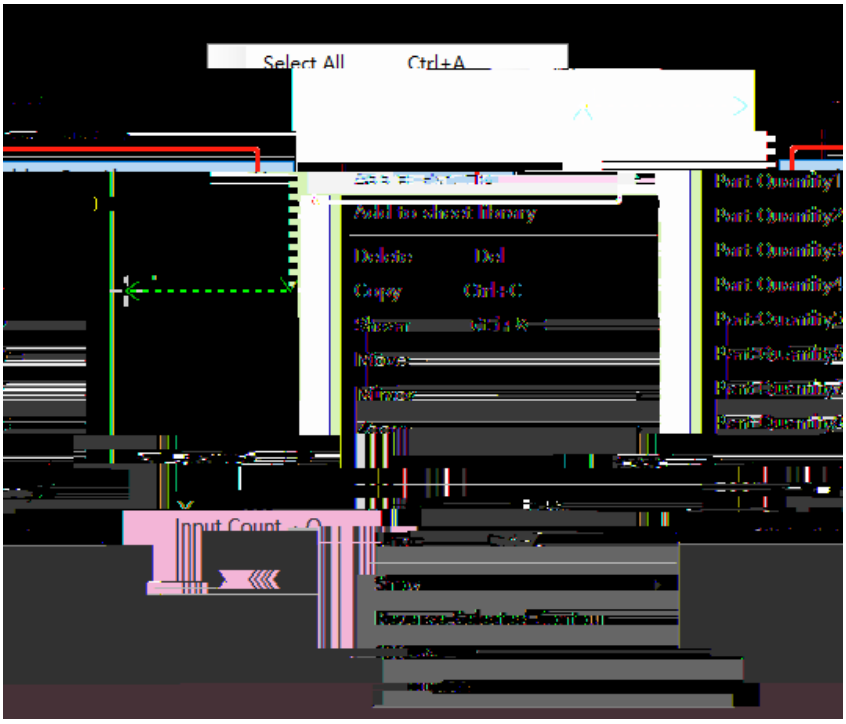
Click on “Point” in the Draw sub-page and click in the drawing area to draw a point.

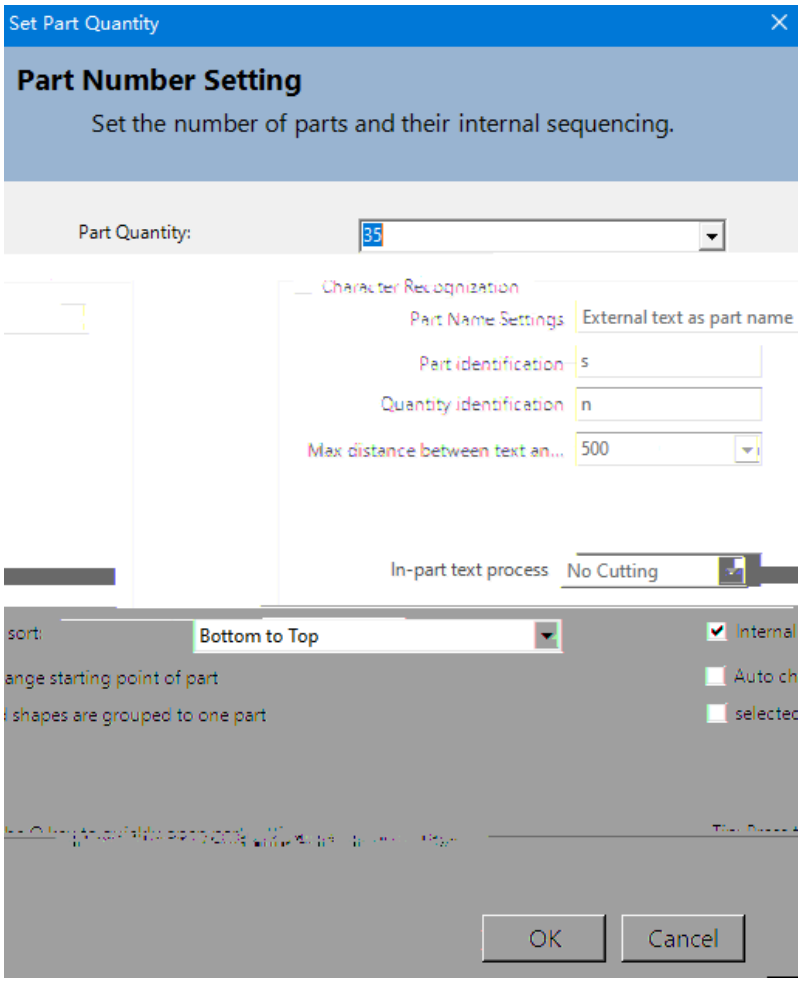
Click on “Text” in the Draw sub-page, set relevant parameters, click on “OK” and then click in the drawing area to compelte.

Raytools AG © Copyright

Raytools AG © Copyright

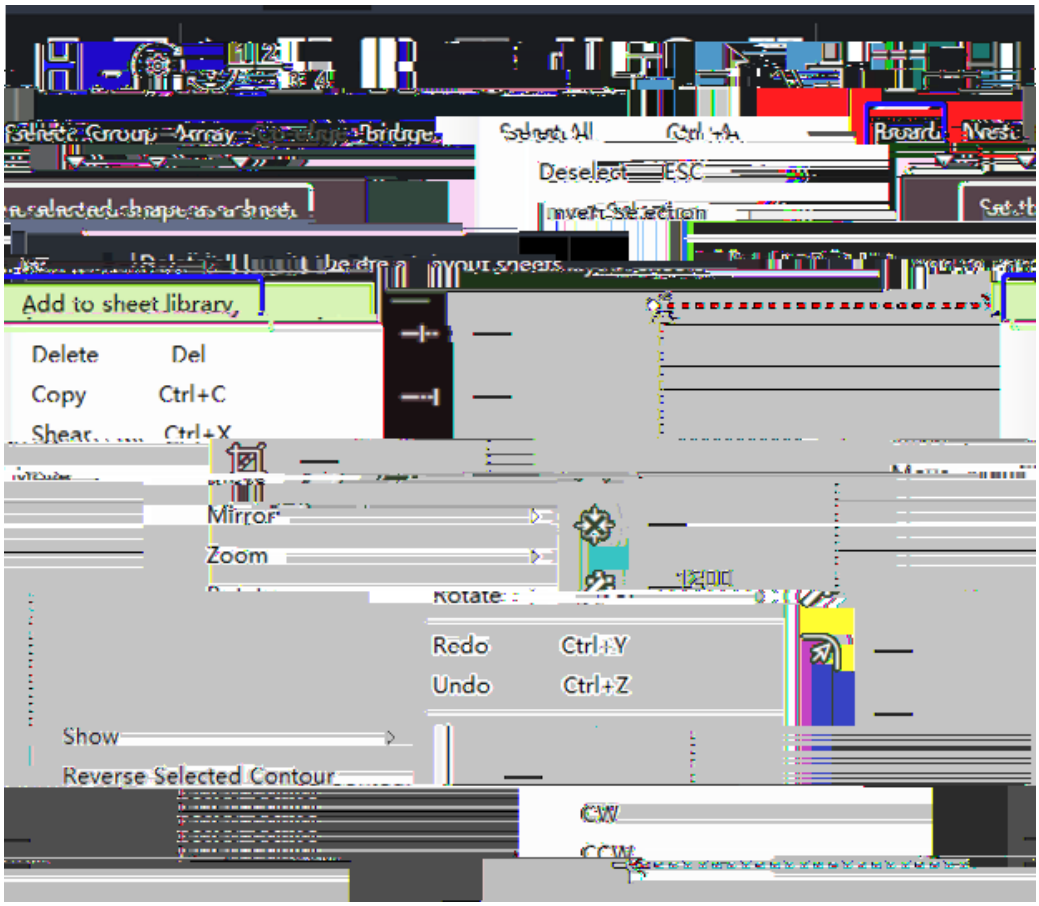
Raytools AG © Copyright


Select All Ctrl+A
Add to Asset Library
Delete Del
Copy Ctrl+C
Move
Mirror
Input Count


Set Part Quantity
Part Number Setting
Set the number of parts and their internal sequencing.
Part Quantity:
35
Part Name Settings
External text as part name
Part identification
s
Quantity identification
n
Max distance between text an...
500
In-part text process
No Cutting
sort:
Bottom to Top
Internal
ange starting point of part
Auto ch
shapes are grouped to one part
selected
OK
Cancel

Before nesting, users should add sheets first, which can be done by the following two methods:

1. Click on the dropdown button of “Board” and select “Set the selected shape as a sheet”.
2. Select a graphic and right clicking to select “Add to sheet library”.



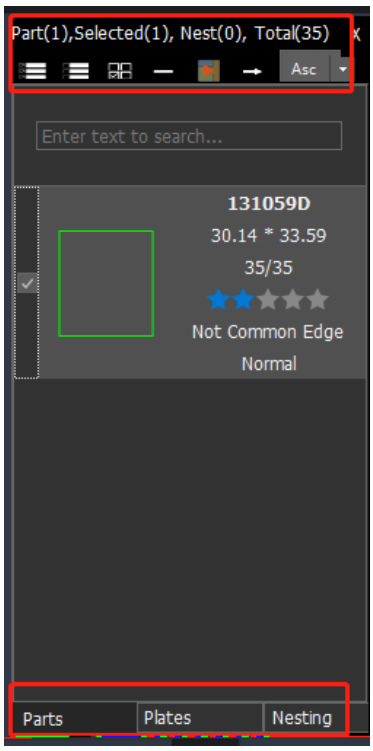
With parts in the drawing area, there will be a left sidebar for nesting where users can set parts and sheets.

: quickly select, delete and nest parts and sheets.

r: display all added parts.

Check parts, sheets or nesting result.

Raytools AG © Copyright



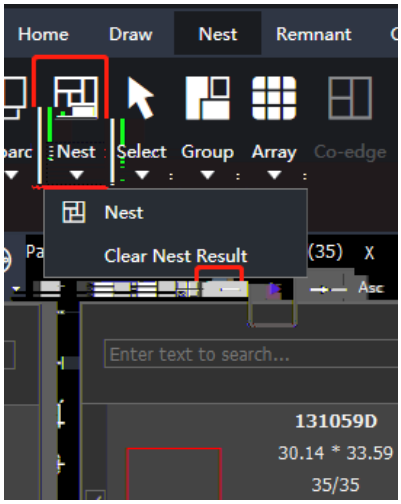
Right-click to select different ways to delete.

: delete current selected graphic.

: delete current selected graphics.

: delete all sheets in the list, and the progress is normal.

Two buttons below are available to apply nesting function.



Set the nesting parameters.

: set the interval between parts and between parts and the edge of sheets.

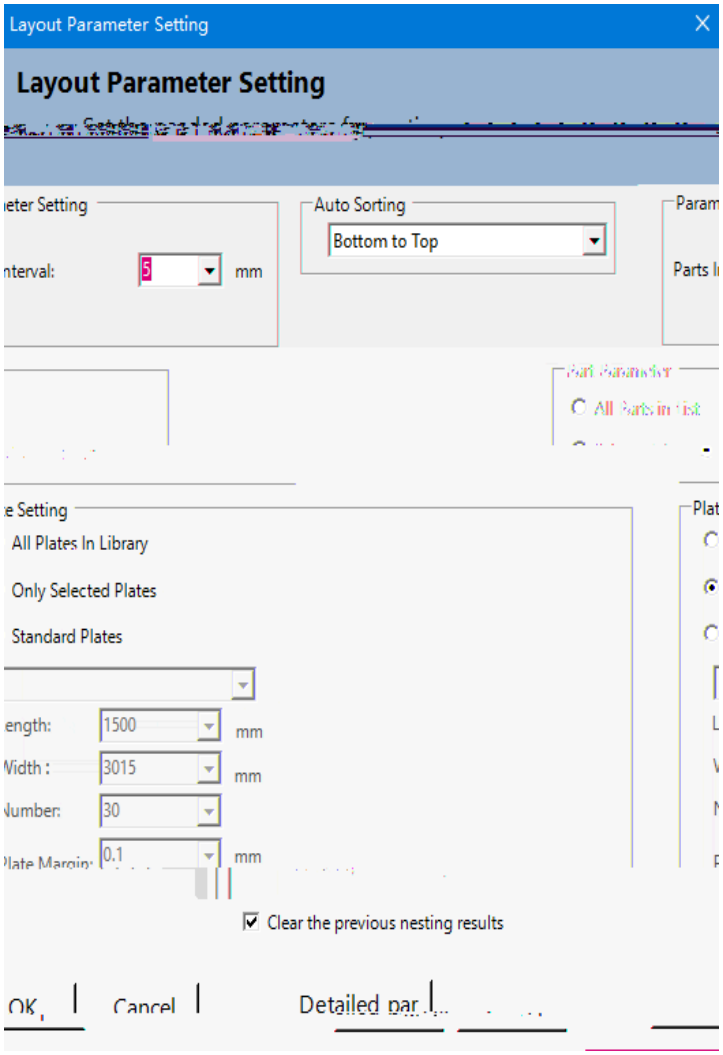
: set the sorting way and the nesting direction of the parts.

: select parts to nest.

select all plates/only selected plates/standard plates to nest.

: whether to continue the nesting based on previous nesting result.

: click to set the detailed parameters.



: set the start point of nesting.

: whether to allow the mirroring of the graphic to improve the utilization of the sheet.

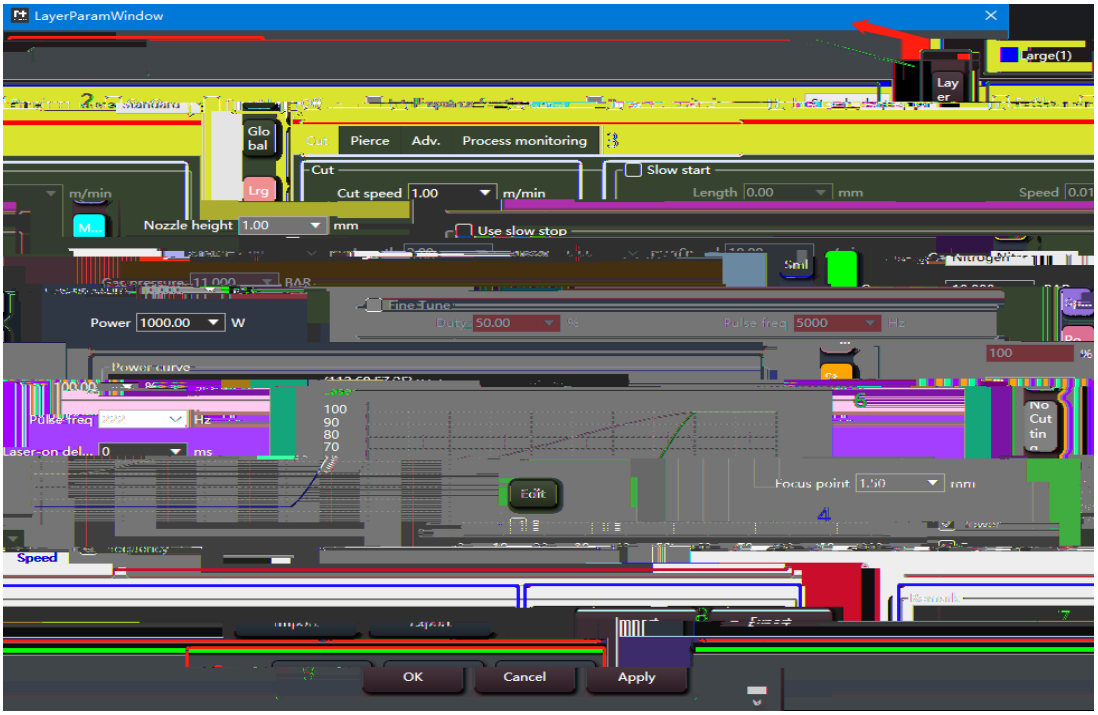
: set the priority of nesting direction.

: Auto select the best horizontal/vertical orientation for max. nesting utilization.

: the angle of placing the part (the smaller the value, the better the nesting effect and the slower the nesting speed).

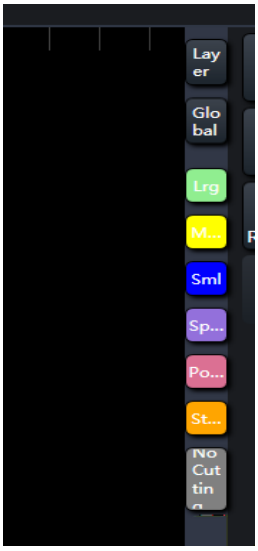
: whether to place the part in the hole in the waste area of another part. Check to improve the

Click on “Process” to enter the interface of processing parameter setting. Parameters for each layer are independent.



There are 7 processing layers in total, each of which can be set individually.

Select the graphic in the drawing area and click on the corresponding layer button on the right. Then the graphic will be Processed, according to the selected process, as shown below:



Processing Mode	
Defilm	After checking the function, the process runs along the cutting path using the film parameters to defilm firstly, and then starts the normal process according to the layer parameters. Checking this function to enter the interface of defilm parameter setting.
Prepierce	After checking the function, prepierce at the start of the graphic or the leadline, before actual cutting. And the function of auto-group prepiercing can be selected in the global parameter.

Raytools AG © Copyright

Other Parameter

Raytools AG © Copyright

Click on “Edit” to edit the curves, as shown below:

The power curve is fitted as a spline curve with good smoothness, with the horizontal coordinate for speed and the vertical coordinate for laser output. The interfaces for editing can be chosen as shown above.

Take the figure above as an example: the duty cycle is 50% when the speed is about 0%, and nearly 100% when the speed is 90%. As in the processing, the duty cycle is nearly 100% for a cutting speed of 10m/min, the duty cycle is 60% for a cutting speed of about 2

Raytools AG © Copyright

Piercing Parameter	
Smooth Pierce	Check to use the noninductive piercing. Height: set the height of the nozzle from the sheet. Time: set the time for noninductive piercing. Focus point: set the focus point for noninductive piercing. Laser adjmt.: select to adjust the beam-out parameter for noninductive piercing.

Raytools AG © Copyright

Slow Descent	Check to descent slowly when cutting with leadlines.
Slow Descent	Nozzle height: set the nozzle height when cutting with leadlines. Stable dist: slowly descent the leadline height to the stable height of the sheet in cutting. Set the stable distance of the leadline from the sheet.
Focus Adjmt	Focus Adjmt: check to use the focus adjustment of leadlines. Focus point: set the focus position when cutting with leadlines. Initial leadline: set the initial length of leadline of focus-adjust cutting.
Lead circle	Lead circle: check to use the lead circle. Speed: set the processing speed of the lead circle. Radius: set the radius of the lead circle.
Use Slag Removal Process	Check to use the process to remove slags.
Nozzle height	Set the cutting height from the nozzle to the sheet when removing slags.
Cut speed	Set the cutting speed when removing slags.
Power	Set the beam-out peak power of the laser when removing slags.
Pulse freq	Set the beam-out frequency of the laser when removing slags. It refers to the time of beam out in 1 second. The higher the value, the more continuous the laser beam is.
Duty	Set the beam-out duty cycle of the laser when removing slags. It refers to the ratio of beam-out duration in one beam-out cycle and the total time. The higher the ratio value, the higher the average power is when beam out. When it is 100%, the average power equals the peak power.
Gas type	Set the assist gas type when removing slags, including air, oxygen, and nitrogen.
Gas pressure	Set the assist gas pressure when removing slags.
Focus point	Set the focus position when removing slags.
Spot size	Set the size of beam out in removing slags.
Radius	Set the radius of cutting nozzle when removing slags.
Cycle	Set circle counts of cutting head when removing slags.

Raytools AG © Copyright

		versa.
Frame speed	18	the speed of framing.
XY axis travel setting	Same	Set the X and Y axis to be the same or different.

Default Parameter		
Parameter	Default	Remark
Gas on delay	200	Gas on and delay for the set time before laser on.
First gas on delay	400	Set the time of gas out. Before cutting, there are air in the gas pipe. So, it takes a while for gas out before laser on to ensure stable cutting.
Pre gas on	500	Set the time to open the gas in advance after processing starts.
Gas switch delay	200	When switching to another type of gas in cutting, gas on first and gas off

Raytools AG © Copyright

CNC System Delay and Advanced		
Parameter	Default	Remark
Power control delay	2000	Set the delay of the system power output.
Flycut delay	0	Set the delay of laser on when fly cutting.
Slag Power Control	uncheck	Curve power control in slag removal.

Prepiercing and Defilm:		
Parameter	Default	Remark
Prepiercing/Film type:	Group	Single Vector: check to process the single contours. Whole board: check to process the whole sheet. Group: check to process graphics in groups.
Sequence:	Prepiercing first	Prepiercing first: check to prepierce first before defilming. Defilm first: check to defilm first before prepiercing.

Follow Control	
Parameter	Remark
Z axis pos	Click to set current Z coordinate as 0.

Raytools AG © Copyright

Click on “Preview” in the control panel to display the positional relationship between the machine and graphic.

The coordinate system is the right-handed Cartesian coordinate system. As shown in the figure, the thumb is pointing in

Raytools AG © Copyright

As the position of the workpiece may vary, it is necessary to introduce a workpiece coordinate system. All the program coordinate systems in the software are identical in direction to the machine coordinate system. Only the zero point of the coordinate system is different, known as the program zero. The program coordinate system contains a floating coordinate and workpiece coordinates.

The button at the top of the control panel is used to select the float coordinate system and other nine workpiece coordinate systems.
The float coordinate system is generally used for informal processing and can be regarded as starting processing from wherever the laser head moves. The zero point of the float system is automatically set to the current position of the laser head when the user clicks on “Frame”, “Dry Run”, or “Start” in the control panel, as shown below:

Raytools AG © Copyright

Raytools AG © Copyright

Raytools AG © Copyright

2) Jog Cut

Raytools AG © Copyright

click on “Start” to start or continue the processing. After clicking on it, the mode interface will display auto-running status.

click on “Pause” when starting running, and the auto processing will pause. The mode interface will display auto-pause status.

click on “Stop”, and the processing will reset to the initial status and the system will be ready again.

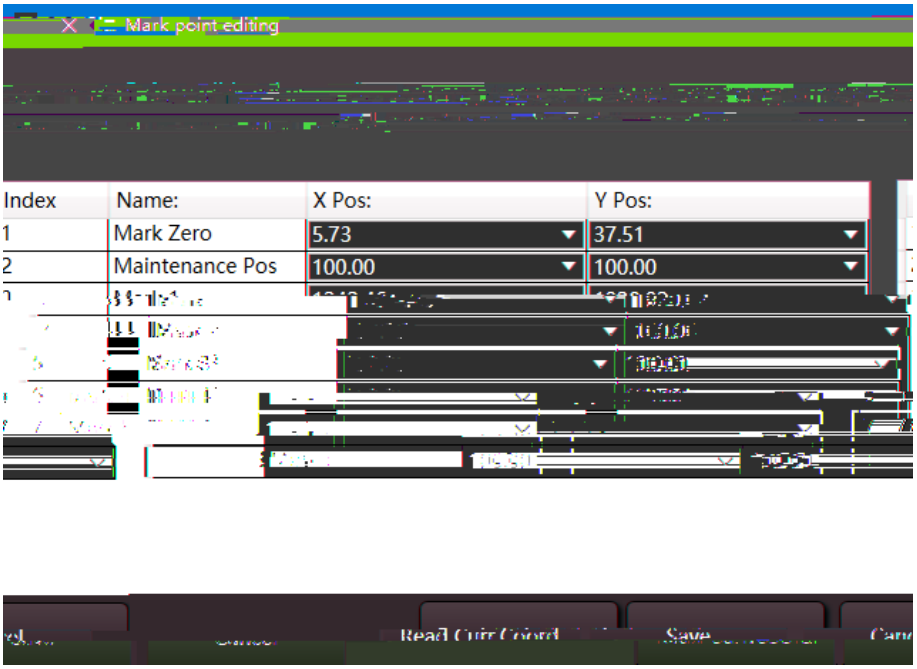
Simulate before processing. Click on “Simu” to check the cutting path by simulation.

Dry run is different from the actual processing, with no laser, no gas, and no following-up, and other steps are the same as the actual ones.
Note: If users want to continue to dry run after clicking on “Pause”, click on “Dry Run” to resume the simulation. In pause status, clicking on “Start” to start the actual processing from the position.

Raytools AG © Copyright

Click on “Mark” to enter the following interface

Select an index to be marked and click “Read Curr. Coord.” to mark the current coordinate at the selected index.



Click on “Mark Zero” to display 8 marking position of machine tool, used to select marking points to be selected, as shown below:

Raytools AG © Copyright

There are 4 types of edge detection, including auto, manual, and disc and 2-point edge detection

Raytools AG © Copyright

7) Angle obtained from edge search: the rotation angle from edge detection.
8) Detailed parameters of edge detection: set the basic parameters for capacitive edge detection.
9) Height: the height from the cutting head to the sheet during edge detection.
10) Step height: the sensitivity of judgment when detecting the edge of the sheet. The greater the value, the less sensitive it is, and the greater the Z-axis overshoot distance; The smaller the value, the more sensitive it is, and it's more likely to mis-detect the undu Ń et. Thci vey +

Raytools AG © Copyright

Raytools AG © Copyright

8) Detailed parameters of edge detection: set the basic parameters for capacitive edge detection.
9) Height: the height from the cutting head to the sheet during edge detection.
10) Step height: the sensitivity of judgment when detecting the edge of the sheet. The greater the value, the less sensitive it is, and the greater the Z-axis overshoot distance; The smaller the value, the more sensitive it is, and it's more likely to mis-detect the undulation of sheet as its edge.
11) Speed: set the speed of edge detection.
12) XY-axis zero correction: after edge detection, correct the edge detection result by setting a positive value to shift inward and a negative value outward.

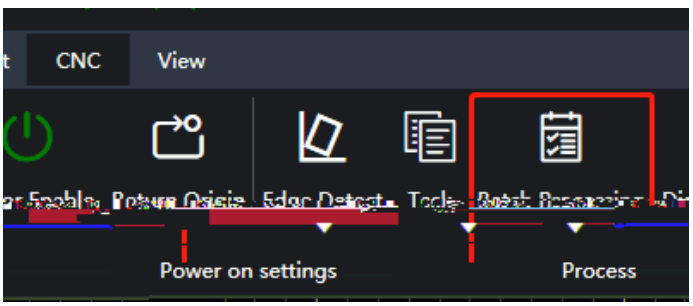
Memory edge detection angle

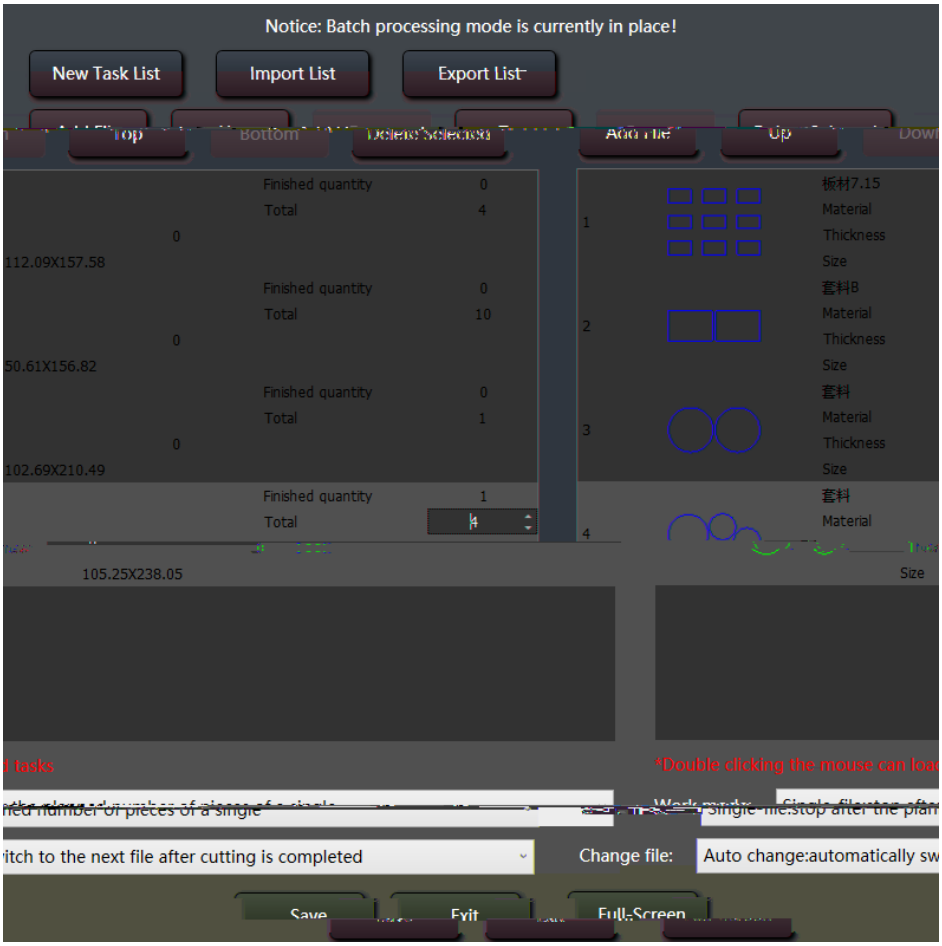
1) Restore edge detect angle only: restore the angle of the last edge detection.
2) Restore edge detect angle and return origin: restores the angle of the last edge detection and return to the zero point of workpiece.
3) Set edge detect angle: set proper edge detect angle manually.
4) Clear edge detect angle after processing: auto delete the angle of current edge detection after processing.
5) Clear edge detect angle: manually delete edge detection angle.

1) Cut off in the X-axis direction: select to detect edge in the X direction and cut off.
2) Cut off in the Y-axis direction: select to detect edge in the Y direction and cut off.

If there comes an urgent task in the cutting process and the current graphics have not been completed yet, users can save the current process by clicking on "Save" in the dropdown bar of "Task". Then create a new drawing. After the urgent task is completed, click on "Load In" in the dropdown bar of "Task" to import the processing file. Then the machine can resume the rest work and complete it. When any interference makes the machine stop processing, click on "Restore Task before Power-off" to resume the processing.

Click "Batch Processing" on the CNC sub-page to enter the following interface as shown below:



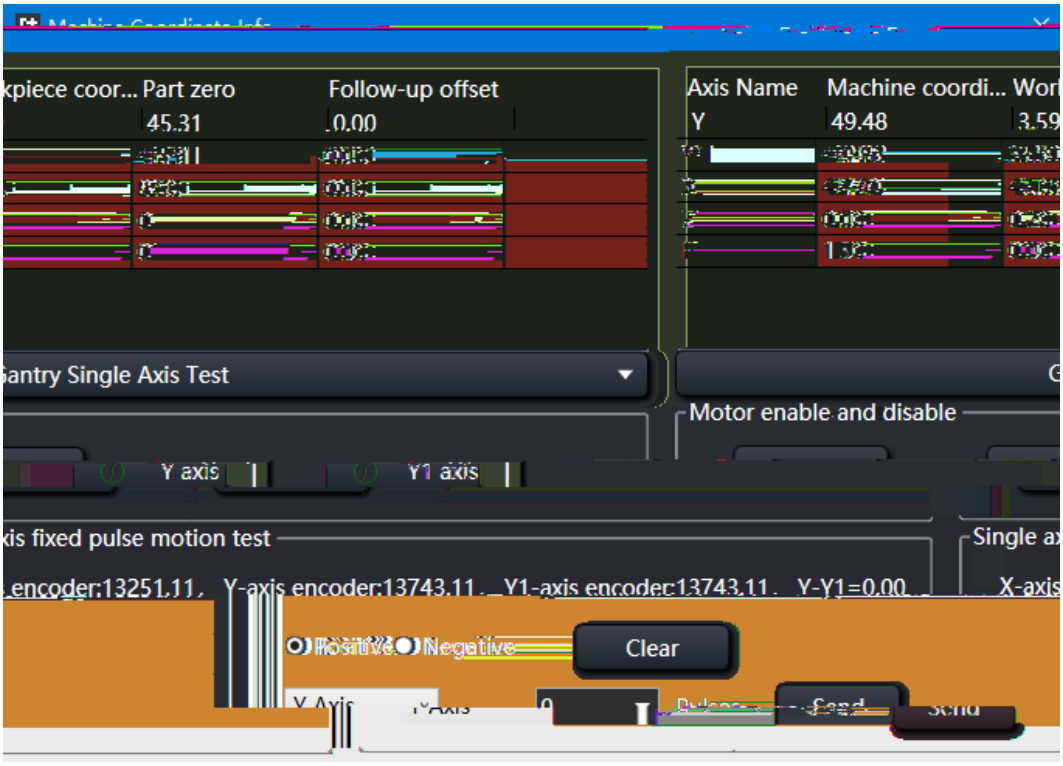


1) New Task List: After clicking on “New Task List”, all tasks in the current list will be cleared.
2) Import List: import a file saved before.
3) Export List: save current files, processing quantity and sequence as listed files (including drawings)
4) Add File: import files (including formats: dxf, nsp, etc.)
5) Up: change the processing sequence between the current file and the file before it.
6) Down: change the processing sequence between the current file and the file after it.
7) Top: move the current file to the first.
8) Bottom: move the current file to the end.
9) Delete Selected: delete the selected file.

Note: Users can customize total count of single processing graphic and finished processing count, by clicking on a file.
There are three work modes:
1. Single-processing: stop after processing a single file once.
2. Single file: stop after the planned number of a single file.
3. List-planning: stop after planned processing count.
If auto processing is required, select single-processing or single-file; If requiring to process multiple graphics continuously, select list-planning.

Raytools AG © Copyright

Raytools AG © Copyright



2) IO Monitor

To monitor the status of input and output.

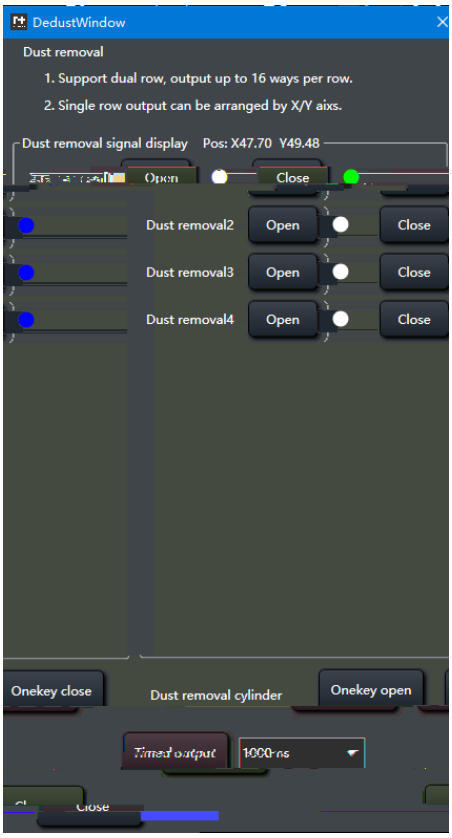
3) Hardware Info

To monitor the status of slave OP.

5) Dust Removal

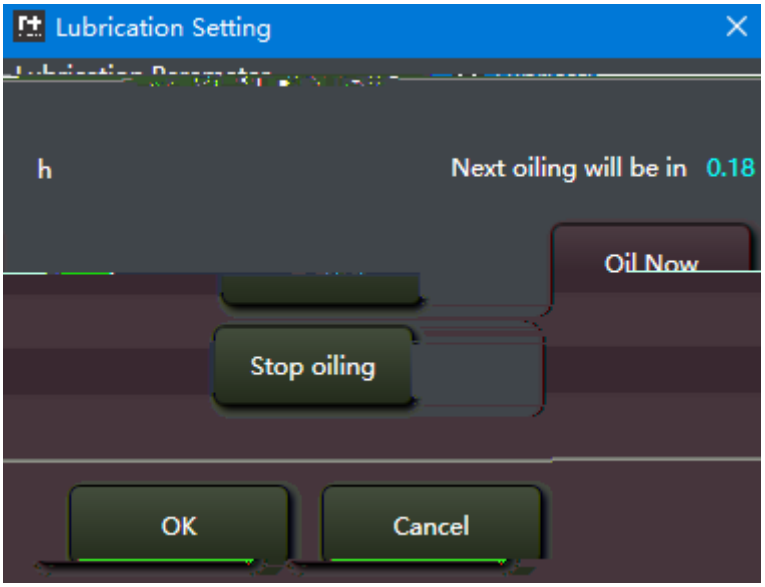
To control the opening, closing and time output of dust removal.

The function of dust removal can be quickly opened and closed as below:

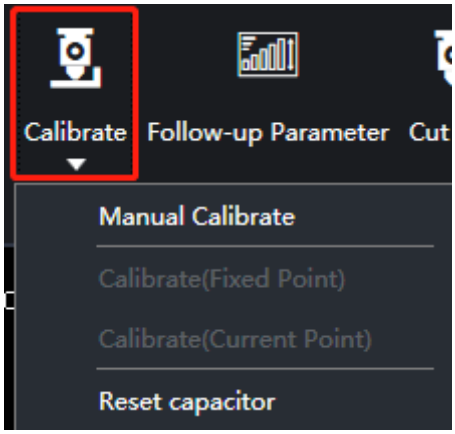


6) Lubricate

Click on the dropdown button of “Lubricate” to check the time for next oiling. Users can also click on "Oil Now" to lubricate the machine tool immediately, as shown below:



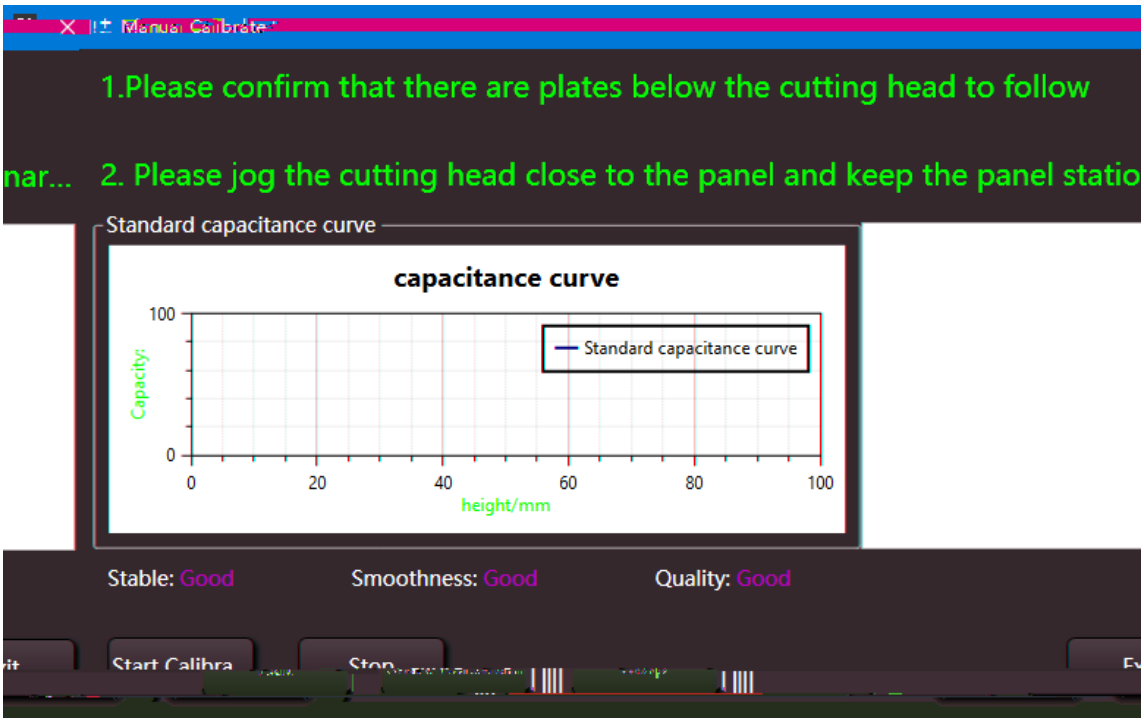
Click on the dropdown button of “Calibrate” to show different options, as shown below:



1) Manual Calibrate

Before calibration, move the cutting head at the position with the sheet under it. Click on "Manual Calibrate", and click on “Start Calibrate”. In the following interface, the cutting head moves down at the current point for calibration.

Note: Manual calibration is required for opening the software at the first time.



2) Calibrate (Fixed Point)

Before calibration, move the cutting head at the position with the sheet under it. Click on " Calibrate (Fixed Point)" to enter the following interface. Users can set the current point as the fixed calibration point, or set the fixed coordinates for calibration. After clicking on “Start Calibrate”, the cutting head will move to the corresponding coordinates for calibration, and the cutting head will quickly move down to a fixed height and then calibrate.

Raytools AG © Copyright

Raytools AG © Copyright

		[illegible]
In place width	0.2	the range of height used to confirm if the cutting head follow-up is in place.

Click on "Cut Head" to display a list of items:

1)

The purpose of focus auto test is to confirm the actual focus value of zero focus of the cutting head. Find out the one with the thinnest cutting slot by analyzing the cutting effects of different focuses, input the corresponding focus value in

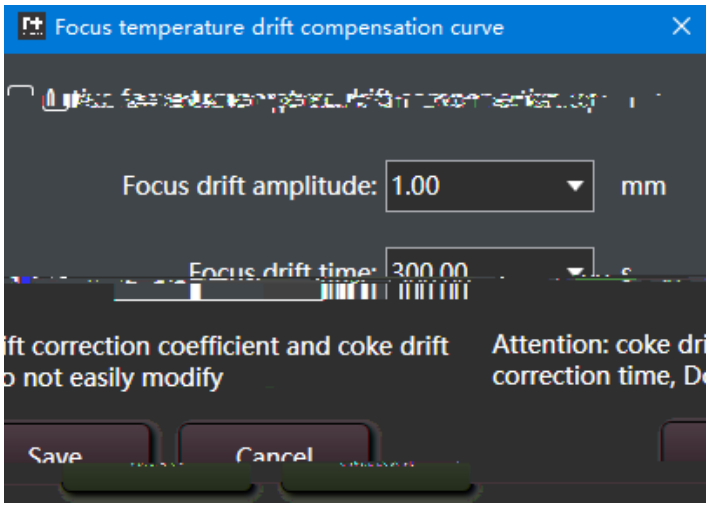
“

Raytools AG © Copyright

2)

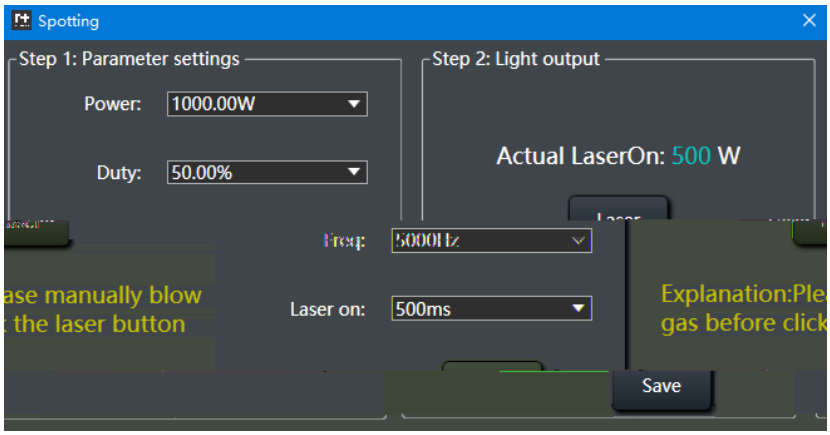
During the cutting process, the performance of the cutting head changes with different temperature. The function of focus temperature drift compensation can be used to adjust the temperature and further ensure the stability and accuracy of cutting.

Focus temperature drift compensation will be performed once during “Focus drift time.” It’s not recommended to modify the default value.



3)

This function is used to check whether there is pollution in the optics system and the degree of pollution by laser spotting, as shown below:



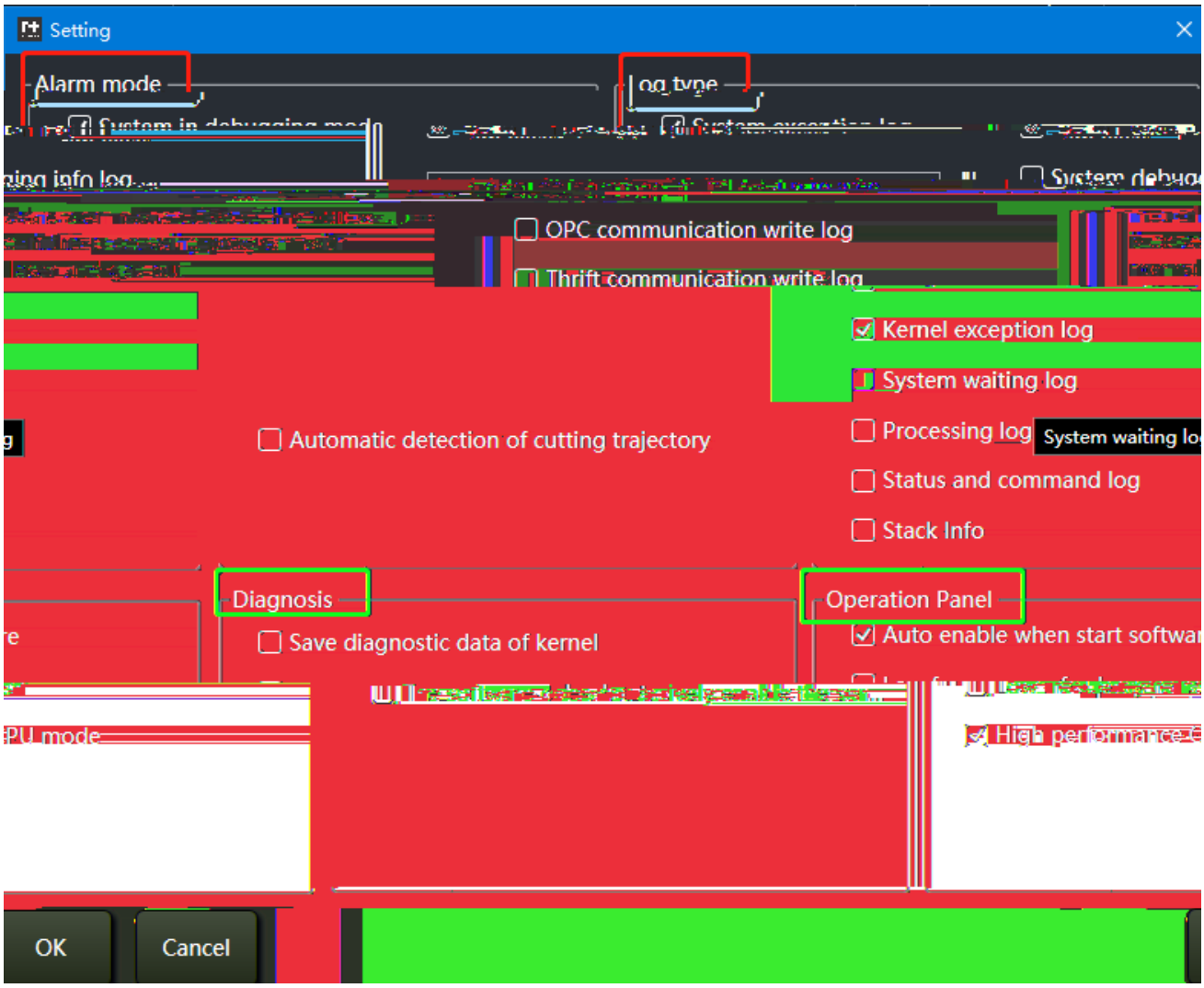
Power: set the peak beam-out power of the laser.

Duty: set the duty cycle of the laser. It refers to the ratio of beam-out duration in one beam-out cycle and the total time. The higher the ratio value, the higher the average power is. When it is 100%, it means the average power equals the peak power.

Freq: set the frequency of the laser in cutting. It refers to the time of beam out in 1 second. The higher the value, the more continuous the laser beam is. 5000Hz is a successive beam.

Laser on: set the duration of laser on.

Click on “Setting” in the CNC sub-page to enter the following interface:



Alarm mode: depend on actual demands while debugging. The default is deselect.

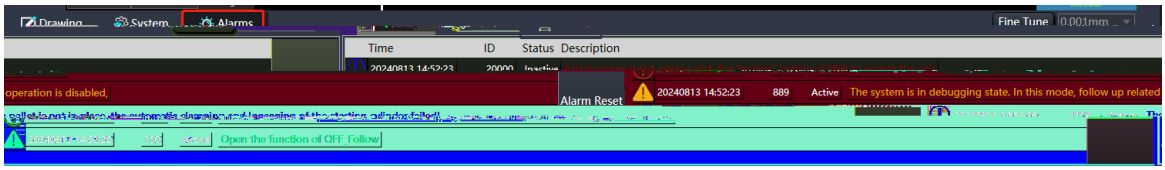
Log type: check according to actual demands and selected logs can be viewed on the log area.

Diagnosis: check to use two functions as required.

Operation Panel:

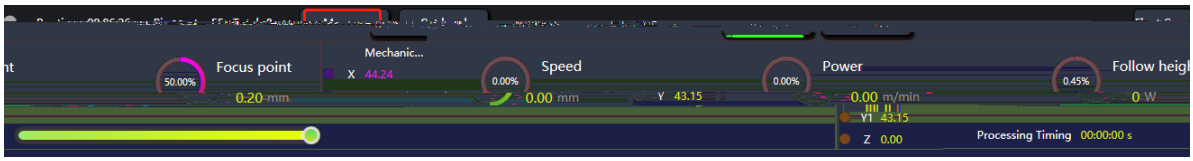
a. Auto enable when start software: check to auto enable when the software is opened.
b. Low frequency refresh: avoid interface lagging in high-frequency mode.
c. High performance CPU mode: check to auto turn on CPU high performance mode

Raytools AG © Copyright



: when red alarm info occurs, please clear the alarm before processing. And yellow info will not affect processing, as for displaying prompts only.

Displays the current motion status of each axis, and their machining progress, as shown below:

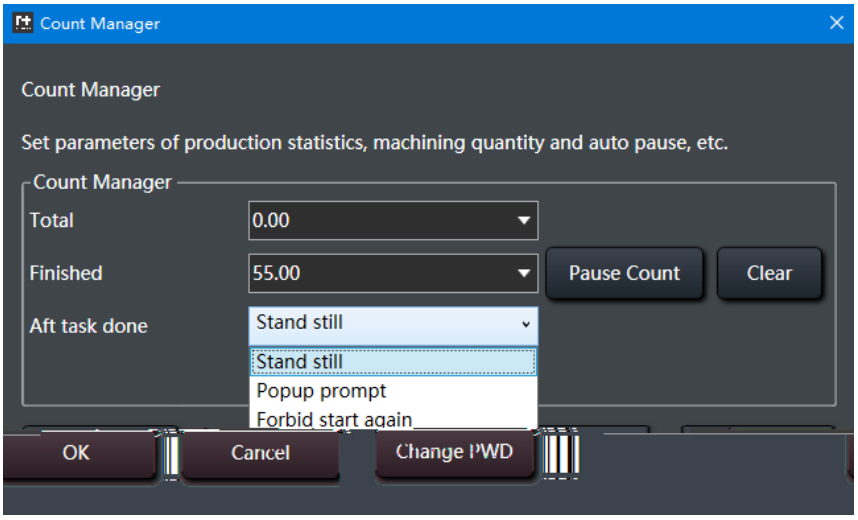


Runtime: the time of running the software.

Piece rate: actual processing count.

Total: the planned processing count.

Click "Manage" as above to enter the following interface:



Total: set the planned processing count.

Finished: displays the workpiece count of finished processing.

Clear: Clear the currently processed count.

Aft task done: the system will give corresponding prompts at the end of processing.

Pause Count: temporarily stop processing counting.

Raytools AG © Copyright