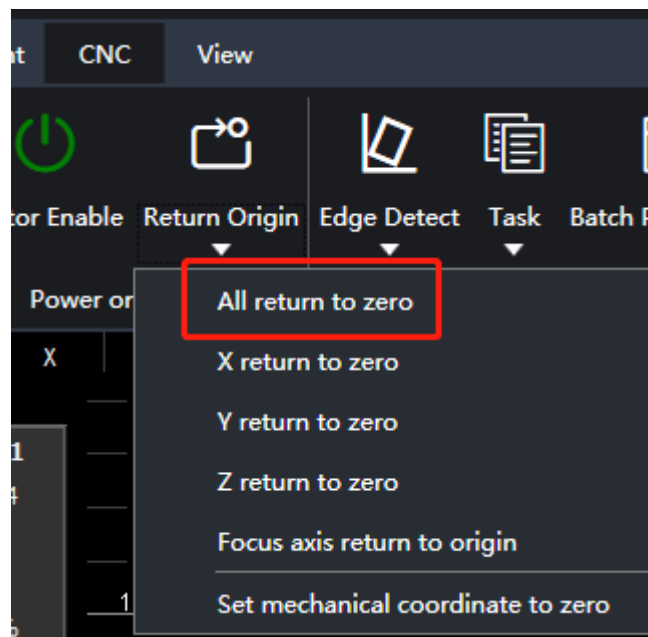
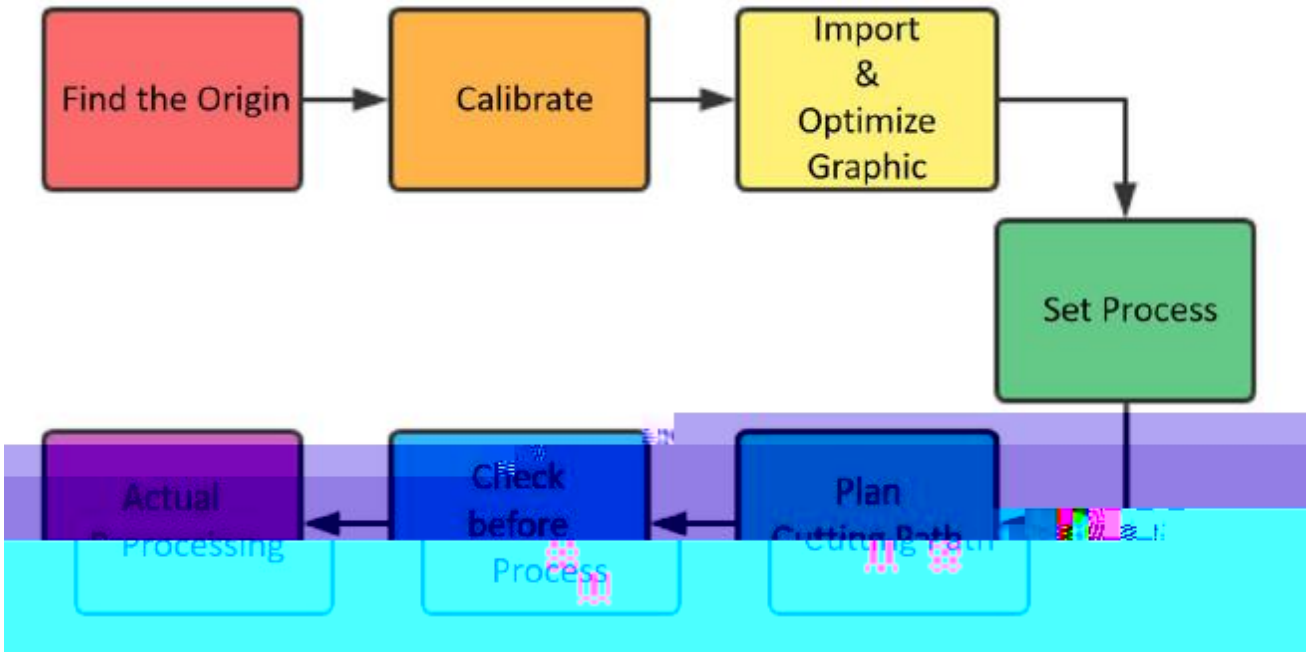




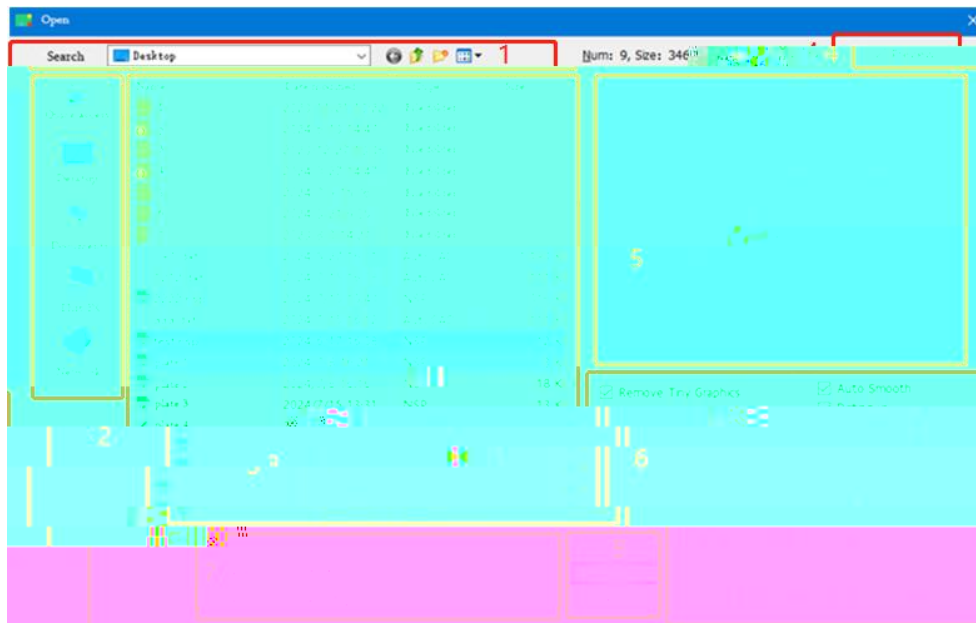
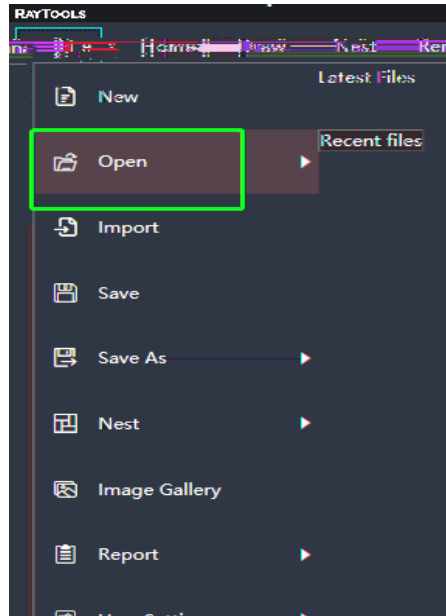
# RAYTOOLS





# RAYTOOLS

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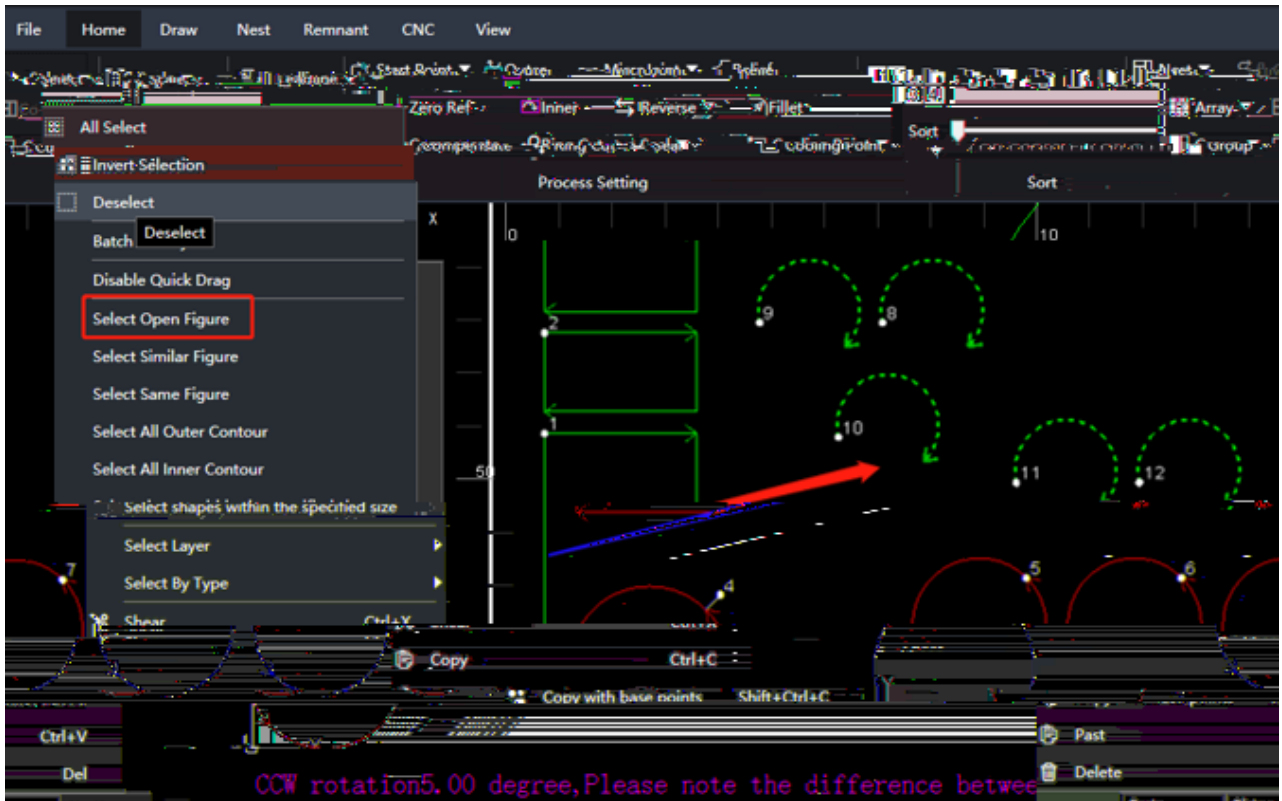
**RAYTOOLS**



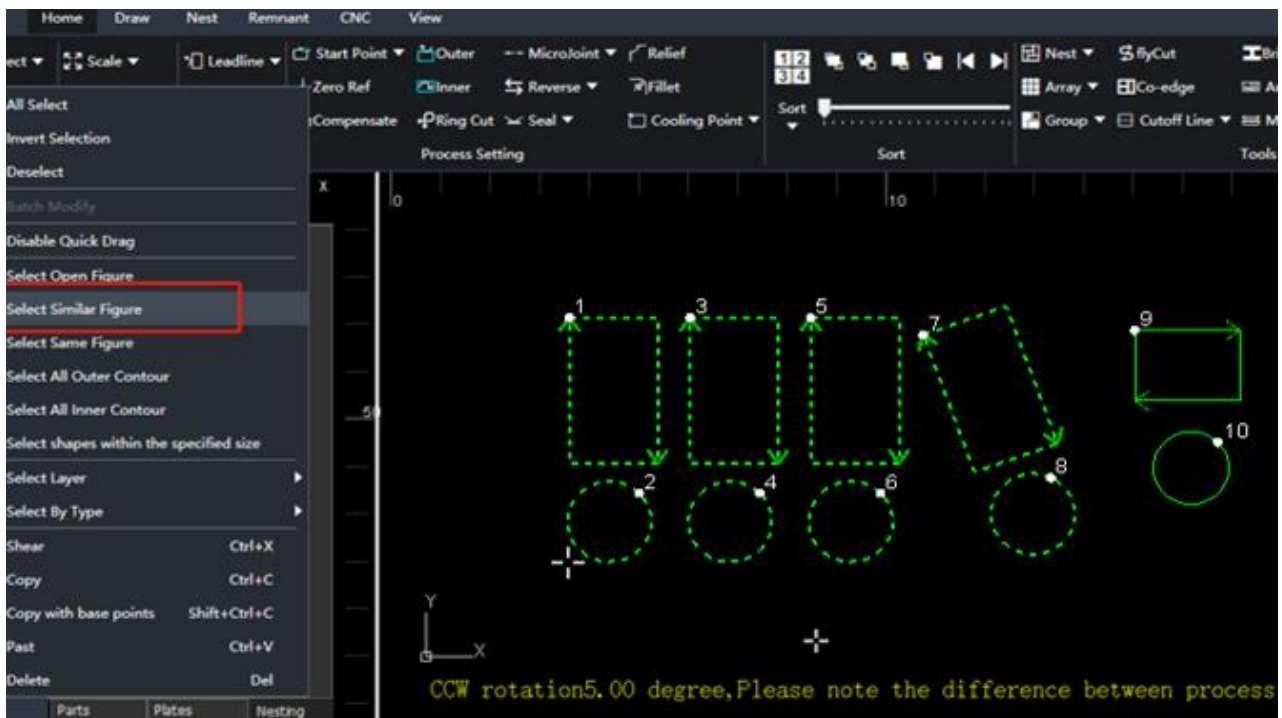




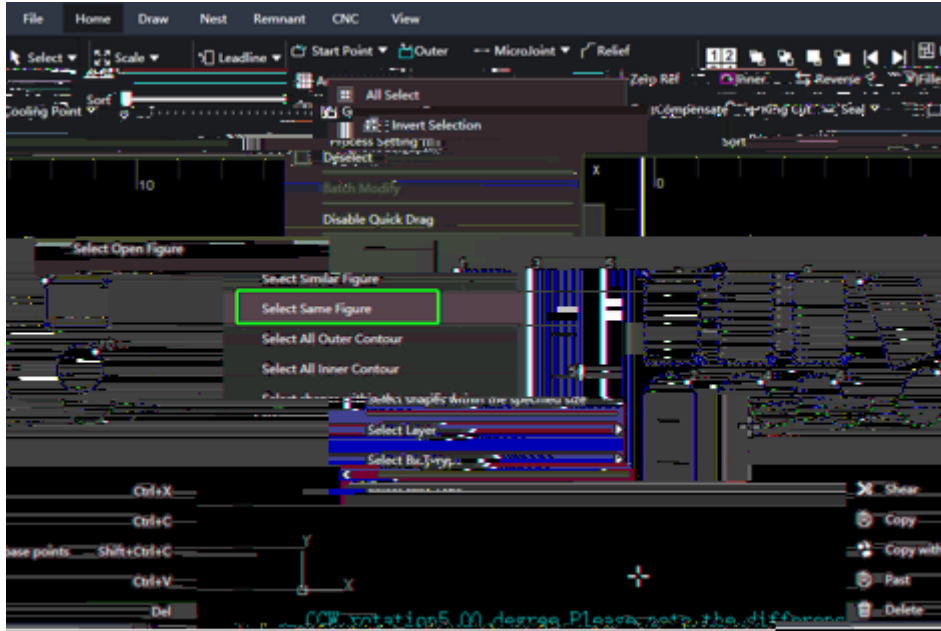
# RAYTOOLS



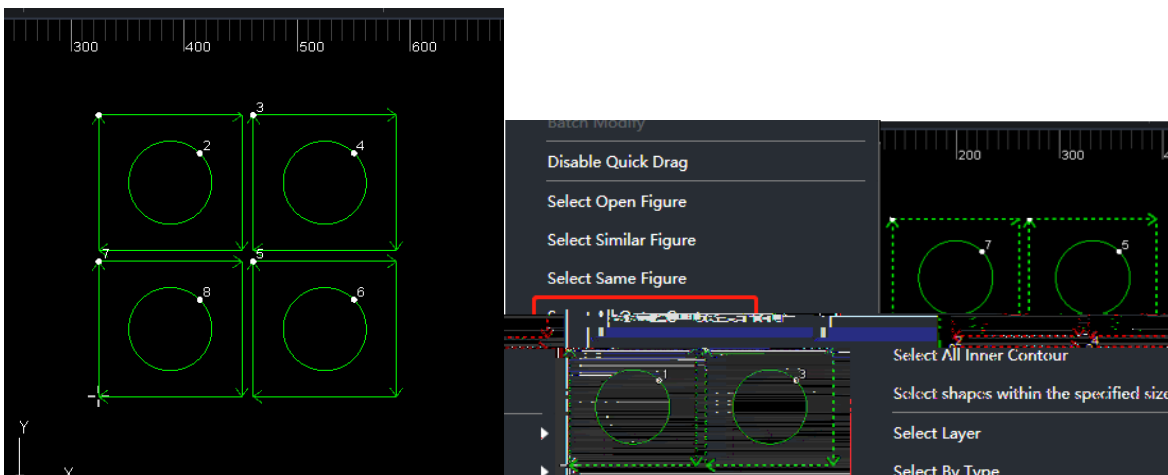
(7) Select Similar Figure:



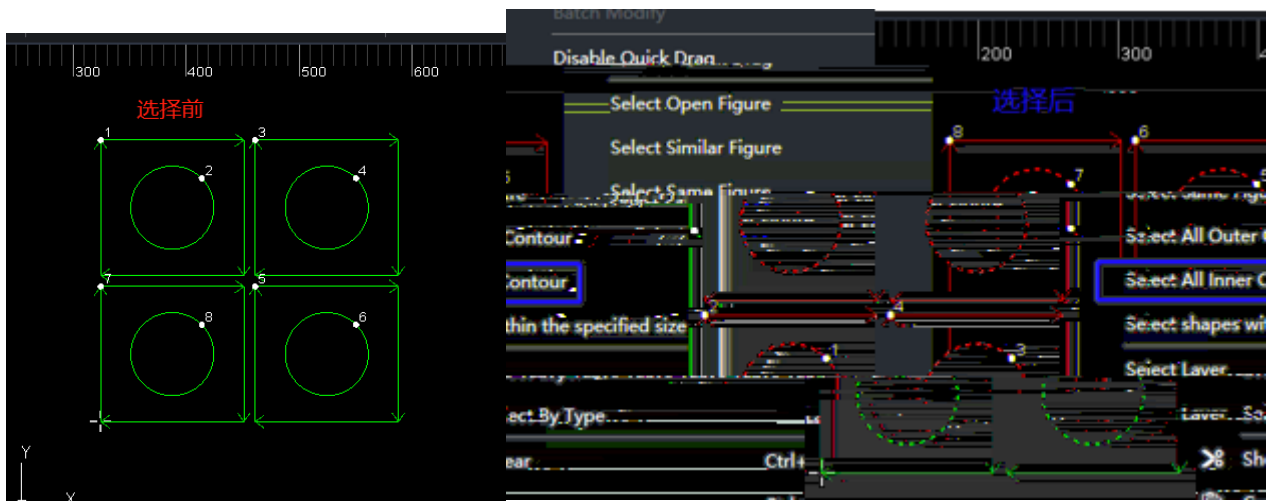
## (8) Select Same Figure



## (9) Select All Outer Contour



## (10) Select All Inner Contour



## (11) Select shapes within the specified size

## (12) Select Layer

## (13) Select By Type

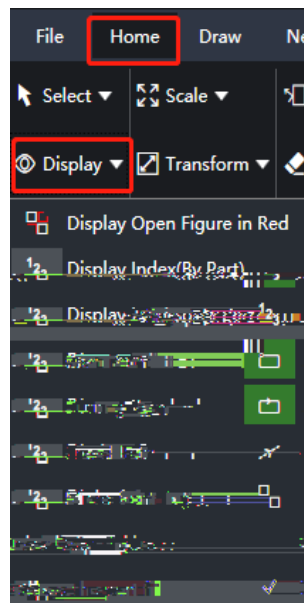
## (14) Shear

## (15) Copy

(16) Copy with base points

(17) Paste

(18) Delete



(1) Display Open Figure in Red

(2) Display Index (By Part/By Shape)

(3) Display Start Point

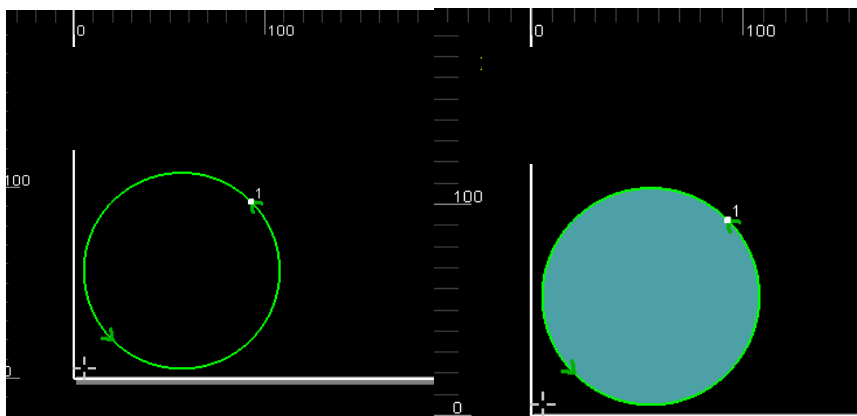
(4) Display Cutting Path

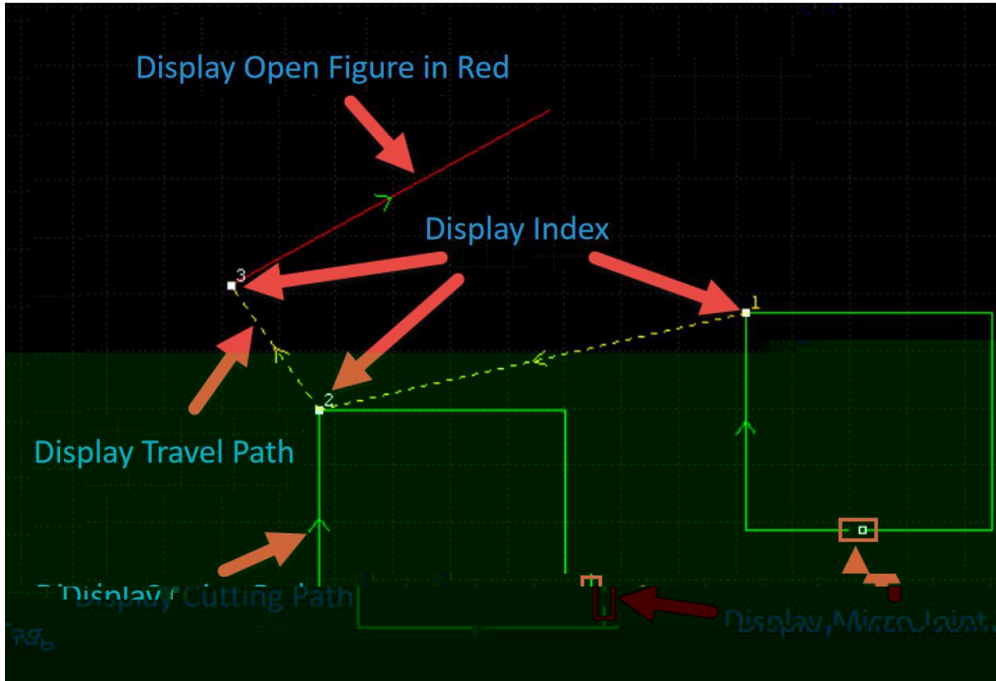
(5) Display Travel Path

(6) Display Micro Joint Tag

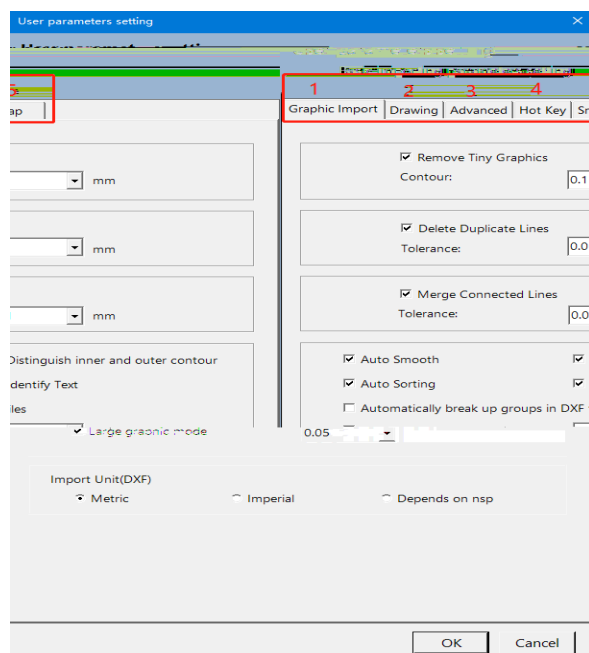
(7) Check Open Figure

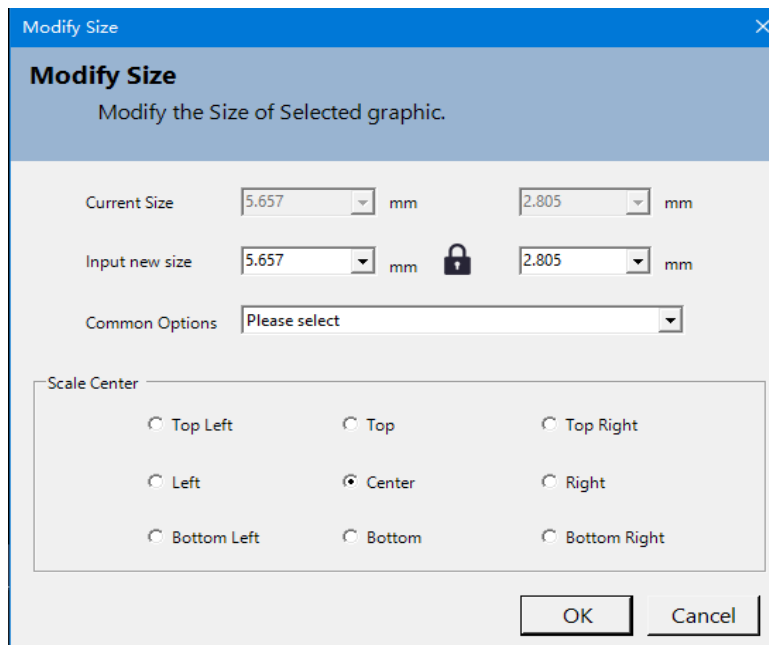
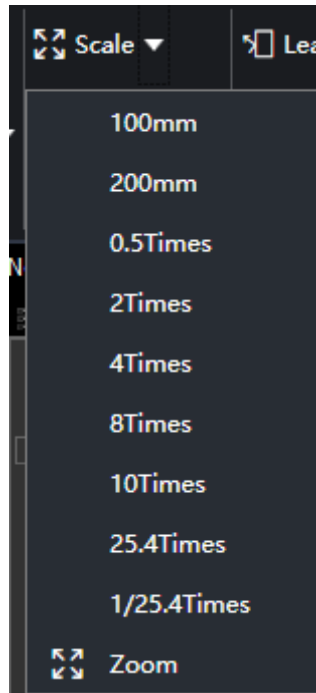
(8) Displays the part fill





- (1) Drawing Import
- (2) Drawing
- (3) Advanced
- (4) Hot Key
- (5) Snap



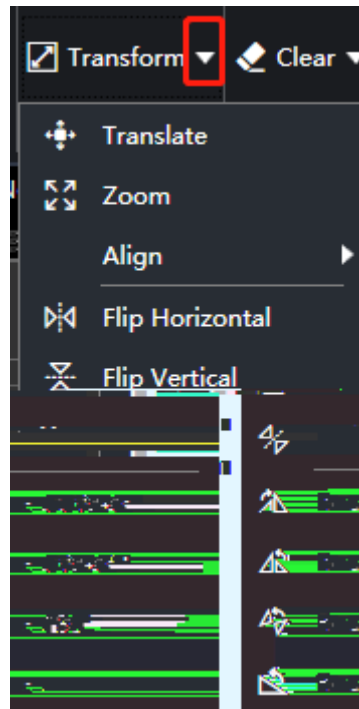


- (1)
- (2)
- (3)

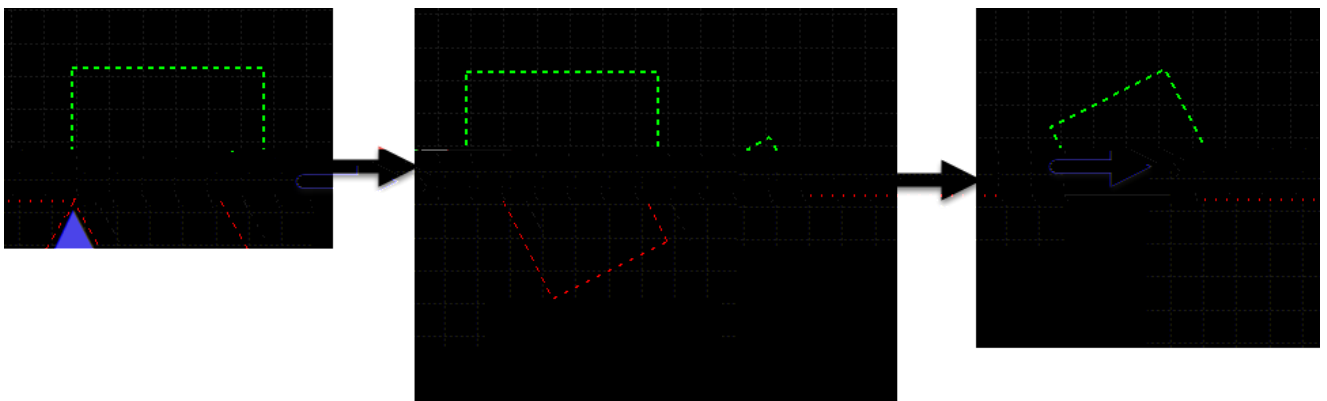


# RAYTOOLS

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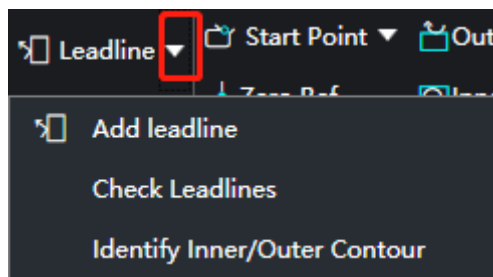
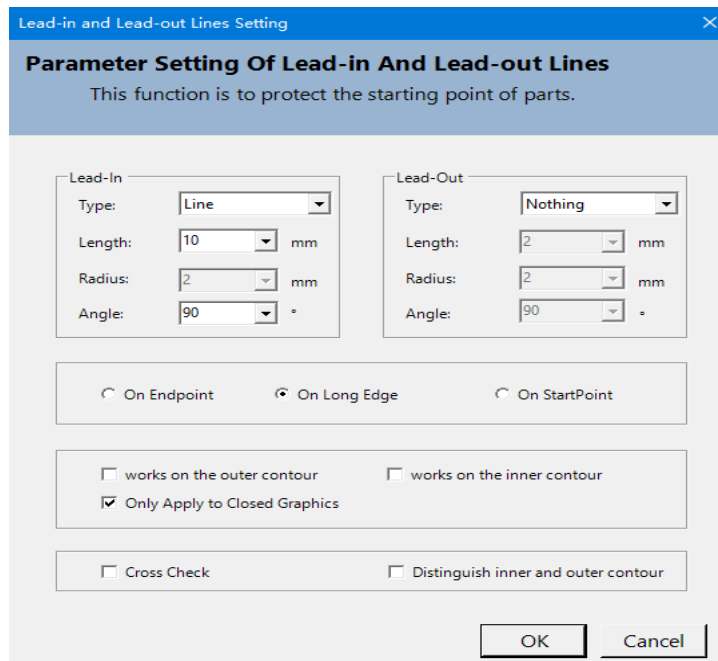
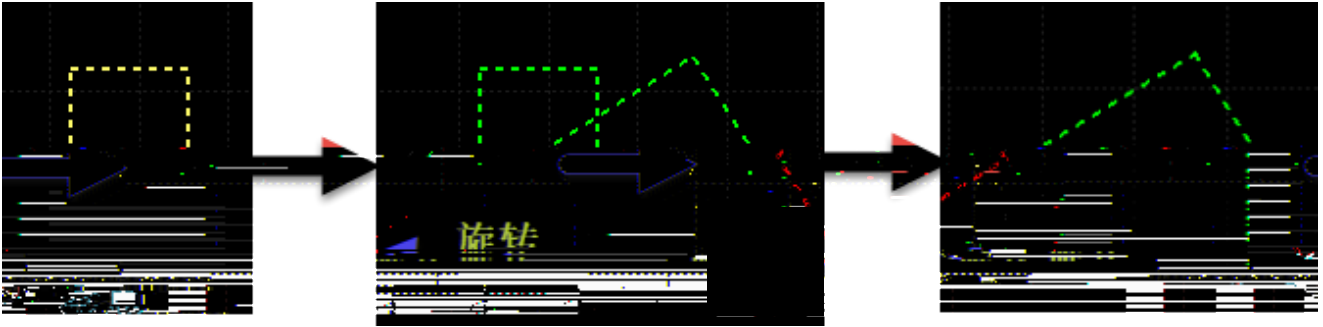


- (1) Translate
- (2) Zoom
- (3) Align
- (4) Flip Horizontal
- (5) Flip Vertical
- (6) Flip



# RAYTOOLS

- (7) Rotate CCW90°
- (8) Rotate CW90°
- (9) Rotate 180°
- (10) Rotate

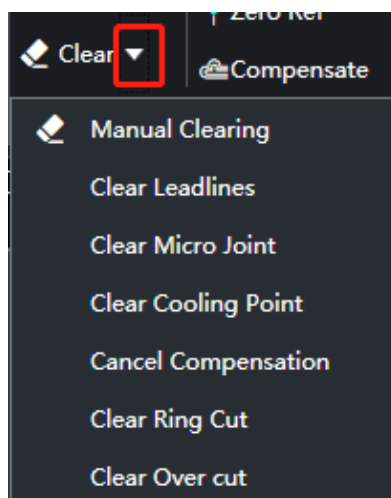


# RAYTOOLS

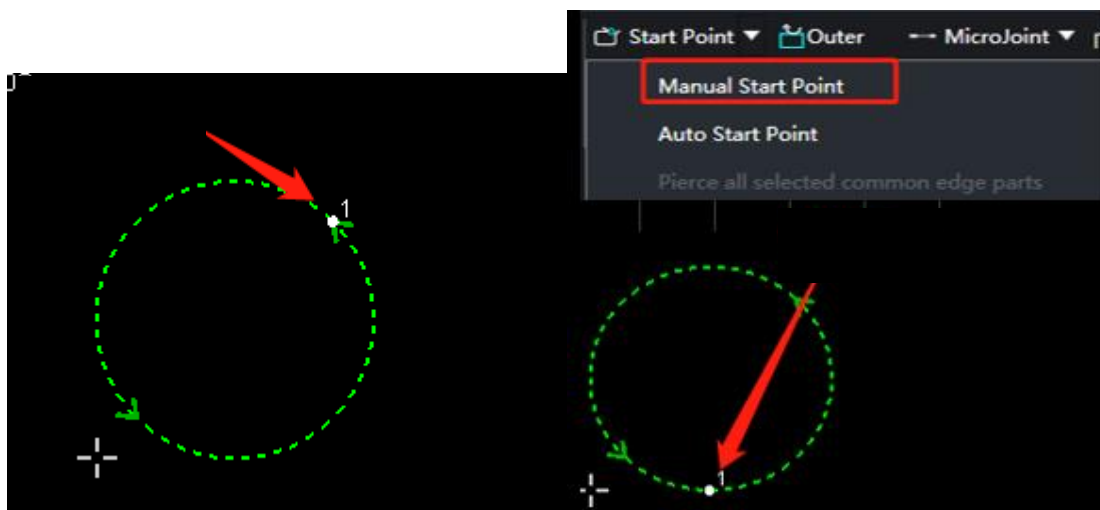
(1) Add leadline

(2) Check Leadlines

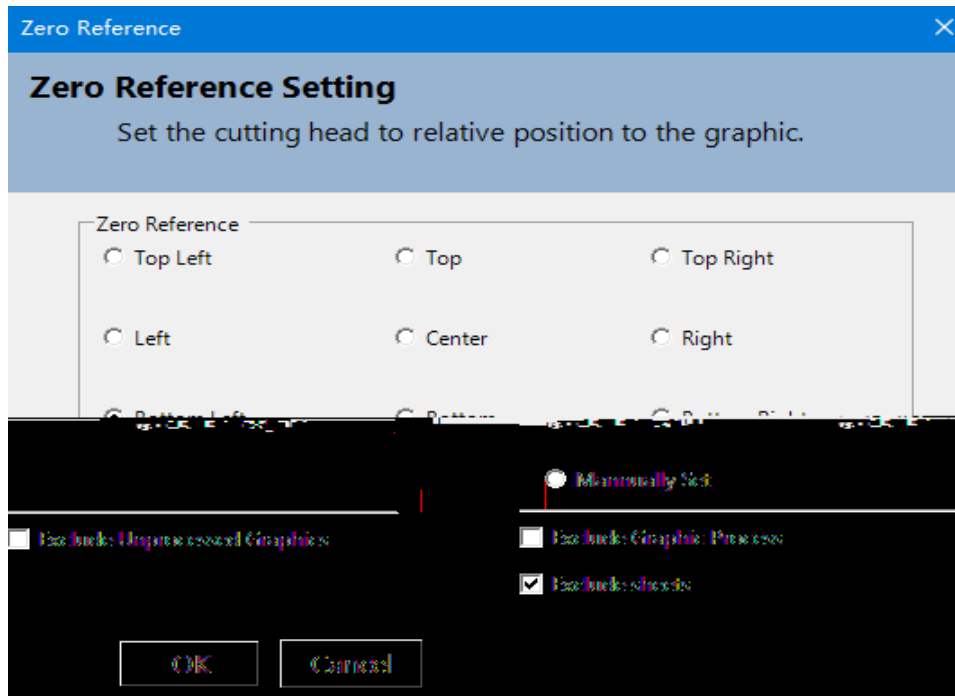
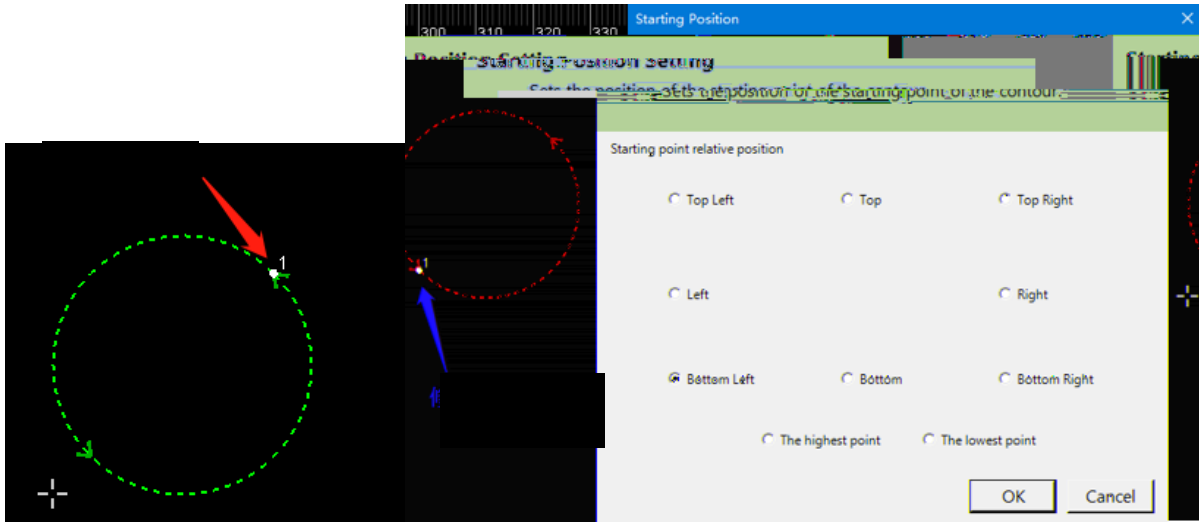
(3) Identify Inner/Outer Contour

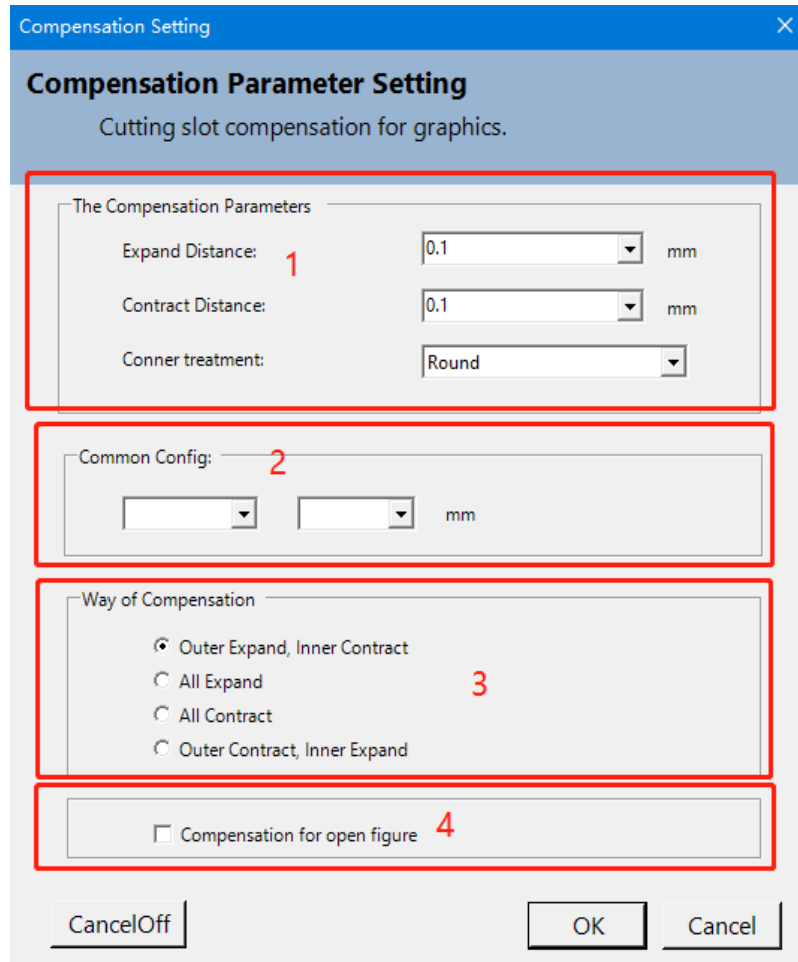


(1) Manual Start Point



## (2) Auto Start Point





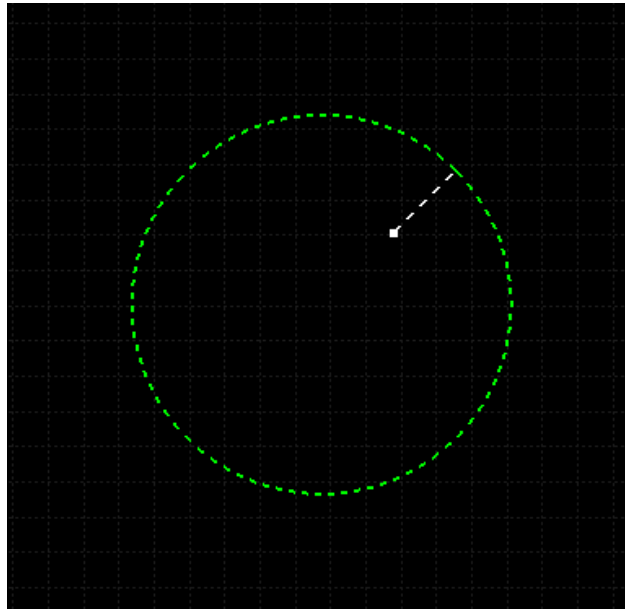
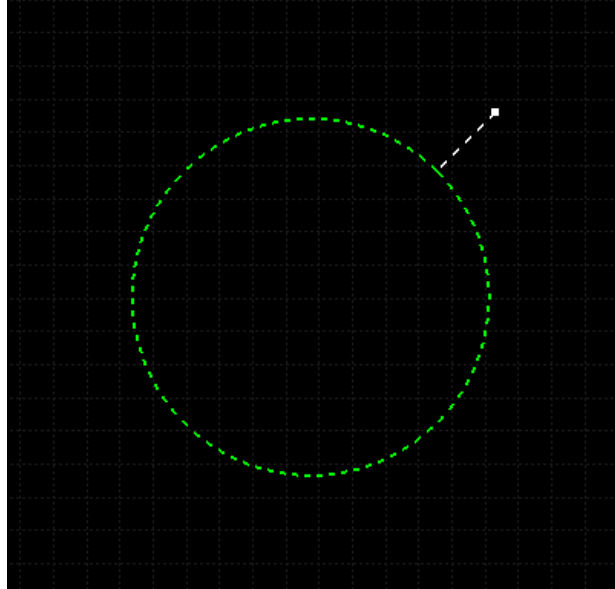
(1) The Compensation Parameters

(2) Common Config

(3) Way of Compensation:

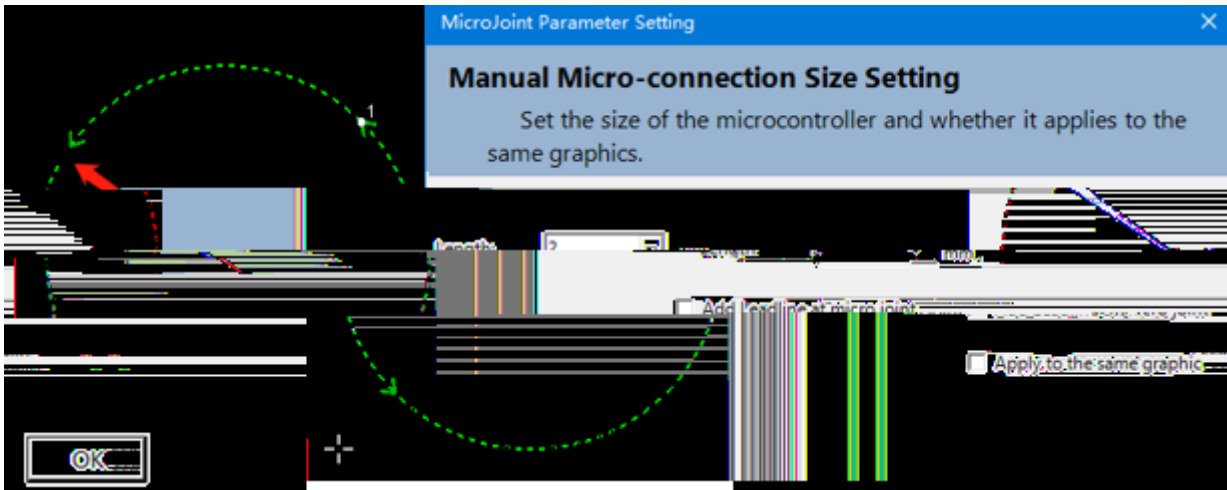
(4) Compensation for open figure:

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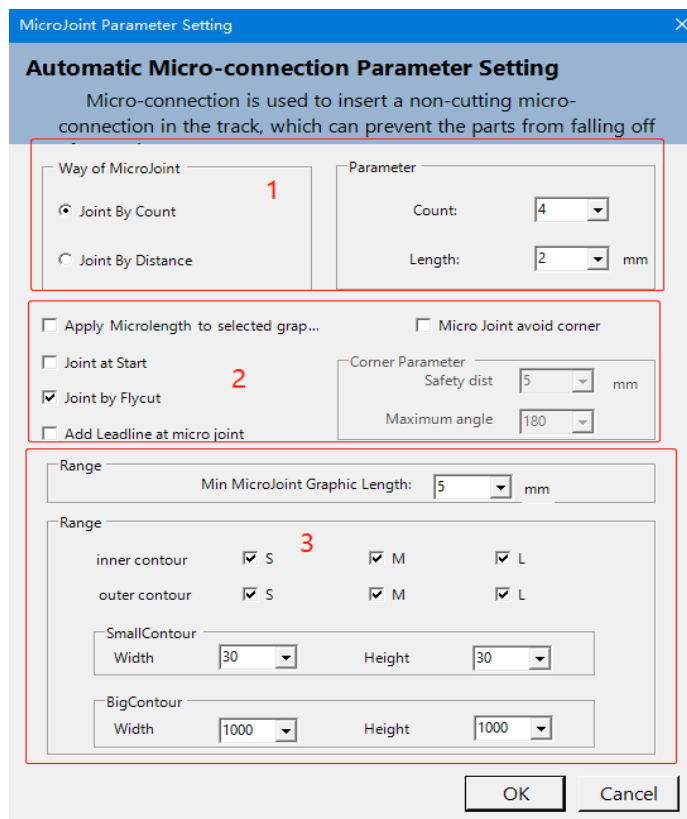




## (1) Manual MicroJoint



## (2) Auto MicroJoint



# RAYTOOLS

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(1) Way of Microjoint

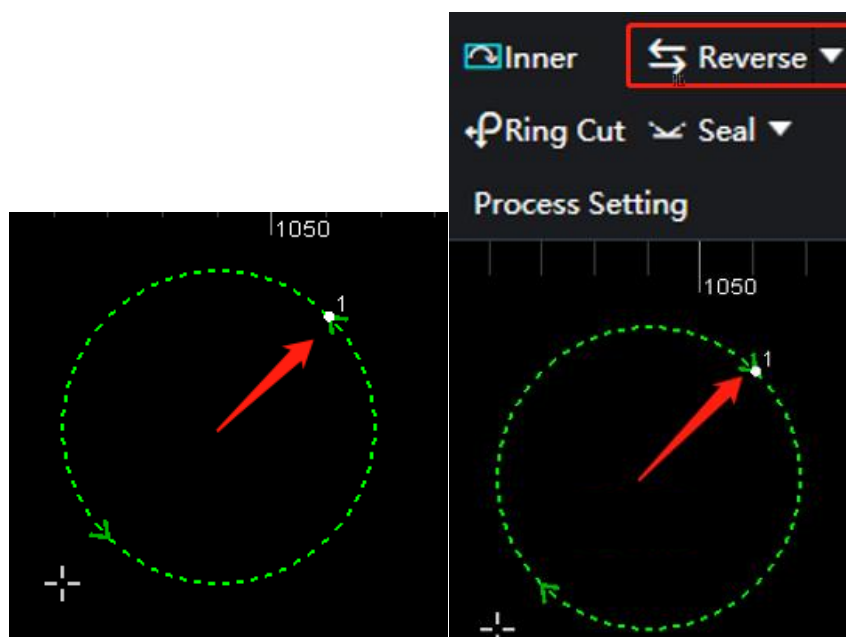
(2) Parameter

(3) Advanced Options

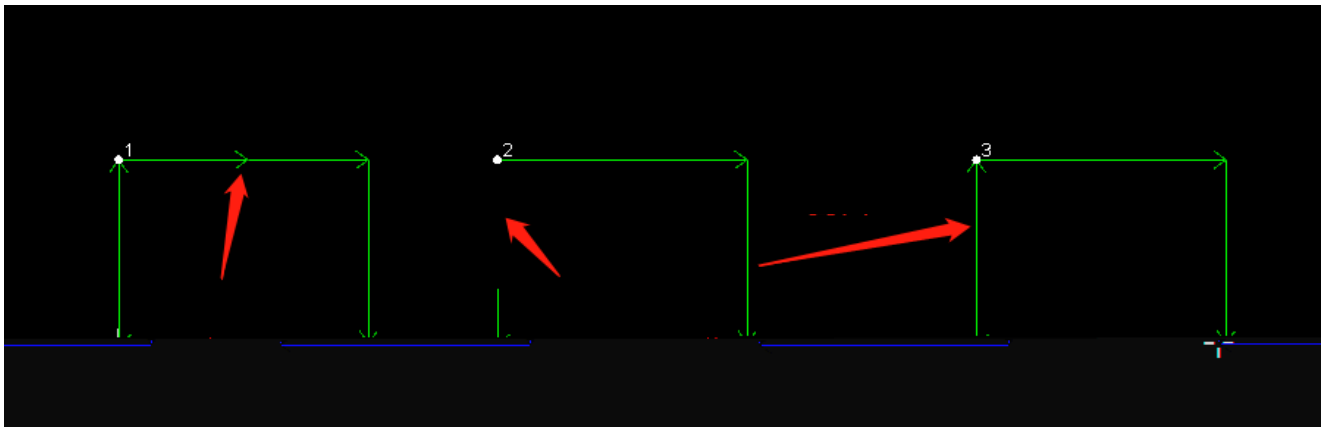
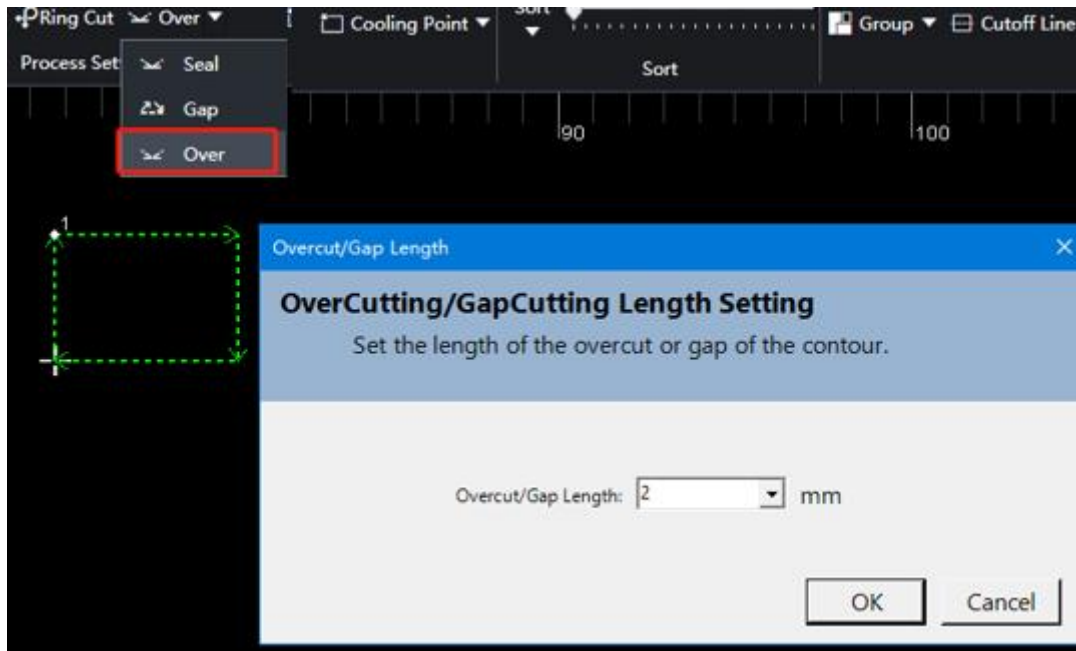
(4) Corner Parameter

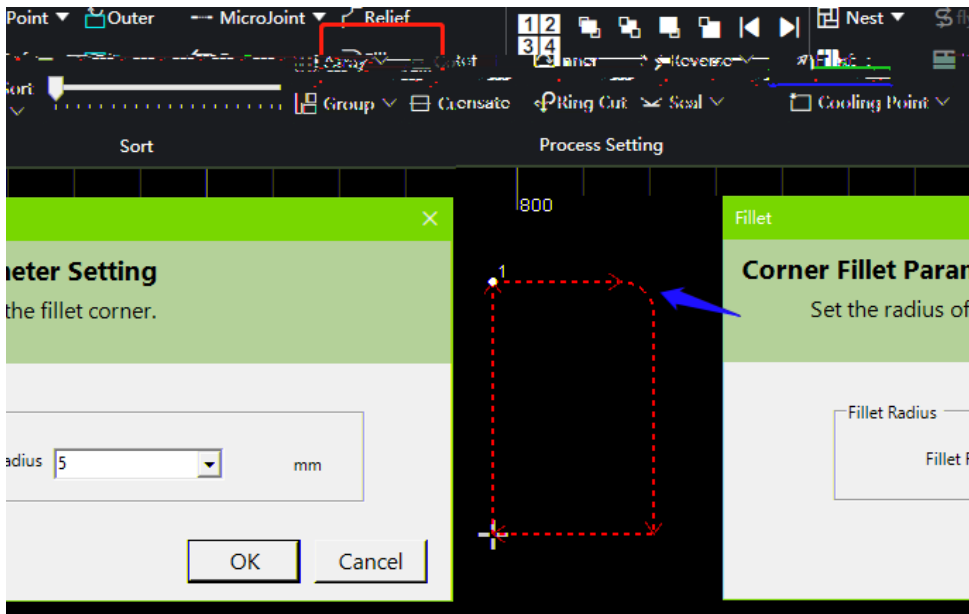
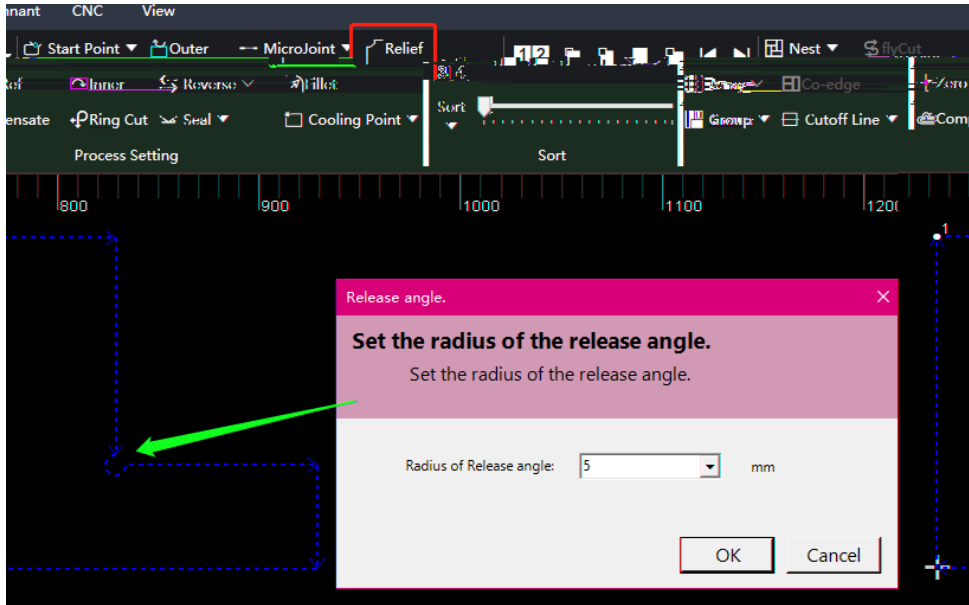
(5) Range

Reverse

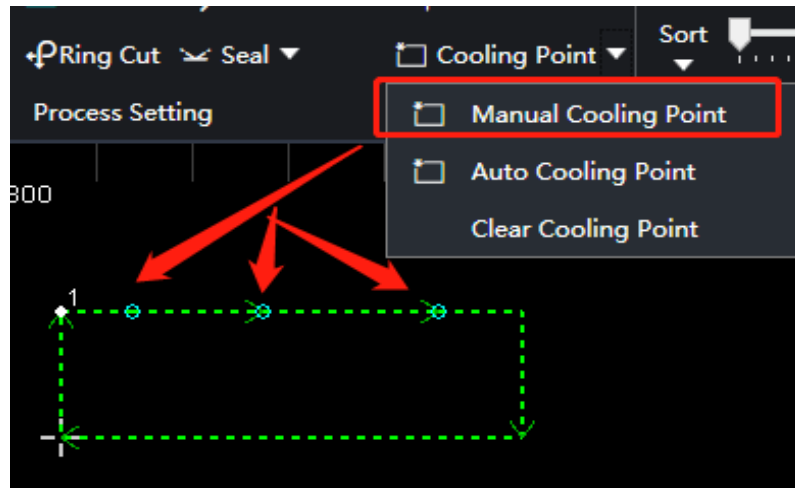


# RAYTOOLS

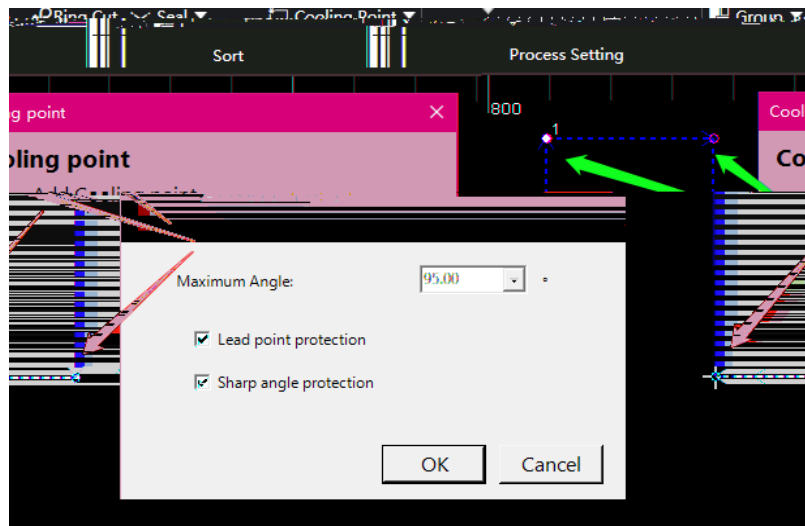


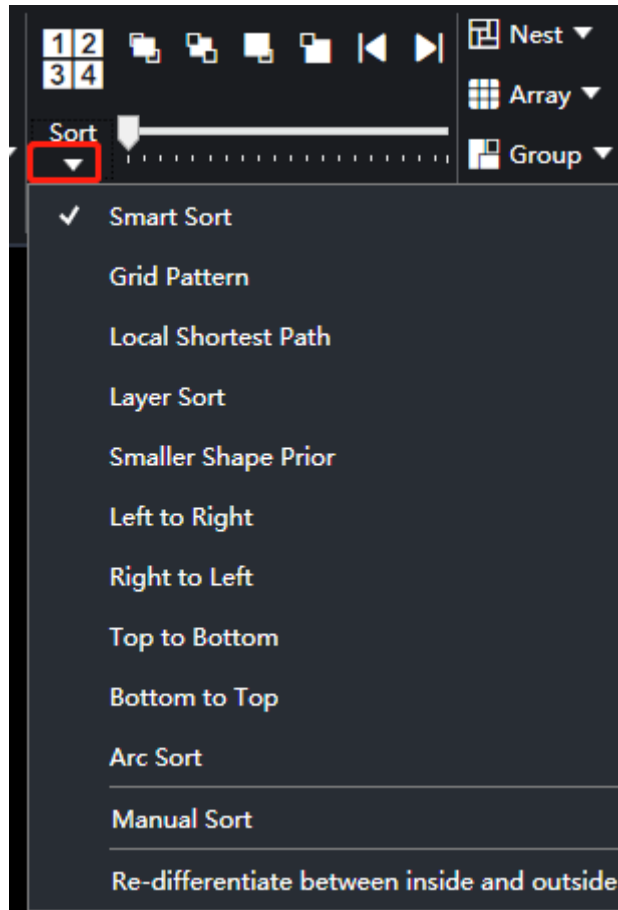


## (1) Manual Cooling

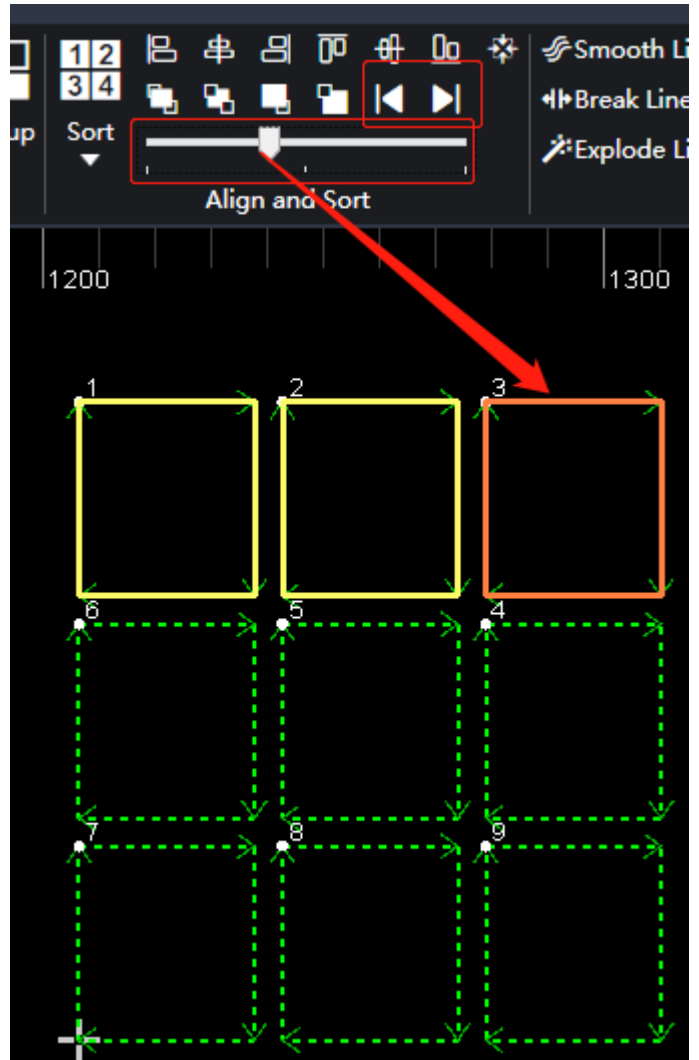


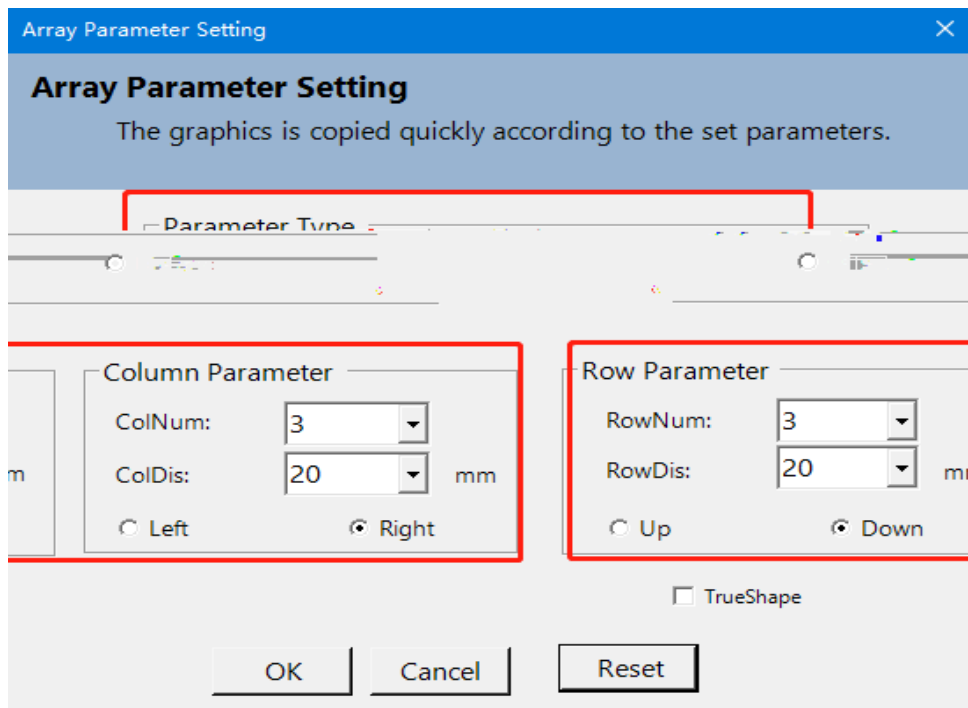
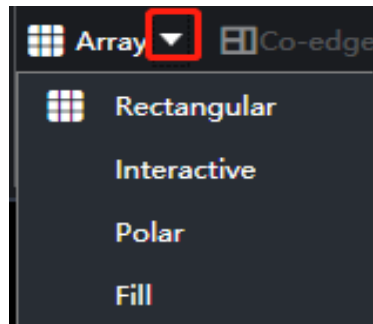
## (2) Auto Cooling Point

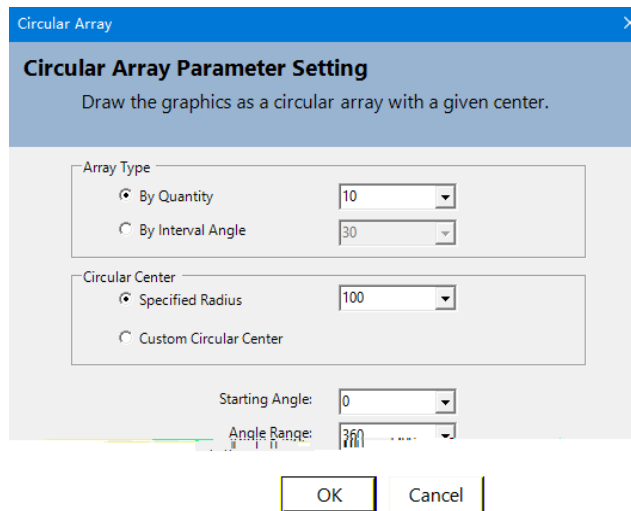
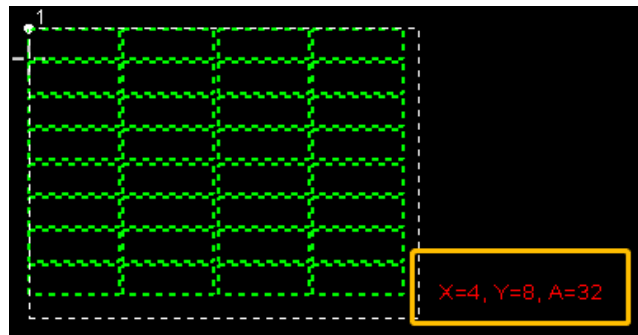
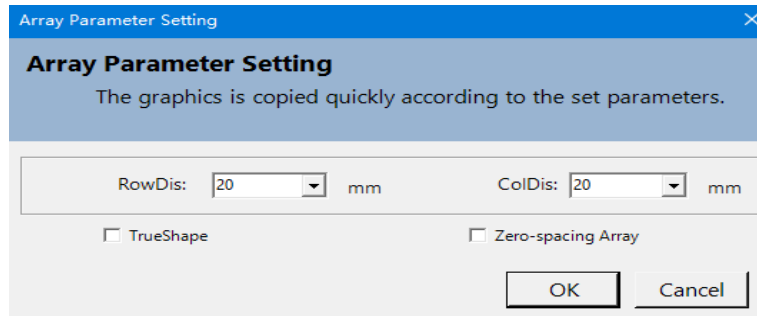




# RAYTOOLS









Fly Cut

### Fly-cut Parameter Setting

Set a fast cutting process and cutting path for selected graphics.

Fly Cut Mode:	Linear
Sort Mode:	Bottom to Top

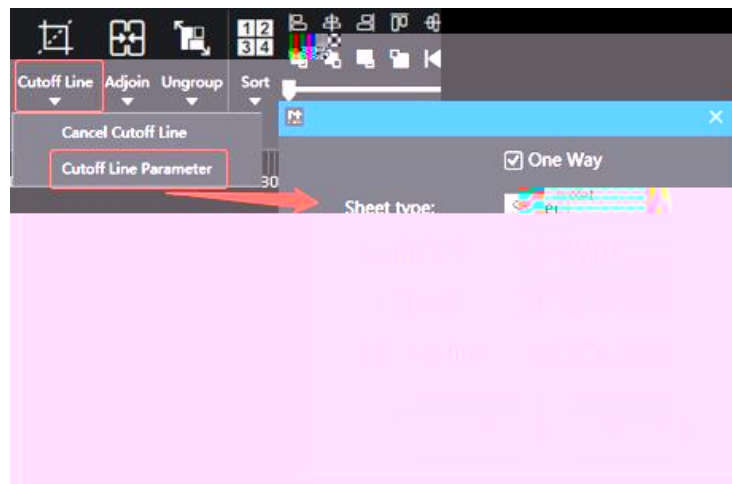
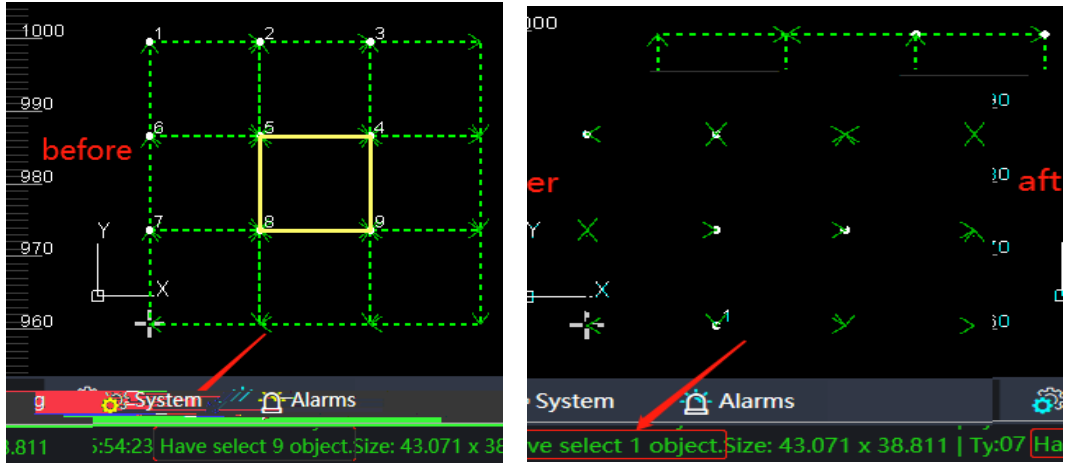
Starting Position	Bottom Left
Tolerance	0.1 m
Max Smooth Joint	300 m
Smooth Arc Radius	1 m
<input type="checkbox"/> Z-Axis not Lift Between Fly Groups	

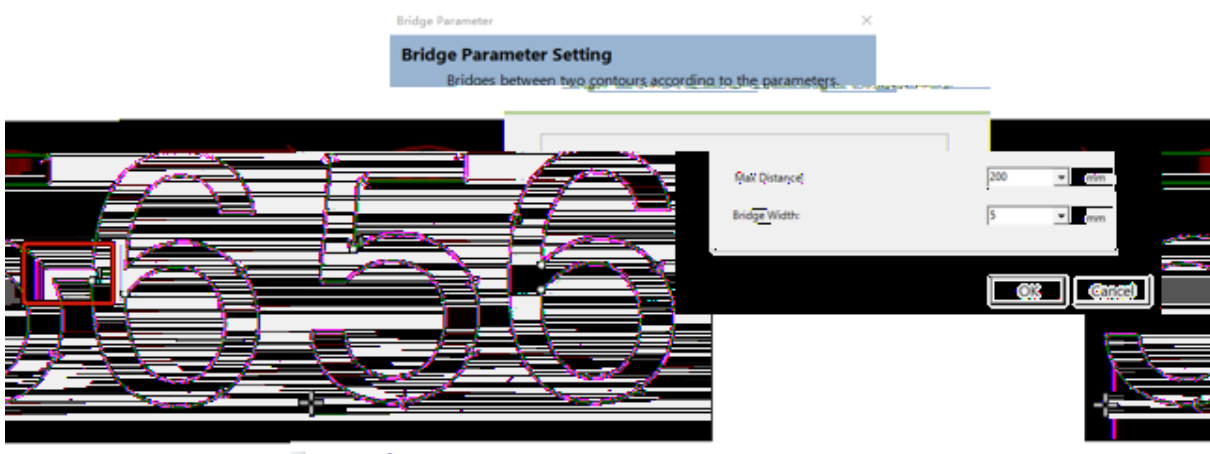
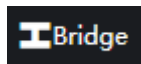
  

Laser leads length	0 mm
Laser Lags length	0 mm

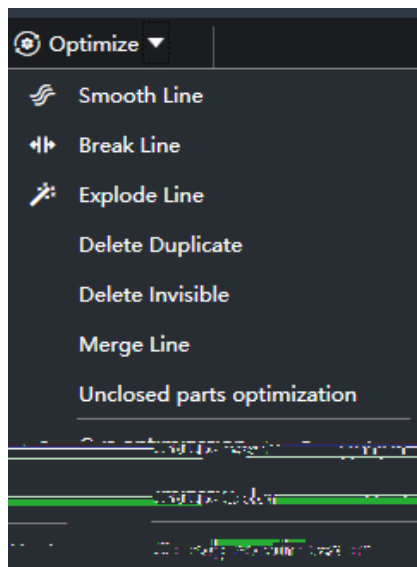
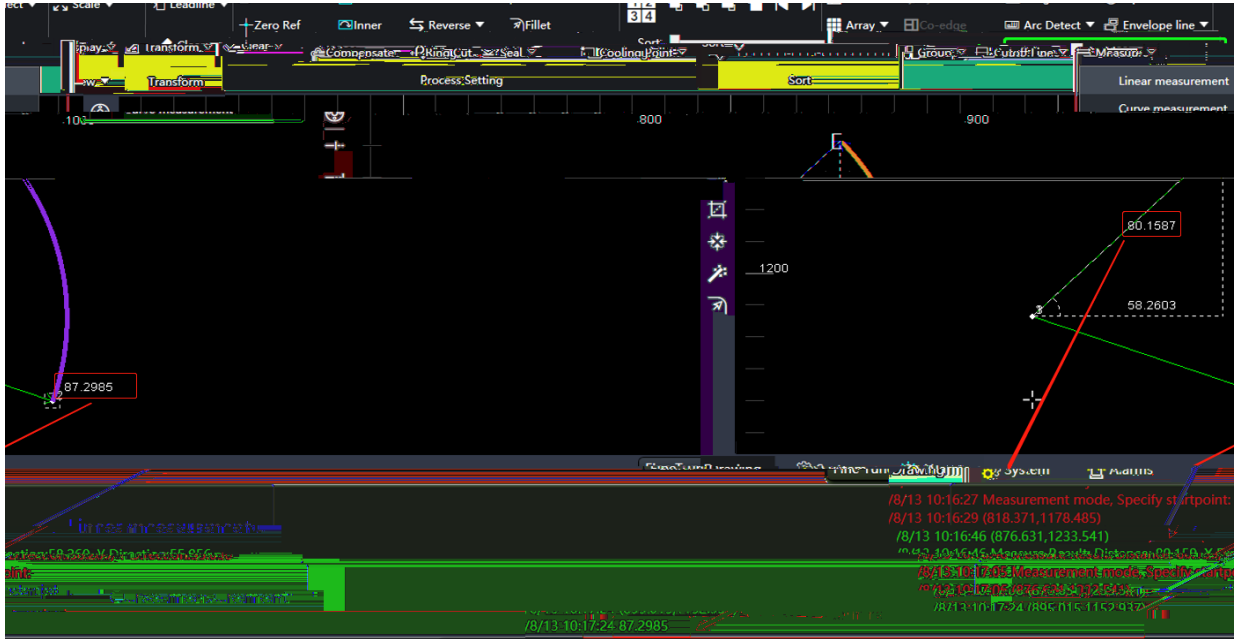
OK Cancel

# RAYTOOLS





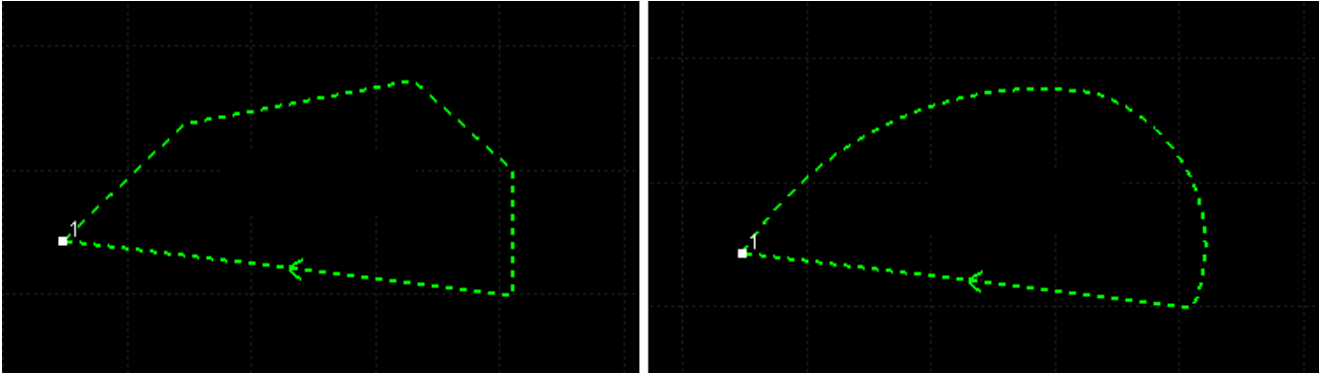
# RAYTOOLS



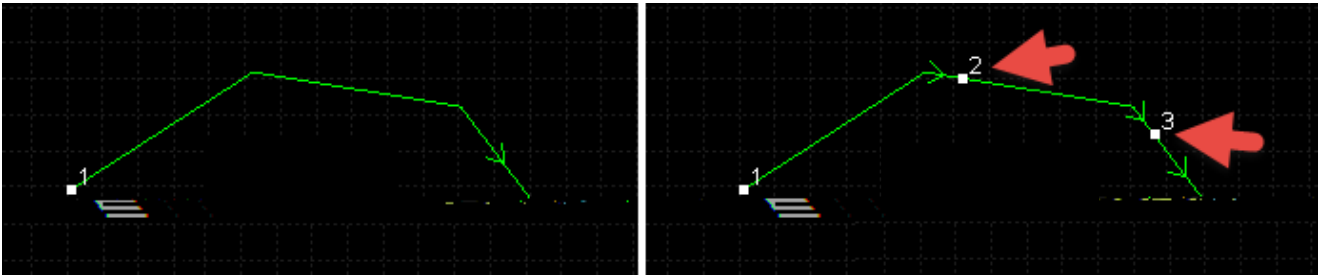
# RAYTOOLS

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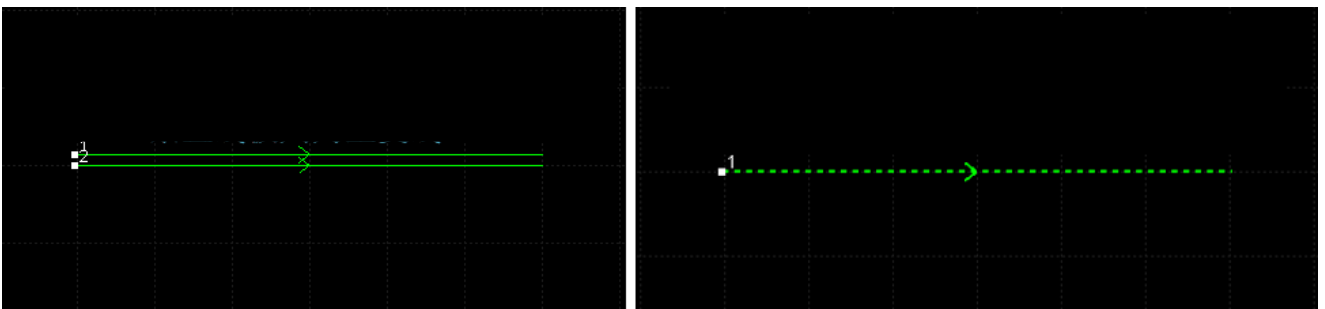
(1) Smooth Line:



(2) Break Line



(3) Delete Duplicate

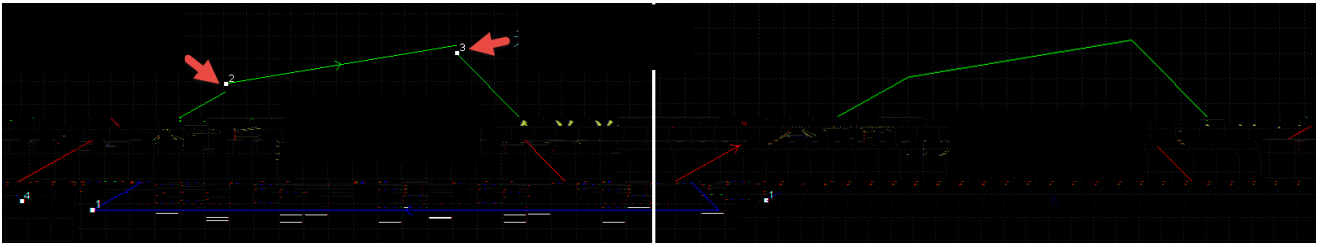



(4) Delete Invisible

(5) Merge Line

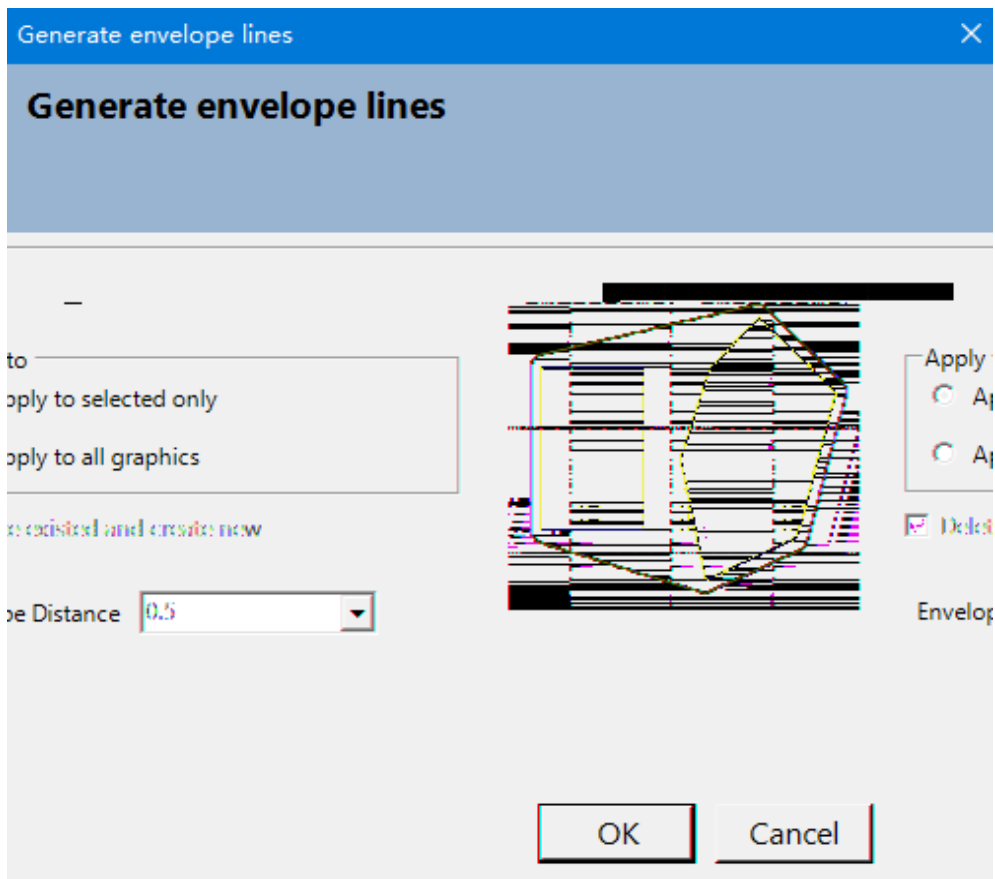
---

# RAYTOOLS



 Envelope line ▾

)  
)  
)



Circle

3-Point Arc

Scan Arc

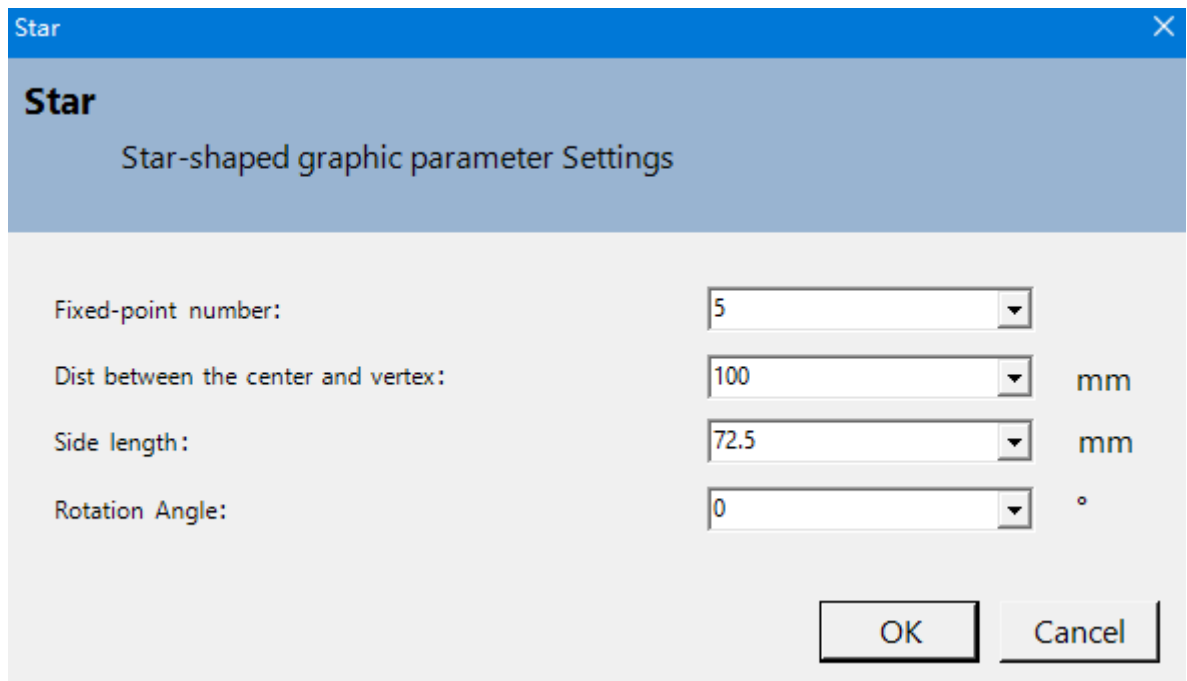
Ellipse

---

Polyline

Polygon

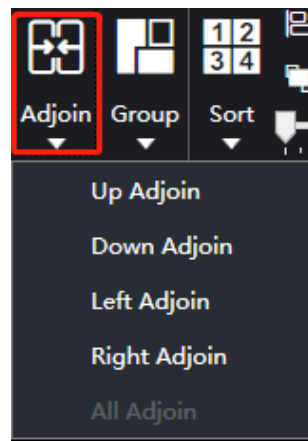
Star

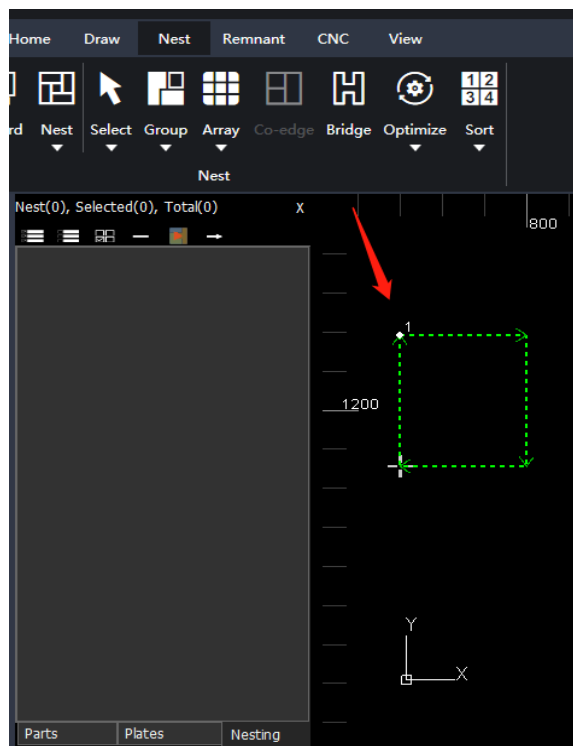


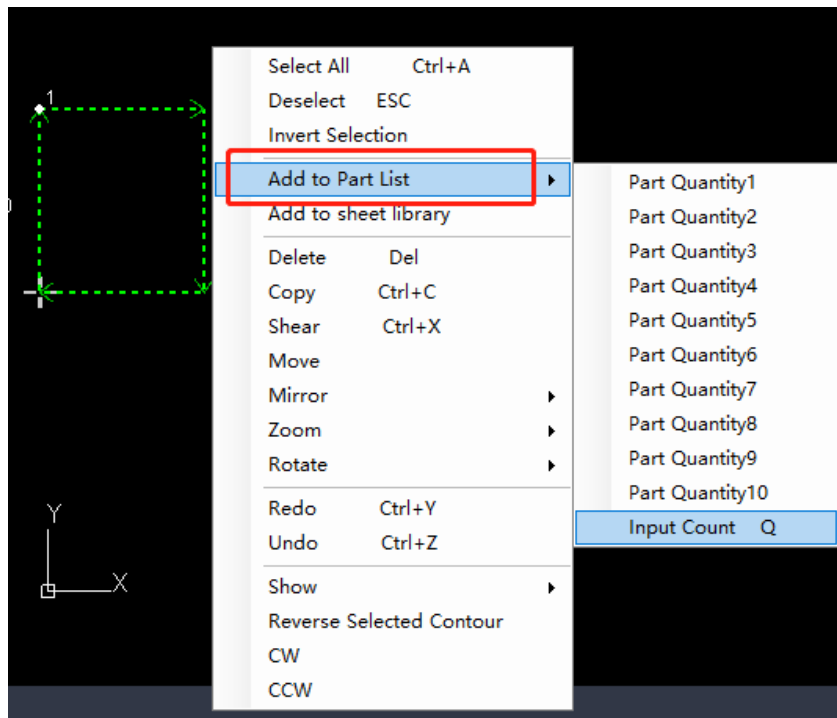
The image shows a software dialog box titled "Star" with a close button (X) in the top right corner. The main title is "Star" and the subtitle is "Star-shaped graphic parameter Settings". The dialog contains four input fields, each with a dropdown arrow on the right:

- Fixed-point number: 5
- Dist between the center and vertex: 100 mm
- Side length: 72.5 mm
- Rotation Angle: 0 °

At the bottom right, there are two buttons: "OK" and "Cancel".







Set Part Quantity ✕

### Part Number Setting

Set the number of parts and their internal sequencing.

Part Quantity:

Character Recognition

Part Name Settings:

Part identification:

Quantity identification:

Max distance between text an...:

In-part text process:

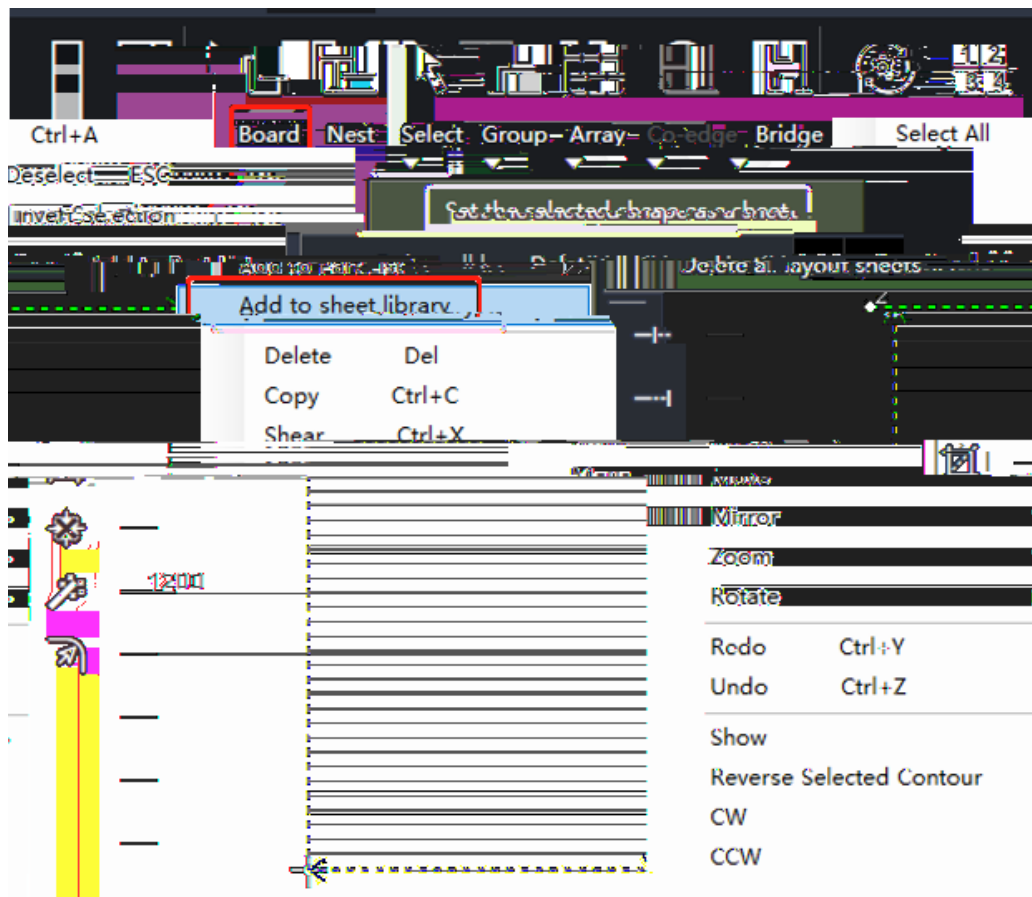
Internal sort:

Auto change starting point of part

selected shapes are grouped to one part

Tip: Press the Q key to quickly open part settings

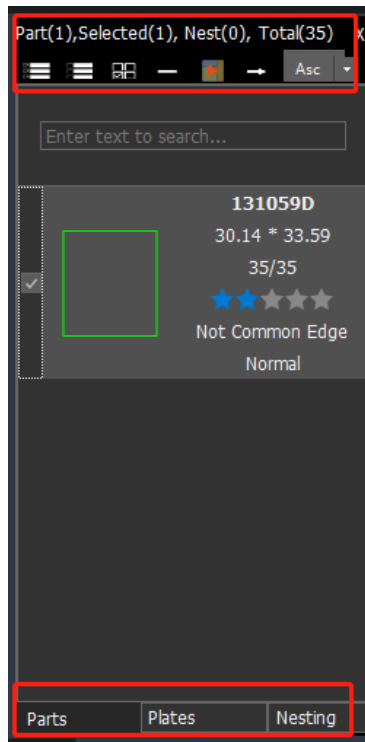
# RAYTOOLS



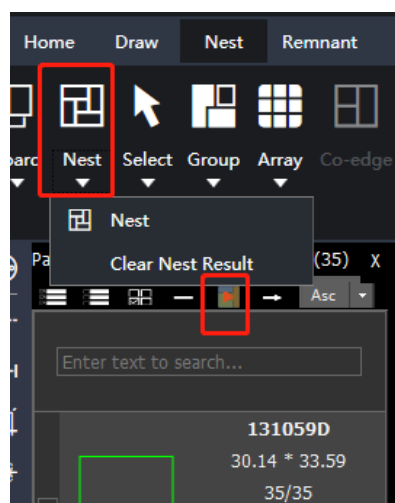
(1) Quick Access Toolbar

(2) Part Ba

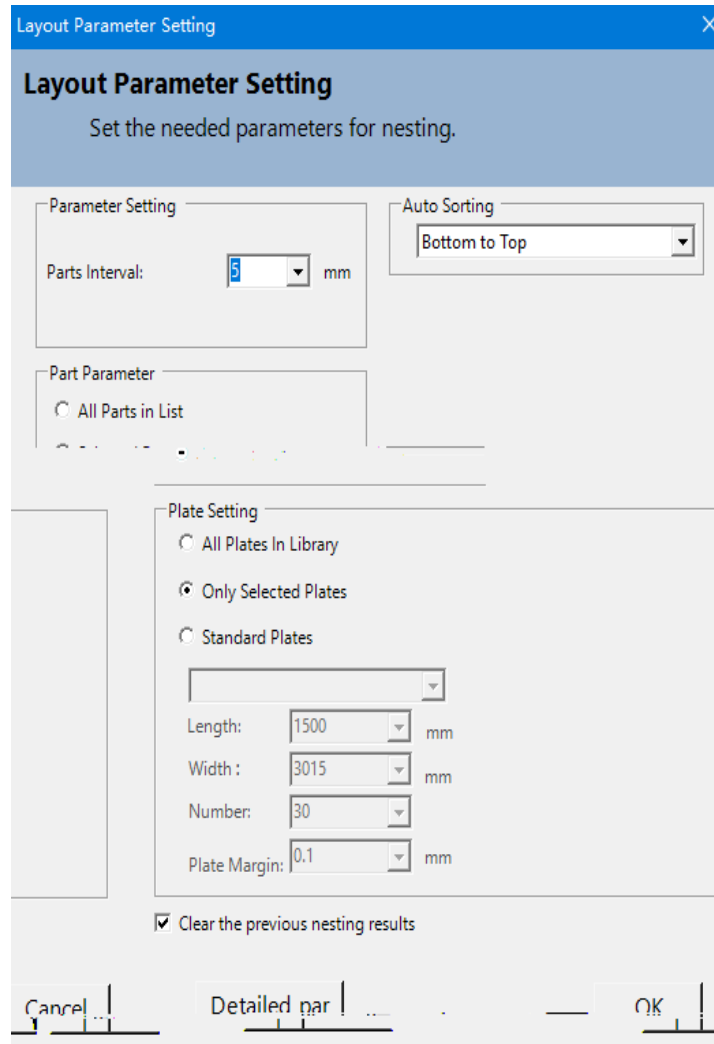
(3)



- Delete
- Delete Selected Results
- Delete All Results



- (1) Parameter Setting
- (2) Auto Sorting
- (3) Part Parameter
- (4) Plate Setting:
- (5) Clear the previous nesting results
- (6) Detailed par



- (1) Starting Point
- (2) Mirror image
- (3) Nesting Dir
- (4) Best Nesting Direction
- (5) Angle of Rotation
- (6) Inside the hole

(7) Nesting Precision

(8) Merge common edge

(9) All Part Set Grid

(10) All Part Merge common edge

(11) Multiple computation

Detailed parameters

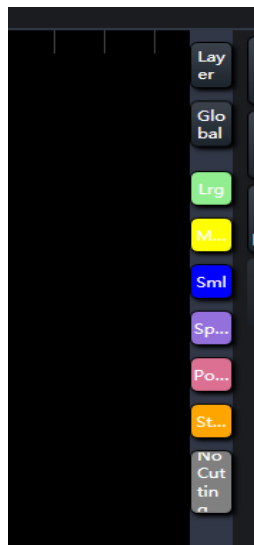
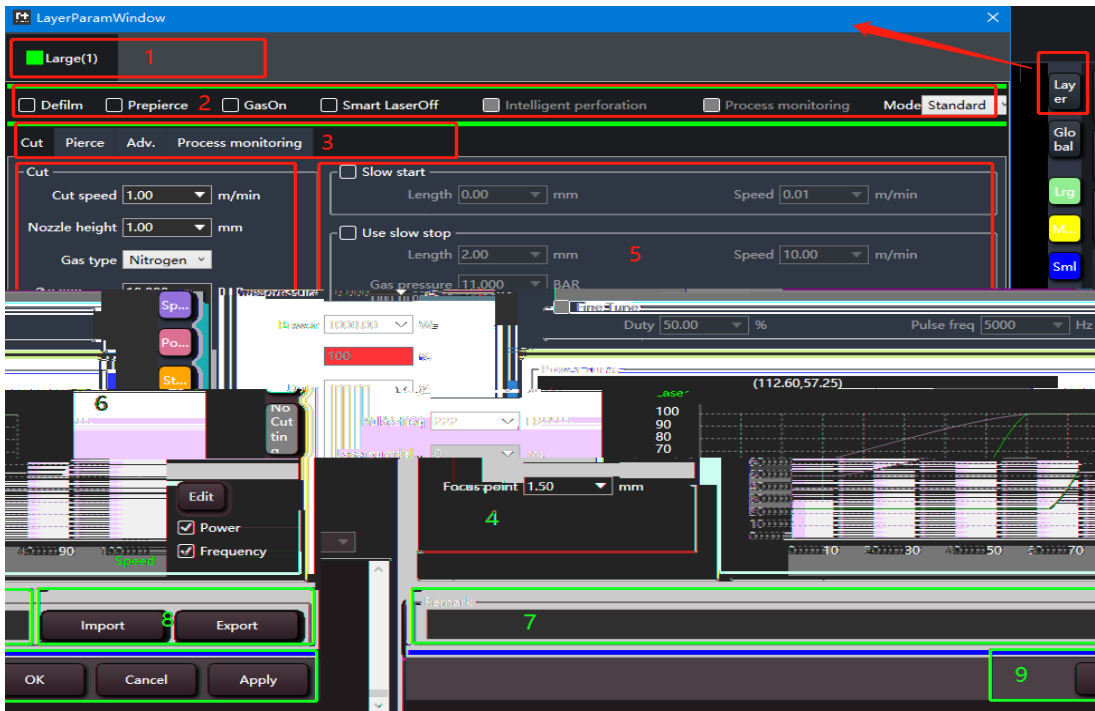
### Detailed parameter settings

Setting the relevant parameters of the real shape.

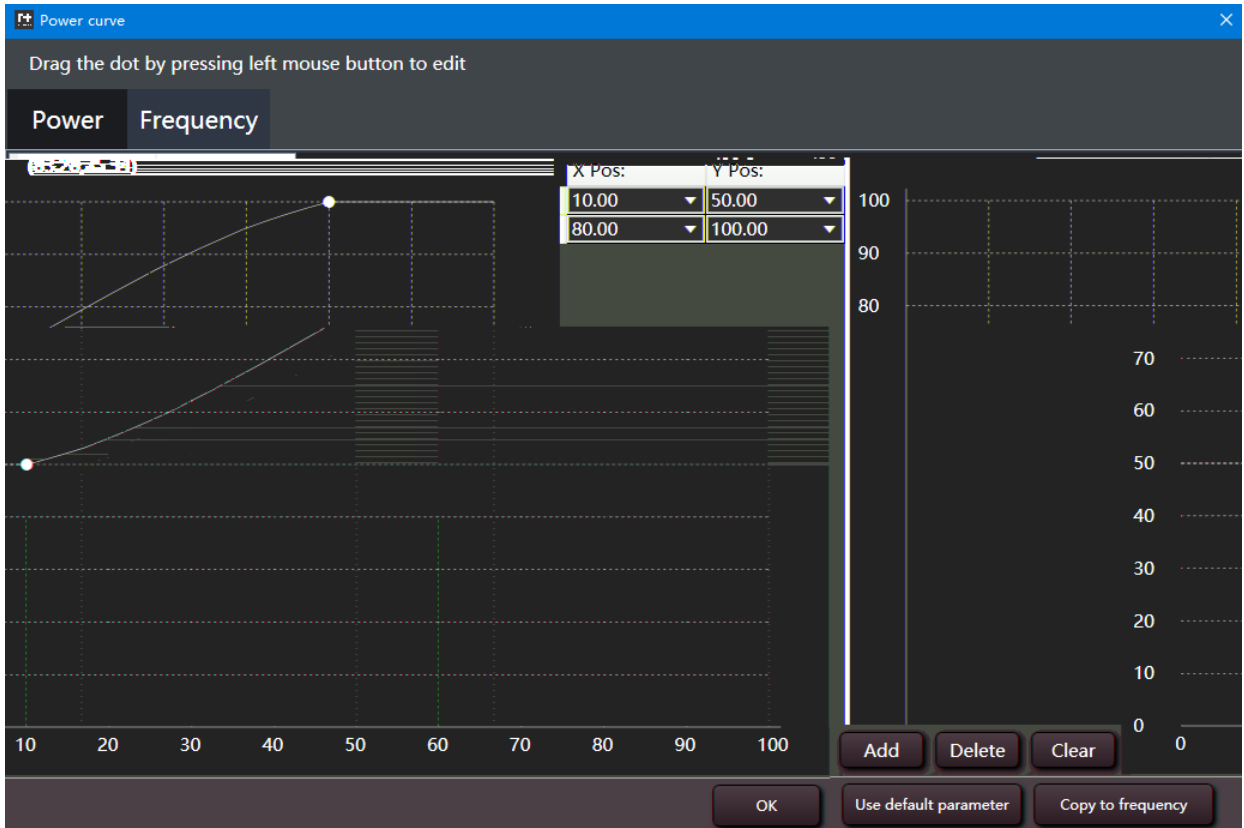
Starting Point	Bottom Left	<input type="checkbox"/> Mirror image
Nesting Dir	Vertical	<input type="checkbox"/> Best Nesting Direction
Angle of Rotation	90	<input type="checkbox"/> Inside the hole
Nesting Precision	0.5	
Merge common ed...	C-type2(cut common edge Postpone)	
<input checked="" type="checkbox"/> All Part Set Grid		<input checked="" type="checkbox"/> Multiple computation
<input type="checkbox"/> All Part Merge common edge		

OK Cancel

# RAYTOOLS





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# RAYTOOLS

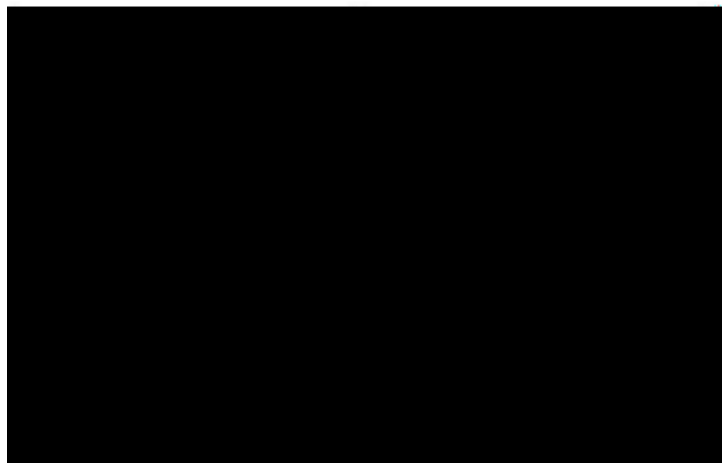
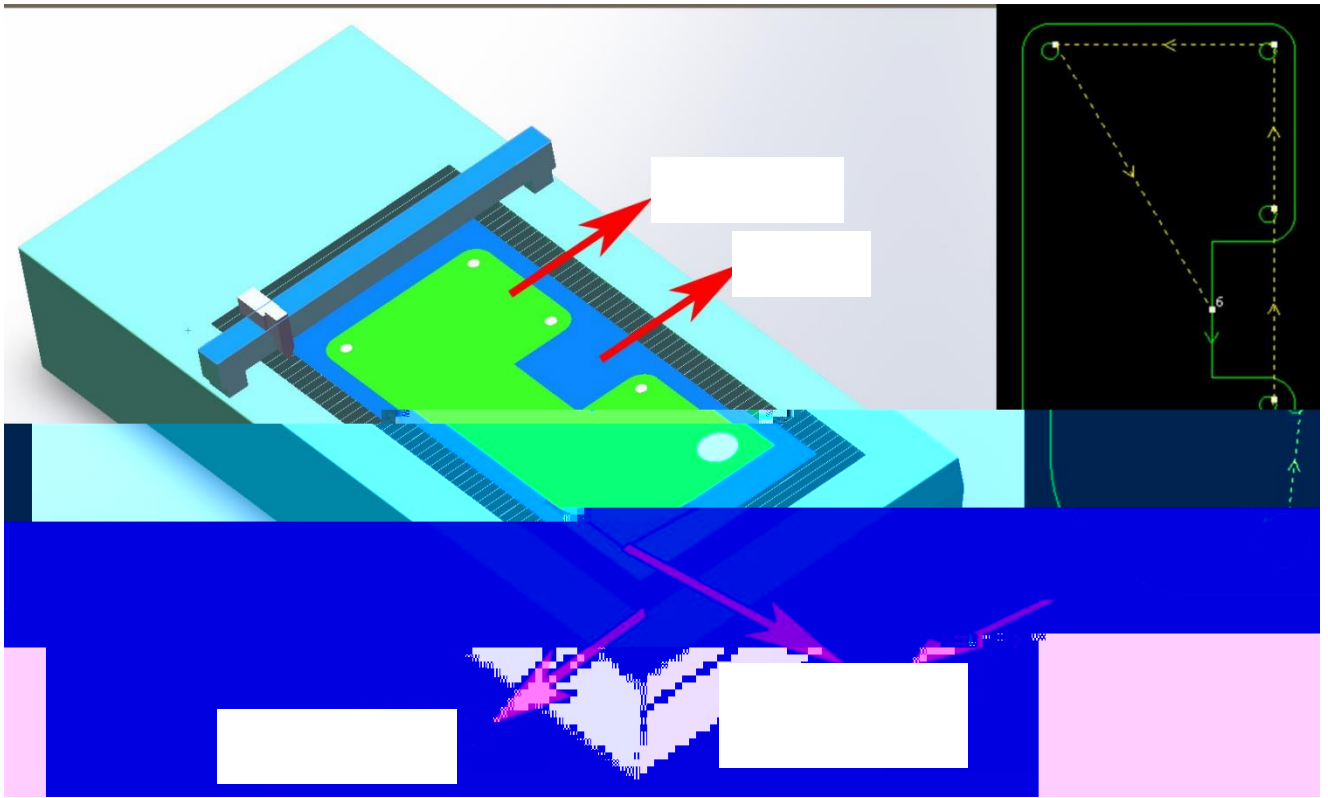
---

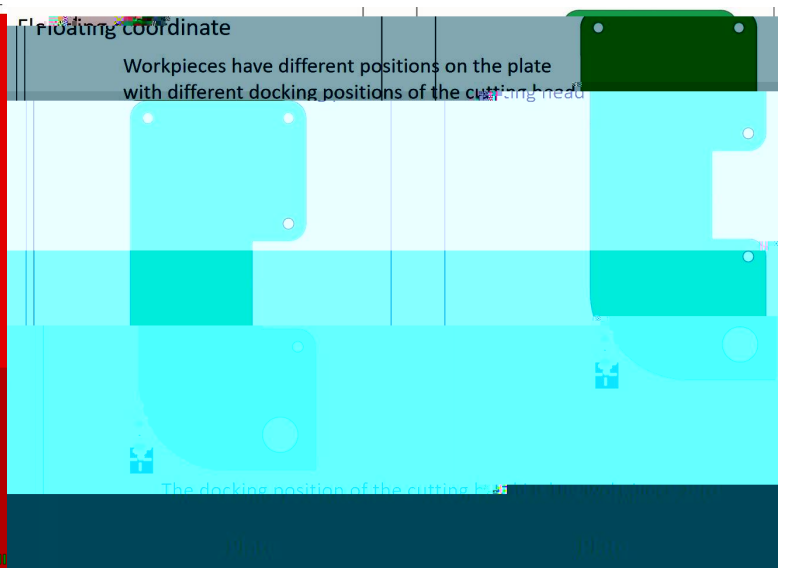
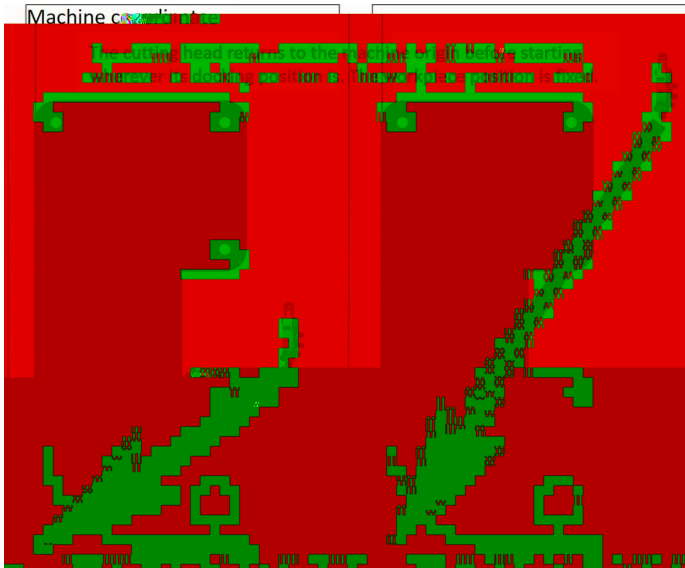
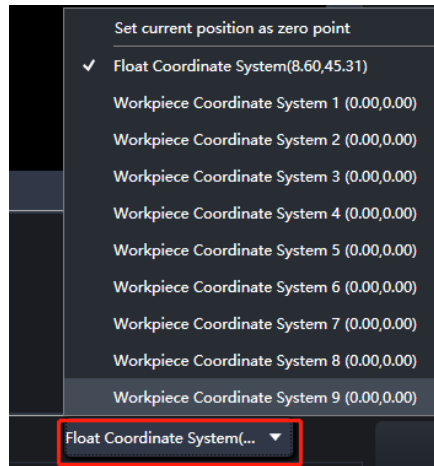



OK  
Cancel  
Apply



# RAYTOOLS





Set current position as zero point

- ✓ Float Coordinate System(8.60,45.31)
- Workpiece Coordinate System 1 (0.00,0.00)
- Workpiece Coordinate System 2 (0.00,0.00)
- Workpiece Coordinate System 3 (0.00,0.00)
- Workpiece Coordinate System 4 (0.00,0.00)
- Workpiece Coordinate System 5 (0.00,0.00)
- Workpiece Coordinate System 6 (0.00,0.00)
- Workpiece Coordinate System 7 (0.00,0.00)
- Workpiece Coordinate System 8 (0.00,0.00)
- Workpiece Coordinate System 9 (0.00,0.00)

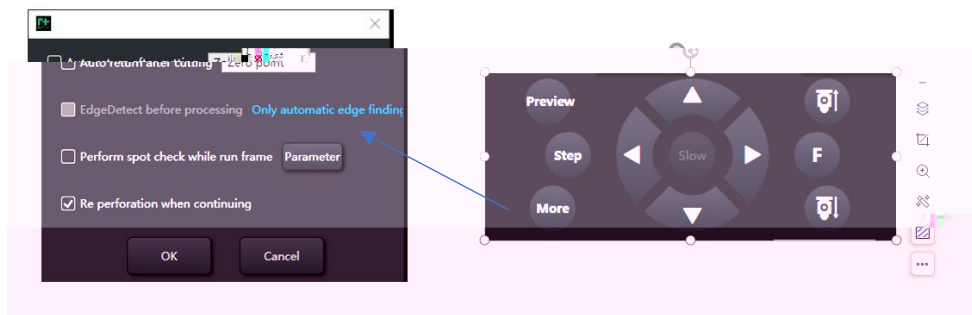
Float Coordinate System(... ▼)

	Mechanic...	Workpiec...	Follow-up...	
X	47.70	43.09	0.00	mm
Y	49.48	3.59	0.00	mm
Y1	49.48	3.59	0.00	mm





# RAYTOOLS



Auto return after cutting Zero point

EdgeDetect before processing

Perform spot check while run frame Parameter

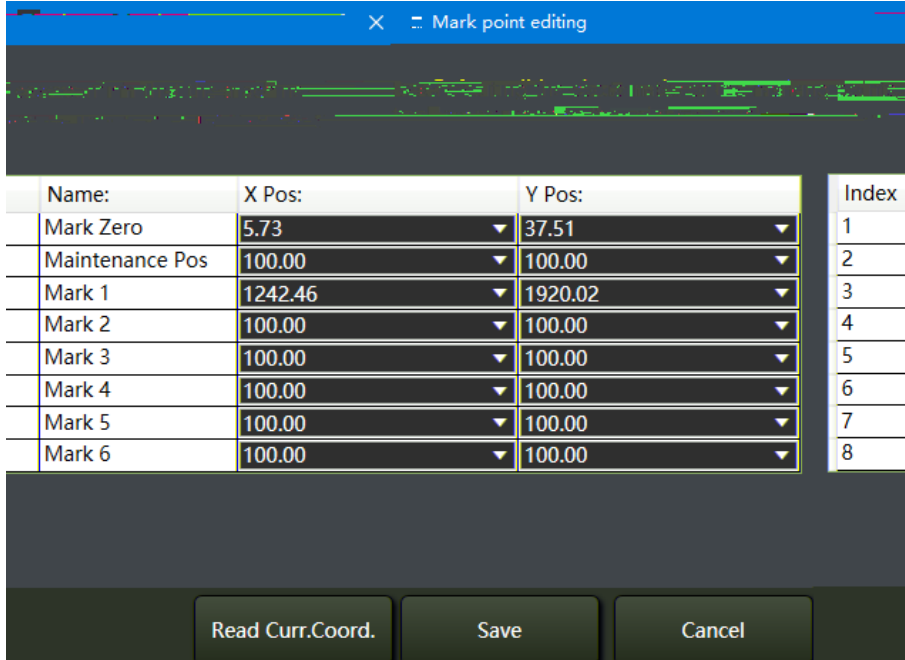
Re perforation when continuing

Back and forward dist... 2.00mm 2.00m/min

Process selected o... Manual Speed 12.00m/min  
 Jog Cut ..... Inching distance 10.00mm





A screenshot of a "Mark point editing" dialog box. It features a table with columns for Name, X Pos, Y Pos, and Index. The table contains 7 rows of data. Below the table are three buttons: "Read Curr.Coord.", "Save", and "Cancel".

Name:	X Pos:	Y Pos:	Index
Mark Zero	5.73	37.51	1
Maintenance Pos	100.00	100.00	2
Mark 1	1242.46	1920.02	3
Mark 2	100.00	100.00	4
Mark 3	100.00	100.00	5
Mark 4	100.00	100.00	6
Mark 5	100.00	100.00	7
Mark 6	100.00	100.00	8

A screenshot of a "Mark point selecting" dialog box. It displays a list of buttons for selecting a mark point: "Mark Zero", "Maintenance Pos", "Mark 1", "Mark 2", "Mark 3", "Mark 4", and "Mark 5". At the bottom, there is a "Mark point editing" button. The "Mark Zero" button is highlighted with a blue gradient.

Mark point selecting

- Mark Zero
- Maintenance Pos
- Mark 1
- Mark 2
- Mark 3
- Mark 4
- Mark 5

Mark point editing

# RAYTOOLS

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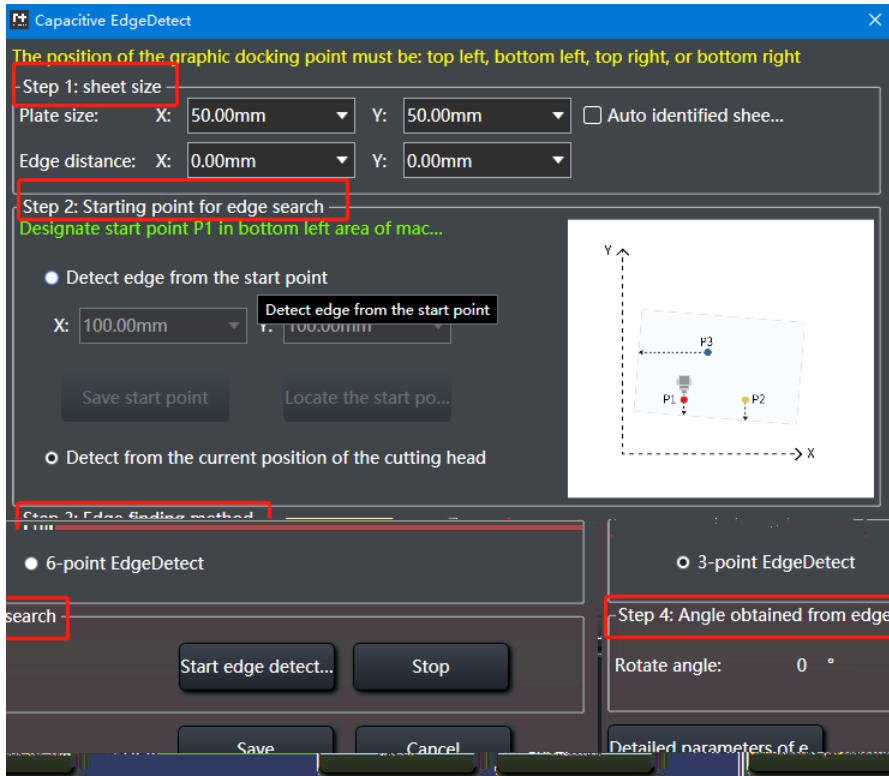
Simulation Speed

Simu

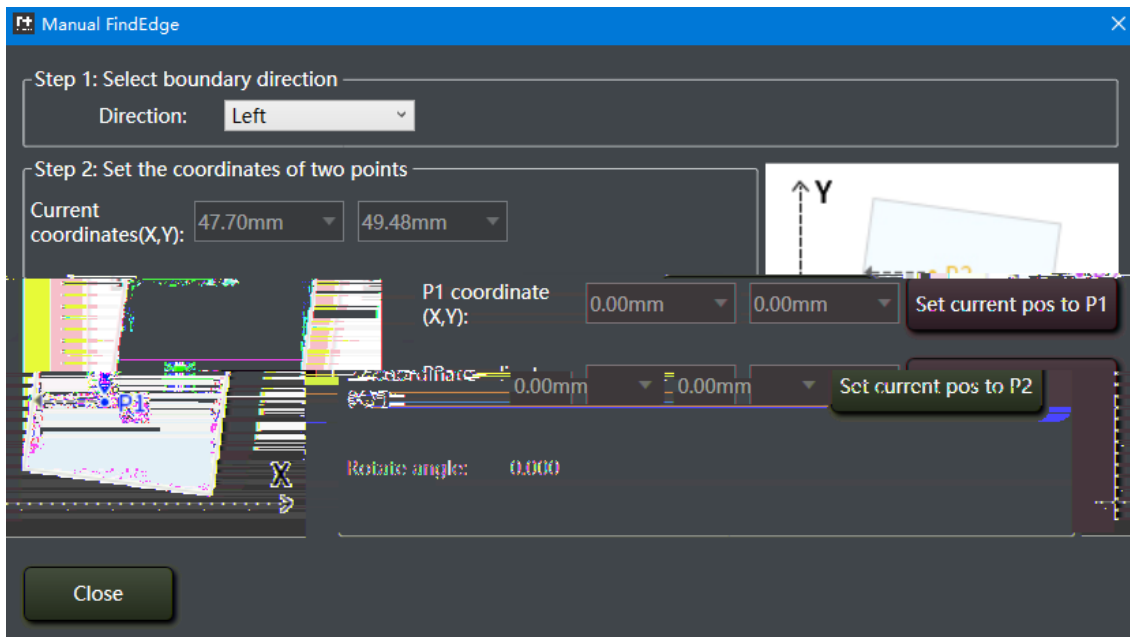
Simu

Return Origin Edge Detect Task Batch Proc

- All return to zero
- X return to zero
- Y return to zero
- Z return to zero
- Focus axis return to origin



## Manual Edge Detection

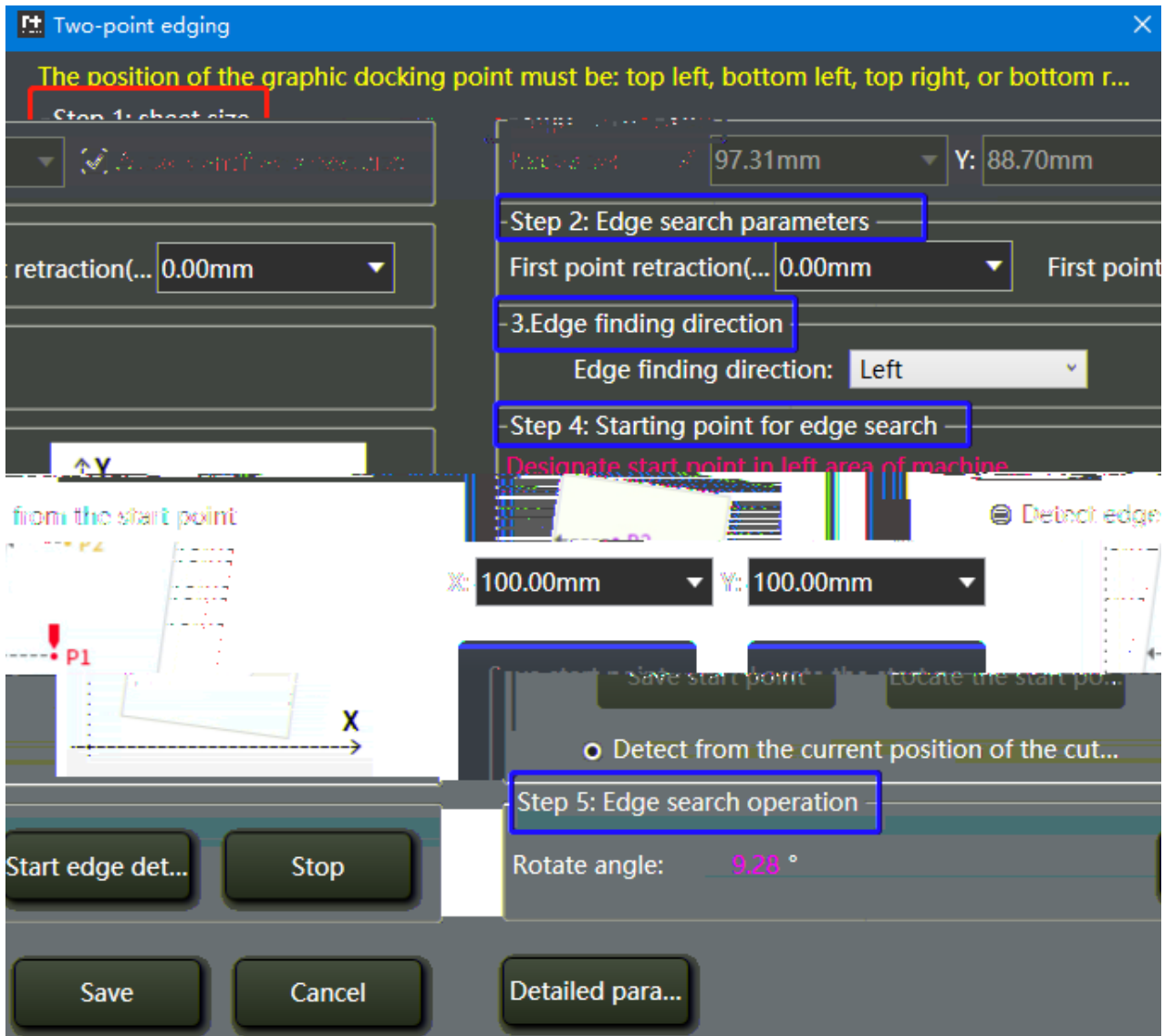


CCW rotation 9.28 degree, Please note the difference between processing and display



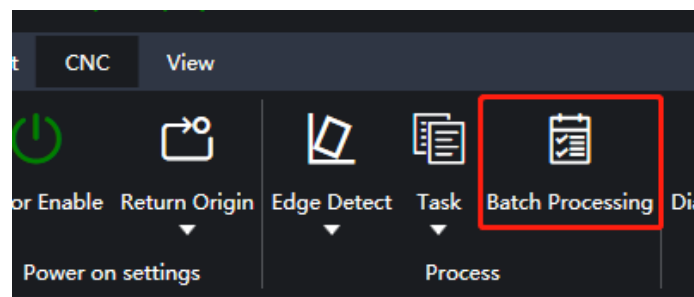
# RAYTOOLS

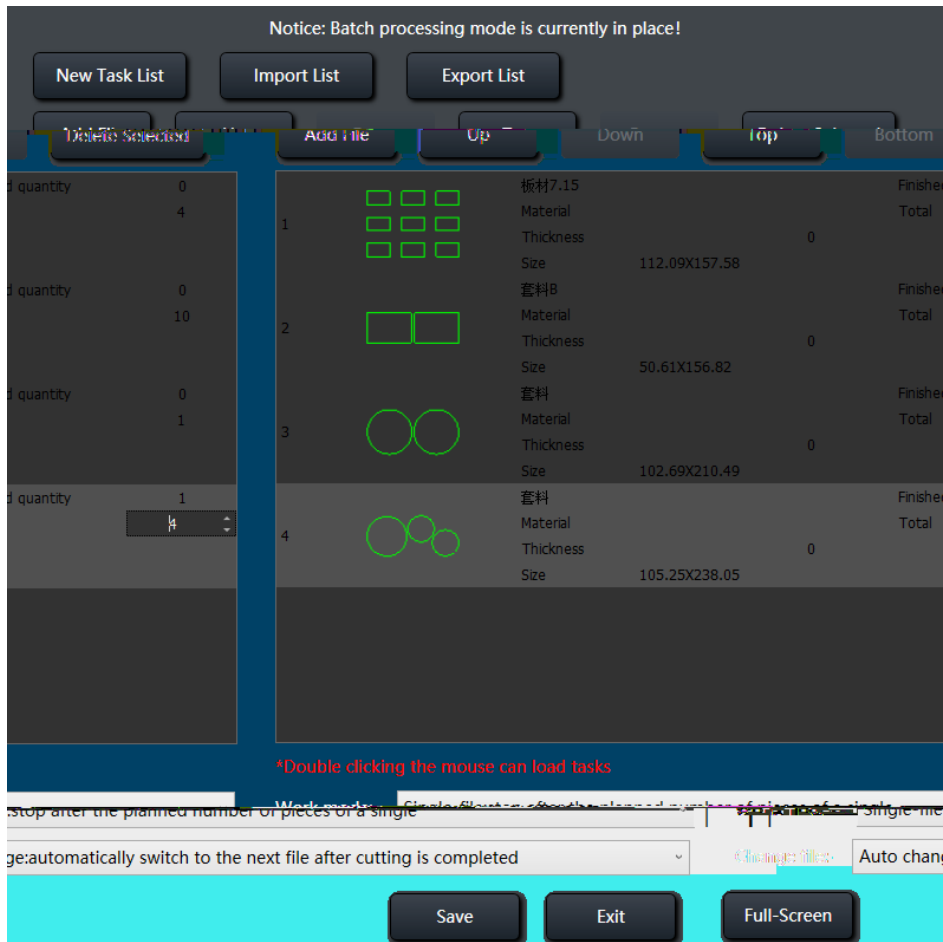
- 2-point Edge Detection



- Memory edge detection angle

- Cut off









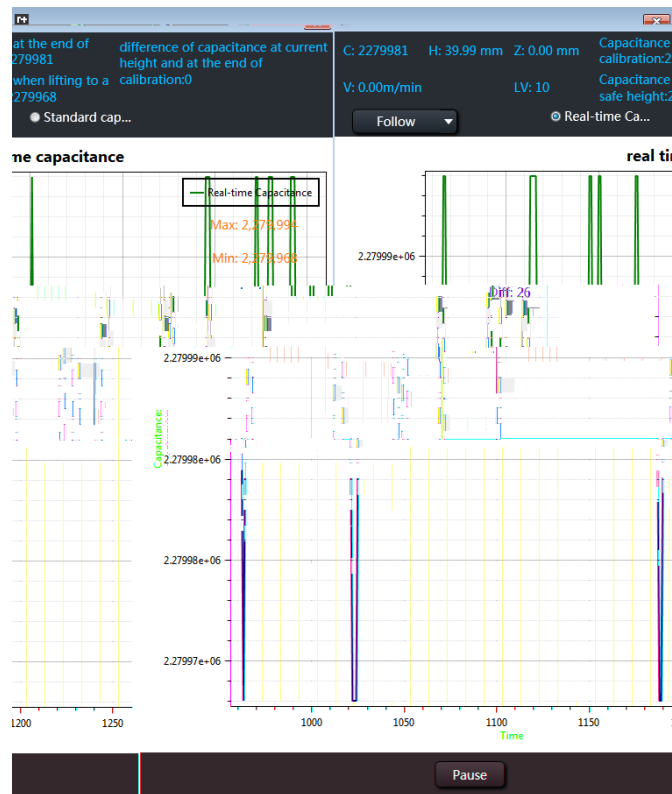
**Hardware Info**

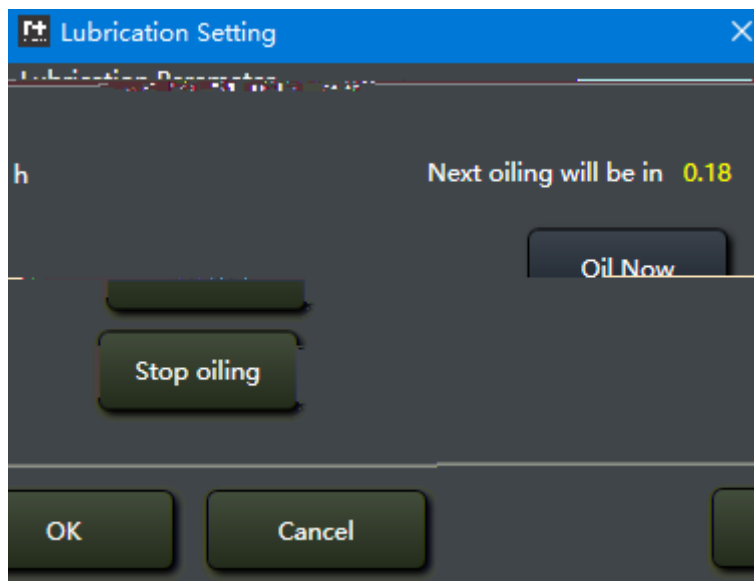
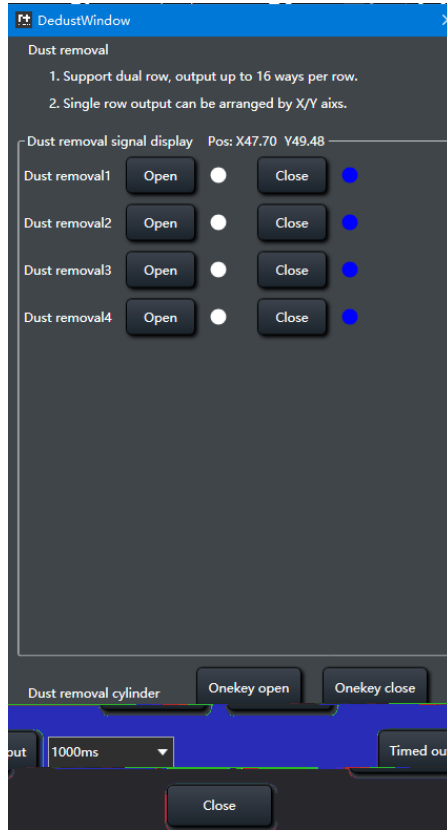
Slave station order	Slave station name	Op Status	P0-Crc	P0-PHY	P1-Crc	P1-PHY	P2-Crc	P2-PHY
0	CDHD	OP	0	0	0	0		
1	CDHD	OP	0	0	0	0		
2	CDHD	OP	0	0	0	0		
3	ES100N_V0.4	OP	0	0	0	0		
4	EDS2000V3.3(XFC)	OP	0	0				

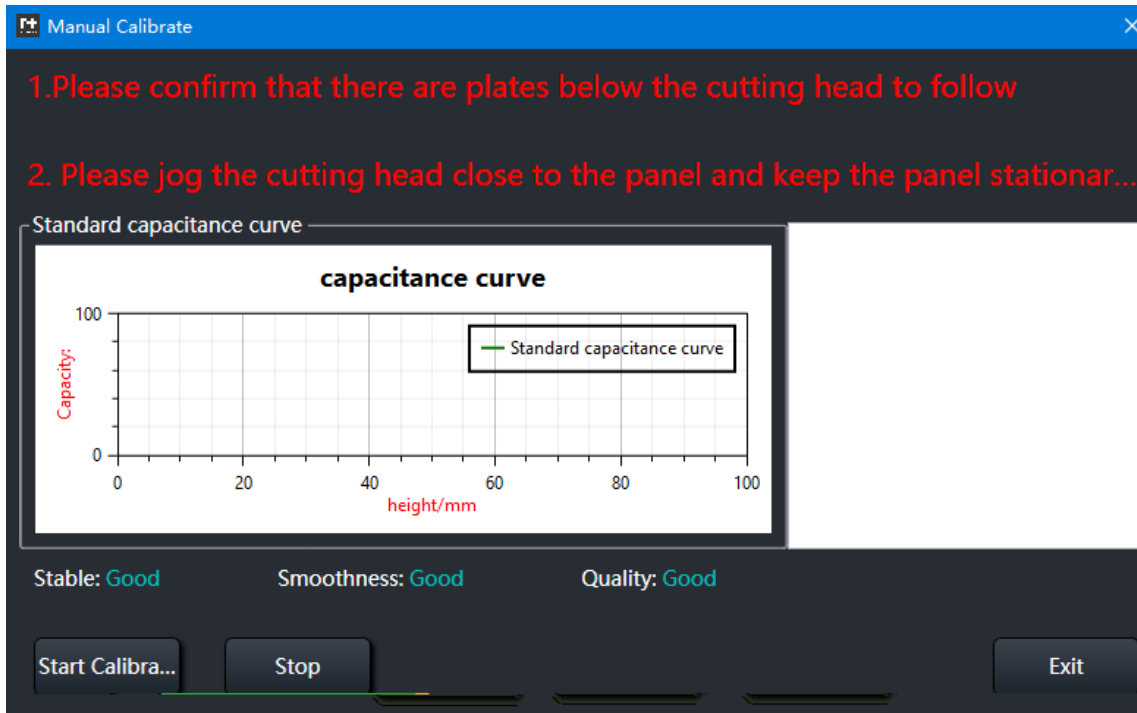
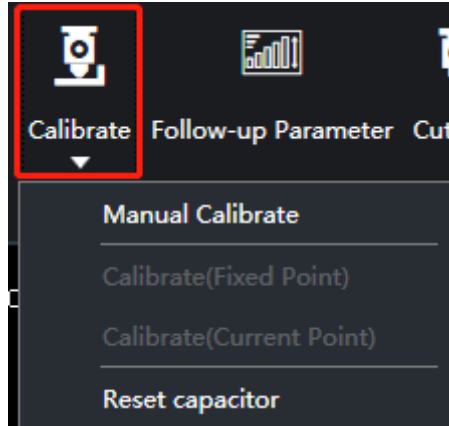
Master0  
 Phase: Operation  
 Active: yes  
 Slaves: 5  
 Ethernet devices:  
 Main: 00e0:00:01:a3:a0 (attached)  
 Link: UP  
 Tx frames: 1766342  
 Tx bytes: 624298412  
 Rx frames: 1766341  
 Rx bytes: 624298060

117.531

Reset Salve Register





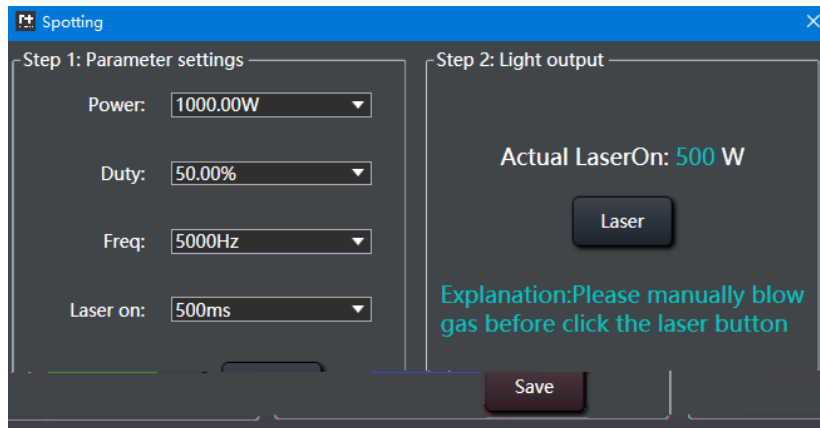
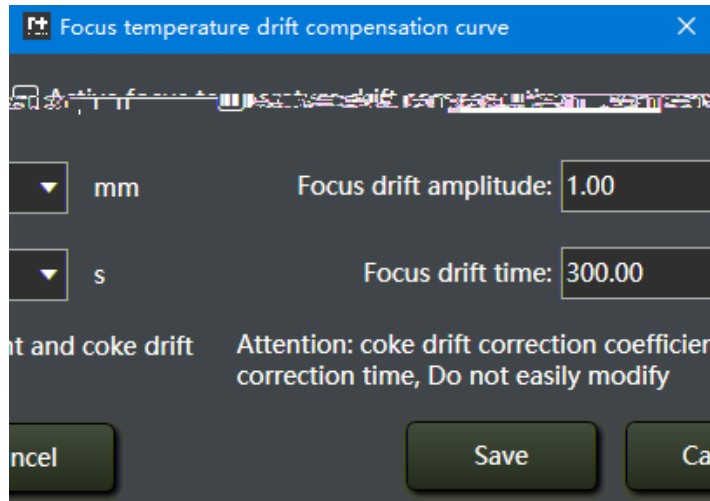












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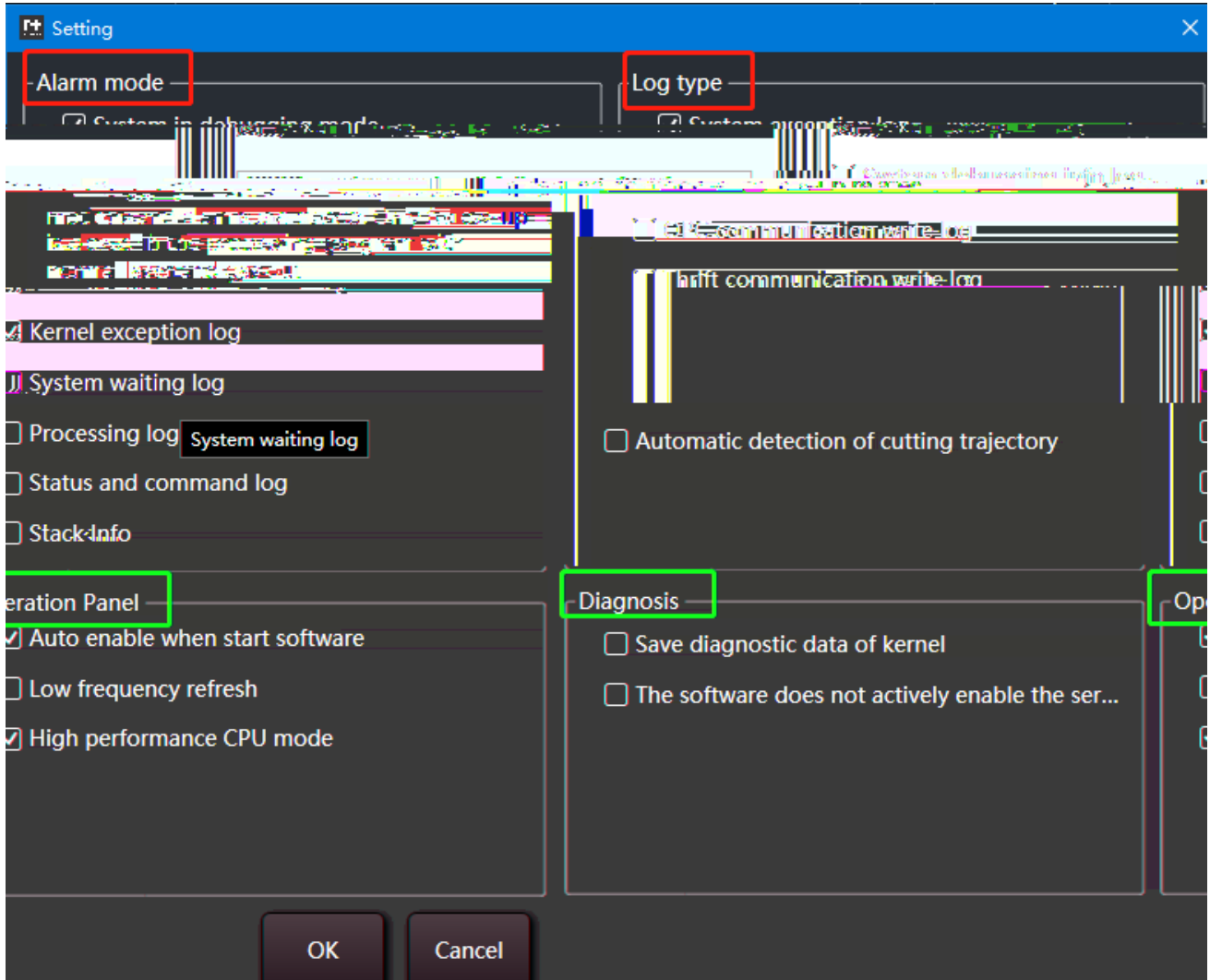


**RAYTOOLS**

MachineOverviewWindow

<b>Machine structure</b> Type Dual drive Master slave stop s... 1 Verticality correction Disable Dust removal valve Open	<b>Laser parameter</b> Brand IPG Master-Slave Axes... Reverse Max offset in Mest Frequency 100000.00 Authorization period 2024-04-11~Permanent	<b>Height sensor</b> Type 1 Power rating 1000.00 Follow max height
<b>X Axis</b> Encoder pulse num... 10000.00 Pitch 36 Motor direction Positive Homing Mode Incremental M... Return to origin sig... Limit Zero signal logic NO Limit- 0.00 Limit+ 1500.00 Pitch compensation Disable	<b>Y Axis</b> Encoder pulse num... 10000.00 Pitch 36 Motor direction Positive Homing Mode Incremental M... Return to origin sig... Limit Zero signal logic NO Limit- 0.00 Limit+ 3000.00 Pitch compensation Disable	<b>Z Axis</b> Encoder pulse num... 10000.00 Pitch 10 Motor direction Positive Homing Mode Incremental M... Return to origin sig... Limit+ Zero signal logic NO Limit- -100.00 Limit+ 2.00
<b>Focus control</b> Cut head UnKnown BS... Focus adjmt. axis... 12 Max positive focus 17.00 Min negative focus -17.00	<b>Cutting Type</b> FlyCut Type PLC Control Fine Tune 0.08 Fine Tune 0.8 MicroJoint Type PLC Control	<b>Version</b> HMI 1.0.0.32427 PLC 32257.0 CNC 16940447 NC 2.10.78643489 CAM 1.0.0.32337 Engine 23734 Config Tool 2.4.3.32222

# RAYTOOLS



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# RAYTOOLS

**Drawing** System Alarms

(08/13 14:52:33.859) Operation by software button on HMI: ZAxis stop moving in manual mode  
(08/13 14:55:35.228) Manual slow  
(08/13 14:55:35.231) Move left  
(08/13 14:55:35.360) Stop  
(08/13 14:55:35.827) Manual slow  
(08/13 14:55:35.828) Move left  
(08/13 14:55:36.029) Manual slow

**Drawing** System Alarms

2024/8/13 14:55:42 Have select 2 object.Size: 12 x 12  
2024/8/13 14:55:44 Delete Selected Graphics,Press E button delete.  
2024/8/13 14:55:45 Draw Rectangle and Specify First AngularPoint:  
2024/8/13 14:55:46 (2.518,54.815)  
2024/8/13 14:55:46 Draw Rectangle and Specify another AngularPoint(or Size(D)):  
2024/8/13 14:55:46 (10.474,48.739)  
2024/8/13 14:55:46 Have select 1 object.Size: 7.957 x 6.076

Drawing System Alarms

(08/13 14:52:33.859) Operation by software button on HMI: ZAxis stop moving in manual mode  
(08/13 14:55:35.228) Manual slow  
(08/13 14:55:35.231) Move left  
(08/13 14:55:35.360) Stop  
(08/13 14:55:35.827) Manual slow  
(08/13 14:55:35.828) Move left  
(08/13 14:55:35.935) Stop  
(08/13 14:55:36.029) Manual slow

# RAYTOOLS

Time	ID	Status	Description
20240813 14:52:23	20000	Inactive	Axis is not enabled, please click the "enable" button of IEM to enable the axis.
20240813 14:52:23	889	Active	The system is in debugging state. In this mode, follow up related operation is disabled.
20240813 14:52:26	1118	Active	The pallet is not in place, the automatic clamping and loosening of the starting cylinder failed!
20240813 14:52:26	150	Active	Open the function of OFF_Follow.

Power: 0.00% (0 W)

Follow height: 0.45% (0.20 mm)

Focus point: 50.00% (0.00 mm)

Speed: 0.00% (0.00 m/min)

Mechanic... X: 44.24, Y: 43.15

Processing Timing: 00:00:00 s

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Count Manager

Set parameters of production statistics, machining quantity and auto pause, etc.

Count Manager

Total: 0.00

Finished: 55.00

Aft task done: Stand still

Buttons: Pause Count, Clear, Cancel, Change PWD, OK

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