TEXI XYZ 2518

MANUAL

CATALOGUE
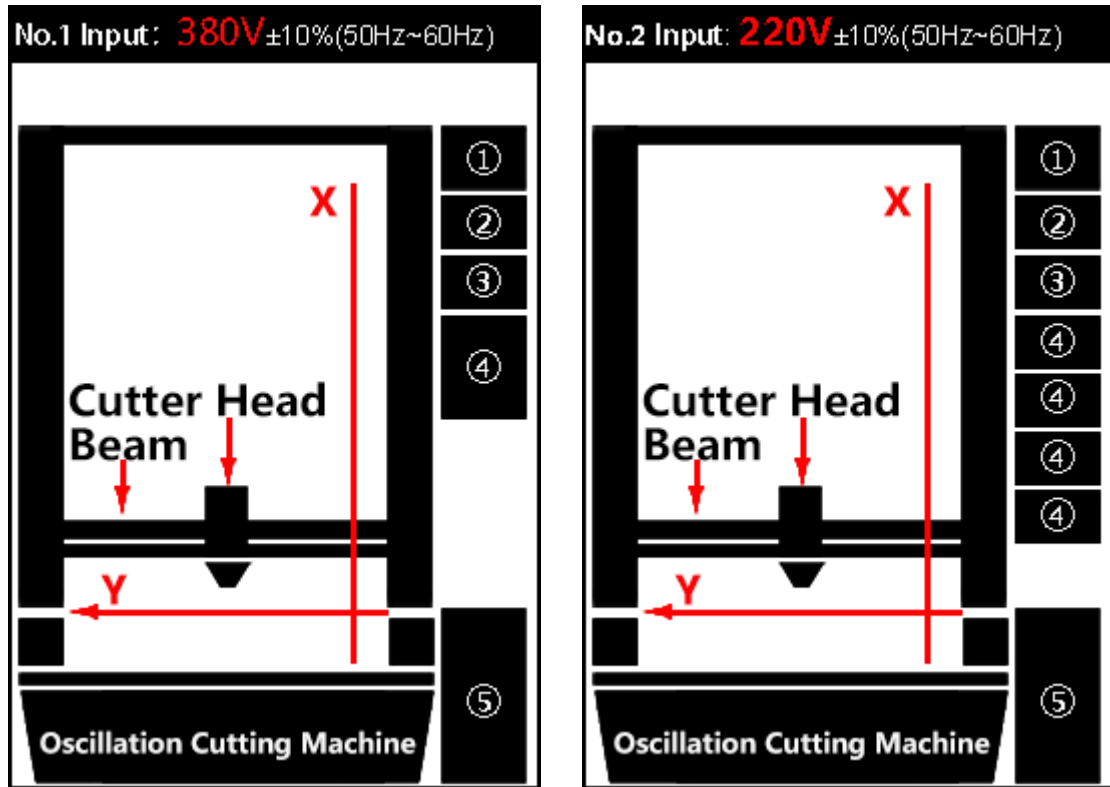
1.Machine Introduction

1.1 Power and cable requirements

In view of the power of the vacuum pump is different, electric power at 220V or 380V can be used according to the actual situation. The total power of the machine is at least 14KW, so the cable cross section requires at least 8mm².

Items	Peak power
Machine	3KW
Vacuum Pump	11KW
Air Compressor	1.2KW

1.2 Introduction

(1) The left one is the 380V model machine and its accessories.

(2) The right one is the 220V model machine and its accessories.

Number	Item
①	Distribution Box
②	Returning-air Box
③	Air Compressor
④	Vacuum pump
⑤	Control Box

（Note：

1. When 380V voltage is used for power supply, only three live wires need to be used, and there is no need to use the null wire.

2. For models without transformer, it is necessary to provide 220V power supply system for equipment other than vacuum pump.

3. No returning-air box for the machine which has no auto-feeding system.

4. There is no air compressor for the machine without using it.

5. Some models have no distribution box, only a certain number of AC contactors are attached.）

2. Accessories Installation

2.1 380V

(1)Distribution Box

①. Input

A. Connect the U-shaped terminals of the Signal&Protection cable to the A1&A2 of the AC contactor.

B. Connect the three live wires of the 380V three-phase electricity to the 1/L1, 3/L2, 5/L3 of the AC contactor separately.(Note:If the fan reverses, the position of two live wires can be changed arbitrarily)

C. Connect the 220V Power Cable to the 220V power supply socket.

②. Output

A. Connect the aviation plug of the Signal&Protection cable to the "Air Pump" port on the machine.
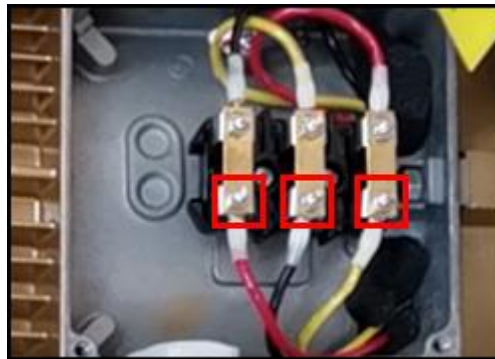
B. Connect the green cable which has the white wire connectors to the protector wires on the vacuum pump, as shown in the red frame below:

 or

C. Connect one end of the Power Cable for the Vacuum Pump to the 2/T1，4/T2,6/T3 of the AC contactor and connect another end to the vacuum pump, as show in the red frames below:
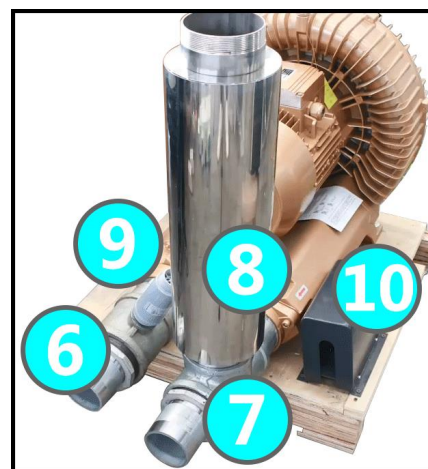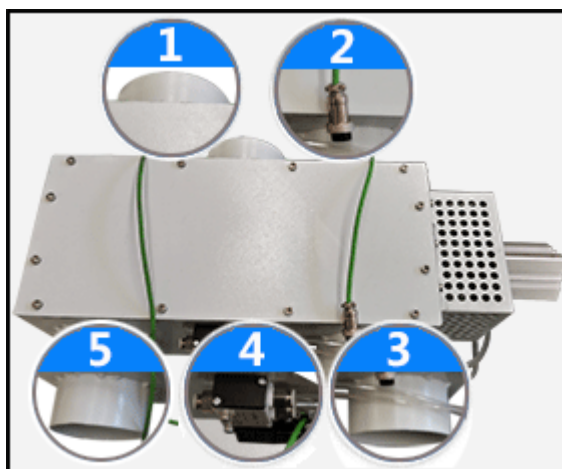

D. Connect the aviation plug of the 220V Power Cable to the machine or the control box. (Note:Subject to the actual model.)

(2)Vacuum Pump of the Digital Knife Cutting Machine with Flat Table

(3)Vacuum Pump and Returning-air Box of the Auto-feeding Digital Knife Cutting Machine. (Note:There is no returning-air box for the non auto-feeding model machine.)

① Connect No.1 to the air pipe which comes out of the machine.

②Connect No.2(The signal cable of the returning-air box) to the "Returning Air Box" port on the machine.

③ Connect No.3 to the No.6(The inlet of the vacuum pump) by the air pipe.

④ Connect No.4(Solenoid valve) to the oil water separator(Pneumatic valve) on the machine by the air tube.

⑤ Connect No.5 to the No.7(The outlet of the vacuum pump) by the air pipe.

⑥ No.8 is the Hush pipe, No.9 is the pressure relief valve, it must be installed onto the reducer which is connected to the inlet of the vacuum pump. No.10 is the mini distribution box.

After connection finished，as shown below：

2.2 220V
(Note:Take the auto-feeding machine as an example)
(1)Distribution Box

① Input

A.Connect the U-shaped terminals of the Signal&Protection cable to the

A1&A2 of the No.1 AC contactor.

B. Connect the 220V power supply cables to the 2/T1 and 6/T3 of the No.1 and No.2 AC contactors separately(Note:No.5 and No.6 are connected to the 220V cables.You need to prepare 220V power supply cables by yourself)

C. Connect the 220V Power Cable to the 220V power supply socket

(Note:The 220V power supply cables which are connected to the distribution box must can bear at least 10KW power, the 220V Power Cable which is sent with the machine is only supply the electricity to the machine and control box, and the power of the machine is about 2500W)

② Output

A. Connect the aviation plug of the Signal Cable to the "Air Pump" port on the machine.

B. Connect the two groups of Vacuum Pump Power Cables to 1/L1 and 5/L3(Note:No.3 and No.4 of the AC contactors are connected to the vacuum pumps) of No.1 and No.2 AC contactors separately, and connect the other end of each vacuum pump power cable to No.2 and No.3 feet or No.1 and No.3 feet of each vacuum pump separately,as shown below:
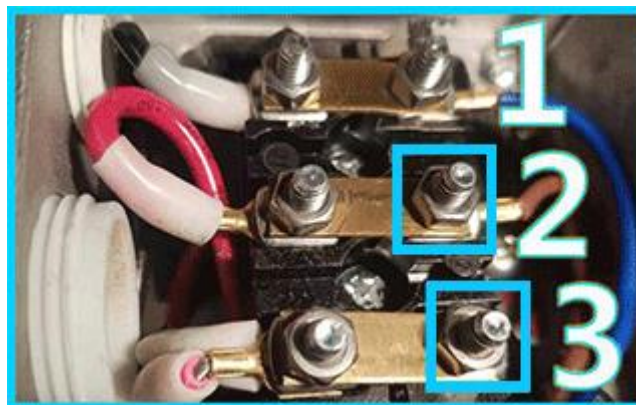
(2)Vacuum Pump and Returning-air Box of the Auto-feeding Digital Knife Cutting Machine.(Note:There is no returning-air box and Part B for the non auto-feeding model machine.)
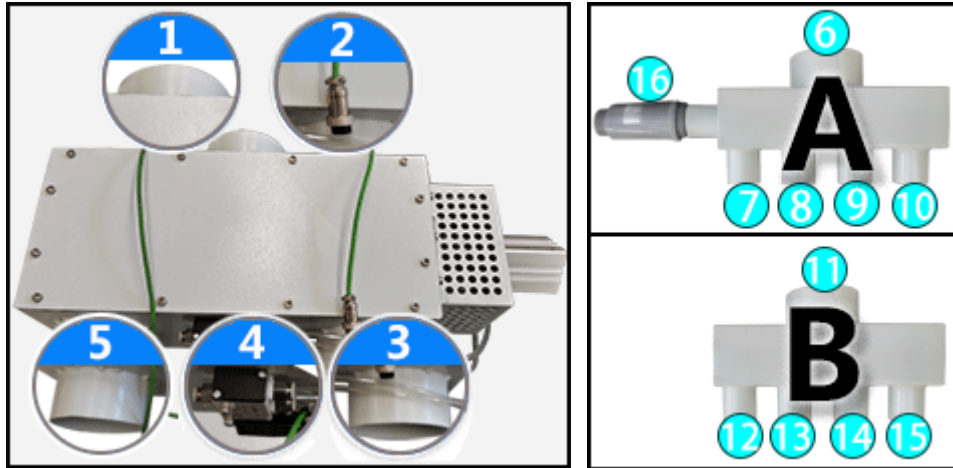
(Note:Part A is connected to the inlet of the vacuum pump and Part B is connected to the outlet of the vacuum pump)

① Connect No.1 to the air pipe which comes out of the machine.

②Connect No.2(The signal cable of the returning-air box) to the "Returning Air Box" port on the machine.

③ Connect No.3 to the No.6 by air pipe, and connect the No.7,No.8,No.9 and No.10 of the Part A to the inlet of every vacuum pump.

④ Connect No.4(Solenoid valve) to the oil water separator(Pneumatic valve) on the machine by the air tube.

⑤ Connect No.5 to the No.11 by air pipe, and connect the No.12,No.13 and No.14 of the Part B to the outlet of every vacuum pump.

⑥ The No.16 is the pressure relief valve, the arrow on the pressure relief must face the Part A, and it to the Part A by the tape firmly.

2.3 Air Compressor

（Note:1.Air compressor with power over 7.5kW is required for the Pneumatic oscillating Knife Tool and you need to prepare it by yourself. 2.There is no air compressor for the machine without using it.）
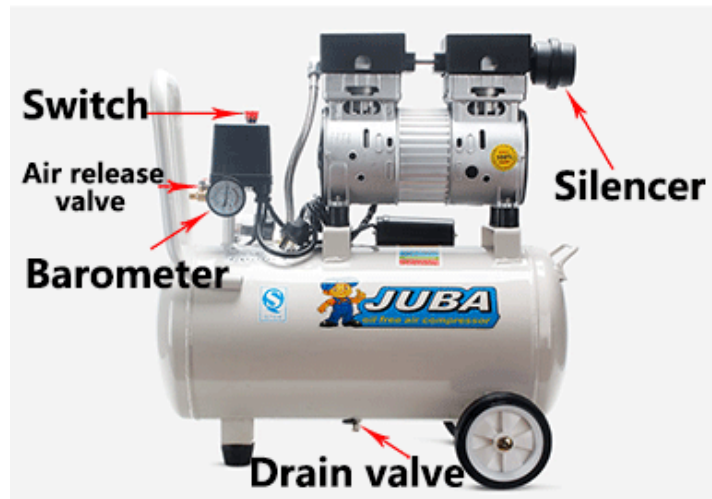
（Note:It is recommended to discharge water once every one to seven days）

3. Installation of CUT Software & IP Settings

3.1 Introduction

Cut is a cutting service software for editing and cutting tasks. It can be well matched with mainstream graphic design software. The software can be used for drawing simple graphs. You can also use CAD, CorelDraw,AI and other graphic design software. Then send graph to the machine for cutting via Cut.
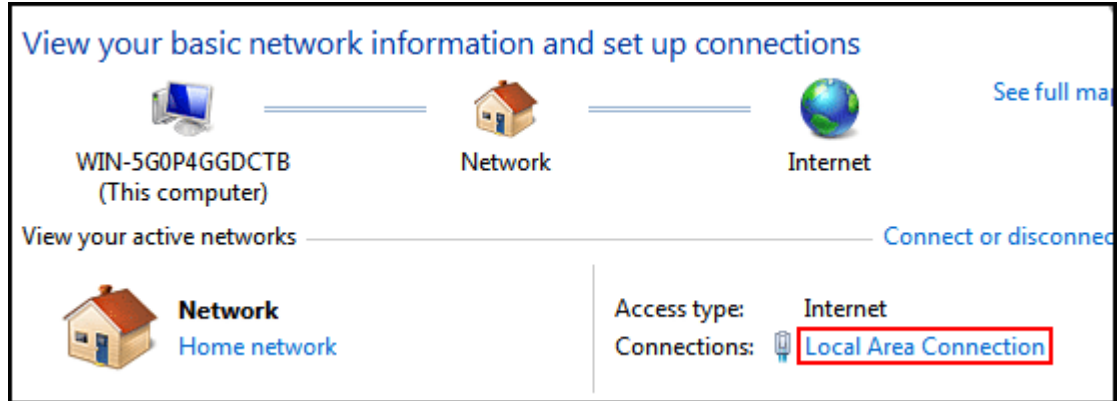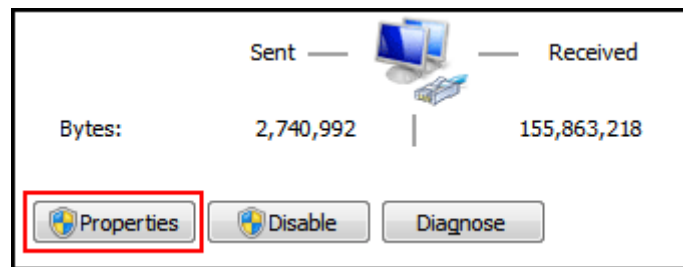
3.2 Installation
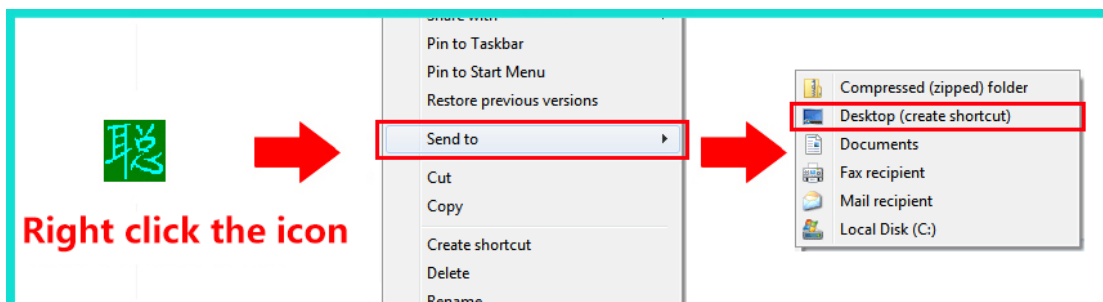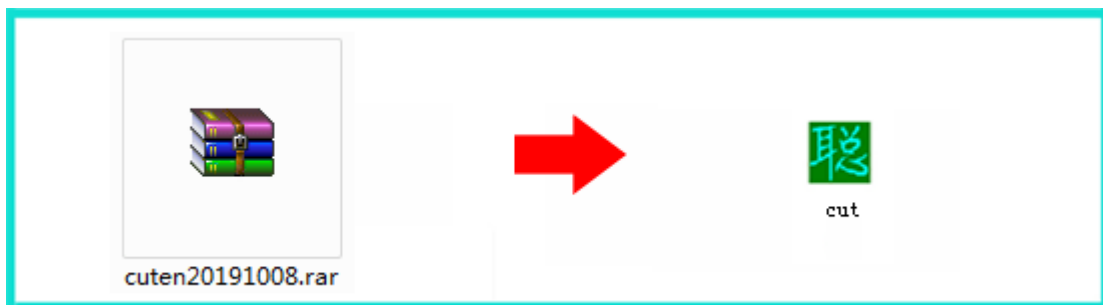
3.3 IP Settings

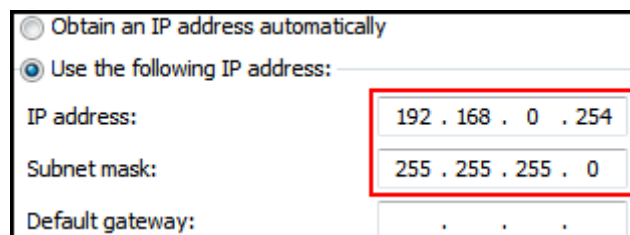(1) Right click Network →click"Properties"→Click"Local Area Connection", as shown below:

(2) Click "Properties"

(3) Double click "Internet Protocol Version 4(TCP/IPV4)"
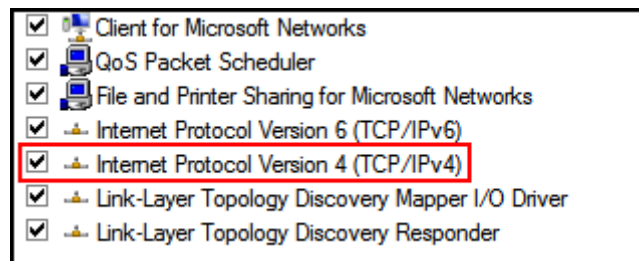
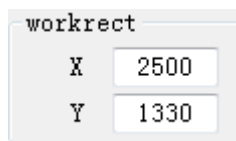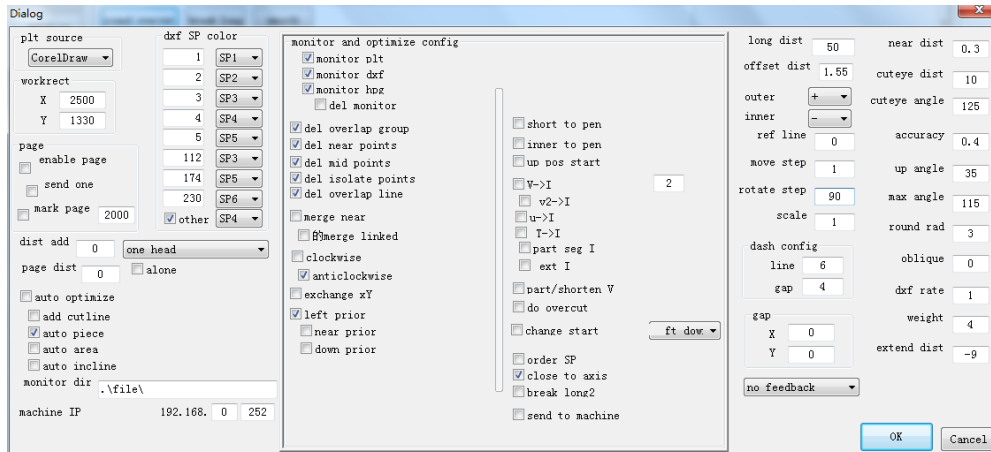(4) Click "Use the following IP address", change the IP as shown below:

(Note:There can not be a crash between the computer IP and the machine

(5)Click on "OK" to finish changing.

4.Settings of the Cut Software

4.1 Double click to open the software,click【optimize】→【config...[P]】:

4.2 , the machine work area，they must be the same with the data in the panel. machine IP   192.168. 0 252 , the machine IP, it must be the same with the machine IP. Check the cutter working area and IP address in the control panel as follows：

(1)Click , type 1234 into ,then press 。

(2)Click →, as shown below：

work	X size 2500	marginX+ 2	marginY+ 150	stretchX 1.0000
	Y size 1330	marginX- 10	marginY- 0	stretchY 1.0000

Z size 55	marginZ- 0.00	wheel/cut 0.50	gapX 0.00
IP:192.168. 0 252	no index	logo 3	gapY 0.00
Z2 size 41			

	special	no estop	servo alarm	X org +		
pump 1*1	heightN.0	no roll	no limit	Y org +		
part 1*1	inner	X N.0	5000	16.67	299.94
servo	type 0	Y N.0	7000	25.00	280.00
		Z N.0	1600	2.00	800.00
vertical	safe N.0	W N.0	6000	120.00	50.00
type id 720	limit W	A N.0	1600	5.00	320.00

13:01:47
2020-02-02

13:01:47 unlock

(Note:The parameters of different models are different. All factory settings and data on this page cannot be changed)

4.3 , it's used for the auto-feeding system.

5.Operation of the Cut Software

5.1 Import Processing File

(1)Click【file】→【open...】,the icons , (Note:The shortcut keys are Ctrl+O)also can be used to import the file,there will be a new window, select the file needs to be imported,click【Open】,as shown below:
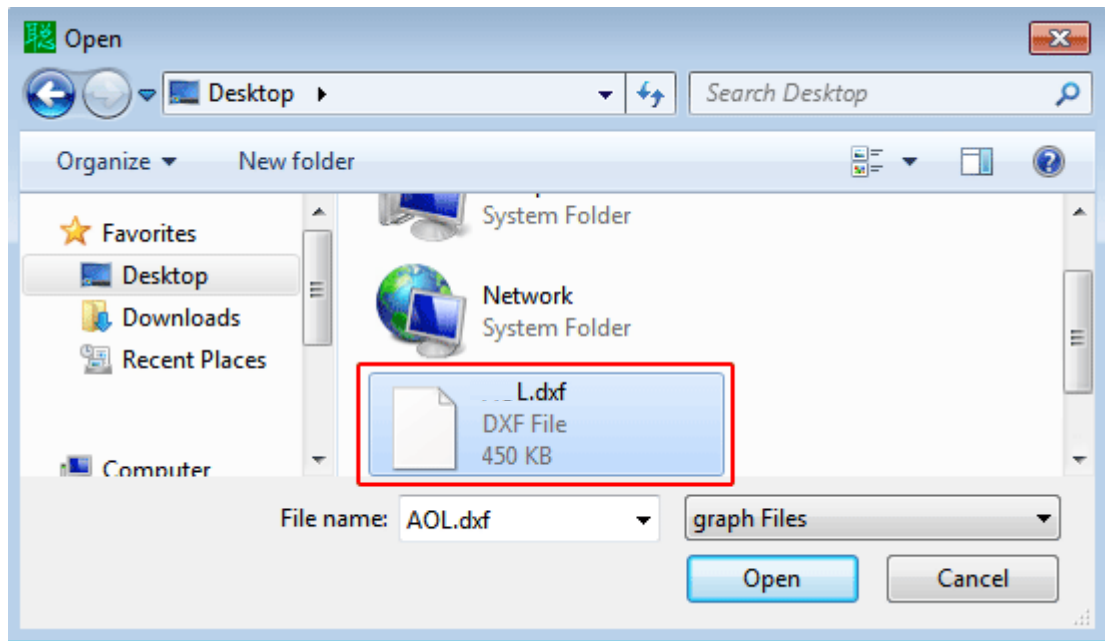
(2)Left click the processing file icon and drag it to the software icon, as shown below:


(Note：You can also keep the front-end display of the software and drag the file directly into the cut software interface)

(3)Change the default opening method of the processing file, and then double-click the processing file icon to import the processing file into the cut software. The steps are as follows:

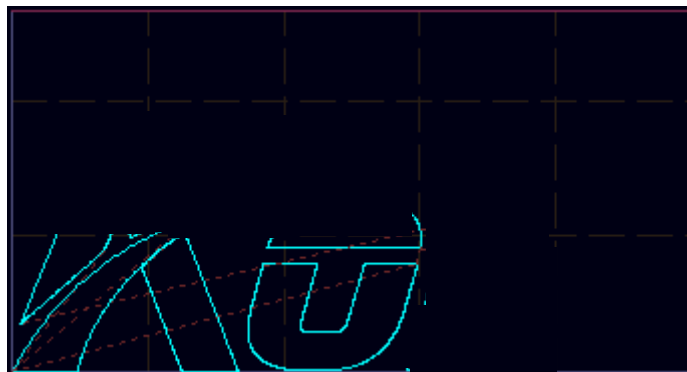①Move the mouse to the icon area of the processing file, right-click and click 【Properties】, as shown below:
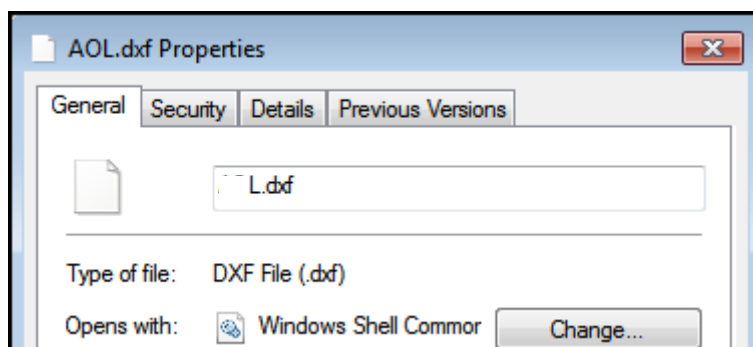
② Click [Change...] and click [Browse...] , find the installation directory of the cut software,select the "cuten.exe" icon, click 【Open】:
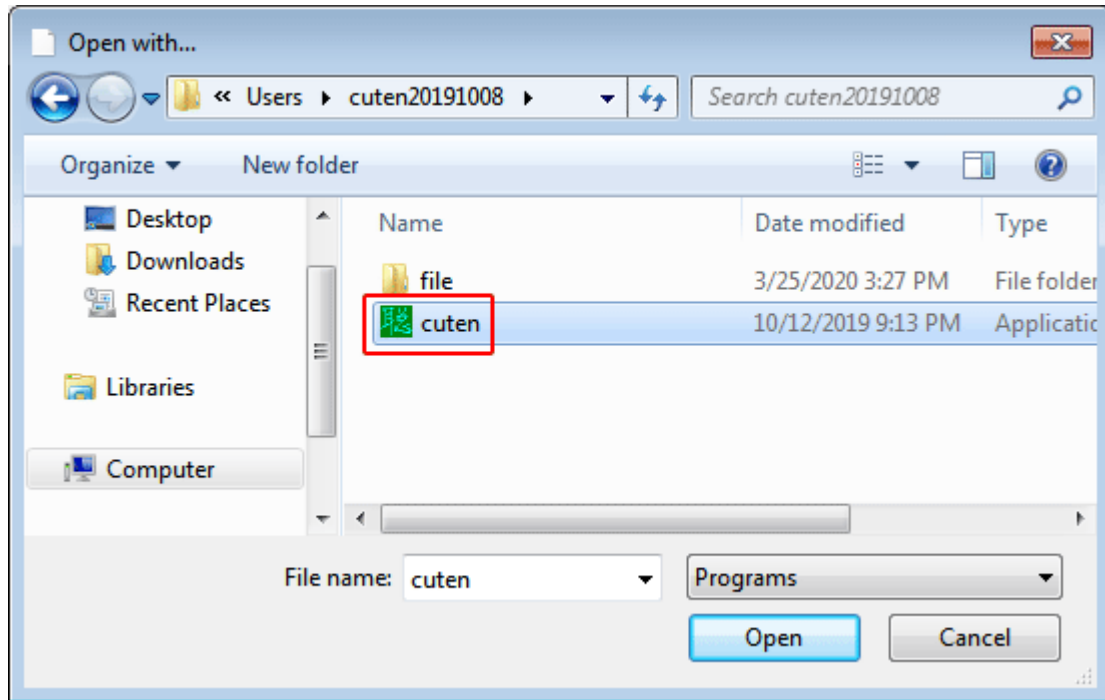
③Click【OK】→【OK】

(4)The imported processing graph must be docked at the left bottom corner of the work area in the software, as shown below:

(Note:If the imported processing graph has not docked at the left bottom corner, you can press 【C】key on the keyboard or click in the software to complete the docking operation.)

5.2 Export the Processing File

(1)Click【file】→【save...】 or click to save the processing file as the .arr format file.

(2)When the computer is connected with the machine, click【file】→ 【Save As plt by machine...】 to save the processing file as the .plt format file.

5.3 SP number

(1)One cutter head machine:The machine that all tool holders mounted on one fixed plate.

【SP1】:Mark pen;

【SP2】:Creasing wheel tool/Punching tool;

【SP3】:Big-knife V-cut tool/Punching tool;

【SP4】:oscillating cutting tool /Driven rotary tool /Kissing cutting tool/Pneumatic oscillating cutting tool/Universal cutting tool ;

【SP5】:Small-knife V-cut tool;

【SP6】:Milling tool;

【SP7】:Mark point/Mark line;

【SP0】:Not to process

(2)Two cutter heads machine:The machine that all same tools holders mounted on two separated fixed plate.For example, the cutter head1 and cutter head2 all are installed the oscillating tool and the mark pen:

(Note:For the one cutter head machine,the knife tool holder at the Y+ position called Head1，the knife tool holder at the Y- position called Head2；For the two cutter heads machine，the cutter holder at the Y- position called Head1，the cutter holder at the Y+ position called Head2)

①Cut single line graph in X direction, only one cutter head can be used for cutting.

A.Set the Head1 and Pen1 to work, the SP number of Head1 is SP4, the SP
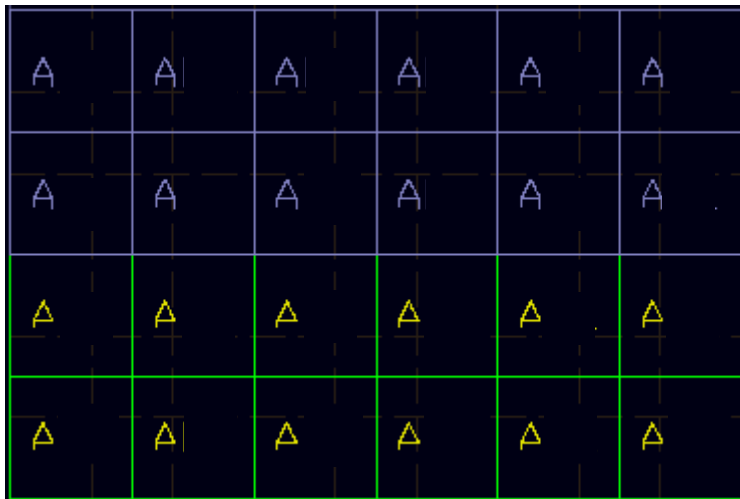
number of Pen1 is SP1,as shown below:
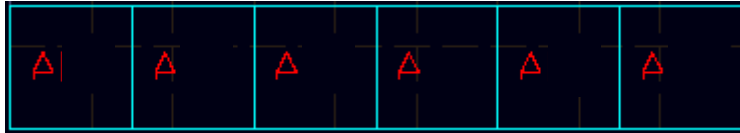
B. Set the Head2 and Pen2 to work, the SP number of Head2 is SP6, the SP

number of Pen2 is SP5,as shown below:

② When cut the graph which the row number is even number, the Head1 is

SP3, the Pen1 is SP2, the Head2 and Pen2 all are SP0, as shown below:

③ When cut the graph which the row number is odd number, in bottom row,

set the Head1 and Pen1(Head1 is SP4, Pen1 is SP1)process the bottom row .Set the Head1,Pen1 and Head2,Pen2 to process the middle row and the upper row(Head1 is SP3,Pen1 is SP2, Head2 and Pen2 all are SP0),as shown below::

5.4 Optimize the Processing Graph

Click ⬡ or [optimize] to optimize the cutting path and the cutting effect

of the processing graph. The content of optimization operation execution is the following selected contents，as shown below:
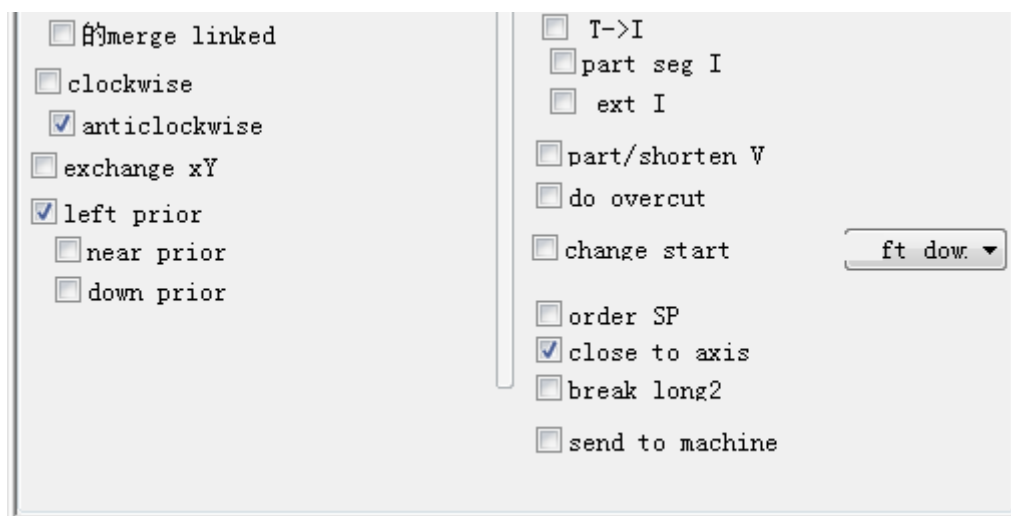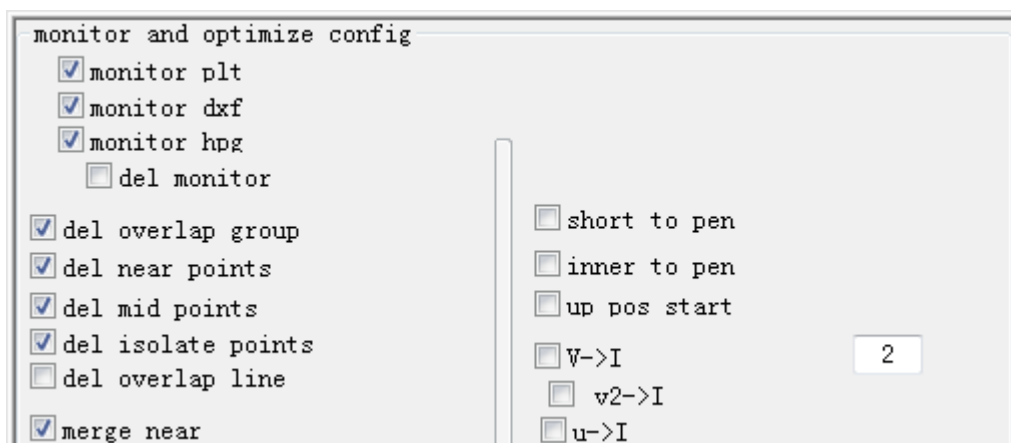
(Note：Click【optimize】→【config...[P]】to show this window)

5.5 Send Graph to the Machine

Click or to send the processing graph to the machine.

5.6 Please refer to Operation Examples for other main functions

6. Control Panel

6.1 Screen saver interface

    After the machine is turned on, the touch screen will enter the screen saver interface(Note:The machine will enter the screen saver interface even if it has not been operated for a long time.And it also can enter the screen saver interface manually.)


(Note:The screen saver interface is used to prevent the operator from accidentally touching the touch screen buttons, so there is no button in the screen saver interface. You can only press the upper left corner to wake up the screen and enter the work interface.)

6.2 Work Page

(1)Click the "work" button to enter the work page.
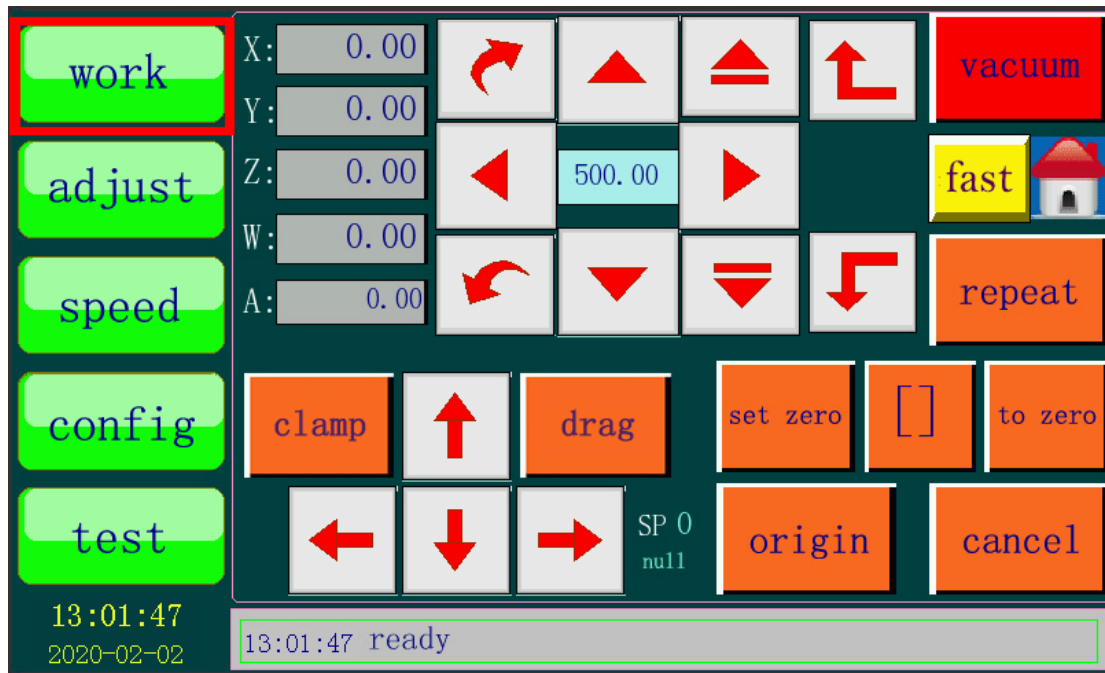
(2) Click the corresponding button to control the movement, lifting and rotation of the knife tool, select the appropriate position to start cutting, control the vacuum pump, and realize the feeding function, etc (Note:There are no "clamp" and "drag" function for the non auto-feeding model machine)
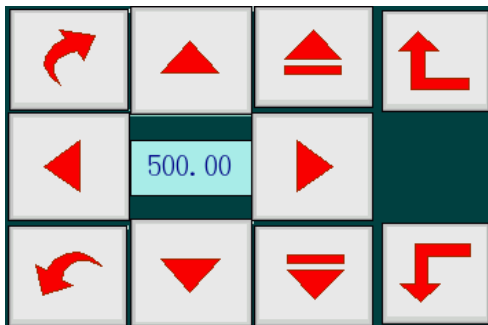

(3) This area controls the movement, lifting and rotation of the knife tools.

(4) , control the rotation of the knife tools.

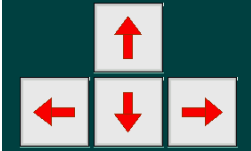(5) , control the lifting of the knife tools.

(6) , control the cutter head to move forward and backward left and right.

(7) The number is the frame means that the distance or rotation angle of the cutter head when the direction button is pressed. For

example, if the number is 500, press and hold for 2-5 seconds or until the cutter head stops moving, the distance of the cutter head moving is 500mm

(Note:If just tap the direction button, the corresponding axis movement distance is not the set value distance)

(8) **fast** **slow** ,They are used to switch the moving speed of the cutter head during manual operation.Press **fast** and it will become to **slow** , the moving speed of the cutter head will be slow during manual operation, it is suitable for fine-tuning the cutter head position.

(9) These buttons can move the cutter heads and beam to the corresponding border of the working area.
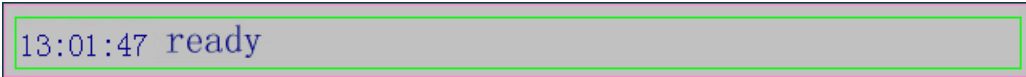
(10) **origin** When the machine is powered on, the coordinates will be initialized to 0, but the actual coordinates of the cutter head may not be 0 at this time, so it is necessary to go to the origin point, so as to make the coordinates of the control system consistent with the actual positions of each axis. When going to the origin point, the cutter head will move in a certain direction. When the corresponding limit sensor is triggered, the machine will make correction action, and then stop the movement. The control panel shows that "go origin succeed".

(11) **repeat** It is equivalent to the start function.

(12) **set zero** Set the position illuminated by the laser lamp to the new zero point,it is equivalent to the start point of cutting.But it is not the real starting point of cutting.

(13) **[]** Frame, check the rectangular range occupied by the current processing file

(14) **cancel** Cancel all current actions of the machine.

(15) 13:01:47 ready

①Status bar, display the current status of the machine.
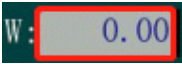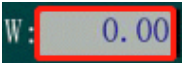②Pause, During processing the graph, press the status bar,the machine

will pause processing, and the current state will be remembered after the pause. If the status bar is pressed again, the machine will continue to work. If you don't want to continue, press the cancel button. If press the status bar while the graph is not processed, it is equivalent to pressing the cancel button.

(16) To control the start and stop of the vacuum pump, press "vacuum" button before pressing the "repeat" button. when the material laid on the working area is firmly absorbed, then press the "repeat" button to start cutting (Note: This method is only for the materials that are not easy to be adsorbed, because after pressing the "repeat" button, the vacuum pump will work automatically, and then the machine will start to process the graph.)

(17) , "clamp" is used to manually control the falling and lifting of the pressure plate。 "drag" is used to manually send the material.(Note:Press the "drag" button, the pressure plate will fall automatically, and then the beam will run to the x- direction)
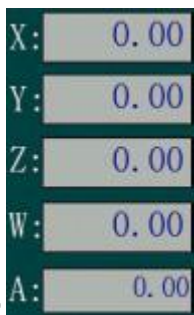
(18) , They display the coordinates of the corresponding axis，Z is the height coordinate of the knife tool, W is the rotary coordinate of the knife tool, A is the rotary coordinate of the punching tool.(Note: 1.When install the knife tool, the corresponding W coordinate must be 0.00, if the W is not 0.00, you can press the to reset the W to 0.00)
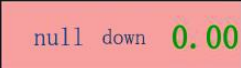
6.3 Adjust Page

(1)Click the "adjust" page to enter the adjust page.
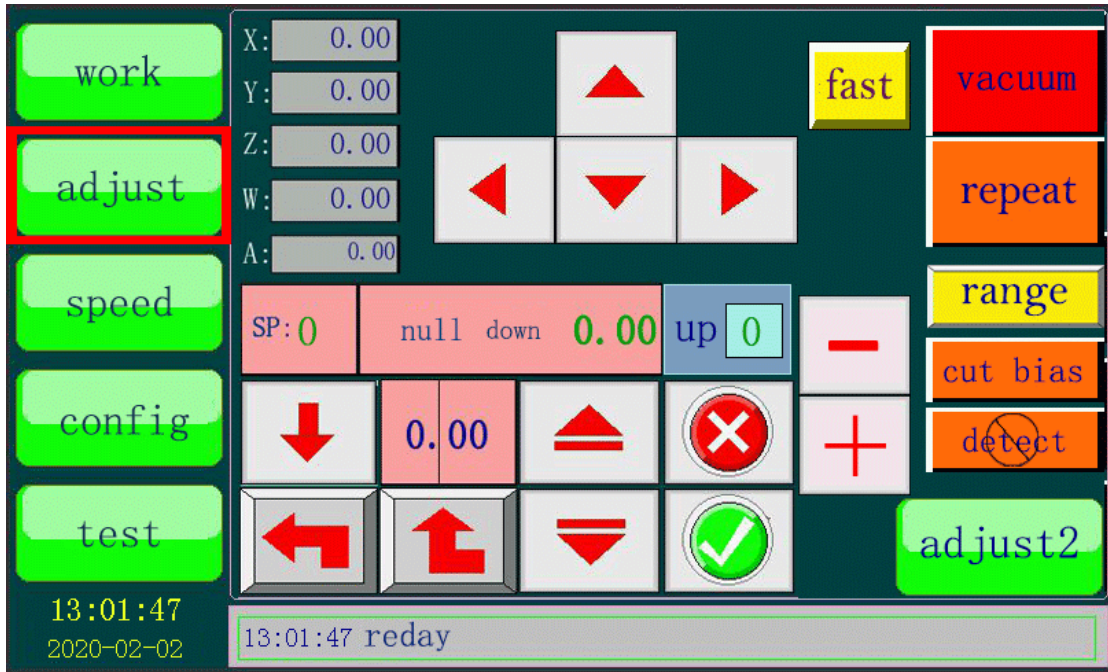
(2) The "adjust" page is used to adjust the falling position corresponding tool during processing. we call this position as knife depth.
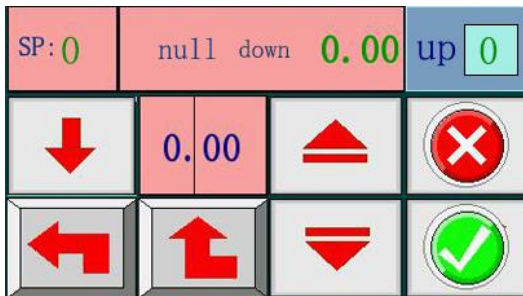
(3) This area is used to adjust the knife depth. Only the knife depth of the "cut" and "Tcut" displayed in this area can be set. About adjust the V-cut knife depth, please refer to the 7.8V-cut. About the knife depth adjustment of every tool, please refer to the 7.Tools Installation and Knife Depth Setting.
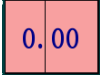
(4) , These two area are used to switch the SP number, Click , the SP number gets smaller. Click
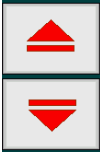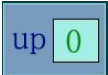
, the SP number gets bigger.

(5) , To drop the knife tool to the knife depth position at one time. for example, the knife depth is 40, after pressing this button, the knife tool will drop 40mm from the current height(Note: If the knife depth is wrong or the knife is replaced with a longer one, the falling position of the knife tool may be deeper after pressing this
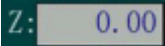
(6)![0.00],When adjusting the knife depth, it is used to switch the distance value of each drop of the tool(Note: Use it with the buttons in (7))

(7)![raise and fall buttons],To control the raise and fall of the tool(Note:Use them with

The button in(6))

(8)![up 0],This button is used to set the height position of the knife tool in the non-cutting process of the machine during cutting.The range of this number is ：knife depth>up>10 , and up>material thickness(Note:The value of up can be set as 0 and the number which is bigger than 10.When the value of up is 0, the actual value of the up is the Z axis origin position of the corresponding knife tool)

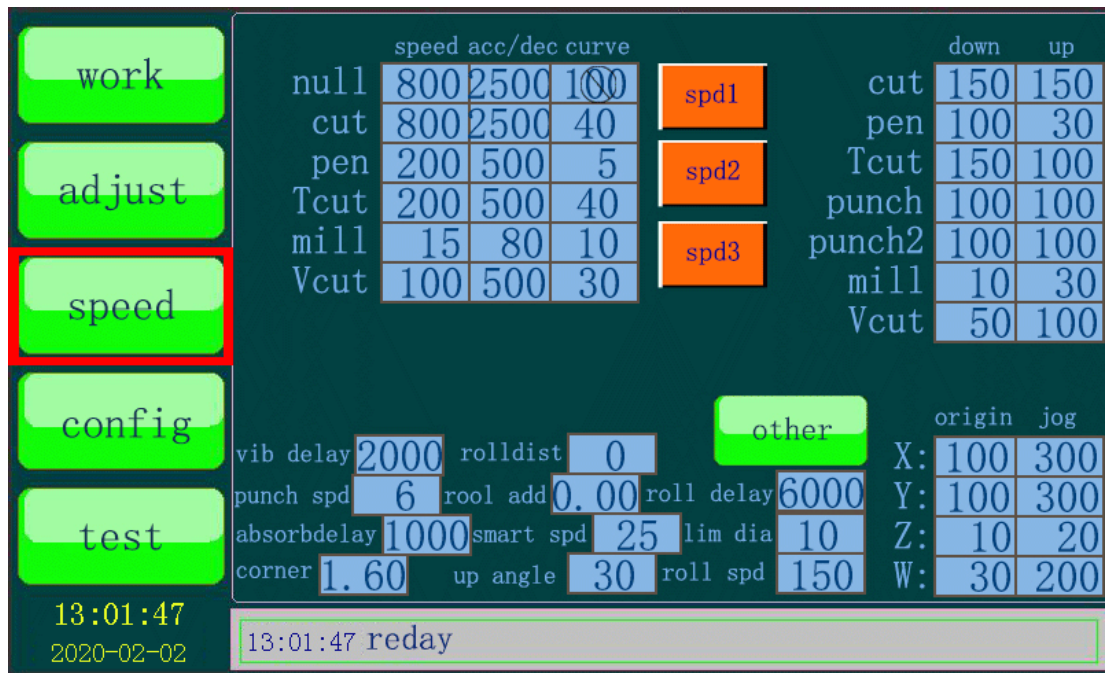(9)![red X button],Can the knife depth adjustment operation.

(10)![green check button],Save the actual height position of the knife tool as the knife

depth，that is the value in![Z: 0.00].

6.4 Speed Page
(1)Click the "speed" button to enter the speed page.

(2) The speed page displays follow information: null (the machine's speed in non-cutting process during cutting), cutting speed(spd 1 <spd 2<spd 3), acceleration/deceleration, curve speed, drag speed, speed of draw the air back and delay parameters and so on. You can also change the speed and parameters in this page.

(3)

,These are the cutting speed data of the corresponding tool during processing, these data can be changed by pressing them and typing the new numbers. (Note: "Cut" is used for the Head1)

(4)

,These are the raise and fall speed data of the corresponding tool during processing. (Note:The values of the pen and punch are the time)

(5) **origin jog** | X: 100 300 | Y: 100 300 | Z: 10 20 | W: 30 200 , "origin" data are the moving speed of every axis after pressing the "origin" button which is in the "work" page. "jog" data are the moving speed of every axis during manual operation.

(6) **vib delay 2000** It means the interval between the oscillating knife tool vibrating and start cutting after the "repeat" button is pressed.

(7) **punch spd 6** It means the rotational speed of the punching knife.

(8) **absorbdelay 1000** It means the interval between the vacuum pump starts to work and after the "repeat" or "vacuum" button is pressed.

(9) **rolldist 0** It means the distance of drag material, and the distance depends on the length of the processed graph. For example, if you need to cut the pattern with a length of 2400mm, the machine will drag 2400mm distance. If you cut a square with side length of 100mm, the machine will drag100mm distance.

(10) **rool add 0.00** It is the difference between the theoretical drag distance and the actual drag distance. For example, when cutting a square with a side length of 1000mm, the theoretical drag distance is 1000mm, while the actual drag distance is 990mm, the difference between the two is 10 mm, and the value of drag compensation is modified to 10, then the actual drag distance is 1000mm.

(11) **up angle 30** It means the angle between the knife and the present straight line when it is about to turn. If the actual angle is larger than the set angle, the knife will raise and rotate the degree of the corner and then fall and cut. If the actual angle is less than the set angle, the knife will not be lifted and will be turned directly for cutting.

(12) **corner 1.60** It means the accuracy of the corner during the cutting process, which is generally set according to the machine's curve speed. For materials with higher requirements, the corner accuracy is generally set at about 1.5.

(13) **roll delay 6000** It means drag delay, the interval between after cutting of a set of pattern and the next drag action of the machine.

(14) **roll spd 150** It means the speed of drag material.

(15) `lim dia` `10` Specify the processing speed of a circle or arc within a certain size range. For example, when the "lim dia" is 10, for a circle with a diameter greater than 10 mm, the processing speed of the machine is the set curve speed; for a circle with a diameter less than 10 mm, the machine will automatically reduce the processing speed according to a certain proportion.

6.5 Config Page

(1) Press "config" to enter the config page. (Note:Config is short for configuration)
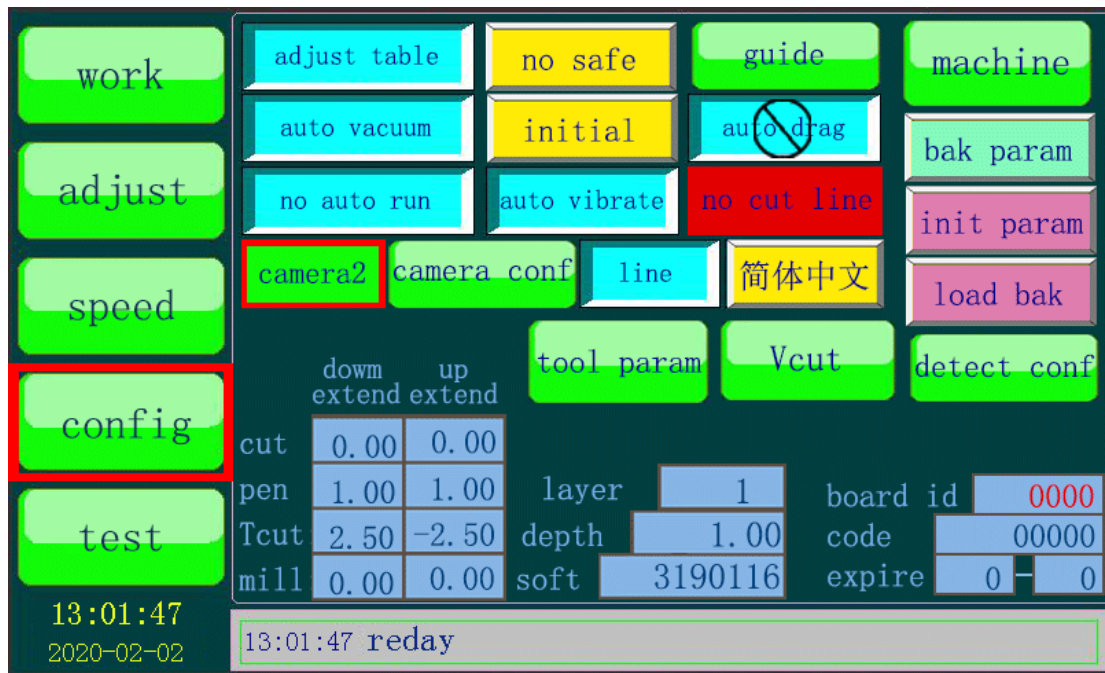
(1) Some functions and settings can be set in the config page, and the corresponding authorization code can be input according to the main board number displayed on this page to extend the service life.

(2) `no auto vacuum` ,Before the machine processing, the vacuum pump won't work automatically.It can be changed to "auto vacuum" by pressing it.

`auto vacuum` , Vacuum pump will work automatically before the machine processing.

(3) `no vibrate` ,The oscillating knife cutting tool will not vibrate during cutting, which is equivalent to unplugging the signal line of the oscillating cutting knife tool. It can be changed to "auto vibrate" by pressing it.

auto vibrate ,The oscillating knife cutting tool will vibrate automatically during cutting.

(4) **no safe** The safe switch is at the situation of being turned off. If you want to turn on the safe switch, just press it.

have safe The safe switch is at the situation of being turned on, and the machine will pause if the safe switch is touched during cutting.

(5) **hole** ,If there's a round punching knife in the punching tool, you have to set it like this.

line ,If you want to punch a graph which with a direction, such as V-punching, you need to change it to "line".The direction of V is determined by the direction of the short line in the graph, so the pattern to be sent must be a line segment.

(6) **auto run** ,The machine will cut the graph immediately after receiving it.

no auto run ,After receiving the graph, the machine will not cut it automatically. Press twice "to zero" and you can check the cutting position of graph. Press "repeat" to start cutting.

(7) **no drag** For non auto-feeding system machine, this button is set as shown above. If it is a auto-feeding machine, press this button to switch to **auto drag** .

(6) **no cut line** ,It means the machine will not process any more after processing the graph which need to be processed. **cut line** ,After processing, the machine will automatically cut a straight line along the Y direction at the end of the X + direction of the graph to cut off the processed material。(Note: "no cut line" is recommend)

(7) board id 0000 code 00000 expire 0 — 0 ,Every machine has a unique "board id", and the "code" is the password to unlock the service life of the

machine function, and the "expire" is the expiration date for the use of the machine..

(8) , These data are used to modify the actual processing length of every tool during processing.

①down extend:It is the processing parameter of the starting point of a single continuous processing graph,that is,the processing parameter of the falling position of the tool.

②up extend:It is the processing parameter of the end point of a single continuous processing graph,that is,the processing parameter of the raise position of the tool.

③The value is bigger than 0:For example,cut a 50mm length line,the down extend is 2, the up extend is 3, the actual length of this line is 55mm after cutting.

④The value is smaller than 0:For example, cut a 50mm length line,the down extend is -2, the up extend is -3, the actual length of this line is 45mm after cutting.

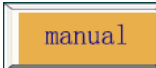## 6.6 Test Page
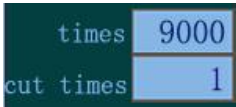
(1)Press "test" button to enter the test page.
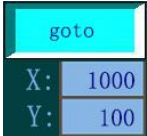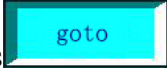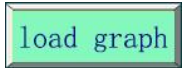
(2)**Unlock the icons:** ,The default code is 1234, type 1234 into the left frame, then press "unlock" to unlock the icons.

(3)**Lock the icons:**In condition that the icons have been unlocked, type any wrong code into the frame and press "unlock",the icons will be locked again.
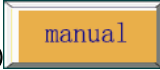
(4) ,Input the number of times to be processed in "times", and then press in "test" page, the machine will start to process according to the set times. The "cut times" shows the number of times the processing has been completed.

(5) ,After the processing is completed, the cutter head will go to the (X, Y) position.Press ,it will change to , it means the cutter head will stop at the finish position after processing is completed.

(6) To save the current graph.The next time to turn on the machine, press to read and process the graph.
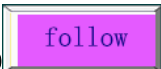
(7) These four are used for partition adsorption.

① It means the partition adsorption area can be selected manually. Press button, it will show as below:
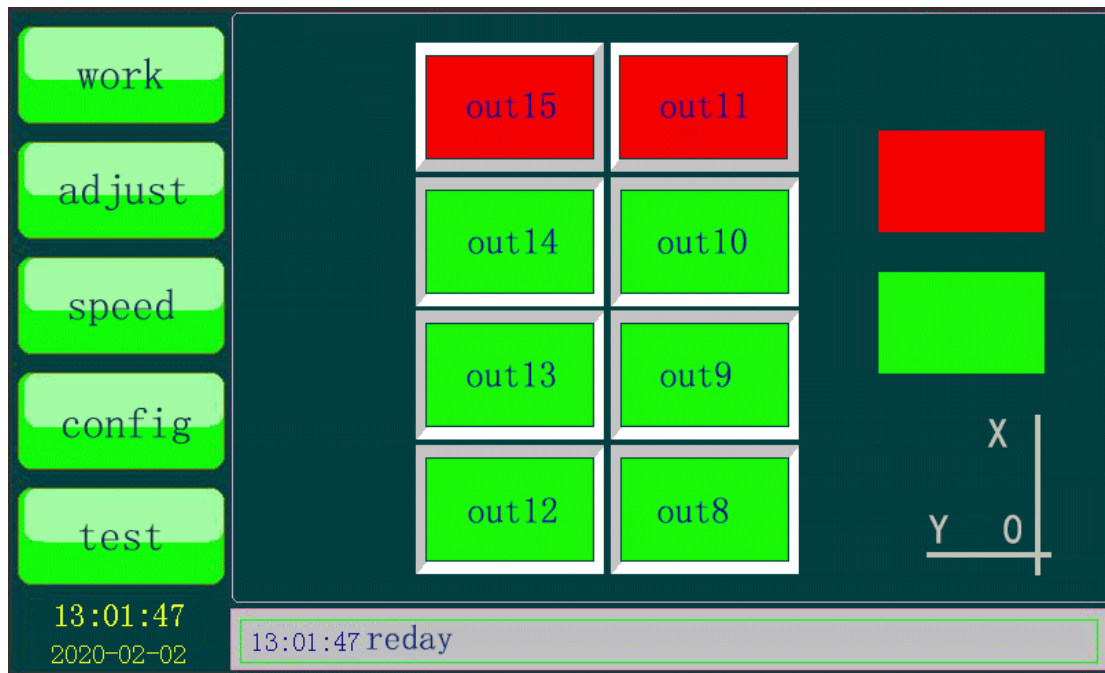
(Note: The red areas won't adsorb the material, and the green areas will adsorb the material after press the "vacuum" or "repeat" button. For example, If you don't want to let the area out14 and area out10 adsorb the material, you can just press the "out14" button and the "out10" button to close them.)

② It means the machine will select the adsorption areas automatically according to the graph which sent to the machine. For example, after a little graph which will use the area out8 and area out9 is sent to the machine, only the area out8 and area out9 will adsorb the material at the same time during cutting.

③ It means when the cutter head moves to a certain area,the current area and the adjacent areas will adsorb the material. For example, if the cutter is at area out8,the area out8,out9 and out12 will adsorb the material. If the cutter head is at area out9,the area out9, out8,out13 and out10 will adsorb the material.

7.Tools Installation and Knife Depth Setting

Note:

1. Due to the difference of single knife tool holder and multiple knife tool holders, different SP number correspond to different tool holder. Generally speaking, the knife tool holder close to the X+ direction is Head1, and the rest knife tool holders are arranged in sequence. Among them, for multiple knife tool holders models, only SP4 can be used for Head1, SP2 / SP3 / SP5 can be used for Head2, and SP6 for milling tool.
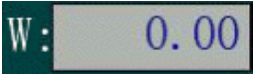
7.1 Oscillating Knife Cutting Tool (SP4，cut,Head1)
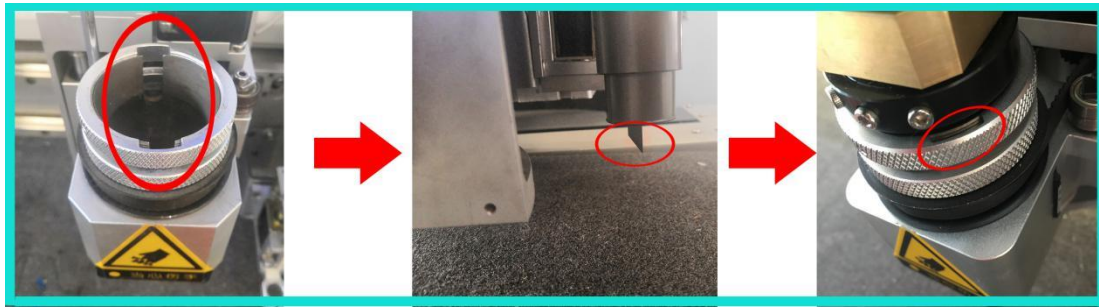(1)Grab parts 1 and 2, and then force the cap and the tool bar apart towards both sides.

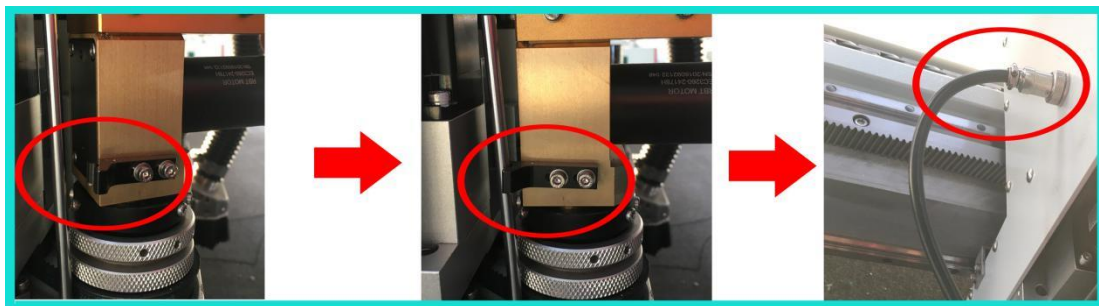(2)The knife must be placed at the bottom of the groove, and the cutting edge is at the same side with the set screws.
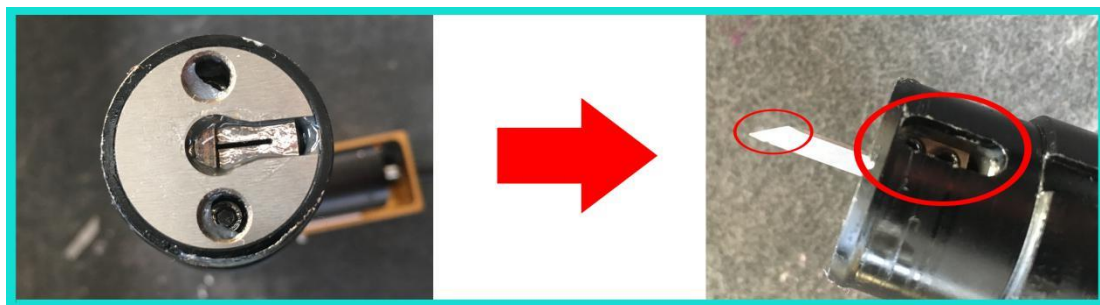
(3)Make sure that the value of the W axis is 0.00, W: 0.00 .

(4)The cutting edge of the knife must face X+ direction and tighten the fixing ring in the rightmost figure

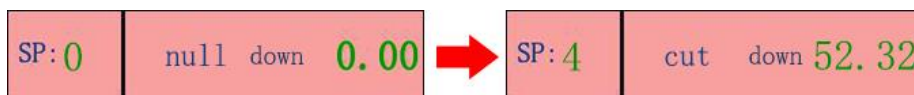(5)Fix the black slot to the iron rod in the figure and insert the tool cable into the left socket.

(6)Knife depth setting

①Press **adjust** to enter the knife depth setting page.

②Press the following buton to change SP:0 to SP:4.

The "down 52.32" shown in the picture is the knife depth set before，that is, the current knife depth.If the distance between the current tool tip and the table top is greater than this number, you can press

to drop the tool bar to the 52.32 knife depth position at one time. (Note: When changing the knife tool or knife, it is necessary to judge whether to use according to the actual situation. If the cutter head falls too deep, it may pierce the felt and platform, causing the knife breakage and platform damage.)
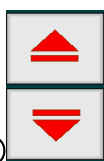
③ and 0.00 should be used together，The former is the

inching control of rising and falling, and the latter is the distance of each rising and falling in inching control. There are four values for switching: 5mm, 1mm, 0.1mm and 0.03mm, press 0.00 to switch the value.
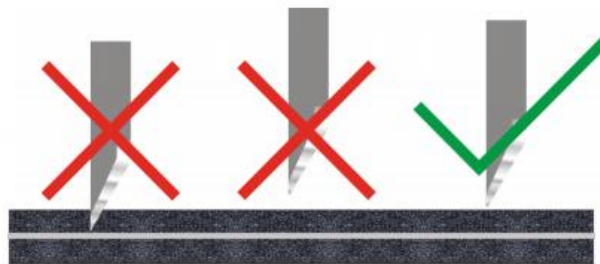
④**Knife depth judgement**，there are three methods, as shown bellow:

Method One:

A. Rotate this part of the oscillating knife cutting tool till the knife is at the lowest position.

B. When the tip of the knife just goes into the felt about 0.5-1mm, the tool setting is completed,as shown bellow:

Method Two:

A. Rotate this part of the oscillating knife cutting tool till the knife is at the lowest position.

B. Drop the tool bar to the position 5mm from the tool tip to the table top. (Note: Pneumatic oscillating knife tool is 10mm)

C. Press adjust2 , then press cut .

D. Place a piece of typing paper on the table and drag the paper by hand.If the paper is just cut off,then the adjustment is done. If it doesn't cut off the paper,press adjust to adjust the knife depth till

it can cut off the paper. Press **cut** then press **adjust** back to the adjust page.

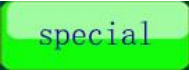E. Press **cut** then press **adjust** back to the adjust page.

⑤Save the knife depth data

After adjusting the knife depth, press ✓ to save the knife depth data.

(Note: ✗ this button is to give up the adjustment of knife depth. After pressing, the knife depth data will not be changed)

⑥According to the thickness of different materials, you can press **up 0** to change the height of lifting when the knife tool corresponding to the current SP number works. The range of this number is:Knife depth>up>10,and the value of "up" needs to be greater than the thickness of the materials. The value of "up" also can be set at 0, if it is 0,the tool will rise to the Z axis origin point position when it rises during working.

(Note: If need to set the rising height. 1.Press the button **config** on the left of the screen. 2.Press the button **machine** in the upper right corner. 3.Press the button **special**. 4. **penup2 0** Change the value in box to 0.)

⑦Knife depth test

← **↑** Press any of these two buttons to cut the rectangle to test if the knife depth is appropriate.

⑧Fine-tune the knife depth

If the current knife depth is slightly shallow or too deep, the following methods can be used to fine-tune the current knife depth. Take a slightly shallow knife depth as an example:

A.Set the inching step length in **0.00**, and the selection of this value should depend on the thickness of the part of the material that is not cut through. If not sure, select 0.1mm.

B. Take the selection of 0.1mm inching step as an example. Press ![+] for one time, it can increase 0.1mm knife depth, that is, if the current knife depth is 50, after pressing one time ![+], the knife depth will be 50.01, and there is no need to press ![✓].

C. ![←][↑] Press any of these two buttons to test again, If the material is cut through and the felt is not damaged, that means the knife depth is reasonable.

⑨Knife depth adjustment is completed, other tool depth adjustment is similar

7.2 Pneumatic Oscillating Cutting Tool（SP4，cut,Head1）

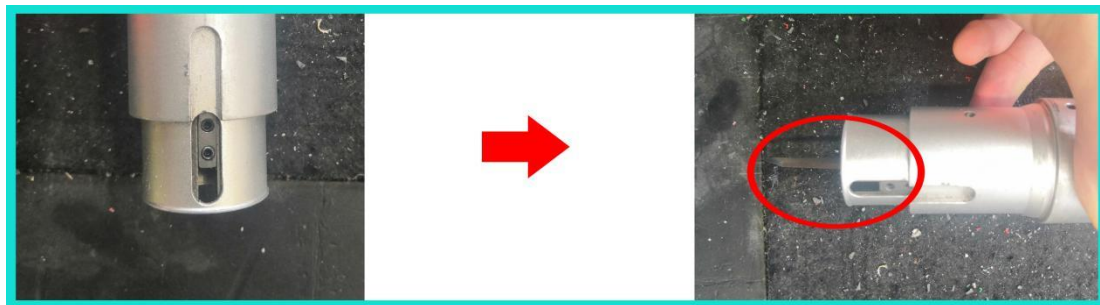(1)The knife must be placed at the bottom of the groove, and the cutting edge is at the same side with the set screws.

(2)Make sure that the value of the W axis is 0.00,and the cutting edge of the knife must face the X+ direction,tighten the fixing ring in the leftmost figure, and insert air tube into the left air nozzle of the cutter head.

(3)Knife depth setting, please refer to 7.1->(6)->④->Method Two and 7.1->(6)->⑤⑥⑦⑧

7.3 Driven rotary tool（SP4，cut，Head1）

(1)Remove the black nut in the left picture, then insert the knife, and finally fix it with a hex-wrench and a fork-wrench.

(2)After the driven rotary tool bar is placed into the tool holder, tighten the fixing ring and fix the slot to the iron rod at the figure.Tighten the screws at the connection between the tool bar and the tool head in the rightmost figure, and insert the cable of the tool into the left socket of cutter head.
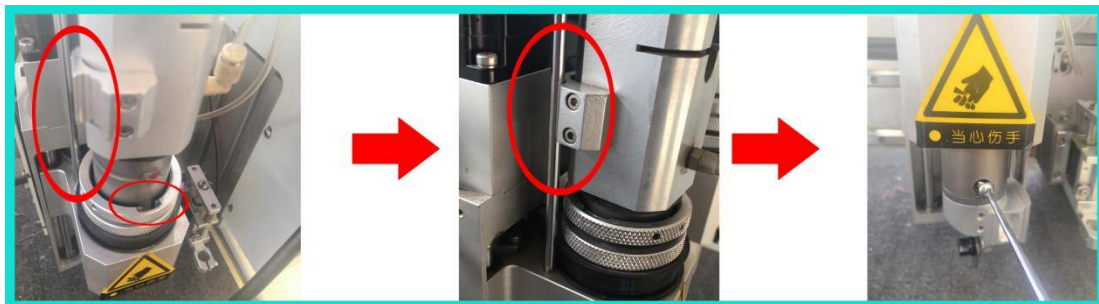
(3)Knife depth setting, drop the knife tool to an appropriate position, turn the black nut which is used to fixed the knife by hand, and when the edge of the round knife touches the felt, then try cutting. If the knife depth is slightly shallow or too deep, the knife depth can be fine-tuned according to the 7.1->(6)->⑧.

(4)Over-cutting,the over-cutting is controlled by extension. Extension is divided into down extension and up extension. When the extension value is positive, it means to cut a distance more. If it is negative, it means to cut a distance less.Press config to change the data in the red box below to fine-tune:
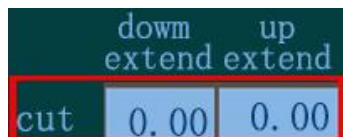

(Note: This method is also applicable if the remaining tools also have a problem of over-cutting)

7.4 Universal Cutting Tool(Drag Knife)(SP4, cut，Head1；SP2，Tcut,Head2)

(1)The knife must be placed at the bottom of the groove, and the cutting edge is at the same side with the set screws.

(1)Make sure that the value of the W axis is 0.00,and the cutting edge of the knife must face the X+ direction,tighten the fixing ring in the rightmost figure.
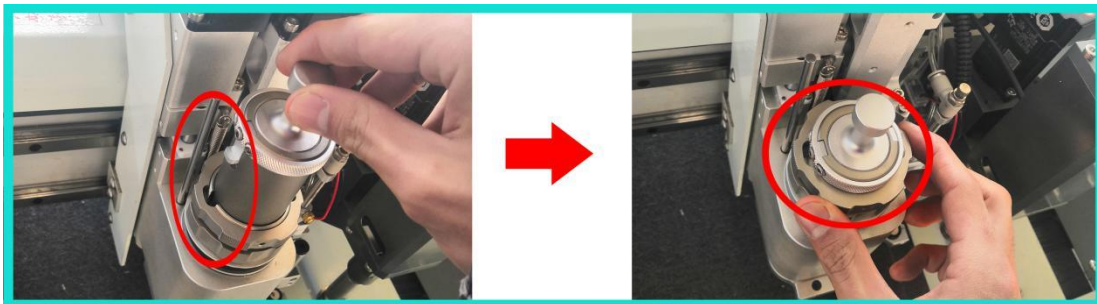
7.5 Kiss Cutting Tool (SP4,cut,Head1；SP2,Tcut,Head2)

(1)The exposed part of the tip is the same as or slightly less than the thickness of the cutting material

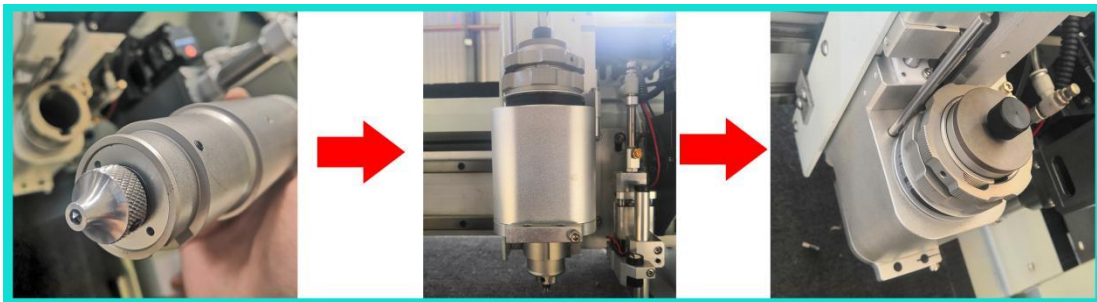(2)Make sure that the value of the W axis is 0.00,and the cutting edge of the knife must face the X+ direction,tighten the fixing ring in the rightmost figure.The position of the black knob above the knife bar should be adjusted according to the cutting effect. If the material needs to be cut through, the knob should be fully tightened.

(3)**Knife depth setting**，achieve half-cut effect

①Adjust the black knob of the tool bar so that the expansion distance of the part of the tool head is approximately the same as the material fluctuation height.

②Drop the tool bar until the tool head contacts the felt, and now, drop the tool bar about 1mm.

③Test cutting effect，if the cutting effect is not achieved, it is necessary to fine-tune the missing part of the tip or the knife depth data in the panel.

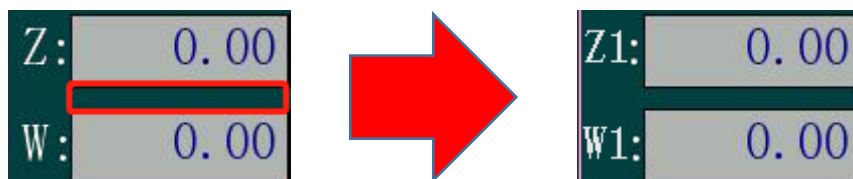## 7.6 Creasing Wheel Tool（SP2,Tcut,Head2）

(1)Introduction to the structure
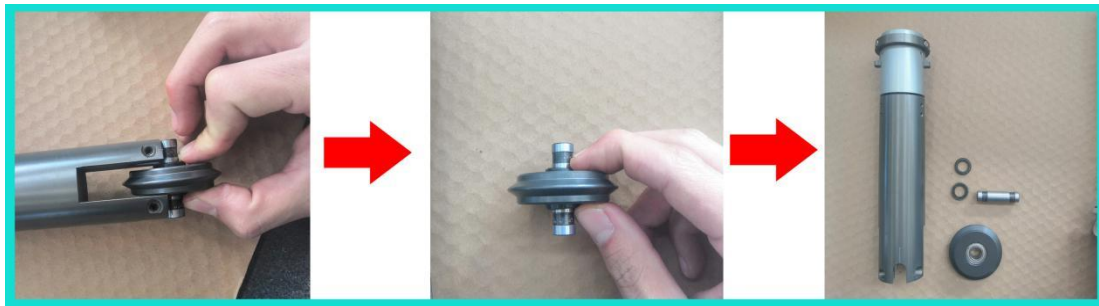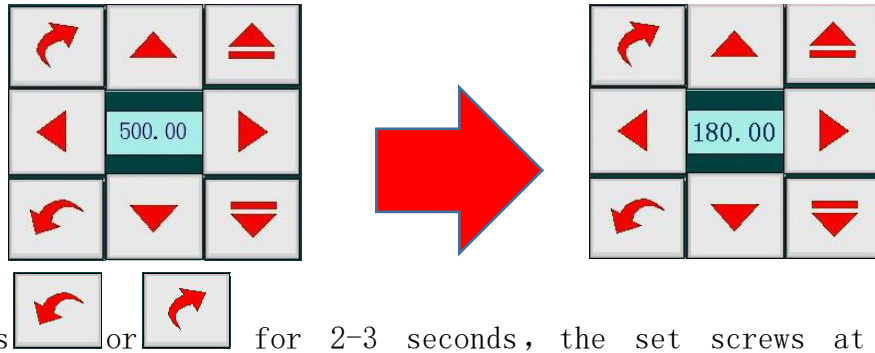

(2)Tighten the fixing ring and the set screws

The set screws which are at the X+ direction can be tightened as the following steps:

①Press "work"，press blank between Z and W to switch the W to W1(W is the rotary axis of Head1，W1 is the rotary axis of Head2)，as shown below:
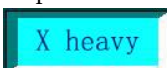

②Change 500 to 180，as shown below:

③Press or for 2-3 seconds，the set screws at the X+ direction will rotate to X- direction.

④Tighten the set screws.

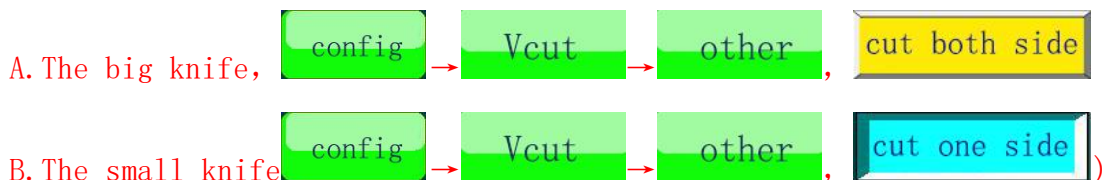⑤Press the number in , it will be 0, the creasing wheel tool installation is finished.

(3)The falling position of creasing wheel is the same as the setting method of knife depth, but the specific position is subject to the actual folding effect.
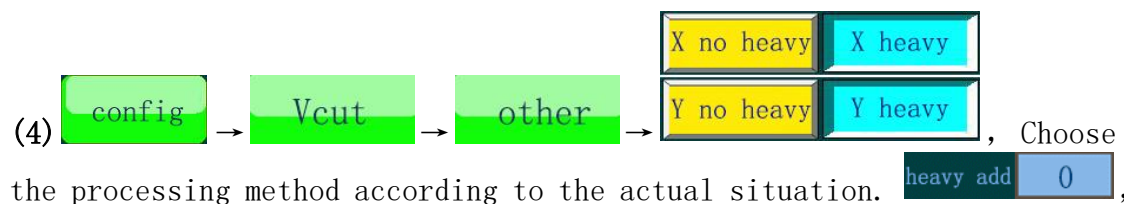
(4) config → Vcut → other → [X no heavy | X heavy] [Y no heavy | Y heavy], Choose the processing method according to the actual situation. [heavy add | 0], It represents the distance that the creasing wheel continues to fall on the basis of the set knife depth.For example, the current knife depth of the creasing wheel tool is 30, the "heavy add" is 1,and [X heavy], the actual knife depth of the creasing wheel tool will be 31mm during processing the material in X direction.

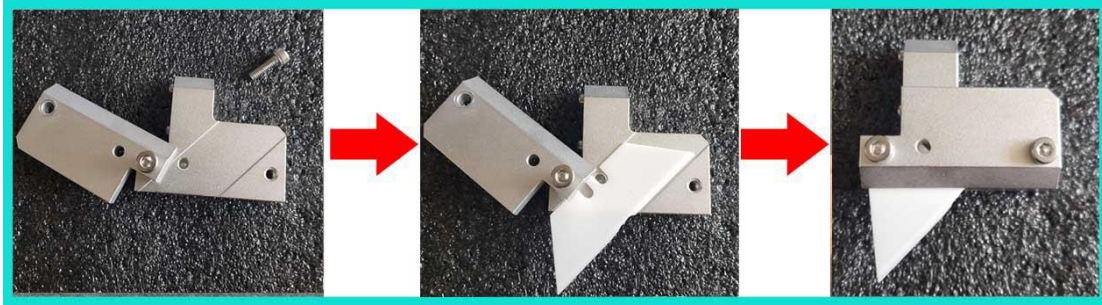## 7.8 V-cut Tool

(Note: The V-cut knife is divided into two sizes, one is the big knife which cannot cut arc and another one is a small knife which can cut arc. And some setting need to be changed before using, as shown below:
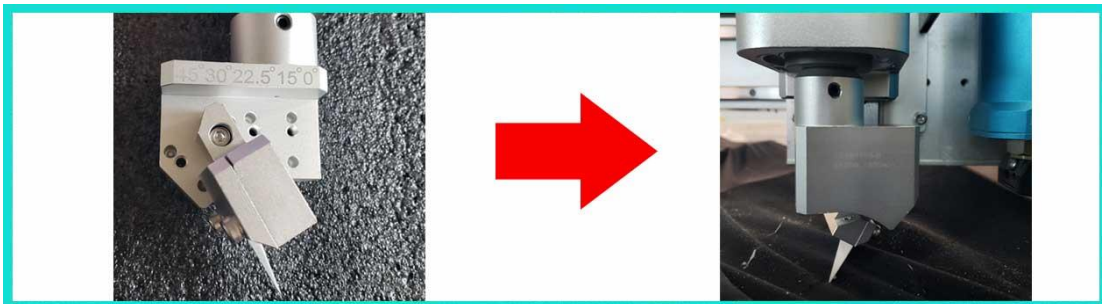
A.The big knife，config → Vcut → other，[cut both side]

B.The small knife config → Vcut → other，[cut one side])

(1)Big knife V-cut tool(SP3,Vcut,Head2)

①Install of the knife

②Make sure that the value of the W1 axis is 0.00,and the cutting edge of the knife must face the X+ direction,tighten the fixing ring and set screws.

③The method to tighten the set screw which is at the X+ position, please refer to 7.6->(2).

④Debugging(It is recommended to use corrugated paper for debugging)

A.Put the corrugated paper on the felt

B.Press [config] → [Vcut] → [other] the buttons and the parameters must be set as below：

C. Press ![back] to to return to Vcut page，when setting the knife depth, just let the tip of the knife enter the corrugated paper 0.2-0.3mm.

D. Press ![up arrow]，The machine will cut two vertical lines in X direction, if it cut like this: ![‖] or ![‖] ，press ![‖-->‖ -4.50] to fine-tune its parameter till it can cut like this ![‖] .

E. Press ![left arrow]，The machine will cut two transverse lines in the Y direction. If the two lines do not coincide，press ![‖-->| 1.00] to fine-tune its parameter till the two lines coincide.

⑤Knife depth setting，drop the tool to the thickness to be cut.

⑥ ![config] → ![Vcut] → ![other] → ![dowm up extend extend 0.00 0.00] ，fine-tune the data to adjust the over-cutting.

(2)Small knife V-cut tool(SP5，Vcut,Head2)

①Installation of the knife

② Make sure that the value of the W1 axis is 0.00,and the cutting edge of the knife must face the X+ direction,tighten the fixing ring and set screws.
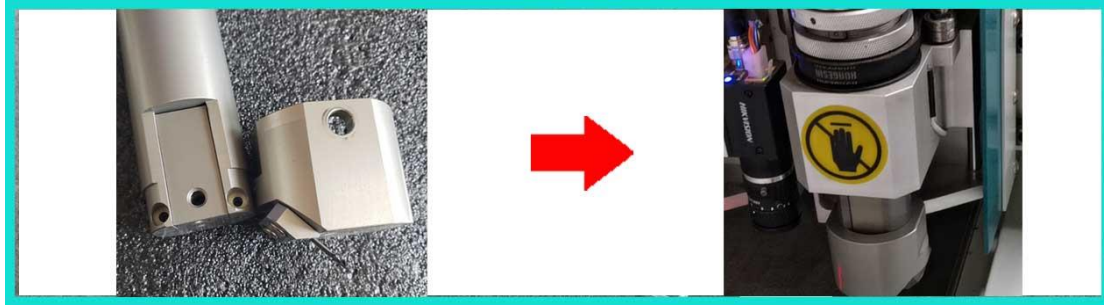
③The method to tighten the set screw which is at the X+ position, please refer to 7.6->(2).

④Debugging(It is recommended to use corrugated paper for debugging)

A. Put the corrugated paper on the felt

B. Press config → Vcut the buttons and the parameters must be set as below：

|| --> || 0.00
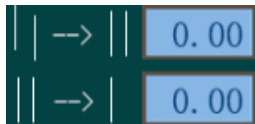
|| --> | 0.00 , the parameters of them must be 0.00
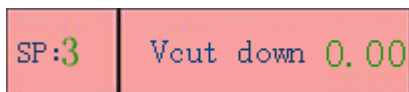
SP:3 Vcut down 0.00 Set the knife depth by yourself please, just let the tip of the knife enter the corrugated paper 0.2-0.3mm

C. Press config → Vcut → other the buttons and the parameters must be set as below(Note:The "v angle" must be 45):
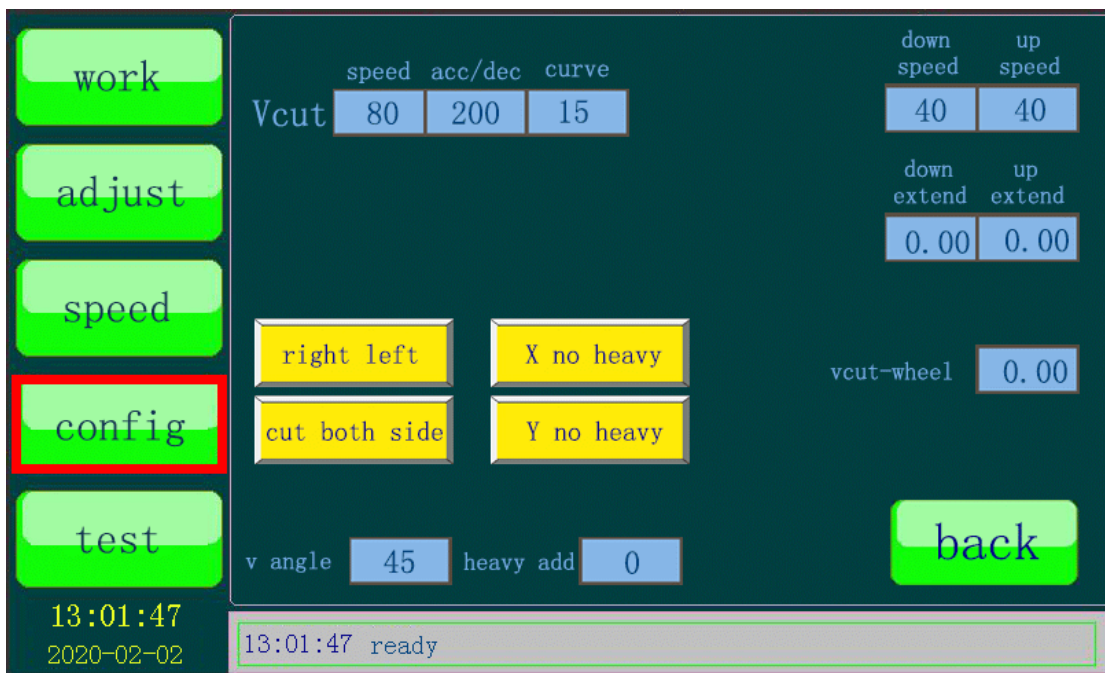
D. Press **back** to return to Vcut page.

E. Press , The machine will cut two vertical lines in X direction, if it cut like this: or , you need to adjust the knife position manually for fine-tuning till it can cut like this .

First loosen the screws fixing the knife in the figure above until the knife can move, then use a wrench to turn the set screw, change the knife position and fix the knife again.

F. Go on debugging according to the method in D till the two lines in the Y direction can coincide.

G. When use the small knife V-cut tool to cut the material, the SP number is SP5 and it needs to set **cut one side**, Only the "up" parameter, knife depth, speed parameter and extend parameter can be changed.

7.9Punching Tool（SP2）

（Note:There are two main specifications of punching knife, a V-shaped knife and a round knife，the function button in the "config" must be **line** when use the V-shaped knife, and it must be **hole** when use the round knife.）

(1)Please install the V-knife in strict accordance with the following sequence，when the A axis coordinate is 0.00,the opening side of the v-knife must face the X + direction.
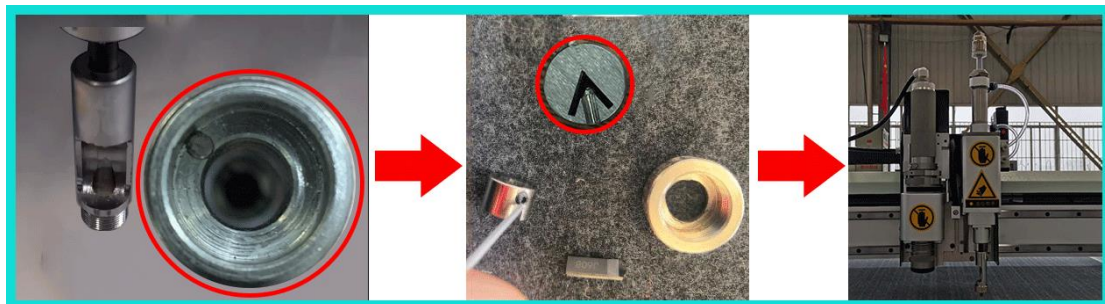
(2)Please install the V-knife in strict accordance with the following

sequence.

(3) Adjust the knife depth, press ▇adjust▇ → ▇adjust2▇ → ▇hole▇ ,
Check whether the falling depth of punching tool is suitable, press
▇hole▇ again, the punching tool will raise. If the falling depth
of the punching tool is not suitable, you can adjust the nut on the
top of the punching tool to fine-tune the depth of the punching
tool, as shown below:

(4) Test offset, the V-knife and round knife should be as follows:
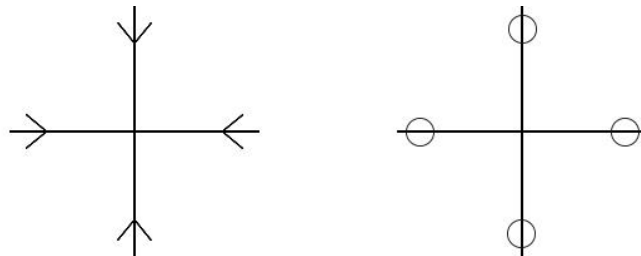
(5) SP number setting

① V-knife SP number setting, click 剪口V/U/T-->I in the "cut" software,
the V type notch will become to yellow short line, as shown below:
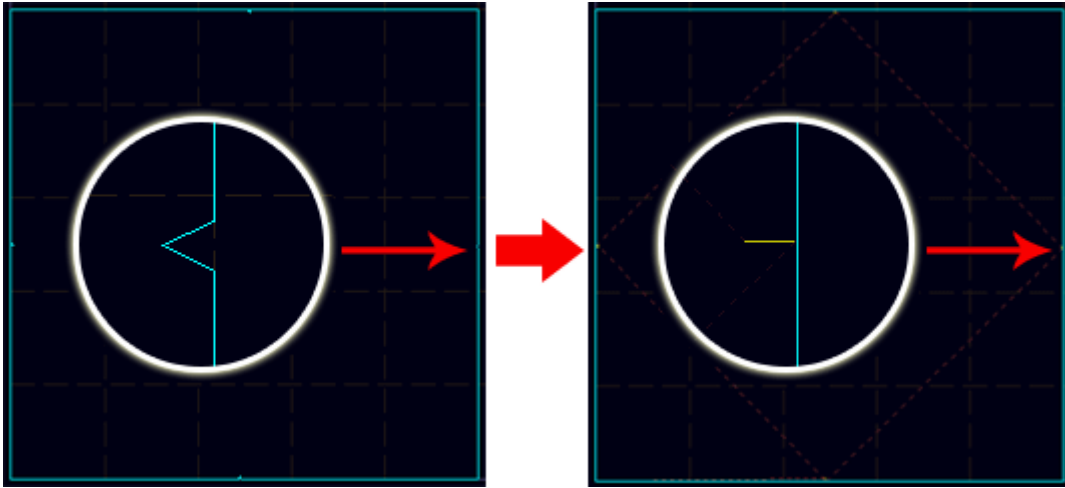
②Round knife SP number setting, when the cutting graph in the processing file is greater than 50mm, you can click 优化optimize →
其他优化other → 分开小孔part hole . When the cutting graph in the processing file is less than 50mm, you need to select the circles which need to be punched in the processing file, then change their SP number to SP2, as shown below:
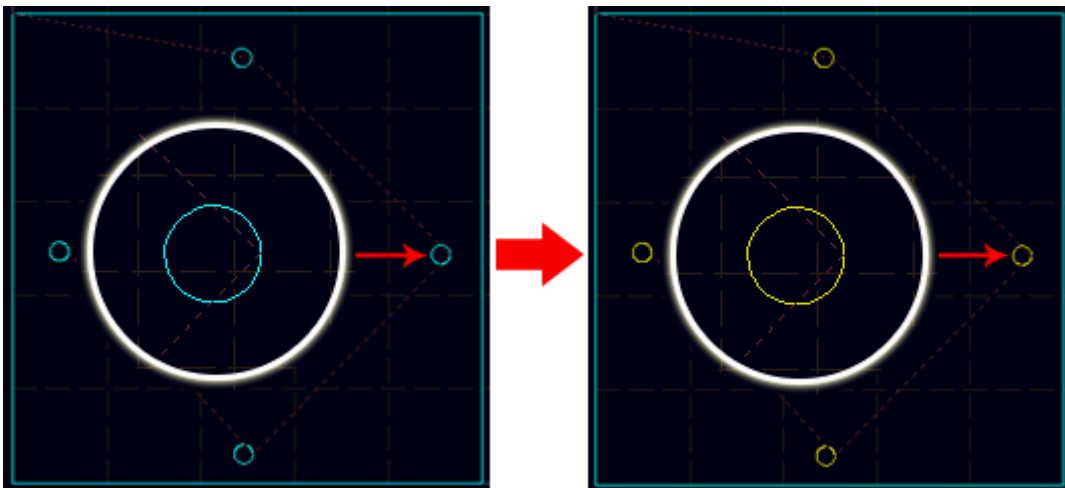
7.7 Milling Tool（SP6）

(1)Vacuum cleaner
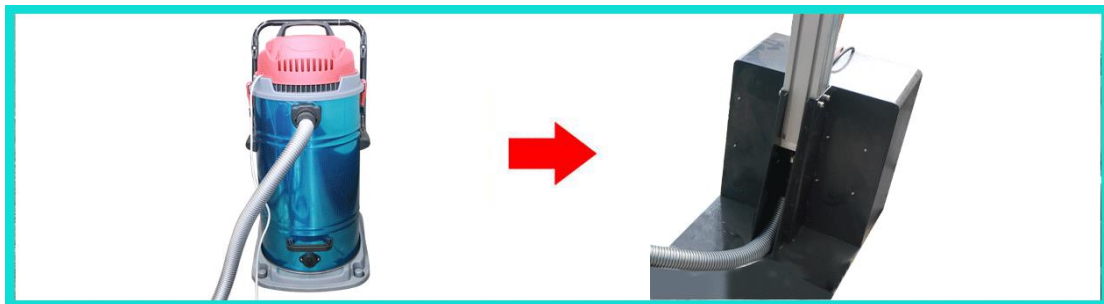
(2)The input of the transformer is powered by 220V, and the connecting cable of the spindle needs to be fixed on the dust suction

pipe.

(3)Connect the dust suction pipe and the spindle connecting cable as the below figure.
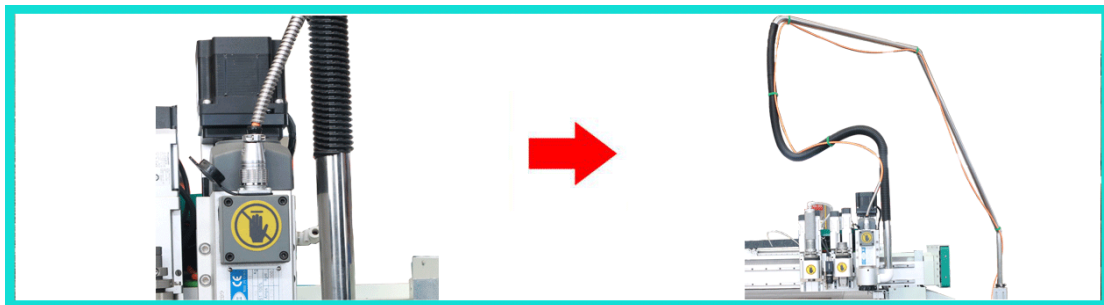
(4)Installation of the milling cutter

(5)After the installation is completed and when set the knife depth, just let the end of the milling cutter contact with the felt.
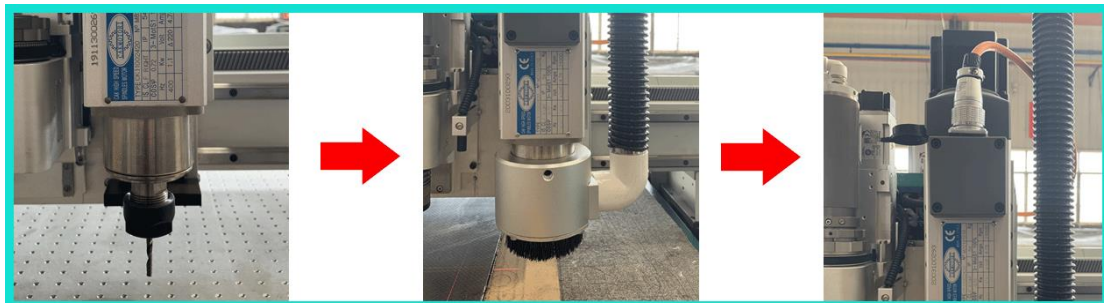
8.Test Angle and Test Offset

(Note:Testing angle is taking the oscillating knife cutting tool as an example.Testing offset is taking the oscillating knife cutting tool and the laser lamp as an example)

The "test angle" and "test offset" page, press ![adjust] → ![adjust2],
as shown below:
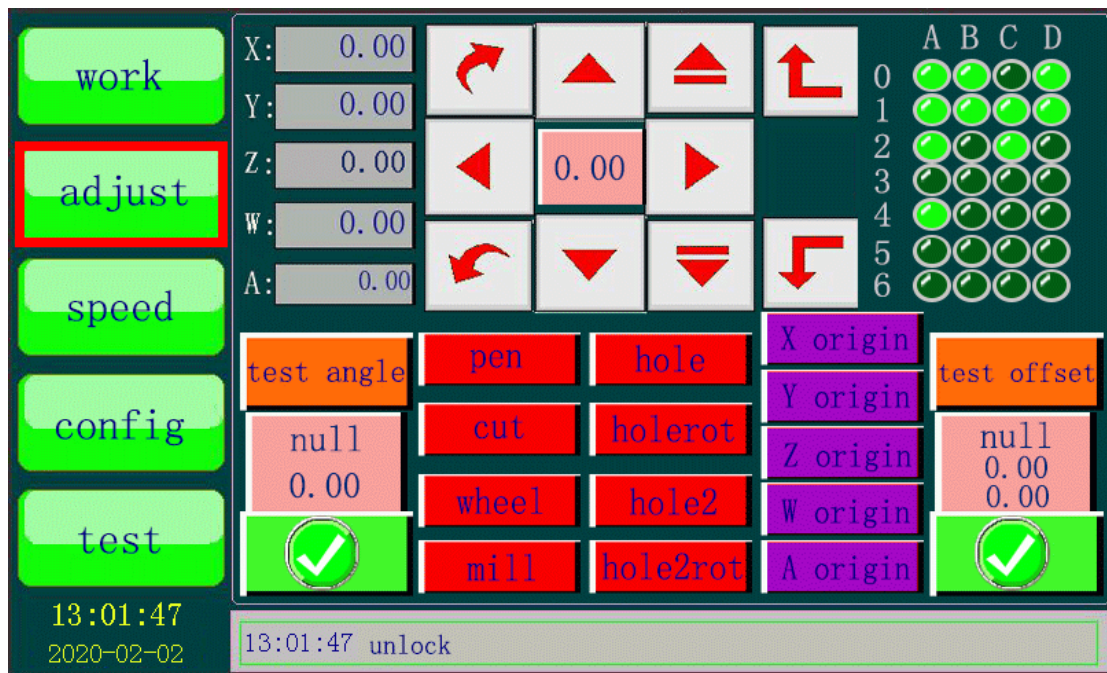
8.1 Test Angle

(Note:1.Before testing the angle, the knife depth must be set first, and as long as the mark can be cut on the material.2.Before testing angle, a piece of material should be laid first, such as corrugated paper, KT board, soft glass, etc.)

(1)Test Angle

①Press `null 0.00` to change it to `cut 0.00`。

②Press `test angle`,the oscillating knife cutting tool will cut a cross, judge whether the angle of oscillating knife cutting tool is correct according to the included angle of every two lines of the cut cross,as shown below:
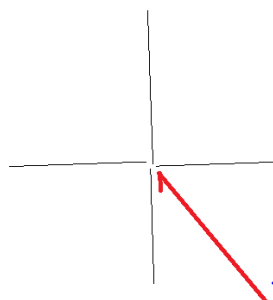
③Each line of the cross is inclined to the counter-clockwise direction, then the angle of the tool should be adjusted in the clockwise direction.

(2)Adjust Angle

①Press `0.00` to change the step distance（Note:There are five values for switching:50,10,1,0.1, 0.03）

②For example, if rotate the tool clockwise by 10 degree,the position of the tool will be corrected,please do it as followings:First，press `0.00` to change it to `10.00`;Second,press `↱` for one time;Third,after the coordinate of W axis changes by 10 degrees,press `✓` to save the current degree.

(3)Press `test angle` to cut the cross again, if the angle of the knife still is wrong, just need to adjust the angle again till the tool can cut a cross as shown below:
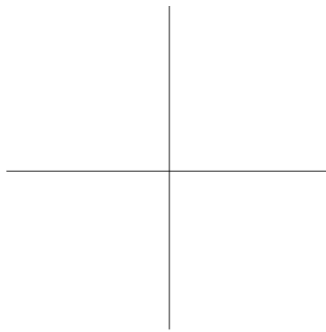
8.2 Test Offset

(Note:Before testing the offset, the knife depth and the angle must be set first, and as long as the mark can be cut on the material.2.Before testing offset, a piece of material should be laid first, such as corrugated paper, KT board, soft glass, etc.3.The offset adjustment of all tools is based on the oscillating knife cutting tool,that is,Head1.)

(1)Press `null 0.00 0.00` to change it to `ray 0.00 0.00`.

(2)Press `test offset`, the oscillating knife cutting tool will cut a cross on the material,and the red dot of the laser lamp will go to the cross center automatically. If it is not at the cross center, do it as followings: First,press `0.00` to change the step distance which is up

to the distance between the red dot and the cross center;Second,press
the arrow buttons in the below figure to move the red dot to the cross
center position.

(3)When the red dot is at the cross center,press to save the
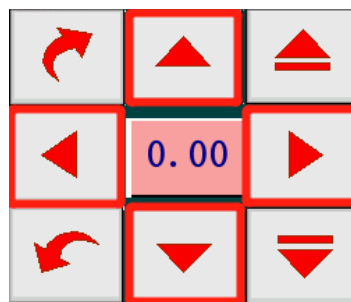data.

9.Maintenance

Cycle	Item	Illustration
Day	Tool holder	Take all tools out of the holder before going off work every day
	Clean the knife clamp part	Wipe it with the clean cotton cloth
	Clean the surface of the machine	Clean with air gun and rag
	Check the drag chain slot	Make sure that the drag chain slot is free of sundries and noise
	Check the operation in the X and Y directions	Running without any noise before cutting
	Clean the X and Y rails and add grease	Wipe rails with the clean cloth and press the handle of the oilcan for 1-3 times
	Clean the tools	Use an alcohol rag to remove residue from the tool
	Check the cutter head and the tools	Before starting work, check whether the cutter head and the tools can be operated normally
	Check the oil and water in the air compressor	Drain water and oil through air compressor drain valve
	Check the total pressure	The standard air pressure is 0.6MPa, if

	valve	there is the pneumatic oscillating knife cutting tool, the pressure is 0.8MPa
	Check air pressure valve	Make sure that there is no water in it
	Check the screws on the cutter head and tools	Make sure that no screws loose or lost
	Clean the felt surface	Use air gun clean it, make sure that there is no sundries or bumps on it
Week	Check the X and Y limit sensor	Confirm the sensors are no loose and no dust
	Check bearings conditions	Confirm no bearings loose
	Check cable and wires	Confirm whether they are connected firmly
	Clean the distribution box	Clean it with the vacuum cleaner
Month	Check the belts	Confirm the belts tightness and wear
	Confirm the usage of consumables	Confirm the usage of consumables
	Check the circuit-breaker	Press the yellow button on the circuit breaker to see if it can work normally

Note:Check the wearing condition of felt irregularly, repair the damaged part of felt to avoid the joint degumming, resulting in abnormal cutting.