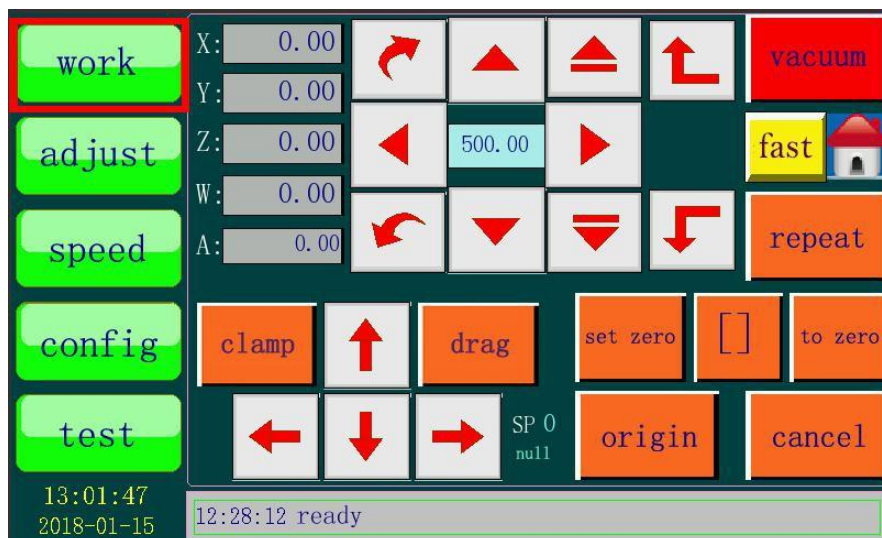


Control System Manual



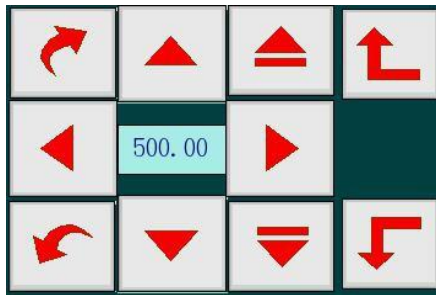
1.0 Work page and buttons description

Click the "work" button on the left side of the screen to enter the work page
 The work page is used to make the machine start working. The buttons in the



page can control the movement, lifting and rotation of the cutter head, and

select the appropriate position to be the zero point. And control the adsorption and pull function of the fan (this function is only for machines that pull the material automatically)



This area controls the movement, lifting and rotation of the cutter head.



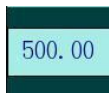
These two buttons are used to control the rotation of the cutter head.



These two buttons are used to control the lifting of the cutter head.



This kind of arrow buttons controls the front, back, left and right movement of the cutter head.





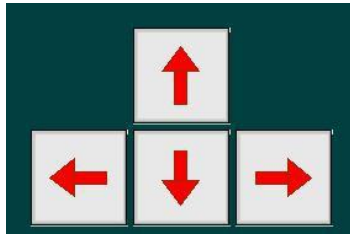
The value in the rectangle means that the distance the cutter head moves when the movement direction button is not released. For example,

the value in the rectangle is 500, press , do not release your finger, the cutter head will move 500mm to the right.



These two buttons are used to switch the speed of the

head movement. Click  once becomes , moving speed will be slower, easy to move a short distance.



These buttons can move the machine heads to the border of the working area.



When the machine is turned on, the coordinates will be

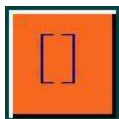
initialized to 0, but the actual coordinates of the machine head inside the machine may not necessarily be 0, so it is necessary to return to the origin. The purpose of returning to the origin is to make the coordinates of the software same to the actual correct mechanical position. When returning to the origin, the machine head will go to a certain direction until it hits the corresponding sensor switch (origin signal). The four axes return to the origin together, but the Z axis will be pulled first. After returning to the origin is successful, the coordinates of the axis returning to the origin in the positive direction become the size of the working area, and the coordinates of the axis returning to the origin in the negative direction become 0.



When there is a graph in the mother board, press the repeat button to re-process the current graph. It is equivalent to the start of other systems.



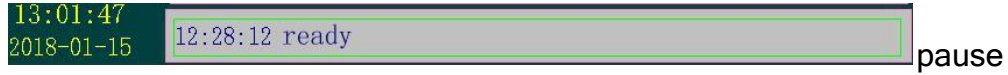
Set the position of the laser (or the location of the cutter head) as a new zero point, here you need to set the offset of the laser light and the knife accurately.



Walking the border is to walk around the four boundaries of the processed graphic, to see the processing range of the current graphic.



The machine will stop processing and the Z axis will return to the zero coordinates, and the vacuum pump will be turned off.



During running the graph, pressing the bottom row of the touch screen shown in the above picture, the machine will pause, and the current state will be remembered after the pause. If you press this area again, it will continue to work. If you don't want to continue, press the cancel button. If the pause area is not pressed while the graphs are not running, it is equivalent to pressing the cancel button.



Click this button to turn on the vacuum pump. Make the vacuum pump to draw air back before starting to cut. After the cutting material is sucked, click "Repeat" to start cutting. (Click "Repeat" and the vacuum pump will automatically draw the air back, and the machine will start cutting. This way is only for materials that are difficult to adsorb)



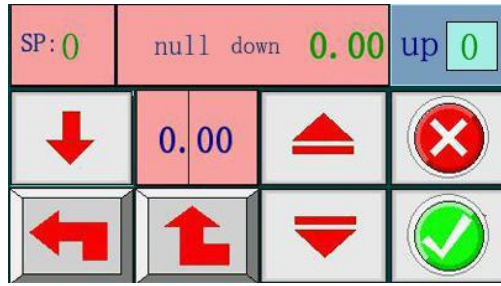
Click on the "clamp" and the clip on the beam will fall down to clamp the material. Click "drag", clip will clamp the material automatically, and the cutting beam will move forward to pull the material.

1.1 Adjust page and buttons description

Click the "Adjust" button on the left side of the panel to enter the adjust page.



The adjust page is used to adjust the depth of the knife. The machine with multiple cutters can also switch the cutter heads on this page. The angle and offset of the knife can be adjusted on adjust2 page.



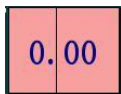
The buttons in this area are used to adjust the depth of the knife. There are 8 SP numbers in the machine, SP1~SP8, and the knife depth of each SP number can be set. When the tool corresponding to the type of a SP number is not controlled by the motor, the knife depth is invalid. **Knife depth means that when the machine works with a certain SP number, the depth which it need.** (The concept of the SP number comes from the HPGL language)



This button is used to switch the SP number of the cutter head. Click the SP on the left to switch to the SP number to be adjusted.



If the estimated depth of the knife to be set is very close to or deeper than the previous depth, press this button to move the Z axis to the previous knife depth position at one time. **Attention! You should consider whether press it or not when changing a longer knife, because it may pierce the felt or working platform and break the knife if the depth is not suitable.**



This button is used to switch the step distance of making the head down



This button controls the up and down of the cutter head.



This button is used to control the position of the head in the non-cutting process of the machine during cutting.



If you want to give up the adjustment, click this button. (



This button is used to save the data of the new knife depth.

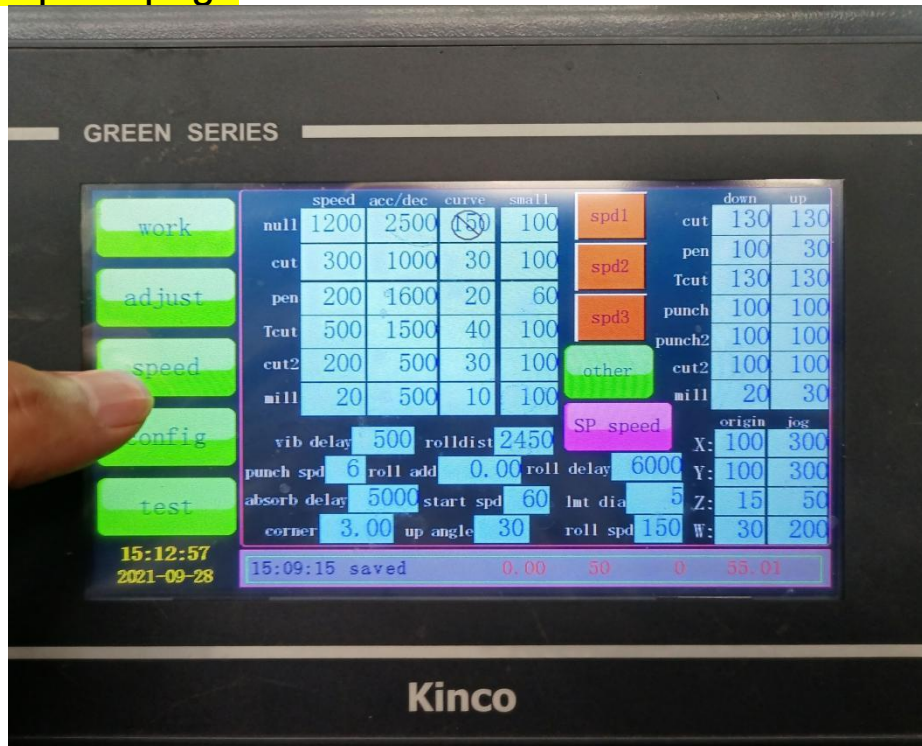


Click this button to make the tool enter the oscillation state;



Used to fine tune the cutting depth;

1.2 Speed page



Click the “Speed” button on the left of the screen to enter the speed page. The speed page displays follow information: **null** (the machine's speed in non-cutting process during cutting), cutting speed(sp1 <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.

	speed	acc/dec	curve	small
null	1200	2500	150	100
cut	300	1000	30	100
pen	200	1600	20	60
Tcut	500	1500	40	100
cut2	200	500	30	100
mill	20	500	10	100

The values shown in this area are the speed corresponding to the different cutter heads of the machine. If you want to change, enter the value of the required speed in the corresponding box.

“Speed”—Cutting speed

“ace/dec”—Acceleration;

“curve”—Curve cutting speed;

“small”—Small circle cutting speed;

	down	up
cut	130	130
pen	100	30
Tcut	130	130
punch	100	100
punch2	100	100
cut2	100	100
mill	20	30

The values shown in this area are the speed of different cutter heads fall and rise during cutting.

	origin	jog
X:	100	300
Y:	100	300
Z:	10	20
W:	30	200

The values shown in this area means the speed of the machine's four axes moving to the origin and the speed of the movement.

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.

roll spd 150

It means the speed of drag material.

rolldist 0

It means the distance of drag material, and the distance depends on the length of the processed pattern. 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 drag 100mm distance.

rool add 0.00

It means the distance difference between the theoretical drag distance and the actual drag distance. For example, cutting a square with side length of 1000mm, the theoretical drag distance is 1000mm, and the actual distance is 990mm which is 10mm distance difference. Enter the distance difference in this box and it will work normally.

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 lift 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.

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.

vib delay 2000

It means the interval between the cutter head vibrating and start cutting after the "repeat" button is clicked.

absorbdelay 1000

It means the interval between the vacuum pump starts to work and after the “repeat” or “vacuum” button is clicked.

punch spd 6

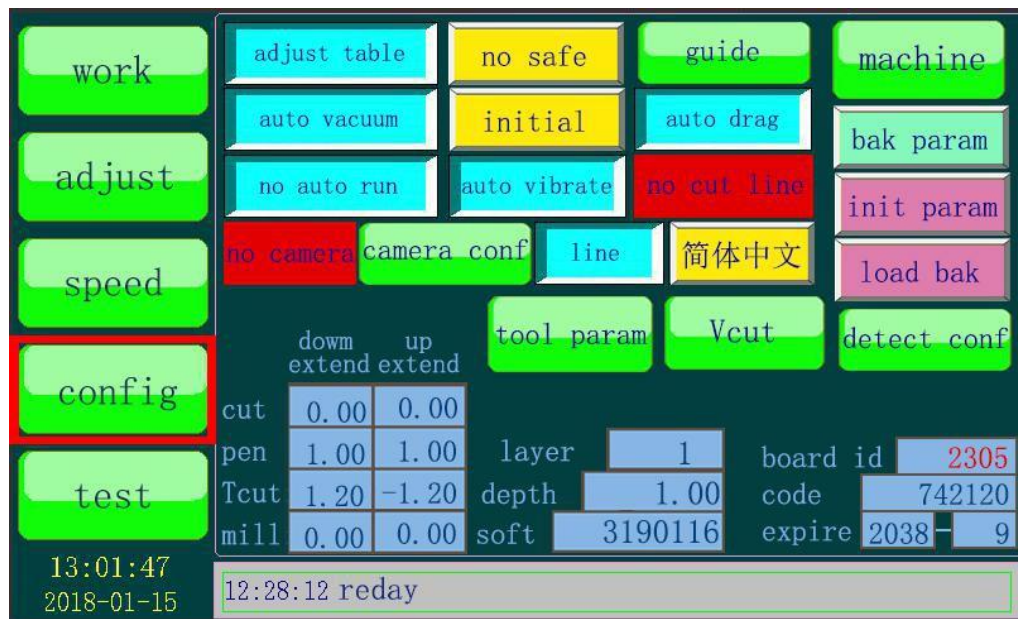
It means the rotational speed of the punching knife.

Int dia 5

Set the diameter of small circle cutting to limit the cutting speed

1.3 Config(configuration) page and buttons descriptio

Click the "Config" button on the left of the screen to enter the config page.



no auto vacuum

Before the machine working, 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 cutting.

no vibrate

The vibrating knife will not vibrate during cutting, which is equivalent to unplugging the signal line of the vibrating knife. It can be changed to “auto vibrate” by pressing it.

auto vibrate

The vibrating knife will vibrate automatically during cutting.

no safe

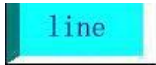
The safe switch is at the situation of being turned off. If you want to turn on the safe switch, just press it.

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.



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



If you want to punch a pattern 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.



The machine cuts the graph immediately after receiving it.

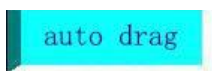


After receiving the graph, the machine will not cut automatically. Press twice "to zero" and you can check the cutting position of graph. Press "repeat" to start cutting.



For no-auto-feeding system machine, this button is set as shown

above.



If it is a auto-feeding machine, press this button to switch to .

board id	2305
code	742120
expire	2038-9

The "board id" is the number of the machine's motherboard number. The "code" is corresponding to the certain board id. The "expire" is the deadline for use the machine.

	down extend	up extend
cut	0.00	0.00
pen	1.00	1.00
Tcut	1.20	-1.20
mill	0.00	0.00

The values in this area are used to control the over-cutting (It's a phenomenon of excessive cutting in machining, which including cutting too long and too short). The extensions are the down extension and the up extension. If the extension value is a positive number, it means the machine will cut a longer distance; if it is a negative number, it means the machine will cut a shorter distance.



It is used to set the machining data of the oblique cutting tool, and adjust the oblique cutting speed and the extension of the cutting start point and end point.