

VR3350D Digital label die cutter User Manual



Please read this manual carefully before operating the equipment .

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The following statements are included in the Appendix:

- Warranty
- Safety precautions
- Regulatory information
- Environmental policy and information

INDEX

INDEX.....	3
Chapter 1 Safety matter	4
Chapter 2 Handling and installation	8
Chapter 3 System introduction	9
3-1 Function Introduction	9
3-2 Packing list	10
3-3 Specification.....	11
3-4 Parts Description.....	12
Chapter 4 Working Preparation	15
4-1 Media loading.....	15
4-2 Sensor installation and position	16
4-3 Lamination setup	17
4-4 Cutting blade installation	18
4-5 Waste removal setup.....	21
4-6 Slitting unit setup.....	22
4-7 Rewinder setup	22
4-8 Sheet cutter installation	22
Chapter 5 System operating instruction	26
5-1 panel instruction	26
5-2 software interface	27
5-3 How to make cutting file	32
Making the file in CDR.....	32
Making the file in AI.....	36
Chapter 6 Equipment Operation	39
Chapter 7 Equipment maintenance and troubleshooting	42
7-1 maintenance guide	42
7-2 info explanation.....	43
7-3 troubleshooting.....	44
Chapter 8 Warranty.....	46

Chapter 1 Safety Matter

1-1 Safety precaution

1. The operator should obey the following 4 basic safety operation principles:

- (1) Only trained technicians can operate or maintain the machine.
- (2) Read the user manual carefully and understand its contents.
- (3) Put the user manual near the machine for easy reference .
- (4) Operators and maintenance personnel must know the location of emergency stop device and understand its function and operation methods.

2. Safety precaution before and after start up:

First, make sure all the switches are in the off state and the grounding are correctly connected.

The power supply of the machine is one-way 220V~.The rated current of the external power cut-off device is 20A which should meet its relevant safety standards.

3. Safety precaution during handling and installation:

To improve the working efficiency of the machine, The installation site should be well ventilated and the surrounding air quality should be good. The ambient temperature shall not be higher than 40 °C. Raining and direct sunlight is not allowed.

Safety precautions during handling and installation are as follows:

- (1) Make sure that the foundation is strong enough to support the machine.
- (2) Only one person is allowed to operate while lifting
- (3) No one is allowed to be under or near the machine while lifting .
- (4) Helmet is required during handling, installation or cleaning.
- (5) Use a safe and strong ladder or platform to climb on the machine if it is required.
- (6) Adopt proper device for heavy parts lifting.
- (7) Verify that the sling is strong enough to lift the machine.
- (8) Shut off the power before handling or installation. If power is required, let other personnel know the location of Emergency -stop device in advance.
- (9) Wear leather gloves or other similar protective equipment during handling, installation or cleaning.

4. Safety precautions during operation:

The operator should be familiar with the machine's function, characteristics and operation methods. Don't let other people approach the machine. Stretching hands into work area is prohibited during running. Shut off the power immediately and try to find the solutions for any abnormal happen.

Safety precautions during operation are as follows:

- (1) Don't remove any safety guarding and devices.
- (2) Don't remove or change the location of any interlocking mechanism.
- (3) Don't touch the switch with wet hands.
- (4) Don't place any body parts on or besides moving parts of the machine
- (5) Keep your hair away from moving parts of the machine.
- (6) Don't wear bracelets, watches, jewelries or loose clothes.
- (7) Generally only one operator is required to operate the machine. If more than one is required, there should be good communication between each other.


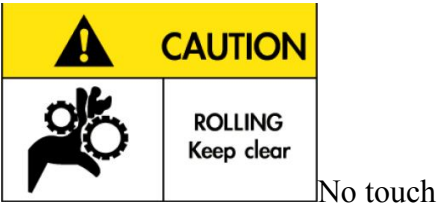

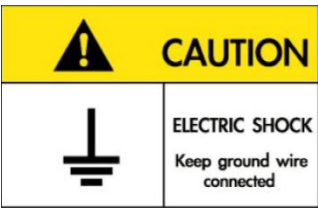

5. Safety precaution during maintenance:

Shut off the power before maintenance.






Safety precautions during maintenance are as follows:

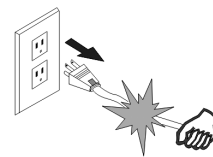
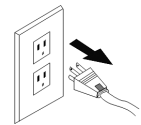
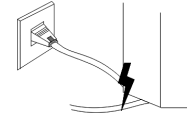
- (1) Shut off the main power before inspection or maintenance.
- (2) Maintenance or inspection should be carried out by authorized technician.
- (3) Climbing on the machine is not allowed.
- (4) Use the recommended lubricant or grease.

1-2 Caution labels

	<p>Improper operation can cause casualties and equipment damage</p>
	<p>Improper operation can cause casualties and other objects damage</p>
	<p>Improper operation can cause casualties and equipment damage</p>
	<p>Improper operation can cause casualties and equipment damage</p>
	<p>Improper operation can cause casualties and equipment damage</p>

1-3 Safety attention instruction

-  **Don't touch the tip of the blades.**
 , this may cause finger injury.
-  **Don't damage and change original power plug and cable.** The power cord should not be excessively bent, pull ,binded and pressed under heavy loads. This will damage the power cord and cause electric shock or fire.
-  **Pull the power cord from the wall socket if long time no using.** Otherwise it will lead to fire.
-  **Keep hands away from the main shaft or it will cause injury.**
-  **Pull the plug out of the socket instead of pulling it.**
Strong pulling to the cable may cause electric shock or fire



Chapter 2 Handling and Installation

2-1 Crate handling

Use forklift with load capacity more than 2 tons to transport the crate.

2-2 Crate assembles and disassembles

Crate assemble

During packing, first fix the eight wheels of the machine, and then drop the foot pad to keep balance and prevent it from sliding.

Crate disassemble

Reverse the steps of packing process to disassemble the crate.

2-3 Storage

Storage temperature: 25-40 °C

Humidity: 30~90%

2-4 Machine handling

The machine needs two porters to push it . One of them is pulling behind the machine; the other is controlling the direction in front.

2-5 Space requirements

Length 3.5m , Width : 3m, Height: 2.5m

2-6 Electric and pneumatic specification

Electric power: 220V, 50/60Hz as standard. Current: 20A

2-7 Installation procedure

- 1、 Move the machine to a stable load-bearing floor by forklift.
- 2、 Use the hydraulic truck to lift the machine and drop the 8 wheels..
- 3、 Use level gauge to measure the upper part of the wheels to keep it balance .
- 4、 The network interface is on the left wall panel. Connect to the network if necessary.
- 5、 The air pump pipe is connected to the left wall panel .Remark: The diameter of the air pump is 8mm.

2-8 Disassemble

Reverse the installation process to disassemble the machine.

Chapter 3 System Introduction

3-1 Functions introduction

Multifunction digital label die-cutter

VR3350D digital label die-cutter is developed for all kinds of applications. It can be used in large number of products processing. It can cope with the requirements of different shapes, fast delivery and complex graphics. It is the ideal partner of digital label printer. The machine collects laminating, die-cutting, waste-disposal, slitting and rewinding all in one. It is not only for die-cutting, but also working as a slitting machine and widely used in label, tag packaging production and processing. More applications can be developed just depending on your creativity.

Suitable Materials:

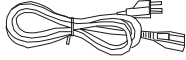

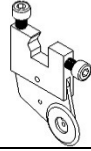


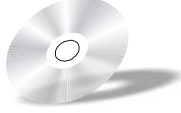
Adhesive label, PP, Plastic film, PET,PVC,White card Paper, Art Paper and other soft materials.

Example of Application:

Adhesive label, hang tag, paper box making, wine labels and etc.

3-2 packing list

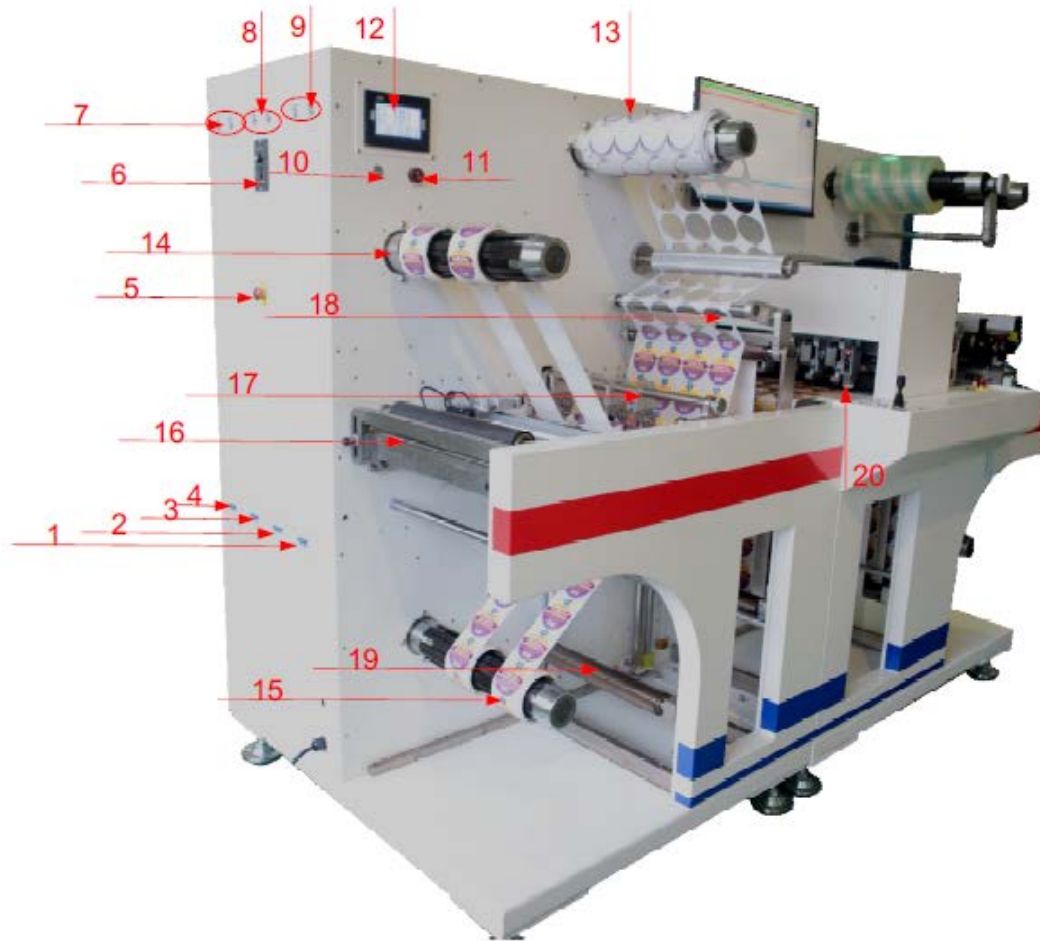
Once unpacking, check the following accessories first. For any missing, contact the local distributor or the manufacturer.

No.	ITEM	Qty	Picture
1	Power cable	1	
2	Built-in PC	1	
3	Slitting unit	4	
4	Blade holder	4	
5	Blades	30	
6	Software	2	 save as in the PC
7	Electric manual	1	Save as in the PC

3-3 Specification

Model no.	VR3350D Digital Label die cutter
Max. material roll	External Diameter 40mm
Cutting material width	200-350MM
Max. cutting width	330MM
Min. label length	10MM
Max. label length	600MM (single unit)
Cutting speed	9m/m.(depends on lable shape and size)Linear speed 3000/s
Cutting head	2units
Slitting blades	4pcs(standard), max.15pcs
Die-cutting technology	Carbide rotary cutter
Cutting Precision	0.1MM (repeat)
Cutting tracking	CCD camera
Slitting speed	Depend on cutting speed
Slitting precision	0.1MM
Slitting width	10-330MM
Machine size	200cm(W)x120cm(D)x158cm(H)
Weight	Approx. 1400kg
Power Supply	110-240VAC, 3000 watts
Warranty	One year (except consumables parts)
<p>Optional:</p> <ul style="list-style-type: none"> ■ Built in cutter ■ second die-cutter station ■ second up rewinder ■ film liner removal 	

3-4 VR3350D parts name
(Parts diagram-right side of machine)



No.	Name	No.	Name
1	Main power	2	Die cutting power
3	Cutter power	4	Vent valve
5	Emergency stop	6	Waste removal shaft controller
7	Upper rewriter tension/ Air chuck switch	8	Waste removal tension/Air chuck switch
9	Lower rewriter tension /air chuck switch	10	switch of cutter feeding and releasing
11	Cutter buzzer	12	Cutter controlling system
13	Waste removal shaft	14	Upper rewriter shaft
15	Lower rewriter shaft	16	Cutter
17	Slitter holder	18	Waste removal angle rod
19	Tension rod of cutter feeding	20	Tracking sensor

(Parts diagram----left side of Machine)



No.	Name	No.	Name
21	Unwinder shaft	22	8mm compressed air pipe interface
23	Oil and water separator/Main valve(0.55mpa)	24	BST web guide
25	Media connect platform	26	Film liner removal controller
27	Laminating shaft tension/Air chuck switch	28	Film liner removal tension/Air chuck switch
29	Unwinder shaft tension/air chuck switch	30	Floating roller adjustable valve (0.4-0.5mpa)
31	Rubber roller adjustable valve(0.4mpa)	32	Air chuck adjustable valve(0.25mpa)
33	X axis pressure roller adjustable valve(0.4mpa)	34	Film liner rewinder shaft
35	Film pressing roller	36	Laminating shaft
37	Feeding roller	38	Built in computer

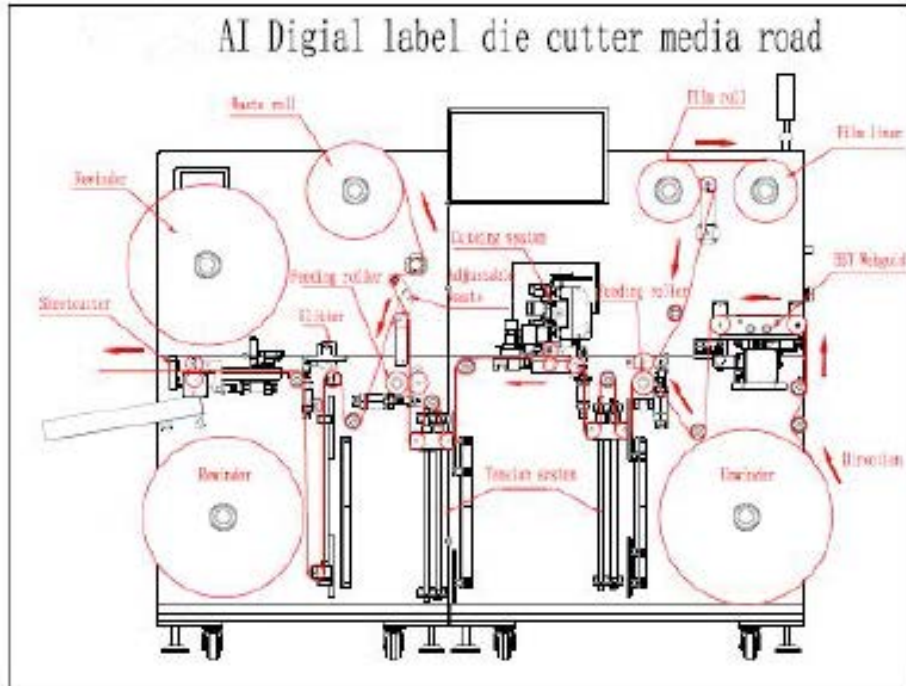


No.	Name	No.	Name
39	Rewinder roller	40	Cutter location sensor
41	Direction mode/feed roller/die cutting roller/rewinding roller/slitting roller	42	Pause
43	CCD camera	44	Indicator

Chapter 4 Work preparation

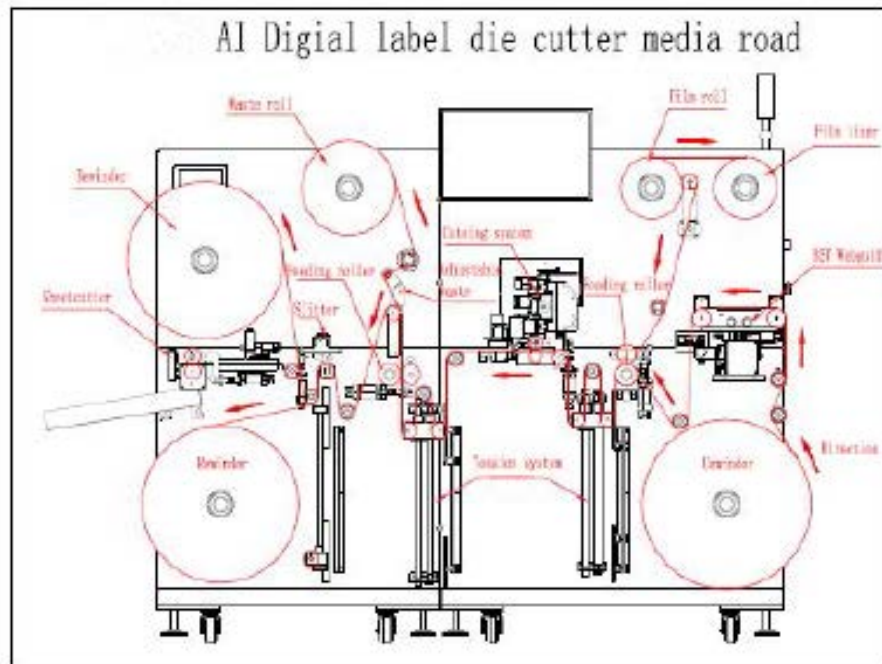
4-1 Media installation Notice:Media width is not less than 200mm.

Roll to sheet



< PICTURE 4-1 >

Roll to Roll



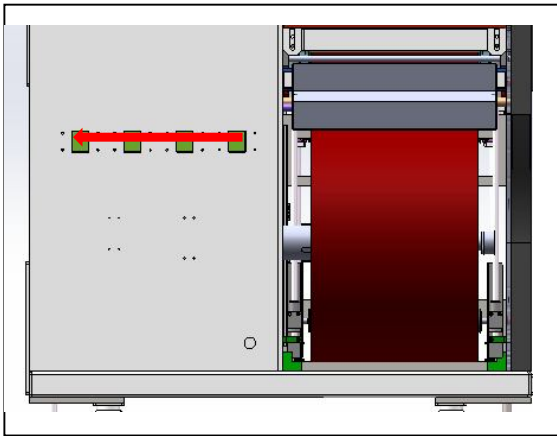
< PICTURE 4-2 >

Turn on the power in turn . Follow the steps:

Main power -die cut power- cutter power (roll to sheet)-snuffle valve. (Picture 4-3)

Remarks:Pls reverse the operation sequences during shut down.

Pls install the media following the arrow direction showed on the installation map(roll to sheet picture 4-1)(roll to roll picture 4-2).Align the media to the inner side .



< PICTURE 4-3 >



< PICTURE 4-4 >

- Switch on the Unwinder shaft, Manually load the media and follow the arrow direction in turn :Web guide ---auto feeding rod---feeding tension system---cutting system---rewinding tension system---adjustable waste removal system-slitting system-**cutter tension system-sheet cutting system(roll to single sheet)**- rewinder shaft (roll to roll).
- Switch on the lower rewinder shaft, press down in turn : feeder roller-die cutting roller-rewinding roller.
- Switch on the unwinder tension and the rewinder tension. Open the software and set the corresponding tension . Click the media feeding button on the screen until the media goes straight .

Notice: The initial media installation position must be accurate to prevent the media from tilting. Set right tension value according to media tension.

4-2 Set the camera and the sensor

After installing the media, make sure the sensor is installed properly. The sensor's sensitivity may need to be adjusted depending on the material. (Picture 4-5)Move the sensor to make sure the indicator light is on when reflecting on the blank part but off on the black mark.



< PICTURE 4-5 >

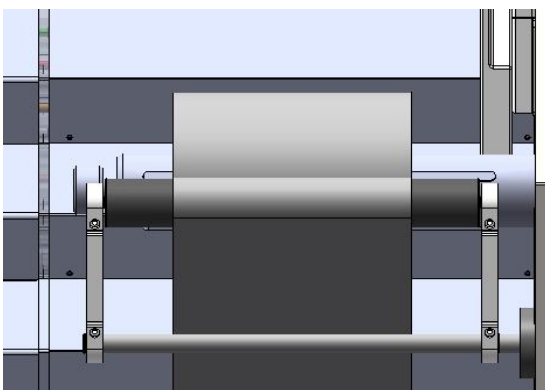
< PICTURE 4-6 >

Move the black mark with **number** to the lower part of the CCD camera,(the video showed on the right upside corner of the software)Click it for identification , the identified black mark position and no. displayed as (number=001. Y=240,X=320). Turn on the explosion light control button to adjust the brightness depending on the different media .



4-3 Install the cold laminating film

To install the cold laminating film on the laminating shaft, first turn on the laminating shaft tension, then follow the media loading diagram (Picture 4-2) in turn: Film pressing roller-laminating roller-Stick the sticky side on the media -turn on the laminating tension. **If the laminating film with film liner, then transfer it to the film liner shaft, turn on the film liner unwinder tension /air chuck switch and the laminating controller.**



The laminating shaft has no driving motor but driven by feeder motor. Set the relative laminating tension and film liner shaft tension parameters in the software. **(Suggested parameter 8-15)** Click the feeder button, and adjust the cold laminating media to the proper covering position (Picture 4-8) smoothly until the laminated media is in the cutting system.

⚠ Caution: The width of the laminating film must be less than the media's.

4-4 Cutter unit setup

⚠ Caution: Please be careful not to touch cutting knives with bare hand. They are very sharp.

Please wear PPE gloves before installation of cutting knives.

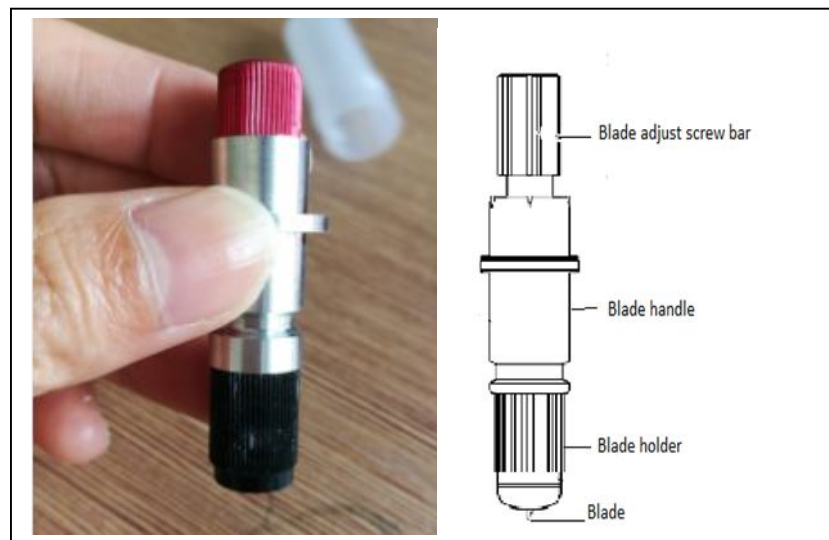
When we deliver the machine we already setup the cutting units with enough testing. Please follow below explanation when you replace cutting knife or replace / add cutting units.

4-4-1 Cutter unit assembly

Cutting unit is composed with several parts as shown in picture P4-4-1, including knife (blade), blade pouch, blade spring, blade adjust screw bar, bar spring and blade handle. The structure of cutter unit is very simple but very efficient. Blade spring gives constant pressure and blades adjust screw bar controls depth to cut. Cutter is equipped with 2 cutting units as default.

How to choose the

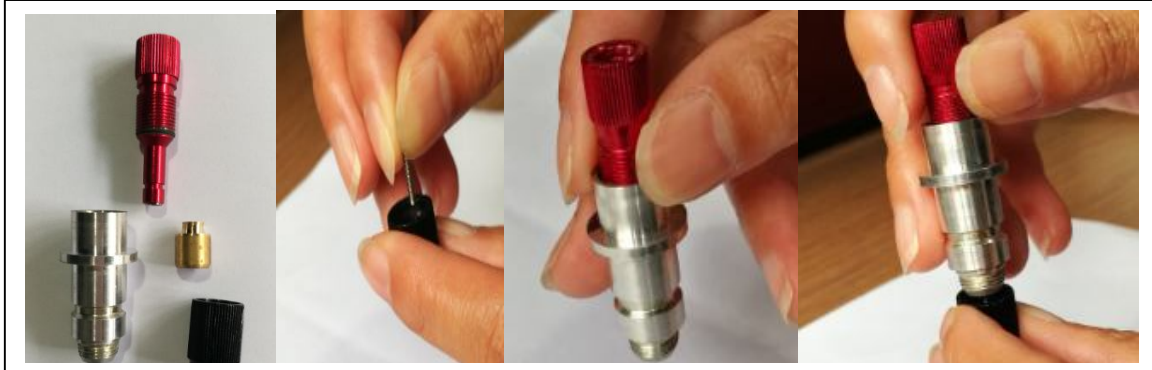
Parts No.	Spec.	blade	For media
09U	ø0.9 mm 0.45	09U	Use for the media thickness is ≤ 0.25 mm . Can cut the media length is around 4000m
15U	ø1.5mm 0.75	15U	Use for the media thickness is 0.25mm to 0.5mm.



<P4-4-1>

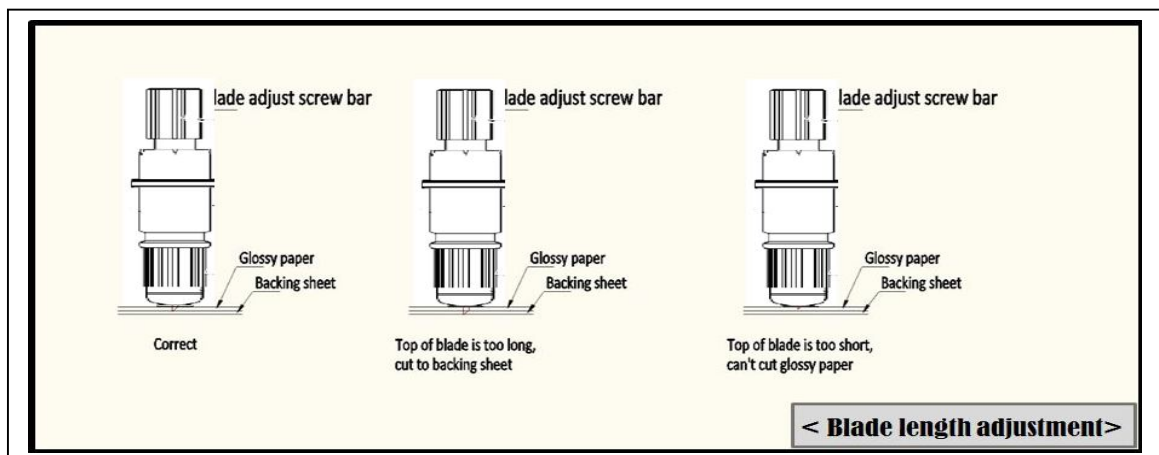
P4-4-2 is showing step by step process of how to assemble cutting unit in sequence. Disassembling can be done in reverse steps. This process is very simple and frequently used for blade replacement. The lifetime of blade can be 50 hours of continuous operation depending on the working condition (about 1,400 meters life time in case of art paper labels).

There are many small parts composing the cutting unit, so be cautious not to have missing parts during assembling or disassembling the cutting unit.



4-4-2 Adjust the knife depth

It is possible to adjust the depth of cutting knife by rotating the Blade Adjust Screw Bar. Different media has different thickness for half cut and full cut, so find optimum depth to cut properly without scratching on the back liner. See illustration in Picture P4-4-2 and P4-4-3 as following.



< P4-4-2 >



< P4-4-3 >

Loosen the gripper screw as showed, and then install the cutter. Tighten the screw after the cutter is correctly positioned.



< P4-4-4 >

4-5 Waste removal setting

The waste removal shaft is controlled by individual motor. Follow the diagram 4.2, pass in turn :Waste removal angle adjusting rod-exhaust buffer roll-stick the sticky side on the waste removal roll. Turn on the waste removal shaft/ air chuck , turn on the waste removal controller. Adjust the appropriate waste removal speed as per the cutting speed. Loosen the screw and adjust the waste removal angle as per the cutting shape. (Picture 4-15)Adjust appropriate tension and the friction force of the waste removal buffer roll to prevent from breaking waste.(Picture 4-16)



< PICTURE 4-15 >



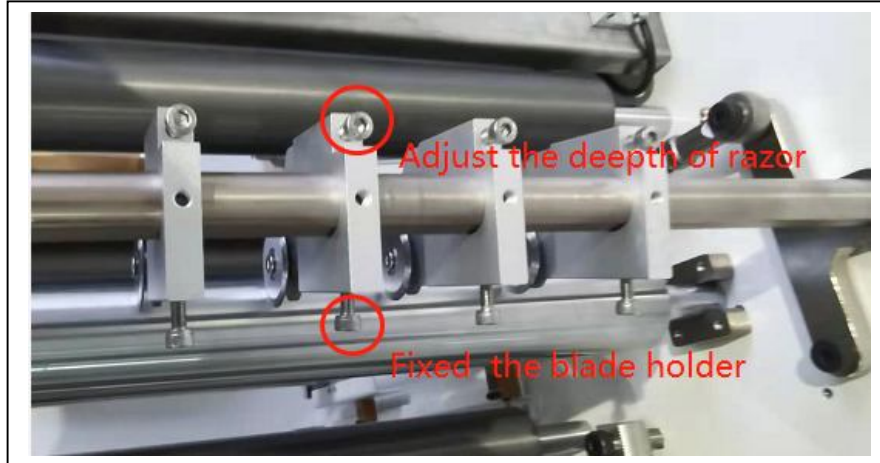
< PICTURE 4-16 >

! Set the waste removal speed and tension as per the media's property. High speed, high tension and using scraper are recommended for small size label.

4-6 Slitting installation and adjustment

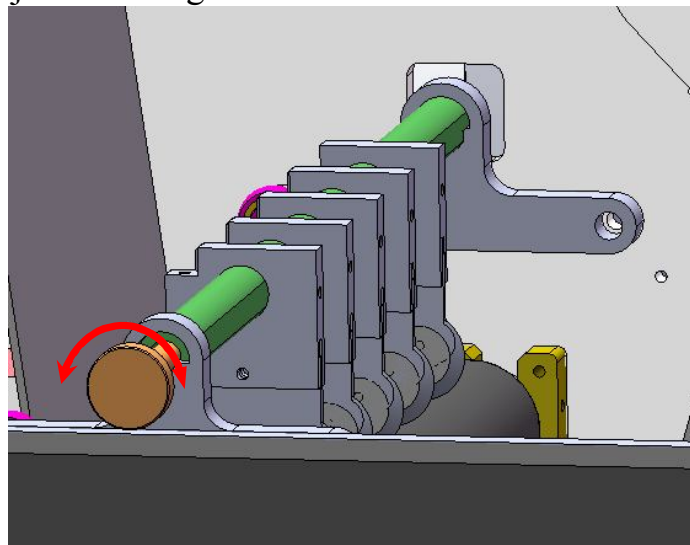
1. The slitting holder has 2 screws(Picture 4-17)

Turn on the slitting roller, loosen the slitting blade holder of the screw rod and move it to the corresponding cutting position and fix it. Press down the slitting roller. Max 15 blade holders can be installed. Adjust the cutting depth by loosening or tightening the screw's depth.



< picture 4-17 >

Using the button on the left side to adjust the slitter's position slowly(Picture 4-18). Turn the button to move the slitter as a whole (the distance between the slitters can not be adjusted).The adjustable range is 10mm.



< picture 4-18 >



Caution: The slitter is very sharp. Avoid hurting your finger while install the slitter.

4-7 Rewinder installation and setting

Prepare an empty tube equal to the width of the slitting when slitting function used. Cross distribute them on the upper and lower rewriter, then tight the gas chuck shaft.(Picture 4-19) Adjust the rewriter's tension appropriately in the software depending on the media's property to avoid breaking the media due to heavy expansion force and losing the rewinded media due to light expansion force.



< PICTURE 4-19 >

4-8 Set and install the sheet cutting system

Sheet cutting system is individually controlled. Open the cutter online function in the software(picture 4-2),lift the cutter feeder roller, pass in turn the cutter buffer rod, feeder roller, cutter edge(picture 4-1) , press down the cutter feeder roller. Click the forwarder button on the screen until the media is in straight.

⚠ The initial position of the machine must be placed accurately to prevent the media from tilting


Position sensor setting

Click the media feed button to send the cutting point to the blade edge after the media is straight .Calibrate the sensor (Picture 4-20).Adjust the position and lock it. (Picture 4-21)

如需在色标上设定为ON，只要按下ON按钮即可。

下面以“2点教导”为例介绍最基本的设定方法：


模式选择 按MODE按钮选择TEACH模式。



教导

- ① 将光点与色标对准，按下ON按钮。
- ② 将光点与底色对准，按下OFF按钮。

※①和②的顺序可颠倒。



◀ 设定完成显示。

检测

教导结束。
自动选择最佳LED，并自动恢复为RUN模式。



1. Align the color to be detected to the light source . Press “on”.

Align the color code ,press”on”.

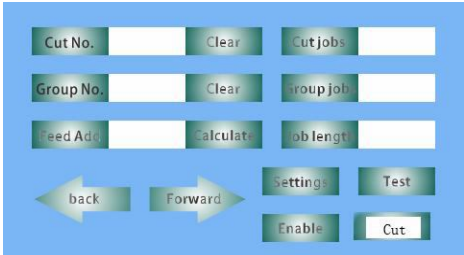
If Orange is to be detected ,align to orange .

2. Press “off”after moving away the detected color (PIC4-20)

Button setting ready

Click try cut on the screen to check the incision effect and position . Click “start” and input the cutting quantity and number of groups to set the cutting length .Cutting position can be adjusted mechanically or by feeding media . The sheet cutting system and die cutting system communicate with each other at that time. There is a stop, both stop.

Power on, click the screen to enter to the main program. Click the value display area to modify the value

No.	parameter	value	description	Screen display
1	total	0 ~	total cut jobs	
	total qty pre designed	0 ~ 99999	pre- designed media value	
	group count	0 ~	groups of finished job	
	groups total	0 ~ 99999	set the cut media into group	
	media adjustment	0 ~ 30000	Continue to transport media for some distance then to cut when the sensor tracks	
	length of each sheet	0 ~ 30000	length of material	
	zero		return to zero	
	calculate		Click calculating button, transport the media to the cutting position manually (distance from the black mark) mm, then click try cut to calculate the distance automatically. Each sheet will be cut at that position. After that, eliminate the difference manually as per the calculated value until the required value is reached.	
	Backward, forward		Media forward and backward	
	setting		Set the other parameters. Refer the details in no.2	
Try cut		cut for one time		
Start		1. start cutting media continuously (the buzzer will buzz after each group finished.		
Feed speed	(20-50)	max feed speed 60m/min		
Feed factor	(406)	2. Conversion ratio between X-shaft pulse number and feed shaft pulse number. NO MODIFY!		

Color code range	0 ~ 20	Equal space before and after color code tracking to form a tracking range (unit: mm)
Cutter delay	(200 ~ 500)	Delay the next feeding time after one cutting.(unit:ms) No modify!
Working mode		Marked cutting and no-mark cutting
Language	Chinese/ English	system language setting
Tracking speed Return	1 ~ 100	The larger value, the faster tracking speed Return to the previous interface

Chapter 5 Operation

5-1 Operation instruction

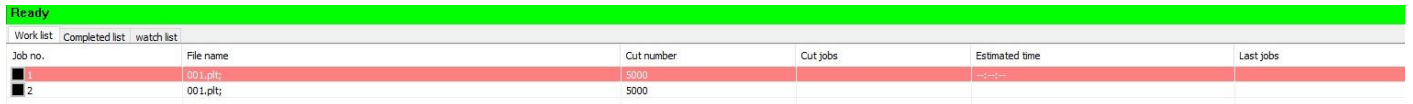
(1) Operation panel



- 1、 Slitting roller :Control the lifting and pressing of the slitter
- 2、 Die cutting roller :Control the lifting and pressing of die cutting roller
- 3、 Rewinding roller : Control the lifting and pressing of the rewinding roller
- 4、 Feed roller : Control the lifting and pressing of the laminating roller
- 5、 Direction: Control the X, Y moving direction of the cutting system
- 6、 Pause: Control the suspension of the die cutting

5-2 software interface

5-2 Main interface



Job no.	File name	Cut number	Cut jobs	Estimated time	Last jobs
1	001.plt	5000		---	
2	001.plt	5000			

Status bar: Display the machine's working status

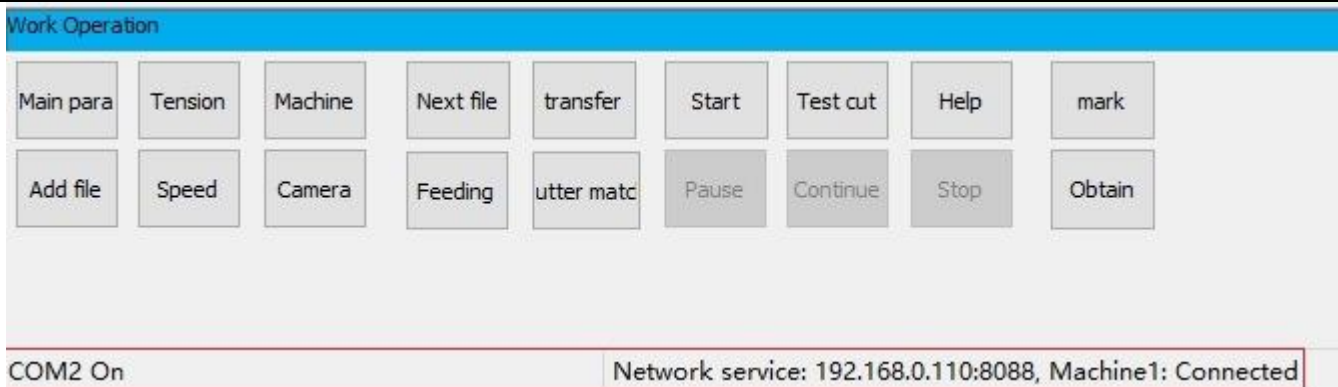
Work list: Display the job number in the current job bar /file name /pre-designed cutting quantity/cut quantity/estimated time left/last job

Notice: Right click the mouse to cut, edit and delete files.

Completed list: Display the finished file number /file name/pre-designed cutting quantity/cut quantity/ready time/last job

Notice: Right click the mouse to return the finished file to the work list or delete it.

5-2-1 Main interface



Set the machine's relevant parameters and operation

Next file(Auto order change): The machine can track the corresponding cutting file in the work list according to the printing number identified by the camera. (please make sure the file no. and printed no. are same)

Feeding: Material moves forward after clicking.

Test cut: Test the first cut

Start: Start working

Pause: Temporary interruption of die cutting. Same function as on the operation platform.

Continue: continue the current cut.

Stop: Stop the current cut.

Obtain: Click this icon to transfer all software setting to main board.

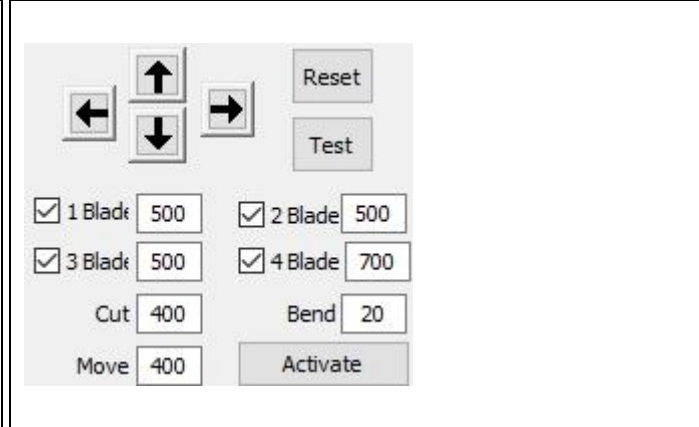
Display the current connection status: network service is the built-in computer ip address, the connection status.

5-2-2 Main interface



Display the currently identified black mark's position and number. Click "track mark" to test the camera.

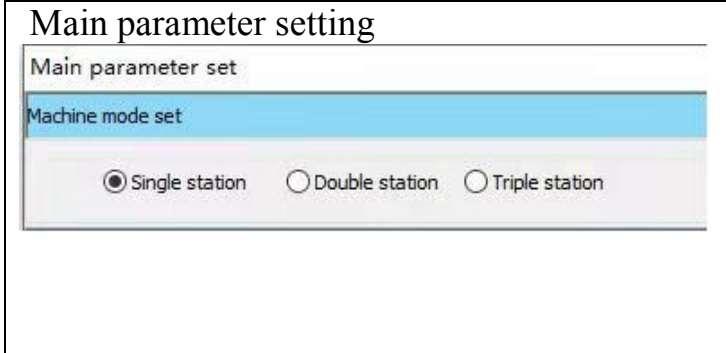
5-2-3 Main interface



Select the blade holder switch and set the blade pressure (1-1000, **suggested min. 700**). Set the cut, move acceleration (1-500, **suggested 350-400**) and bend acceleration. (1-100, **suggested 60-80**). Click "Start" to save the setting after the above are changed. Click the arrow to move the cutting system and click to test the blade pressure and depth.

Note: 1. pressure can be adjustable during the running.
2. Once you set above value, please click activate for enable.

5-2-4 Main parameter



Select the model configuration in the main parameters.

5-2-5 Main parameter



Set the distance inaccuracy between blades due to machine assembly. Click "reset" after each correction to ensure effective working again. (**blade 1 is 0**)

5-2-6 Main parameter

Head distance restrict Head distance limited			
	Station 1	Station 2	Station 3
Head 2 (mm)	<input type="text" value="55.000"/>	<input type="text" value="55.000"/>	<input type="text" value="55.000"/>
	<input type="text" value="190.000"/>	<input type="text" value="135.000"/>	<input type="text" value="135.000"/>
Head 3 (mm)	<input type="text" value="110.000"/>	<input type="text" value="110.000"/>	<input type="text" value="110.000"/>
	<input type="text" value="245.000"/>	<input type="text" value="200.000"/>	<input type="text" value="200.000"/>
Head 4 (mm)	<input type="text" value="165.000"/>	<input type="text" value="165.000"/>	<input type="text" value="165.000"/>
	<input type="text" value="300.000"/>	<input type="text" value="245.000"/>	<input type="text" value="245.000"/>

Set the max. and min. cutting distance of each blades.

5-2-7 Main parameter

	Station 1	Station 2	Station 3
Cut down time (ms)	<input type="text" value="5"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Cut up time (ms)	<input type="text" value="5"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Down speed L (mm)	<input type="text" value="0.1000"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>
Paper store length (mm)	<input type="text" value="0.0"/>	<input type="text" value="0.0"/>	<input type="text" value="0.0"/>

Set the drop time delay of cutting head.

5-2-8 Main parameter

Interval number	
Interval number	<input type="text" value="100"/>
Track number	<input type="text" value="0"/>

Set the number of sheets between two tracking during normal cutting to improve the cutting speed.
 It only be used when the length and skip distance of each sheet are same.
Close the function for Auto job change.

5-2-9 Main parameter

Communication set			
COM port	<input type="text" value="COM2"/>	Port:	<input type="text" value="8088"/>
	Station 1	Station 2	Station 3
IP:	<input type="text" value="192.168.0.114"/>	<input type="text" value="192.168.1.30"/>	<input type="text" value="192.168.1.22"/>

Set the com port and IP address of the monitor . **And always choose Com 2.**

5-2-10 Main parameter

Feed P. Ad.			
	1 Station 1	Station 2	Station 3
Adjust value (mm)	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>

Set the skip distance between each sheet of each group while tracking. Set the skip distance of each sheet for no mark cut.

5-2-11 Main parameter

Track set			
	Station 1	Station 2	Station 2
1st adjust (ms)	<input type="text" value="80.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>
1st delay	<input type="text" value="60000"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Adjust the distance between the sensor and the center of the camera. If the setting is incorrect. The camera will not be able to shoot the black mark and number.
 The first time delay refers to the time when the sensor tracks the black mark at the first start-up or order change. It will stop automatically if exceeds the set time.

5-2-12 Main parameter

	Station 1	Station 2	Station 3
X(mm):	3000.0	0.0	0.0
Y(mm):	350.0	0.0	0.0

Set the maximum cutting range of each Station

5-2-13 Set the tension

Set the tension range for each shaft.(1-100)
Roll refers to the minimum diameter of the feed shaft. It stops automatically and promptly and shows no roll if the diameter is less than the set value. Click the confirm after setting.

Note: the value will put from small like this, if you think it is not enough, please increase a little.

5-2-14 Speed set

	Station 1	Station 2	Station 3
Cut speed	3000	1	1
Move speed	3000	1	1
Track speed	100	1	1

Set the max cut range and move speed of each machine while tracking .(1-3000).
Tracking speed(1-100)

5-2-15 Camera parameter

	Station 1	Station 2	Station 3
X axis move	-62.00	0.00	0.00
Y axis move	-27.00	0.00	0.00
X axis pixel zoom out	37.00	0.00	0.00
Y axis pixel zoom out	37.00	0.00	0.00

Offset distance from X to the origin
The conversion from X.Y pixel to millimeter(e.g 36=1mm)

Offset distance from Y to the origin

5-2-16 Mechanical parameter

Mechanical parameter ✕

	Station 1	Station 2	Station 3
X axis verticality	<input type="text" value="-0.0024"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>
Y axis verticality	<input type="text" value="0.0010"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>
X axis zoom out	<input type="text" value="0.0080"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>
Y axis zoom out	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>

X axis vertically: Change the vertical angle of X direction based on the origin. 

Y axis vertically: Change the vertical angle of Y direction based on the origin.

X axis zoom out: X Zoom refers to the enlarged or reduced multiple based on the original file size .

Y axis zoom out: Y zoom refers to the enlarged or reduced multiple based on the original file size.

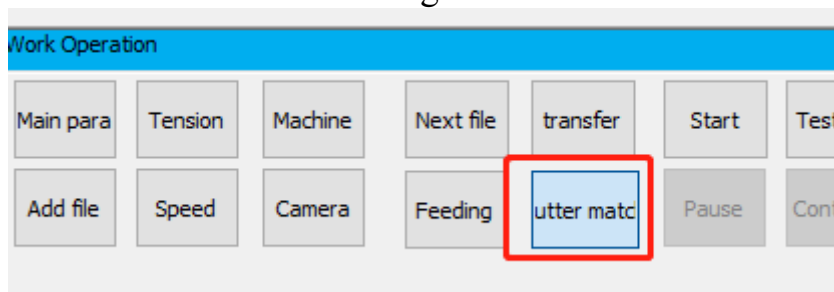
5-2-17 Sheet cutter set

Click “ Cutter match” to synchronize with the die cutting line .

S key to communicate with the main board

Other functions are not available yet

Refer to 4-8 sheet cut setting instructions.



5-2-18 Add files

The 'set' dialog box contains the following settings:

- Track mode: Mark No mark
- Mark size (mm): L W
- Knife up: Adjust value: μm
- Knife down: Adjust value: μm
- Bend:
 - Angle dif: $^\circ$
 - Discrete angle: $^\circ$
 - Adjust value: μm

Position mode: Select mark or no mark tracking

Color label size: Input the black label size

Blade lifting adjustment: Set adjustment before blade lifting according to the unconnected length

Blade dropping adjustment: Set adjustment before blade lifting according to the unconnected length.

Swerving adjustment: adjust according to the angle error

Discreet accuracy: the larger the discrete accuracy is, the lower the accuracy. The smaller the discrete acc



the higher the accuracy.

Note: The setting must be operated before file saving.

5-2-19 Add files

The dialog boxes show the following settings for each station:

- Station 1 set:**
 - Head 1
 - Head 3: 127 mm, Range 110-245
 - Auto adjust distance
 - File No.:
 - Cut number:
 - Exit button
- Station 2 set:**
 - Head 2: 63 mm, Range 55-190
- Station 3 set:**
 - Head 4: 191 mm, Range 165-300

Select how many blades to work according to the graphic of the file.

Select to calculate the blade's distance automatically. The system will assign the work blade automatically according to the graph content and calculate the distance of each blade . (remarks: the calculation may fail partially and cannot assign the blade to work .

Set the blade distance manually and delete the graph except blade no.1)

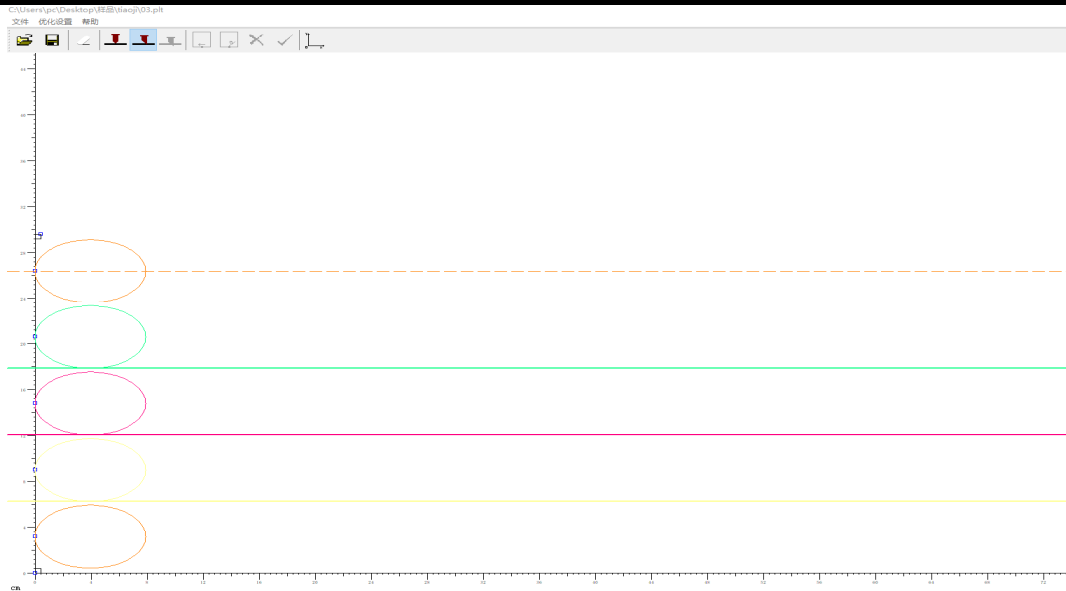
The file number is consisted with the input printing number.

Number of cut job: input the quantity to be cut.



Offset: adjust the blade distance manually , no need to adjust the cutting file.

(Note: The quantity input must be greater than the actual printed quantity when the automatic changing is set.)


5-2-20 Add file



Click add file to inter add file window, open a FLT or DXF cutting file. Please refer to 5-2-18/19 to set related function.

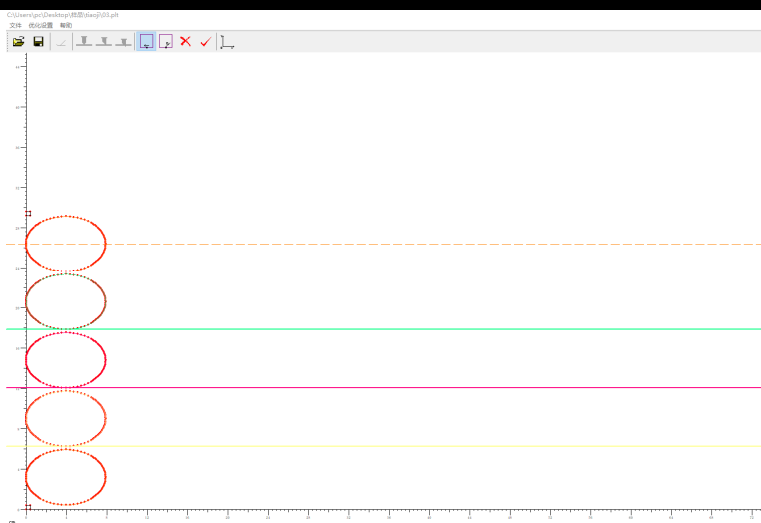
Click  to select cutting line, don't select black mark. Click  select black mark.

(Software will choose black color for black mark, if your mark is black, no need to select mark)



 delete icon, it can delete cutting line which you don't need to cut. In order to discriminate the cutting zone for each blade, we can set different color for each blade. For example :

 For 1st blade  for 2nd blade  for 3rd blade  for 4th blade

5-2-21 Add file



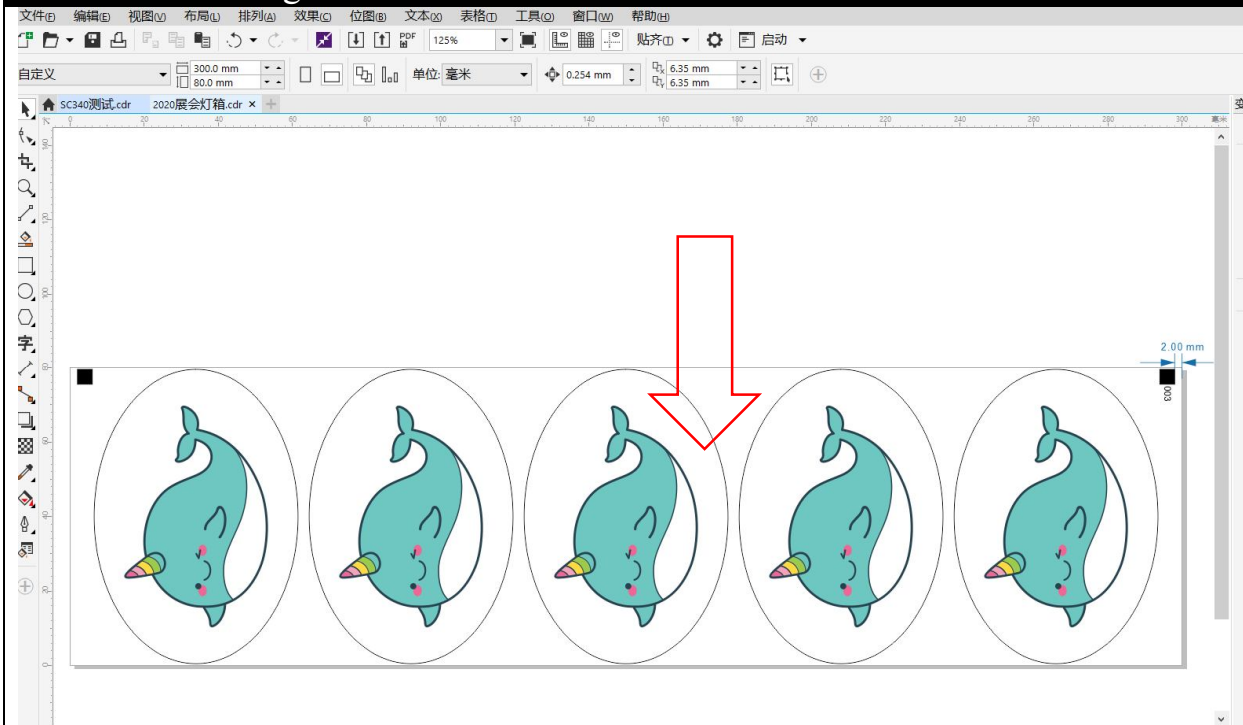
Click the optimization setting to set the blade dropping point. Different dropping point can be set to ensure the best cutting effect. Left click the dropping point wanted.

Click  to confirm. Click  to delete.

(Noted: only no.1 blade needed to set the dropping point) .Click save to save the currently set file in the work list in the main interface.

5-3 How to make cutting file

5-3-1 make cutting file in CDR



Add black mark and number to the file in CDR (Coreldraw) .

The black mark size shouldn't be less than 4x4mm.

Ensure the black mark is 2mm away from the printing content and be paralleled.

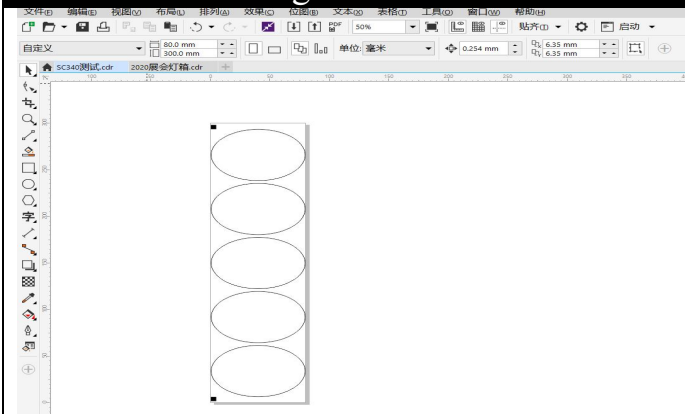
When printing, ensure the black mark is 2mm away from the edge of the media.

Hide the die cut line and export the file.

Noted: Please pay attention to the direction of printing and marking since the media is loaded on the inner side and the camera is fixed on the inner side too.

The VICUT Aicut software accepts the files made by CDR and other systems which can output into PLT/DXF files.

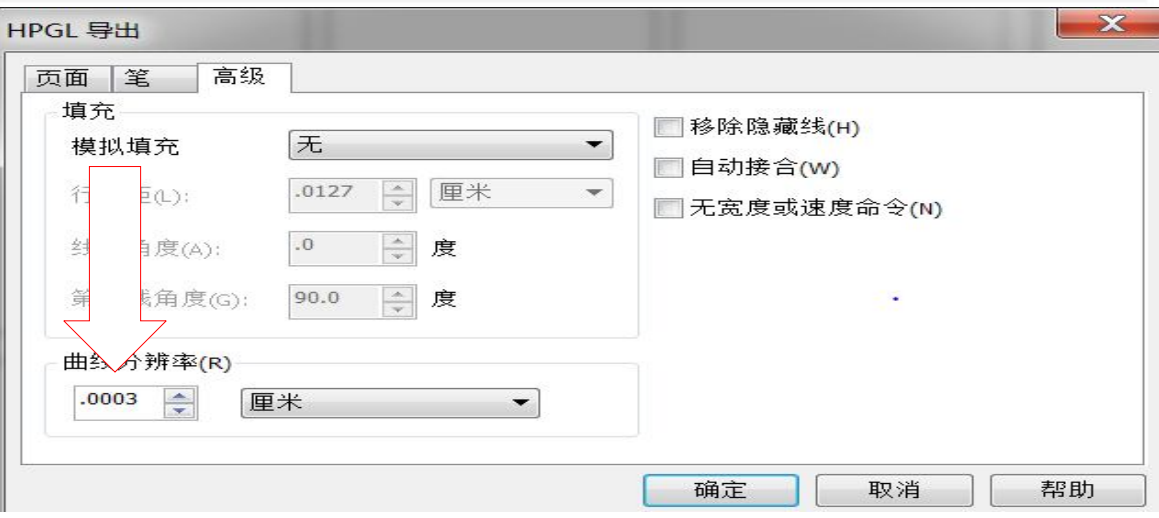
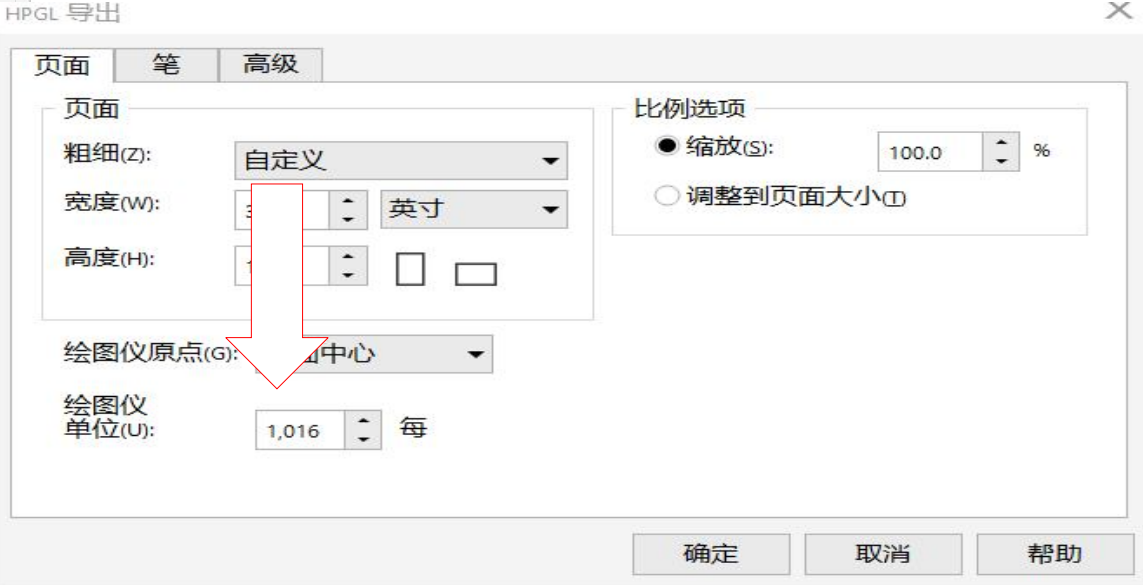
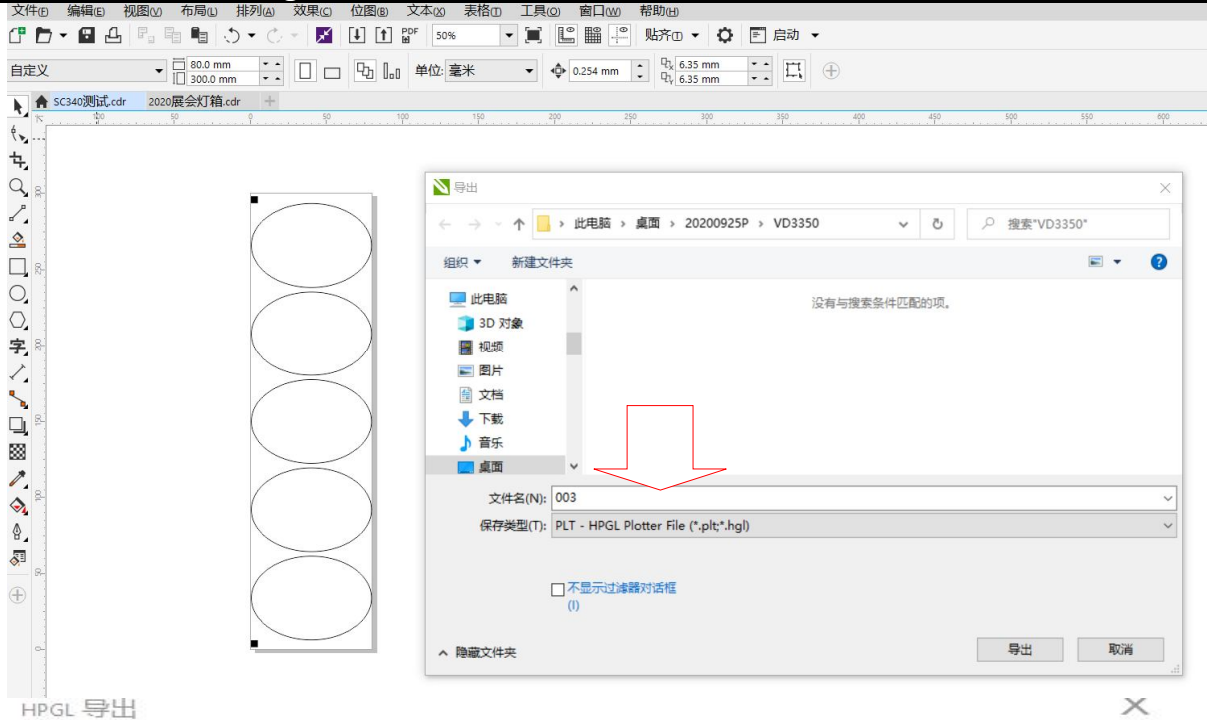
5-3-2 make cutting file in CDR



Hide the printed content and delete the number. Rotate the cutting file 90 degree anticlockwise as showed in picture.

Noted: The position of the black mark must be consistent with the position of the printed file, the content cannot exceed the layout.

5-3-3 make cutting file in CDR



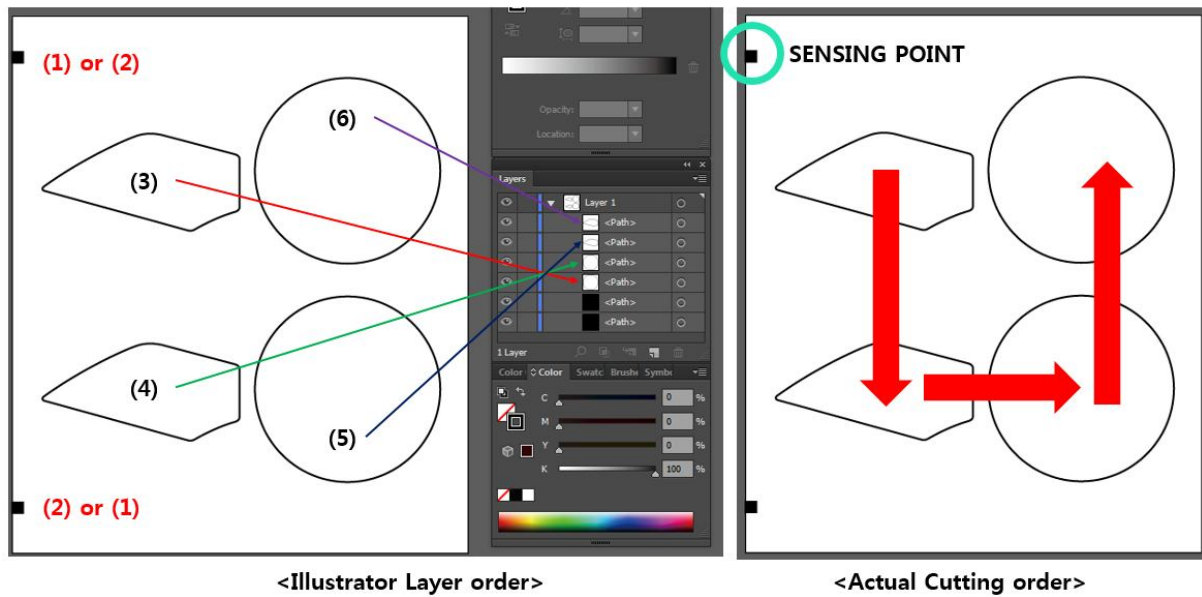
Export the die cutting file into PLT format. The plotter unit is 1016 and the curve resolution should be 0.0003.

5-3-4 Make cutting file in Adobe Illustrator

After set black order Objects in design file needs to have proper order, just like the sequence of black marks. It is important to make the cutting head movement path as simple as possible, to reduce the inaccuracy and maximize the cutting speed. For example in below <Picture 7.6.1.1.>, the illustrate sequence of objects will optimize and simplify the path of cutting head movement.

! Caution

Please arrange layer order as like a picture. If you want to change cutting order, you can re-arrange (3),(4),(5),(6) as you want like <PICTURE 5.2.1.>. Then it is cutting order.

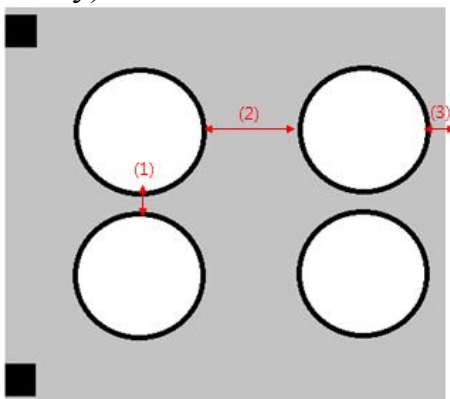


< PICTURE 5.2.1 >

1. The gap between label and end-margin.

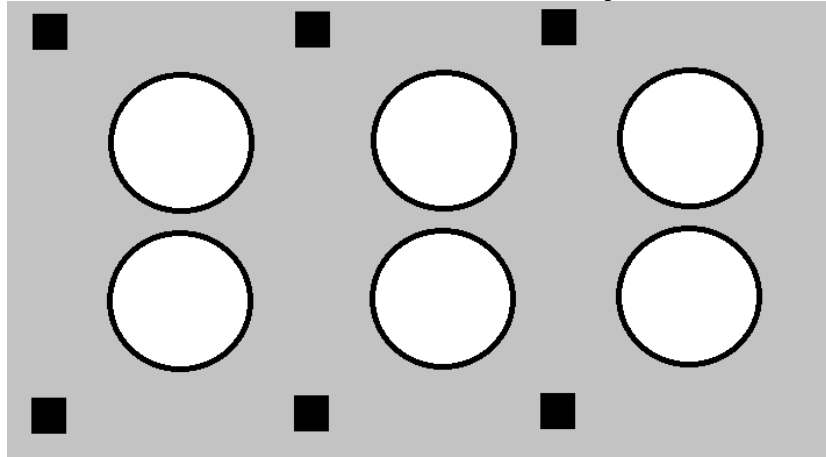
We recommend to have max. 10mm margin in the end of job – distance (3) in below <Picture 5.2.2.>.

If distance (3) is larger than 10mm, next mark cannot be sensed correctly. Gaps of (1) and (2) between labels have no limitation, but recommended gap is 3mm ~ 5mm. Too narrow gap will make problems during matrix removal (weak matrix can tear easily).



< PICTURE 5.2.2. >

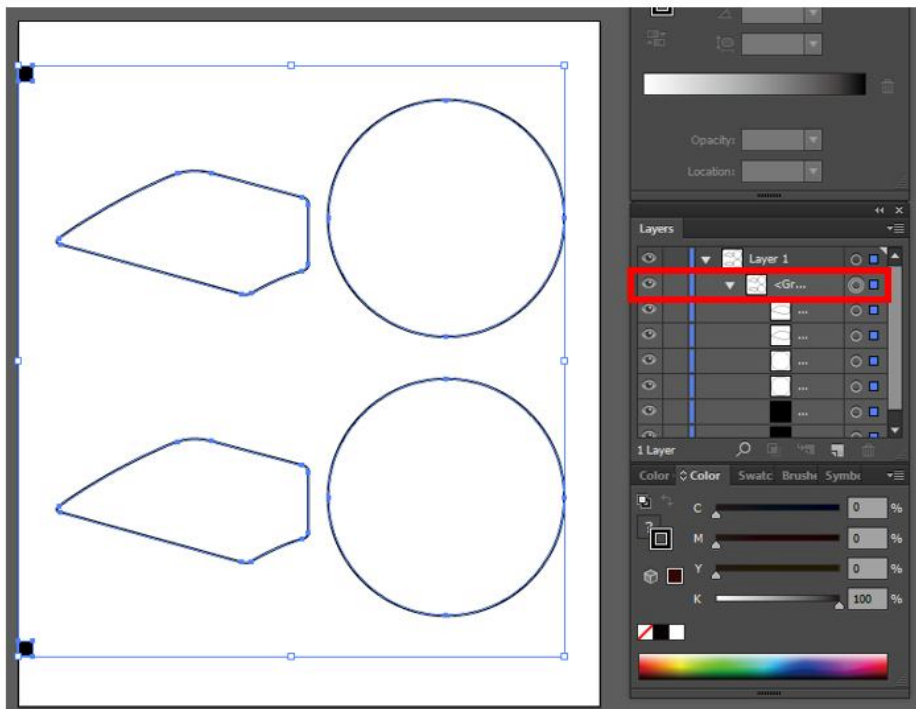
It is also possible to put multiple rows of same images in a single design like <Picture 5.2.3.> Next black mark will not be sensed until one job is finished.



< PICTURE 5.2.3. >

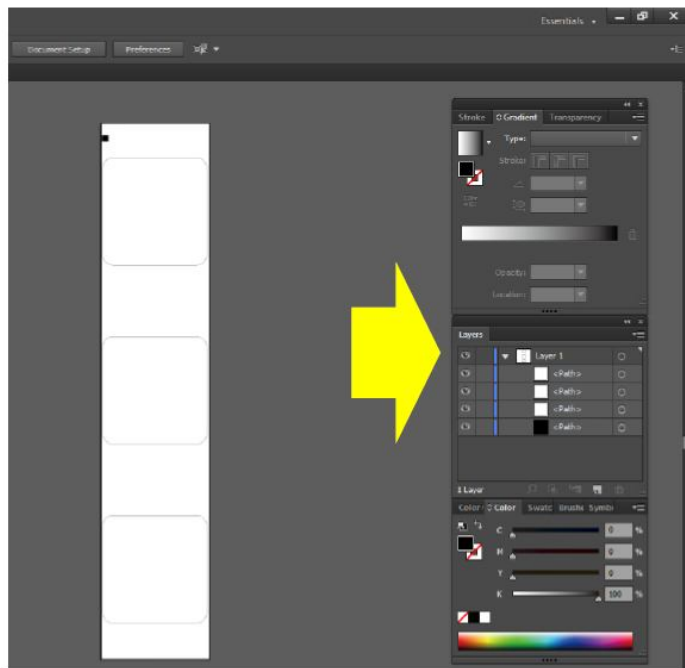
2. Do not use any ‘Grouping’, ‘Compound path’, or ‘Clipping Mask’ function in illustrator.

These functions will cause unknown bugs on AI2PLT converting software.



3. keep one Layer per one cutting file.

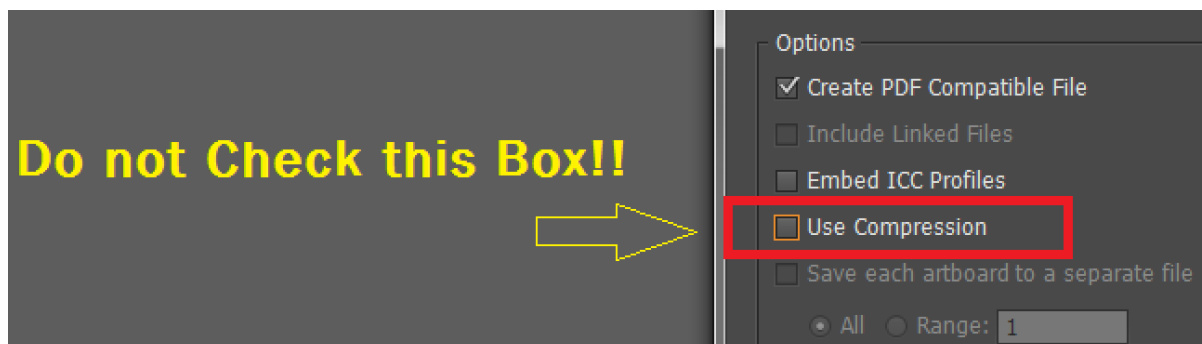
Please do not put more than 2 Layer in one cutting file. 1 cutting file only has 1 layer.



How to Save on illustrator

If you make or revise cutting file successfully in illustrator, then please save as *.ai file. In this time, please save the file **without 'Use Compression' option**.

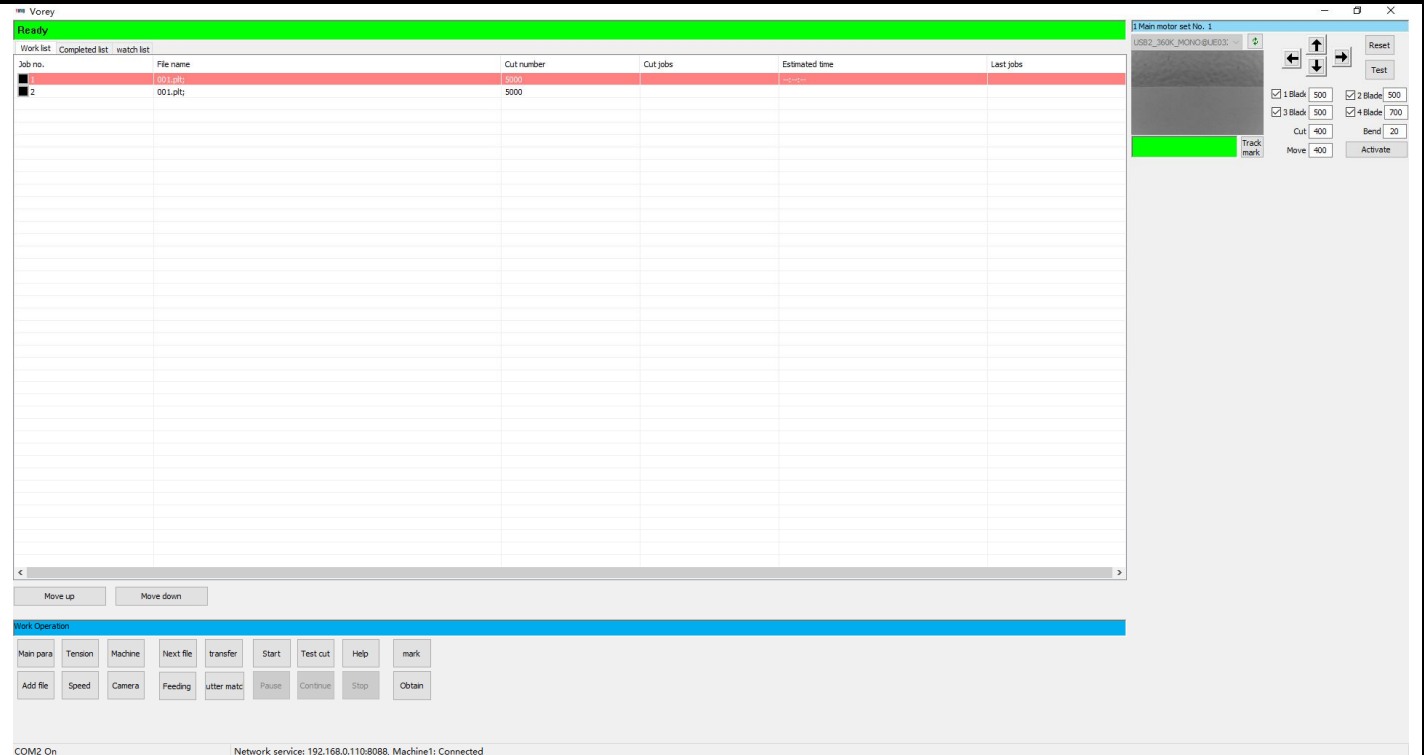
'Illustrator Compression' makes program crashes with 'AI2PLT'. If you forget to remove this option and save the file, it will not be converted in 'AI2PLT'.



< PICTURE 5.2.3 >

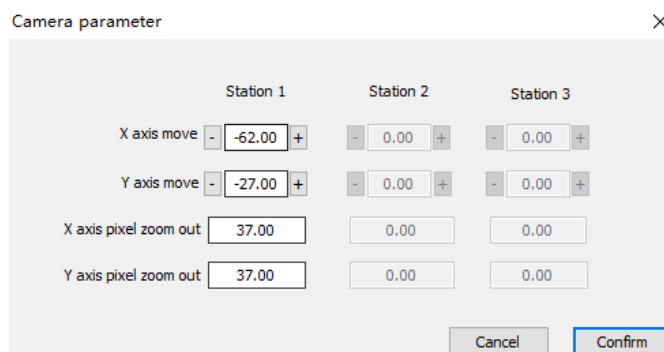
Chapter 6 Operation

6-1



Right click the file in the work list to start.
 Move the sensor to the front of the black mark. Click to try cut.
 Change the cutting depth and the cutting point position according to the trial cutting effect.
 After automatic order change started, the system will execute the cutting file in the work list according to the identified die cutting file number.

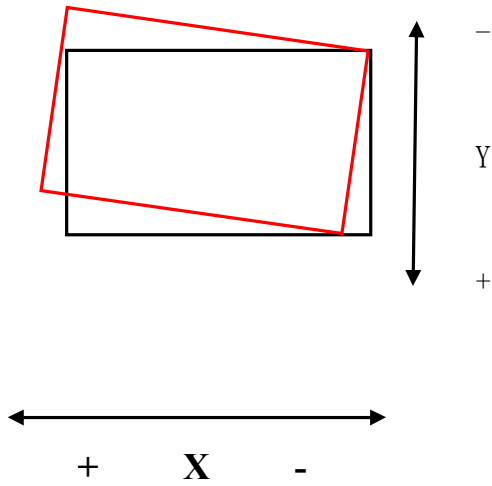
6-2



View the vertical situation of the XY cutting path, XY cutting position, XY scale. If modification is needed, then operate on the panel to change and correct the cutting path.

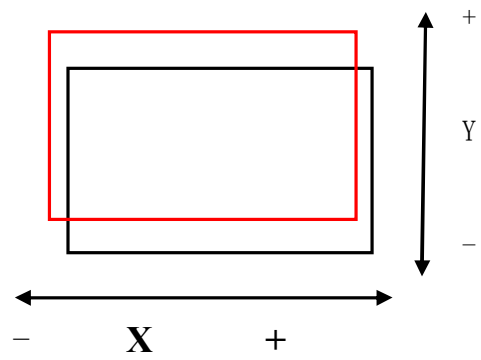
Noted: Make sure the material is straight.

6-3



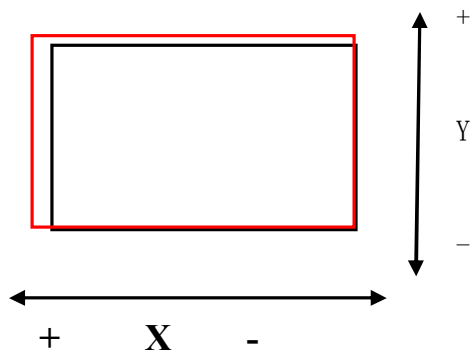
Adjust X/Y verticality in turn to change the cutting position according to the cutting phenomenon.

6-4



Adjust X/Y cutting to change cutting position according to cutting phenomenon.

6-5



Adjust X/Y length and change scale in turn according to the cutting phenomenon.

6-6

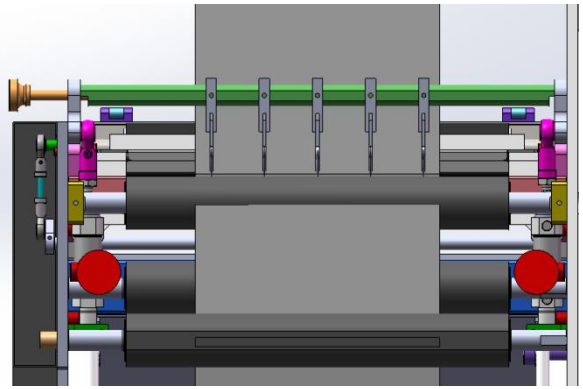
Check the cutting effect after adjustment.
Change the cutting speed relatively according to the cutting effect.
Operate as per 6-1 to confirm working.

6-7



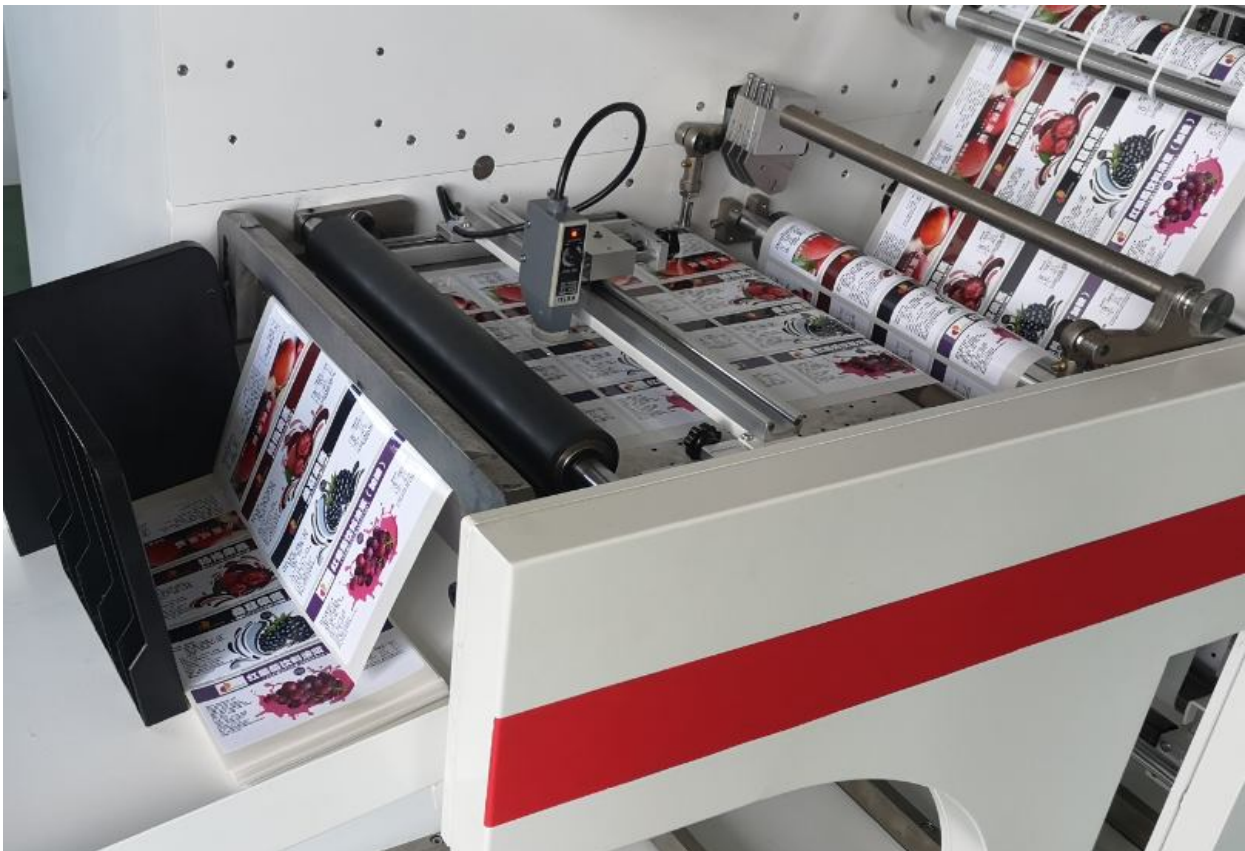
Press “pause”. Install the waste roll. Open the waste removal shaft and set the appropriate tension according to the position. Peel off the film liner. Use the waste to paste it onto the waste roll. Open the rewinding speed regulator and click continue to continue working.

6-8



Press “pause”. Move the slitters to lock tightly according to the position. Press down the slitting roller. Click continues to continue working. Wrap the finished roll as required separately. Open the feed shaft and set the appropriate tension. Clicks continue to continue work. (roll to roll)

6-9



Press pause button. Open the cutter in use in the software, turn on the cutter power .Operate as showed 4-8 (cutter setting) Start the machine .

Chapter 7 Equipment Maintenance

Check the machine's parts every day before use. Please clean the shaft, roller and cutter holder with alcohol and gasoline if there are some dust or debris on them. The basic clean must be done, the cleaning frequency depends on the material used. Dust may block the moving of the die-cutting system and cause the moving incorrect; even there is risk and effect the life-span of equipment. It can even endanger the life time of the working system.

General cleaning and maintenance procedures

1. Make sure the system and the main power are turned off.
2. Clean the dust and Clean the dust and residual adhesive on the machine surface .
3. Remove the dust or material debris from the machine
4. Wipe the working platform with adhesive remover and dry it with soft cloth
5. The guide rail shall be cleaned regularly and added with mechanical lubricating oil.
6. Clean the dust on the roller.

Daily Maintenance :

Daily minor maintenance and weekly major maintenance

Carefully check the use and operation of the equipment and fill in the shift handover record .

Clean all parts of the equipment and lubricate them regularly. Pay attention to the loosen parts at any time, adjust and eliminate small defects of the equipment due to the movement, wearing, internal stress and other physical and chemical change processes of the equipment, Constant changes in technical conditions ,some inevitable anomalies are bound to occur. Do a good job in equipment maintenance can prolong the service life of the machine.

Please strictly follow the maintenance requirements no matter what conditions the machine is .

Maintenance needs

1. The maintenance personnel shall know the operation and use specifications of the machine, be trained and authorized.

2. Before maintenance, the machine shall be powered off

Machine maintenance



2.1 Daily cleaning



Clean the residual paper ash and glue on the roller (metal roller ,rubber roller)surface before starting


Check whether the air pressure is stable before starting the machine every day(the air pressure of X roller, tension roller and rubber roller to be 0.4mpa,floating rollber to be 0.5mpa)


Clean the paper scraps and glue in the cutter holder before starting the machine every day, check the flexibility of the blades and blade holder.



2.2 Regular maintenance

<i>1. Die Cutting Head maintenance</i>			
① cutting head screw			
cutting head screw 		cutting head 	
Service interval	15days	Service interval	15days
Maintenance supplies	00#lubricating oil	Maintenance supplies	00# lubricating WD-40
quantity	1	quantity	8
Regular adding		Clean the guide rail with dust-free cloth and spray WD-40	

<i>2. Floating roller (Wipe with alcohol before maintenance)</i>			
rodless cylinder 		cutter testion 	
Service interval	7days	Service interval	7days
Maintenance supplies	WD-40	Maintenance supplies	WD-40
Quantity	4	Quantity	2
Clean the surface with a clean cloth before maintenance		Clean the surface with a clean cloth before maintenance	

<i>3. atomizer</i>	
atomizer	
	
Service interval	30days
Maintenance supplies	oil for atomizer
quantity	1
Open the atomizer switch gently to prevent oil from entering the air pipe	

<i>4.bearing</i>	
bearing	
	
Service interval	7days
Maintenance supplies	WD-40
quantity	14
Clean the residual glue and paper ash on the surface of the cutter regularly	

<i>5.cutter</i>			
cutter sponge		stop screw	
			
Service interval	7days	Service interval	7days
Maintenance supplies	lubricating oil	Maintenance supplies	White lithium grease
quantity	1	Quantity	2
Clean the residual glue and paper ash on the surface of the cutter regularly		Add white lithium grease regularly	

Remarks: Maintenance supplies include WD-40, 00# lubricating oil, alcohol Oil pot clean cloth

Info explanation:

No.	Status	Description
1.	Standby	The machine is ready
2.	Off-line	The machine is off
3.	Cutting	The machine is cutting
4.	Cutting Pause	Cutting pause
5.	Host reset	Motor of Y axis and blade distance reset
6.	Sub machine reset	Media feeding reset
7.	Manual test	Move the direction and try test status
8.	Network connection	Computer and host network communication
9.	Tracking	Camera recognition
10.	Blade adjusting	Adjust the distance between each blade
11.	Emergency stop	Displays after pressing emergency stop
12.	X motor alarm	X axis motor error ,restart
13.	Y motor alarm	Y axis motor error ,restart
14.	Feeding motor alarm	Feeding motor error, restart
15.	Rewinding motor alarm	Rewinding motor error , restart
16.	Cutter matching pause	When the cutter stops, the host pauses . Recovery after starting cutter
17.	Media feeding	Feeding motor in working
18.	Pause without media	Feeding shaft diameter less than preset. Click continue to continue working
19.	Media moving	Displays when click media moving
20.	Wait , device resetting	Displays when the machine resets
21.	Wait ,Network connection	Displays when power on
22.	Wait, blade distance adjusting	Displays when adjusts the blade distance
23.	Sending fail, Serial port not open	Displays when connection error with host
24.	Communication timeout	The connection with the host has timed out or conflicts with other instructions
25.	Work list out of index	displays when no cutting file
26.	The number or file name already exists	The number and file name have been used, deletes one
27.	File does not exist, stop working	The recognized file number has no matching file
28.	Failed to send file	Displays when Network connection failure or computer standby , restart
29.	Changing job	Displays when auto job changing
30.	Machine responses command timeout, try again?	Restart the machine and software

Troubleshooting

Panel error	Issue	Solution
Parameter synchronization fail	Communication error between computer and main board	Please contact your supplier if cannot be normal
Resetting	Resetting sensor error.	◦ Please contact your supplier if cannot be normal.
ports error	communication error between pc and machine	Check whether PC port and software port are normal
software	Test probation valid	Please contact your supplier.

Common troubleshooting

Problem	Reason and Solution
The cutting depth is different. Some backing sheet are cut but some are not.	1、 Pls check whether the blade tip is damaged 2、 Foreign matter inside the blade holder . pls clean or replace it . 3、 The knife cushion strip is not parallel to the cutting head
The corner of the label is stirred up, not smooth.	1.Check the node at the corner of the file 2.The blade is damaged, pls replace it . 3. Foreign matter inside the blade holder . pls clean or replace it
The label is out of shape and not in order.	1. There are too many nodes in the cutting file 2. the file connection adjustment value is too small in the software
Die-cutter system moving wrong and cutting wrong	1、 Incorrect file set 2、 File is interrupted during output 3、 Software damage or computer virus 4、 Disturbance from electric welding, radio stations, machine tools and other interfere

Media feeding incorrect	<ol style="list-style-type: none"> 1、 The media is installed improperly 2. The pressure at both ends of the feeding roller and laminating roller are uneven or deformation. The media is easy to deviation by external force.
Track mark incorrect	<ol style="list-style-type: none"> 1.The color of black mark and surrounding is very similar, and sensibility is low. Adjust the sensibility of the sensor. 2.The media sides are not smooth and its edges upturned.
Media rewinder is uneven	<ol style="list-style-type: none"> 1、 The media is installed improperly 2. the rewinder roller is dirty or with glue residue which causes the media deviation left and right 3、 The force is uneven at both sides of the feeder roller and laminating roller which causes the media deviation by external force. 4、 The web guide is not working , the deviation correction function has reached its limitation . 5、 The friction of the rewinder roller is uneven . pls adjust the friction of it .
Waste removal incorrect	<ol style="list-style-type: none"> 1. The media is not fully cut. 2. The cut shape is not closed 3. Adjust the waste removal angle, the bigger angle the smoother removal. 4. Adjust the speed and friction of the waste removal shaft. The higher rotation speed, the better waste removal. Interruption of scrap can be caused by too much friction.

Chapter 8 Warranty

Anhui William CNC Technology Co., Ltd. (“VICUT” hereunder) will provide reasonable monitoring and preventive measures to ensure that users can use qualified products. Under any circumstances, VICUT's responsibilities are limited to the contract price and will not be liable for the excess part.

Warranty period:

- A. The warranty period is within 12 months from installation date.
- B. Inform VICUT immediately for any product or workmanship defect after getting the machine. VICUT will decide to repair or replace as necessary.
- C. Replacement and repair costs for defective parts during the warranty period are to be borne by wally
- D. Within the warranty period, users should strictly follow the operational guidelines for related operations. VICUT is not liable for any of the following
 - 1) Incorrect installation, storage, use or operation of product.
 - 2) Altering or modifying the machine without VICUT’s consent
 - 3) The machine is serviced by maintenance personnel who have not been trained by VICUT.
 - 4) Using accessories or consumables supplied by an uncertified third party.

The above said 12 months warranty period does not apply to wearing parts and consumables listed below:

- 1. Rubber roller, slitting roller.
- 2. Cutting holder, blade, slitting unit and razor.

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