

INSTRUCTION MANUAL



Model: FK602

Name: Semi-automatic Round Bottle Labeling Machine

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Labeling machine

Chapter 1 Statement

1.Matters need Attention

1.1FK602 is equipped with single and double labeling functions and you can switch manually with ease.Please refer to relevant chapter.

1.2 As this labeling machine is a non-standard equipment, only trained workers are expected to operate it.

1.3 Operating this equipment needs to be in accordance with the instructions in the manual or under our technicians' guidance.Notice that some mechanical parts described in this manual are used for instruction only,not included in the standard configuration.

1.4 This operation manual applies to FK602 ONLY and aims to ensure correct operation and adjustment.And we hold the final explanation right of this manual.

2.Rights Reserved

1.We will provide service of updating the mechanical parts,electrical parts and the software,but charge fees accordingly.

2.We will not responsible for any machine problem that caused by your arbitrarily movement,and you should not change the machine without our engineers' suggestion.

3.Optional function :hot stamp printer and other needed functions.We will provide



technical support for you but hold no responsibility for the optional functions.

4. We hold intellectual property rights for this machine and machine instruction, we will look into legal responsibility if copyright or something like that occurs.

3. Safety Considerations

1. Electric shock Caution! Earth wire is indispensable for operating this machine, make sure you have one.

2. Caution! Voltage overloaded is dangerous.

3. Caution! Do not touch the circuit in the electric box without our technician's guidance.

4. Caution! Do not touch the running mechanical parts.

4. Operation Cautions

Only trained worker are allowed to install, operate and maintain the equipment.

The operator should be equipped with these qualities:

——be able to operate the machine safely by himself.

——be able to fix the small mistakes by himself.

——there should be at least 2 people at hand to provide guidance for him .

5. Operating Environment

Please do not use this machine in the following environment:

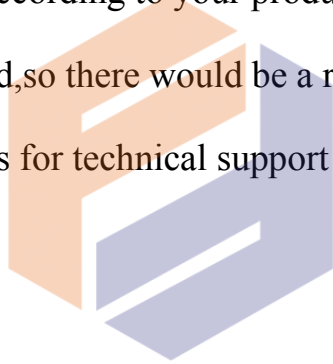
- with great temperature variation
- with high humidity



- with strong vibration or impact
- dusty
- where there is water, oil, chemical splashes
- Where there is a risk of explosive, flammable items

6.Run-in Period

This machine are tailor-made according to your product,being nonstandard equipment and the operator must be trained,so there would be a run-in period of 1 month or so.In the run-in period,you can ask us for technical support if the machine can not reach to your requirement.



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Chapter 2 Introduction

Labeling machine

1.Basic Use

Suitable for all kinds of cylindrical objects labeling, small taper round bottle labeling, such as xylitol, cosmetics round bottles, wine bottles and so on. Can achieve full week / half weeks labeling, front and back labeling circumference, the back mark pitch can be adjusted. Widely used in food, cosmetics, chemical, pharmaceutical and other industries; Optional ribbon coding machine or hot stamp printer, print production batch labeling and other information at the same time, reduce packaging



processes, improve production efficiency.

2.Application Scope

1.For label: self-adhesive labels, self-adhesive film, electronic supervision code, bar code, etc.

2.Application: Requirements in the circumferential surface, conical surface of the attached label products; label can be attached to a single or double standard labeling.

3.Industry: Widely used in food, pharmaceutical, cosmetic, electronic, metal, plastics and other industries.

4.Application: Oral round bottle labeling, vial labeling, labeling xylitol, shampoo bottle labeling, double-labeled wines, wines designated stickers are standard and so on.

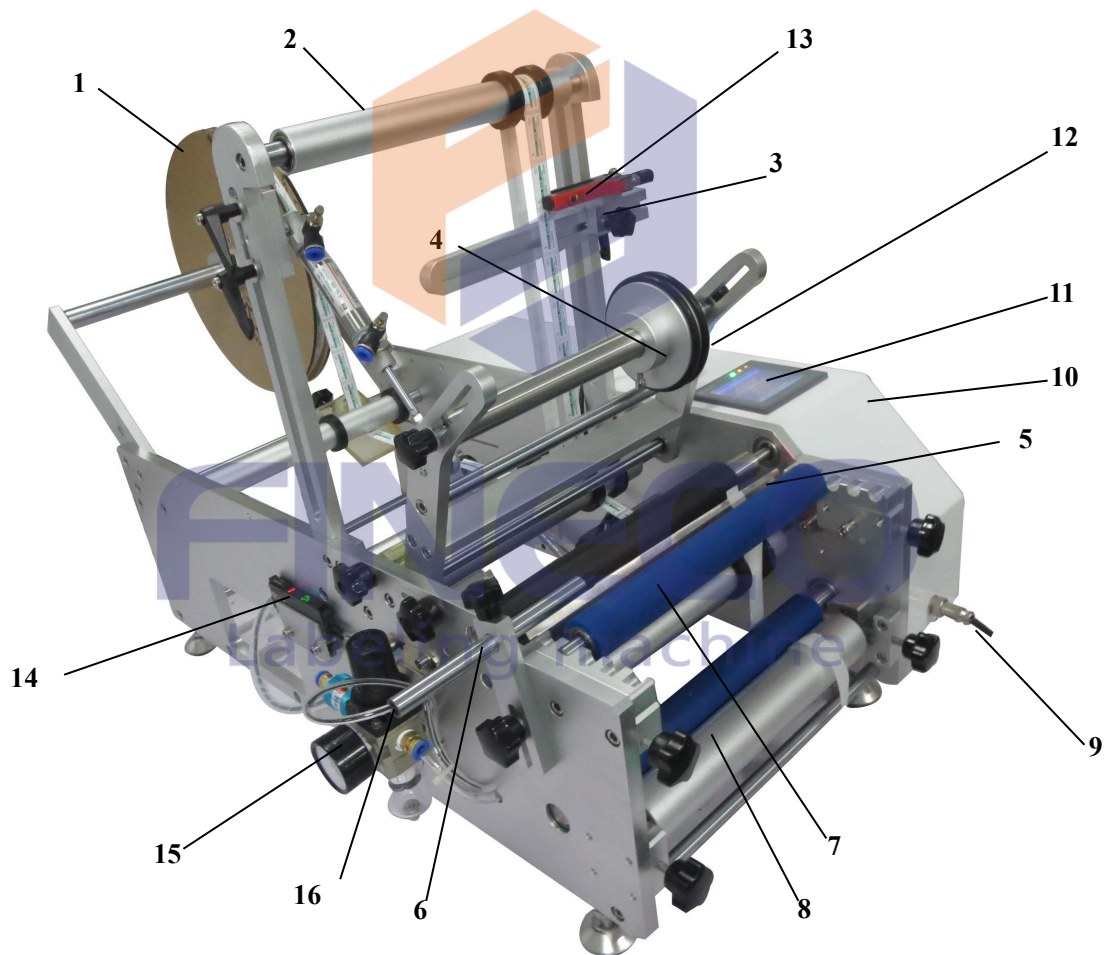
3.Technical parameters: (The following are the standard technical parameters,other special requirements and functions can be tailor-made)

- ◆ Suitable label length (mm): 20mm ~ 200mm
- ◆ Applicable Label width (backing paper width / mm): 20mm ~ 220mm
- ◆ Applicable Products diameter (for round bottle): ϕ 15mm ~ ϕ 150 mm
- ◆ Applicable standard roll diameter (mm): ϕ 240mm
- ◆ Applicable standard roll diameter (mm): ϕ 76mm
- ◆ Labeling accuracy (mm): \pm 0.5mm
- ◆ Labeling speed (pcs / min): 15 ~ 30pcs/min
- ◆ Weight (kg): about 45kg
- ◆ Frequency (HZ): 50HZ
- ◆ Voltage (V): 220V
- ◆ Power (W): 120W
- ◆ Device dimensions (mm) (L \times W \times H): 920mm \times 420mm \times 500mm

Chapter 3 Configuration

1.Overview

The configuration and function of each part are as following:



1.label tray:placing the label roll;

2. roller: keep the tension of label.

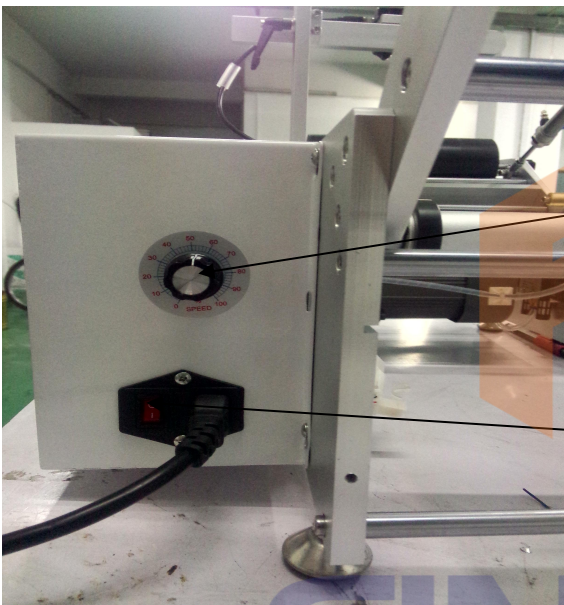


- 3.sensor frame:placing the sensor,can be adjusted.
- 4.capping device : designed to fix the bottle and strengthen labeling effect,can be adjusted by the knob on the left side of the machine.
- 5.label-peeling plate: peel the label from the backing paper.
- 6.positioning device : ensure labeling on the appointed location,can be adjusted up,down,left and right.
- 7.support rod: can be placed in different slots to adapt to different bottles.
- 8.traction device: motivate the label movement.
- 9.the interface of foot switch.
- 10.electric box:contains the electric configurations.
- 11.touch screen: testing and setting parameters.
12. emergency stop switch:stop the machine when it runs wrong.
- 13.label sensor:detect the distance between every two labels.
- 14.product sensor:detect product.
- 15.filter:filter out the water and other impurities in the air; air pressure:0.2—0.6Pa.
- 16 fiber:detect product.



2.Detailed Picture

2.1 Control Panel : (positioning labeling and automatic sensor are optional functions,appropriate sensors are needed.)

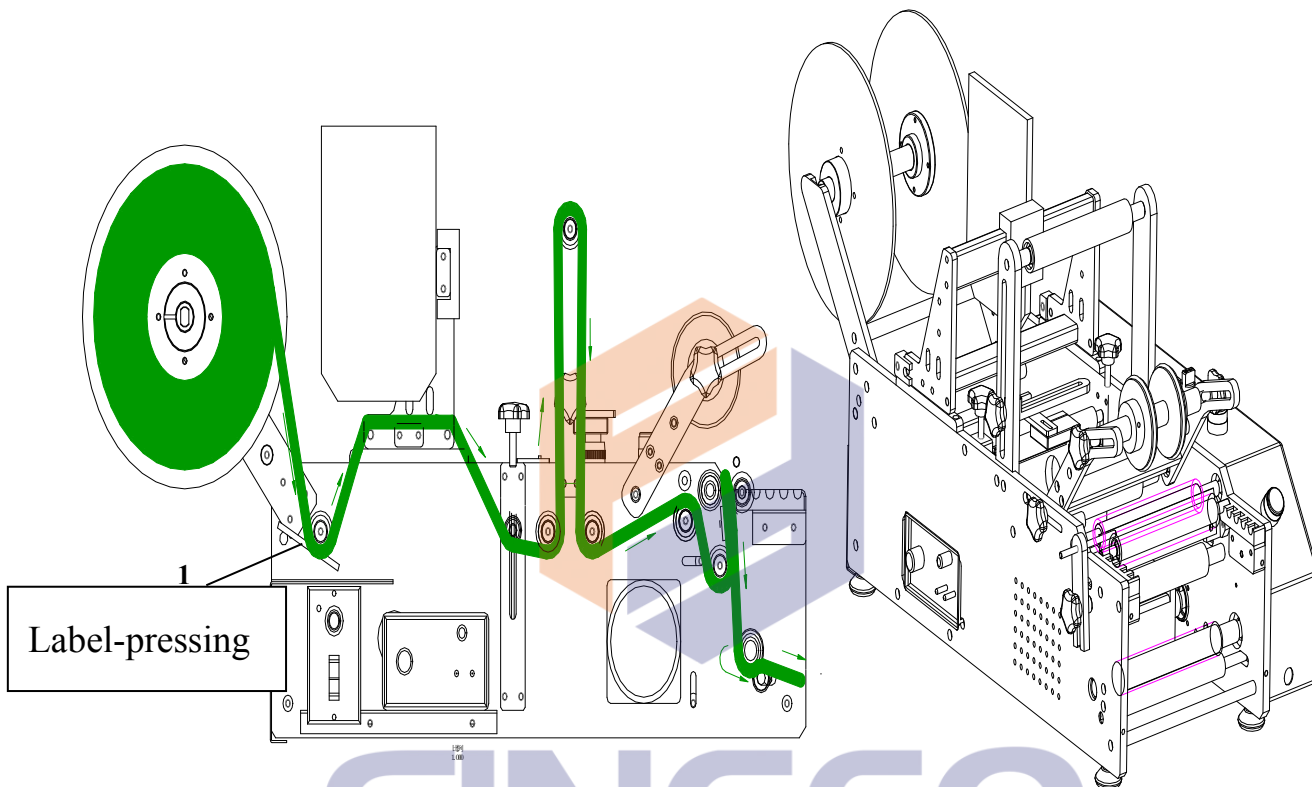


1.main switch

2 motor speed control knob

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2.2 Label Winding

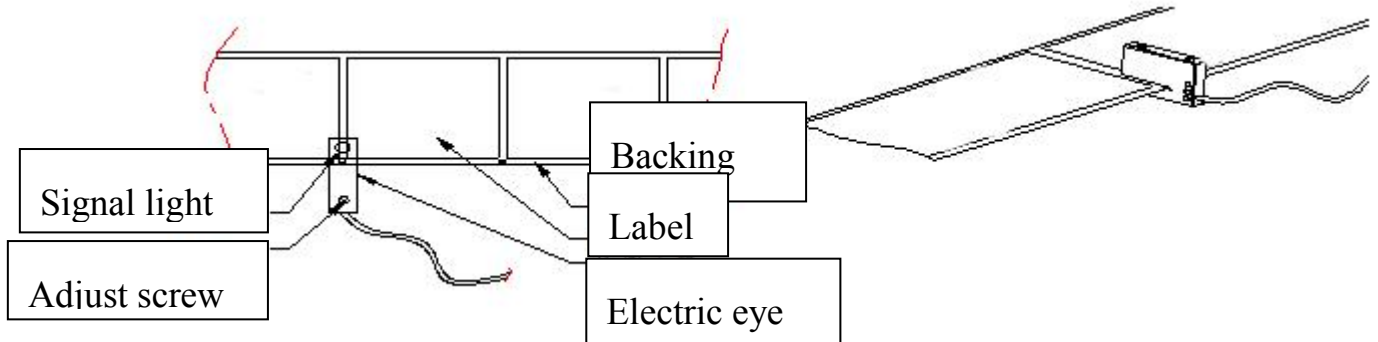


1.step1 :winding the label according to the diagram above,loose the traction device when the label goes through andFasten it after that.

2.step2:keep the label goes straightly,click the “jog label out ”under manual condition to correct the label.

3.step3:adjust the pressing plate to keep the tension of the label.

3. Label Sensor

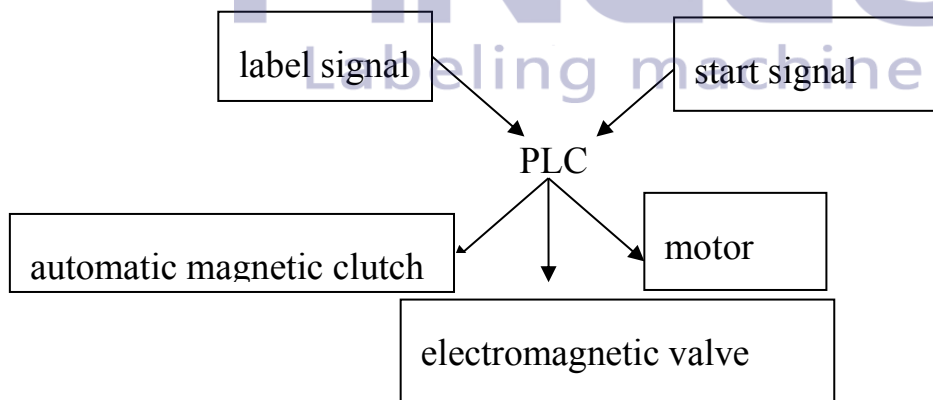


Attention:

- a. The label must go through the detective slot and doesn't touch the sensor.
- b. Tighten the traction device after the backing paper goes through.
- c. Tighten the pressing plate to keep tension of the label easier to be detected by the sensor .

Chapter 4 Controlling System

1. Labeling Machine



The core of the machine is PLC, which receives start and detect signals and outputs signals to start the automatic magnetic clutch, the electromagnetic valve, and the motor.



2.Labeling Process

2.1 press the foot switch,the electromagnetic valve drive the capping device down,motor start to rotate the label-covering roller,thus the product rotated.At this moment,the automatic magnetic clutch is loose and the traction roller stay.

2.2 when the the product rotating, PLC starts “label delay”direction,the automatic magnetic clutch close and the traction device start,label peeled.

2.3.1 Under “single label” condition,the label sensor detect the product and send signal to PLC,then the automatic magnetic clutch loose and the motor keep rotating for a while,then the labeling completed.

2.3.2Under “double-labeled”condition,the label sensor detect the first label and send signal to PLC,automatic magnetic clutch loosed and the motor keep rolling;The second label will be peeled in the same way by setting appropriate parameters.

3.Touch Screen

3.1 Welcome Page: click the screen to enter the homepage.



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欢迎使用

半自动圆瓶贴标机

*Welcome to use Semi
Automatic Round Bottle
Labeling Machine*

中文

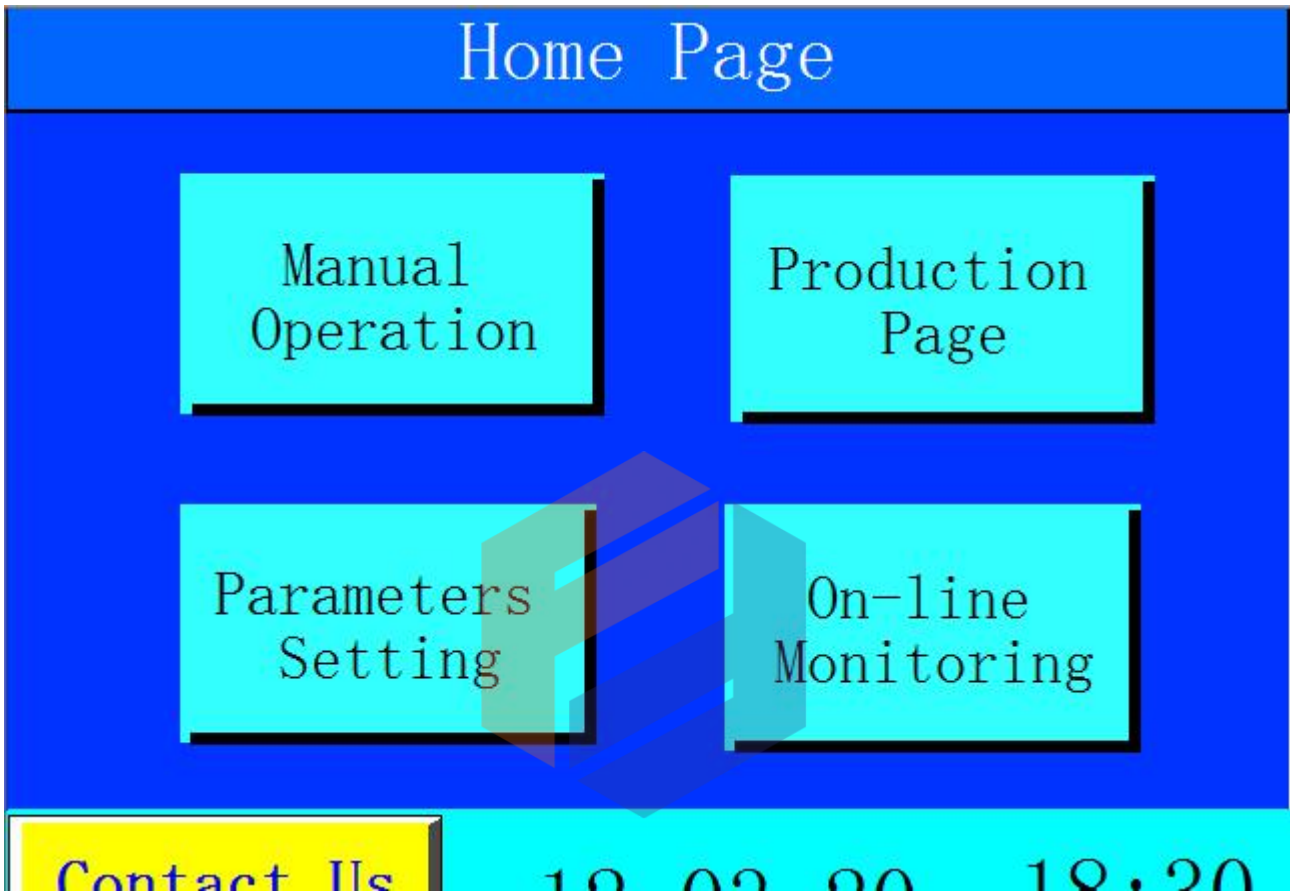
电话Phone: 400-966-4686

传真 Fax: 0769-85829481

English

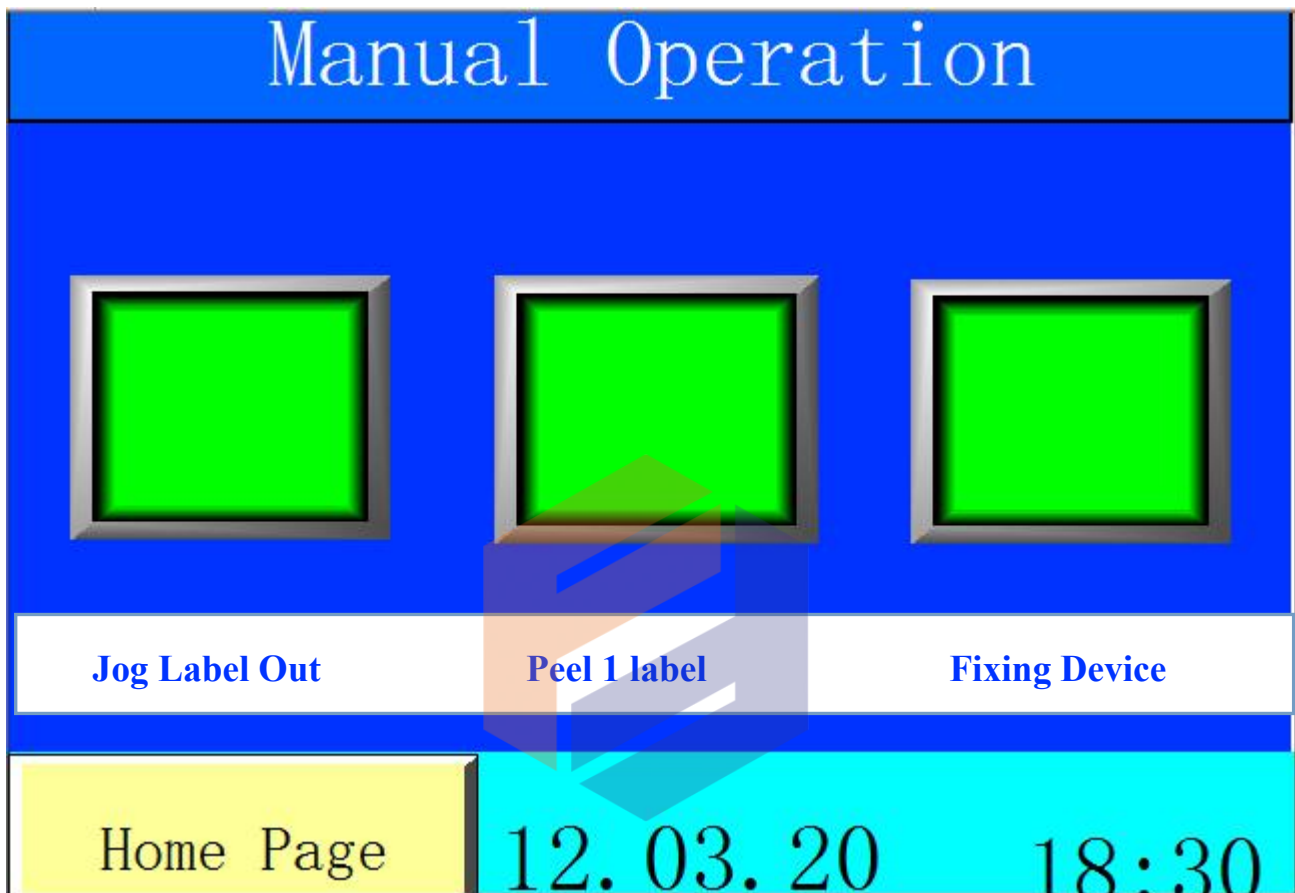
3.2 Home Page: there are four sections of the home page, click to enter the different interfaces.

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3.3 Manual Operation Page: control the machine parts manually when adjusting .

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-Jog Label Out: click to jog the label out little by little, it is used to make a newly placed label roll go smoothly.

-Peel One Label: click to peel one label out,it is used to adjust the length of the peeled label that stretches out the label-peeling plate.

-Fixing device:press bottle from the top,in case the bottle is to light to roll steadily.

3.4 Production Page: Monitoring production condition and selecting labeling type.



-Pedal: switch between Pedal switch and automatic switch.

-Single-labeling: in this mode, the machine will stop after one labeling completed.

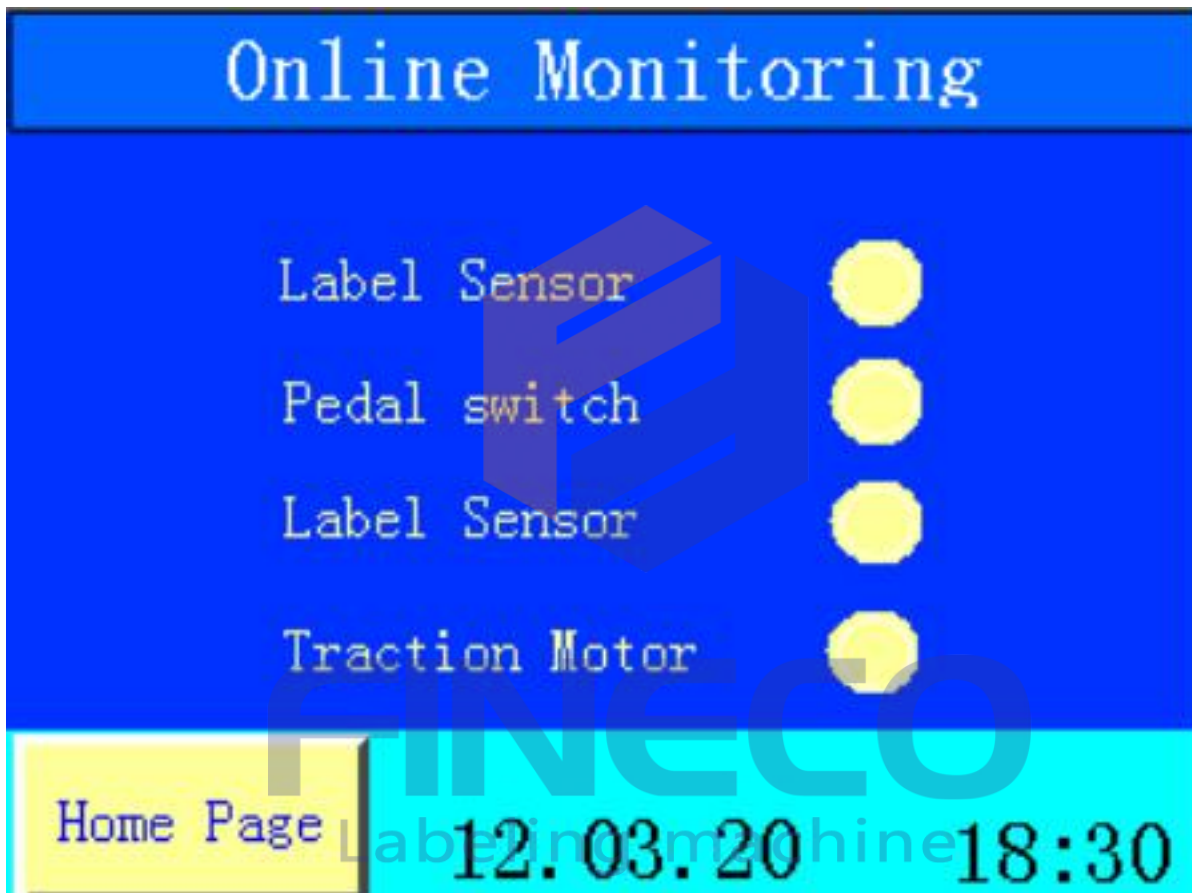
-Double labeling: in this mode, 2 labels would be stuck one by one, it usually be use in front and back labeling;

-Reset: clear the parameters set before;

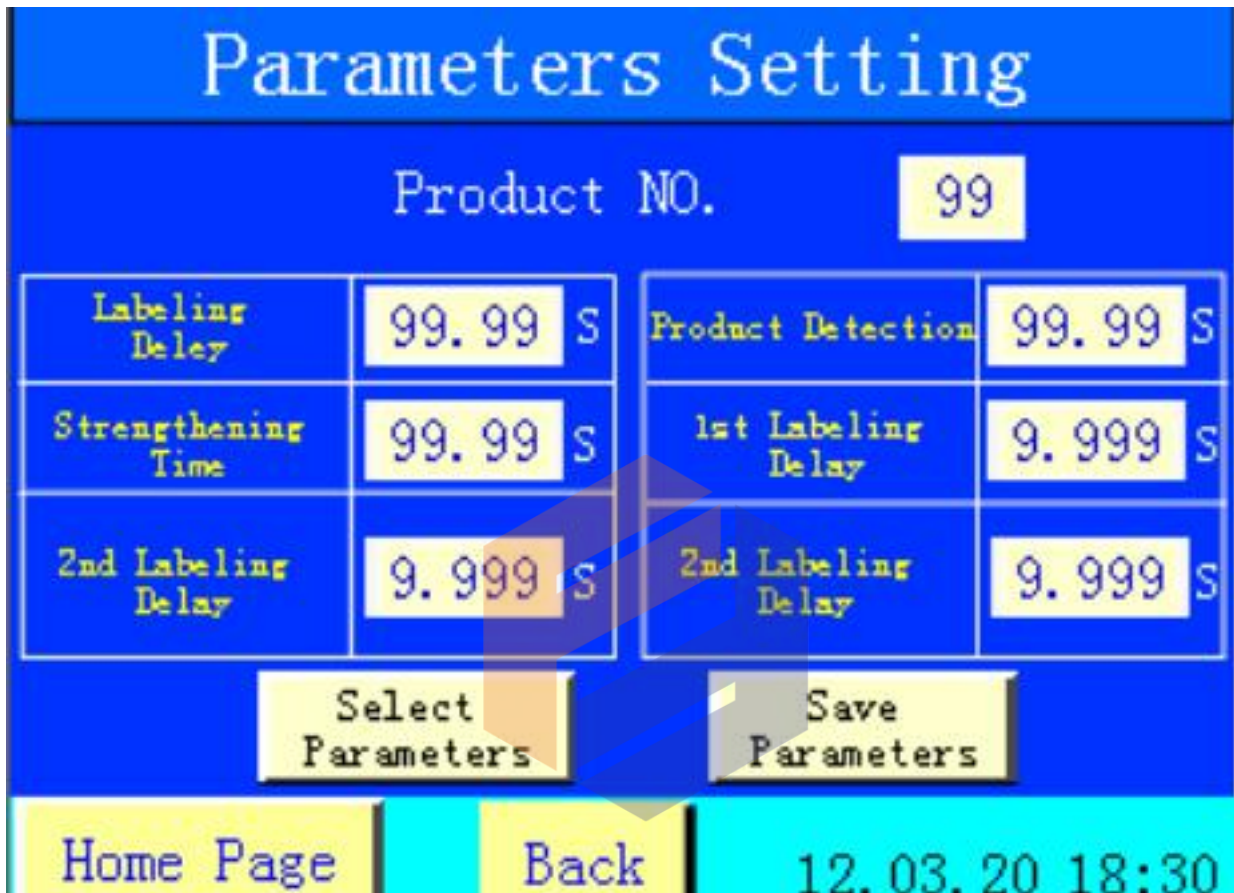
-Plan Number: the machine would remind you after reach to the plan production number.



3.5 On-line Monitoring: monitor the conditions of each configuration,if the small circle turns blue,it means the corresponding configuration is working,this page is used in fault detection.



3.6 Parameter Setting: Setting parameters.



-Labeling Delay: typically be 0. with this parameter, the labeling process will not start immediately after receiving the product sensor's signal, but delayed. Only used in the following condition: Neither moving the product sensor nor adjusting product position can make the label stick to the designated place.

-Strengthening Time: after label pasted, the product will keep rotating for certain time to strengthen labeling effect.

-2nd Labeling Delay: under "double-labeled" condition, the second labeling will start after the set time, use this function to adjust the distance between every two labels.

-Product Detection: the labeling will not start until the set time past, in case the



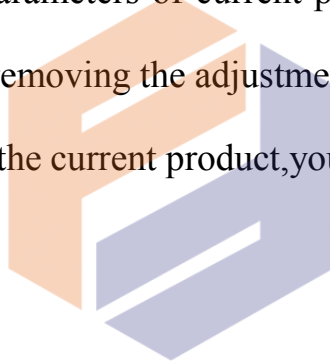
machine will start working before the operator's hand still on the machine;

-1st Labeling Delay: under "Single-labeled Positioning" condition, leave time to let the positioning sensor detect the right labeling location.

-2nd Labeling Delay: under "Double-labeled Positioning", the second labeling won't start until the set time passed, use it to adjust the distance between the two labels.

-Save Parameters: save the parameters of current product, you can select this set of parameters in next production, removing the adjustment time.

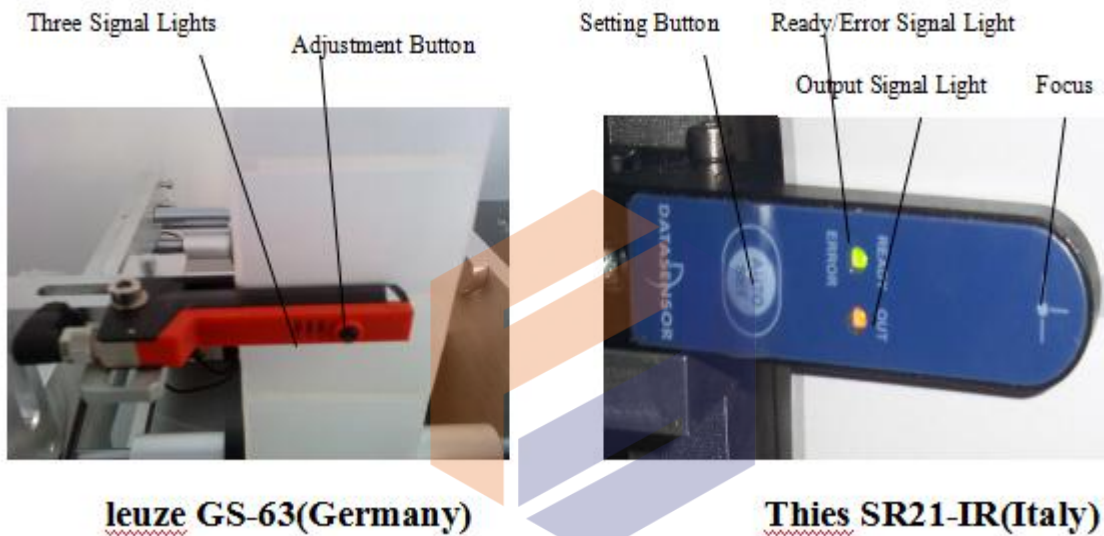
-Product Model: the number of the current product, you can save 50 sets of parameters.



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Chapter 5 The Setting of Sensors

1.Label Sensor: (just for instruction use,not means the it being the sensor of your machine)



leuze GS-63(Germany)

Thies SR21-IR(Italy)

1.1 the Adjustment of Leuze GS-63:

1.1.1 Work principle : light penetrability,the light penetrability of the label is different from the gap between two label,suitable for paper label or the label has certain thickness.

-Green signal light : power light;

-Yellow signal light: status light (it lights up when output signal) ;

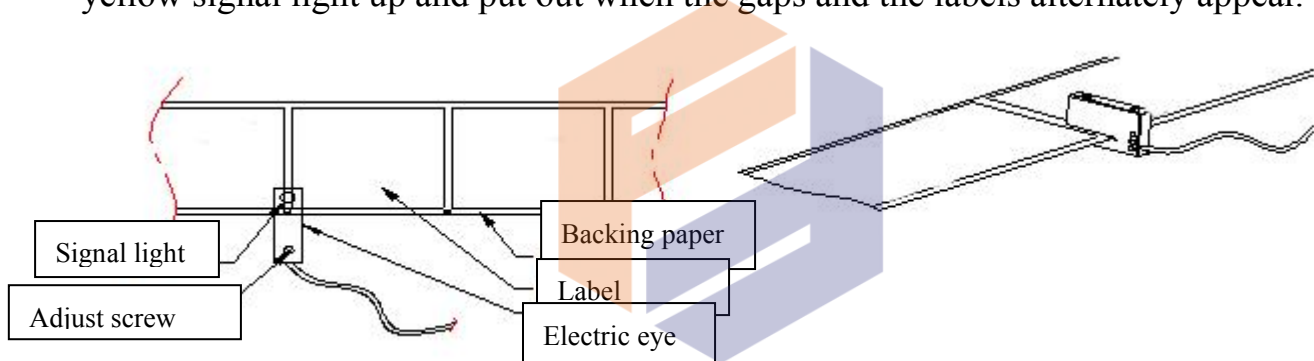
-Adjustment Button:used for setting detect parameters of different labels;

1.1.2 Setting Method:

Make the label pass through the slot of the sensor and pull it,if the yellow signal light up when the label gaps pass and put out when labels pass,it means the label sensor



works well and can be put into use directly.If not,you need to reset the label sensor: : firstly,put label in the slot of the sensor, press the adjustment button for 3 seconds and you will see the yellow signal light flickers,then release the button,pull the label to make the gap between two labels in the slot,press the adjustment button again for 8 seconds,then release it,thus adjustment completed.Pulling the label,you can see the yellow signal light up and put out when the gaps and the labels alternately appear.



1.2 the Adjustment of Datasensor SR21-IR(Italy)

1.2.1 Work principle: the intensity of light,one side of the sensor launch light and the other side receives,the intensity of the received light changes when the label and the label gaps alternately appears,suitable for the label that made of different material from the backing paper.

1.2.2 Setting Method:

When the “ready” signal lights up,put the label on the focus of the sensor,pull the label back and forth,and if the output signals change,the sensor can be put into use directly.

1.Move the label sensor on the backing paper.Press the automatic setting button,the



green and yellow signal lights would put out and the sensor begin capture signal of the backing paper,you can not move the label until the green signal light flickers.

2.When the green signal flickers,move the label sensor to the label.

3.Press the “AUTO SET” button and the green signal put out,the sensor begin to capture signal again,do not move the label until the green signal light up.

4.Pull the label back and forth, the output signal light up in the dividing line of the two mediums,thus the setting completed.

5. “READY” signal lights up shows that the sensor can work under the condition in which two mediums alternately appear.

2.Product Detect Sensor: (just for instruction use,not means the it being the sensor of your machine)

2.1 the connection method of FX-501 Series:

please connect the product detect sensor as the picture.



2.2 Work Principle:



The detect sensor identifying objects according to the amount of the light reflection.it launches light on the object and the object reflects light to the sensor,when the amount of light reflection reaches to the set number,the sensor can detect the object and send signal out.

2.3 Status Switching:

Press the “mode/cancel” button, the green signal changes among the “L/D” 、 “CUST” 、 “PRO” , representing different working conditions.

2.4 Settings:

2.4.1 Not laying any product on the detecting place ,open the transparent cover of the amplifier,press the “+”button and adjust the green number to at least 2 times bigger than the red number.just as the following picture.

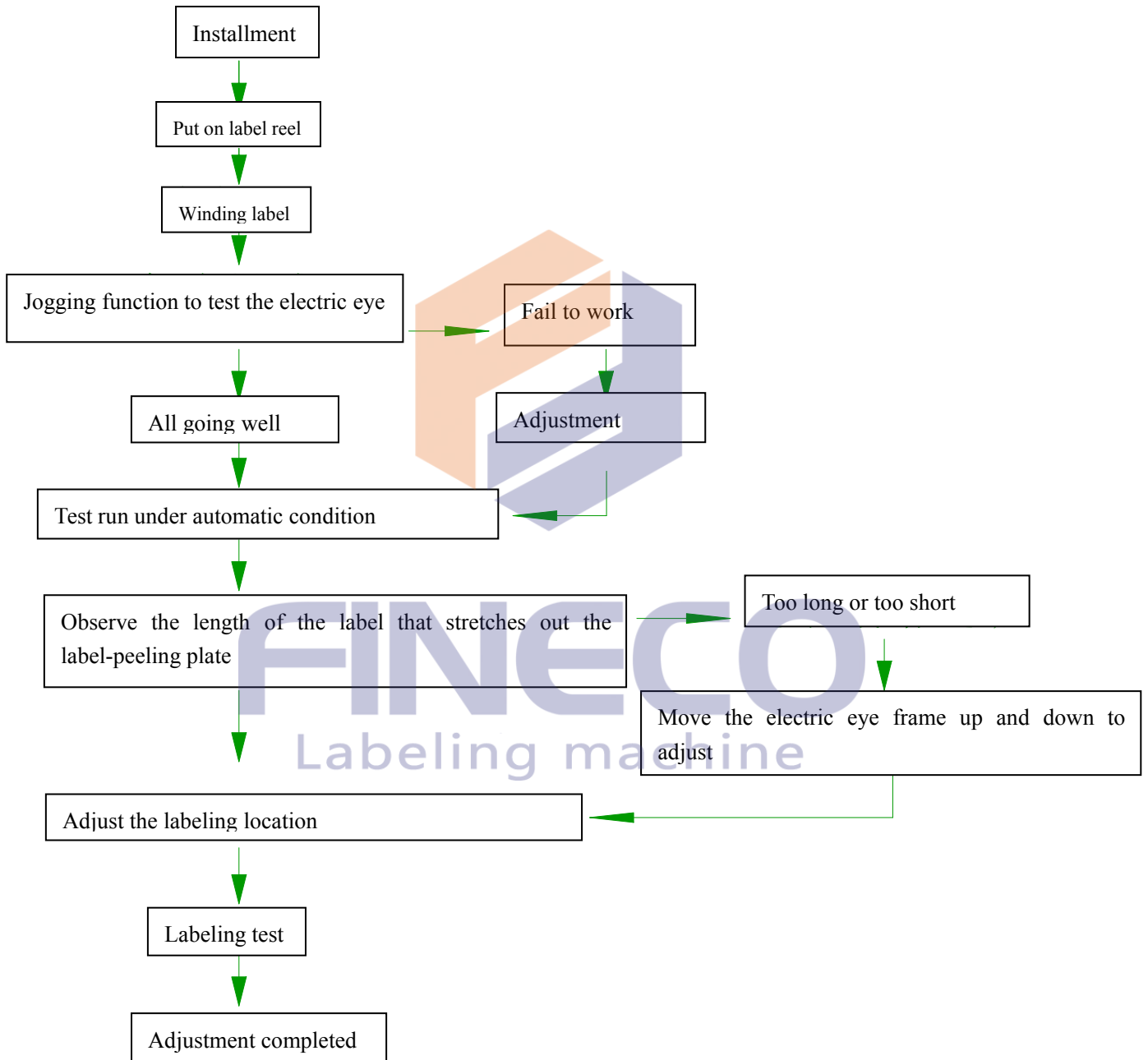
2.4.2 Laying the product on the labeling place,make sure that the product stays close to the locating rod on the left.You can adjust the labeling location of the product by adjusting the locating rod.

2.4.3 Close the transparent cover,setting completed.

2.4.4 Put product on the labeling location,the product detect sensor sends signals to PLC,then the PLC direct the relevant parts to operate,labeling start.



Chapter 6 Operation





1.Installment

Please refer to the packing list to install machine;you can put it into use directly if it is packed as a whole.

2.Put on label reel

2.1 loose the handle on the label tray,put on the label reel and lock the label tray.(notice that do not lock it too tight,it's suitable when you can pull the label out by hand).

3.Winding label

Please winding label according to the method we talked before.

4.Adjustment

Under jogging condition,observe the sensor,the red signal (output signal)light up in the intervals between every two labels.If the sensor fails to work,please adjust the sensor according to the method we talked before.

5.Test Run:

Under automatic run condition,press the foot switch,observe label on the labeling-peeling plate.

6.Label Position Adjustment

6.1 control the length of the peeled label that stretches out of the label-peeling plate,it should be 0mm-2mm(if it is too long,two labels would stick to a product;while it is too short, the label has not be completely peeled but the product has already passed.)

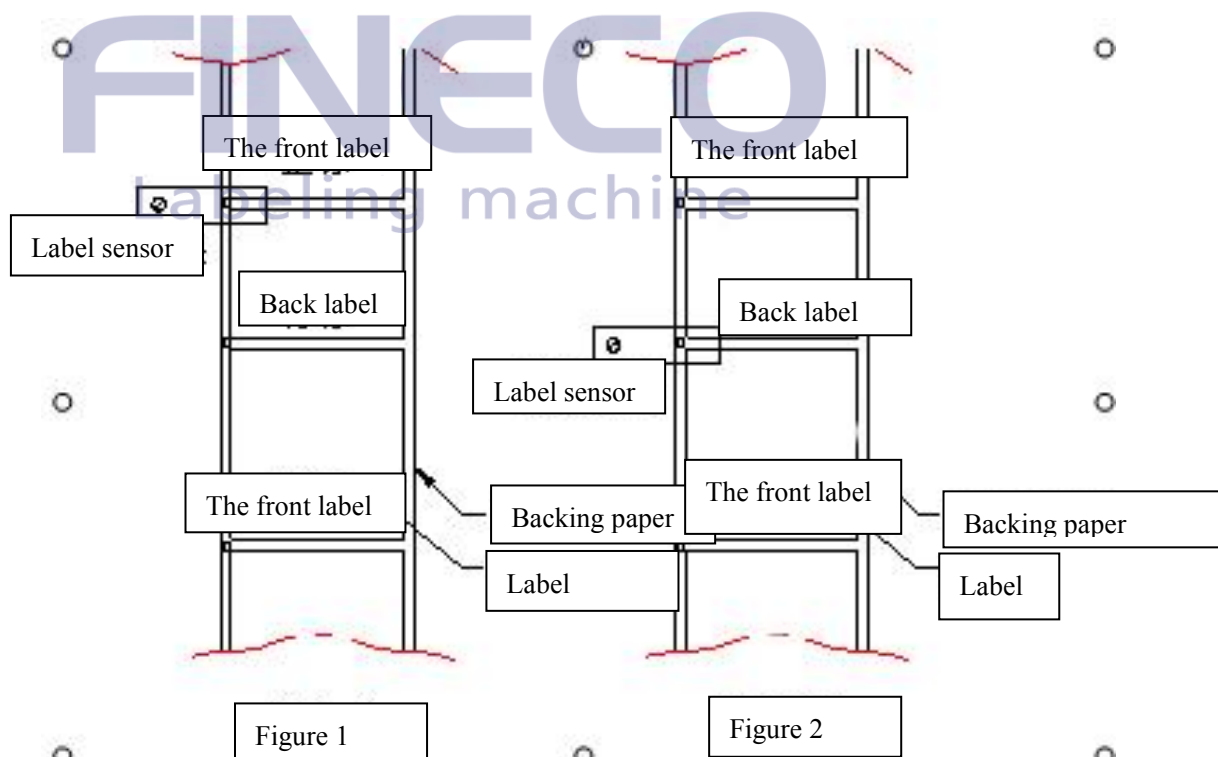


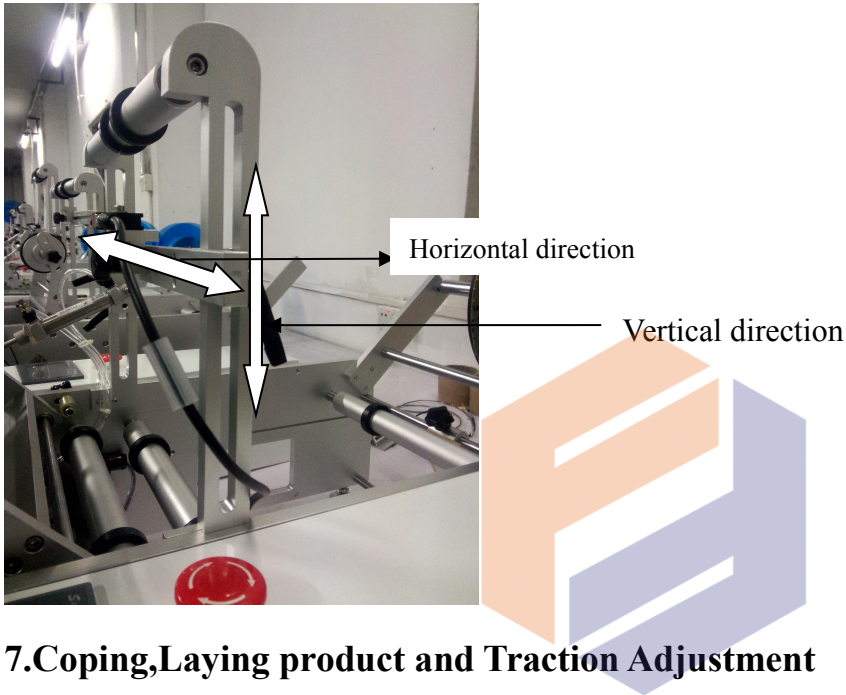
6.2 adjust the sensor frame,make sure that the label sensor stop at the intervals.Switch to automatic condition,press the foot switch,observe the length of peeled label.

-Move the label sensor up,then the sensor would detect label in advance,and the length of the peeled label that stretches out of the label-peeling plate shorten;

-Move the label down,delay the detection,thus lengthen the peeled label that stretches out of the label-peeling plate.

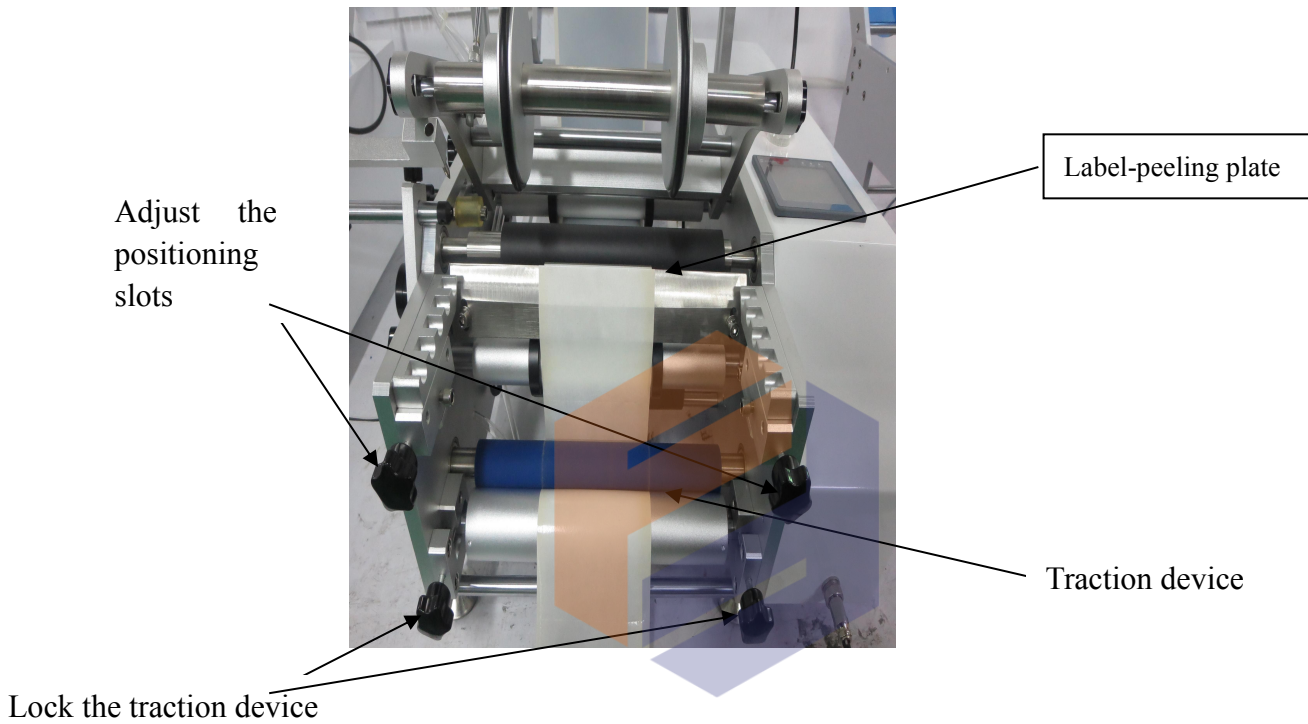
6.3 Under double-labeled condition, pay attention to the location of the sensor,if the front label comes out first,then the label sensor must stop at the front labels,as shown in figure 1; if the back label comes out first,then the label sensor must stop at the back labels,as shown in figure 2. Then use “jog label out”function to adjust the distance between the front and the back labels.





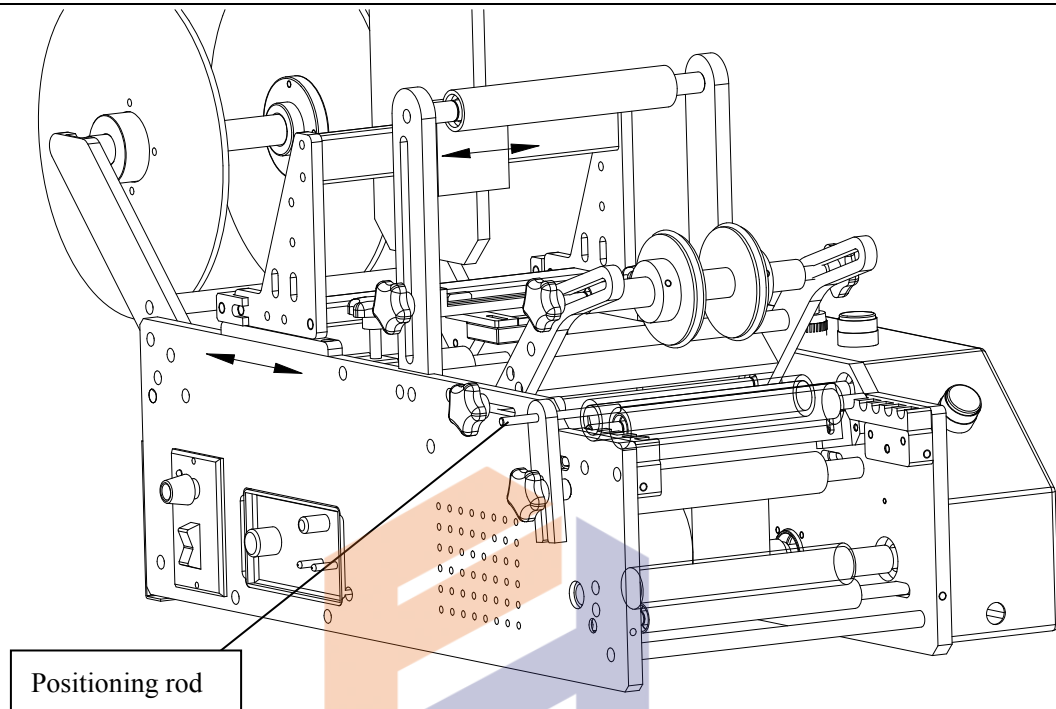
7.Coping,Laying product and Traction Adjustment





8.Test Labeling

Put the product on the labeling position, observe the relative position of the product and the label, adjust the labeling location by adjusting the positioning rod on the left of the machine.



With these steps completed,the machine is well-adjusted.

9.Power Off

Remember to turn off the machine after labeling completed,unplug it when not in use for a long time.

10.Matters need Attention

10.1 Correct the Label Trend

Step 1:After label winding,switch to manual condition,make sure the power and the speed controller are on,then click the “Jog label out” to correct automatically.

Step 2:Adjust the positioning circles on the rollers,make sure there is a circle on each side of the labels.

Chapter 7 Product Maintenance

1.Maintain and Clean

1.1 This machine is powered by AC power,so it needs replace the fuse for overload protection .

1.2 Please use alcohol to clean the machine; and use commercial neutral cleaning fluid to clean the electric box.

Matters need attention:

Do not use cleaning tool that would damage the surface of the machine.

Do not use corrosive plastic utensils;

Do not use acid soluble liquid.

2. Routine Maintenance

Regular inspection is necessary ,especially the following parts:

1.The conveyor belt's speed and accuracy (after extended periods of use)

2.Clean up waste paper scraps and pieces.

3.Remove oil residue from the rollers and the machine edges.

4.Clean the sensor lens with a soft brush or cloth.

3.Surface Maintenance

This machine have chrome plating processed,equipped with antirust

function.However, you still need to pay attention to rust in the placing

processes,using anti-rust oil to spray the stainless steel and iron parts from time to

time.

Chapter 8 Usual Fault Treatment

1.Labeling Unsteadiness

1.1 Fasten the label-pressing device .

1.2 Fasten the traction device,do not screw so tight that backing paper wrinkles.

1.3 Control the product quality,remove the labeling error caused by product.

1.4 The product should be paralleled to the label.

1.5.The product should rotating smoothly and do not touch the label-peeling plate.If the product is too light to stay,use the coping device to fix the product.

1.6 (1)Under double-labeled condition,the product keeps rotating because you didn't set the second labeling delay,so the machine waiting for the signal for the second labeling.

(2) If the machine stops after single labeled,reset the label sensor ,or click twice to jog the second label out and click twice to jog the first label out.

2. Labeling deviation

Maybe the label-pressing device is too tight,loose it slightly.

Label correction is needed before automatic operation.

3.Bubbles and Wrinkles

3.1 Slow the labeling speed so that the label-covering device can strengthen the



labels.

3.2 It appears if the label is transparent or too soft.

3.3 Balance the strength of the label-covering device.

3.4 If the bubbles appear in the beginning, maybe the label is too soft so it curls after being peeled, heighten the label-peeling plate to stay close to the product.

3.5 If the head and tail of the label are not align, adjust the Supporting rod to let the product goes perpendicular with the label.



If the label move to another direction when labeling, lift the supporting seat on the left of the supporting rod.

4. The machine won't work

4.1 Check the electric wire.

4.2 Check the fuse wire.



4.3 Maybe the wire interface loose in the electric box.

5..Release Paper Broken

Possible causes: poor quality of the release paper;mechanical parts scratches the release paper;label adhesion.

① :Check the release paper,if it is already broken or cut heavily during label production,contact your label provider to improve their craftsmanship.Glassine material is recommended as release paper.

②:Check if there any part scratch the label in the traction process and adjust them.

③:Adjust the pre- peeled length in case label stick to the already pasted product.

6.Labels come out incessantly at a time

①Label Sensor:reset the sensor according to the instruction manual.If the problem still exists,maybe the sensor is not applicable to the label or it has broken,contact your labeler supplier in this situation.

②Label- winding:If label bypasses the label sensor' s focus the sensor would not be able to detect labels.



Service Commitment

Fineco based on the principle of customer first,dedicated to provide thorough pre-sales and after-sales service.

1. Professional technical consultation service
2. Professional training service.
3. Responsible for providing technical support.
4. One year warranty, provide maintenance services.

Thank you for using our machine , if there is any dissatisfaction with equipment quality, performance, service and so on, welcome to put forward valuable suggestions!

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