veneer jointing machine user’s manual

contents

1.Basic info

1.1 the core date of machine

info

model RB320/RB420

input power 380V 50HZ

manufactory Huzhou Ranow Hi-tech Machinery Co., Ltd.

adopted stradran A. CE safty declaration and MD directives

B. ISO 19085-11:2024《木工机械 — 安全 — 第 11 部分：组合机床》

1.2 CE（Declaration of Conformity）

DECLARATION OF CONFORMITY

THIS IS HEREBY DECLARED THAT FOLLOWING DESIGNATED PRODUCT COMPLIED WITH THE ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF 2006/42/EC、2014/35/EU、2014/30/EU ON THE APPROXIMATION OF THE LAWS OF THE MEMBER STATES RELATING TO IT. 、

APPLICANT'S NAME AND ADDRESS:

NAME: HUZHOU RANOW HI-TECH MACHINERY CO LTD.

ADDRESS:11-101 BUILDING N0.51 XIWAN LINGHU NANXUN HUZHOU ZHEJIANG CHINA

NAME AND ADDRESS OF MANUFACTURER:

NAME: HUZHOU RANOW HI-TECH MACHINERY CO LTD.

ADDRESS : 11-101 BUILDING N0.51 XIWAN LINGHU NANXUN HUZHOU ZHEJIANG CHINA

DESCRIPTION OF MACHINERY:

PRODUCT NAME:

Trademark / brand : RANOW

MODELTYPE: RB320/RB420/RB660/RB690

APPLICABLE STANDARDS:

EN ISO 12100:2010

EN 60204-1:2018+A1:2025

EN IEC 61000-6-4:2019

EN IEC 61000-6-2:2019

CE THIS DECLARATION APPLIES TO ALL SPECIMENS MANUFACTURED IDENTICAL TO THE MODEL SUBMITTED FOR TESTING / EVALUATION. ASSESSMENT OF COMPLIANCE OF THE PRODUCT WITH THE REQUIREMENTS RELATING TO SAFETY STANDARDS LISTED ABOVE WAS PERFORMED BY MANUFACTURE.SIGNED ON BEHALF OF：HUZHOU RANOW HI-TECH MACHINERY CO LTD.

1.3. This equipment fully complies with the 6 core safety dimensions of the ISO 19085-11:2024 standard, with specific requirements as follows:

Risk Assessment and Design Principles (Basic Requirements): A full-process risk assessment was completed during the equipment design phase to avoid hazards such as mechanical pinching injuries and electrical leakage.

Protective Device Requirements: Moving components (e.g., composite rollers, winding shafts) are equipped with protective covers, which are automatically locked in the non-operating state.

Operational Safety Specifications: Only trained personnel are permitted to operate the equipment; the safety status must be confirmed before starting the equipment.

Maintenance and Repair Safety: During maintenance or repair, the main power supply must be disconnected and the "Do Not Switch On" sign must be posted. Repair of key components requires manufacturer authorization.

Warning Signs: Prominent safety warning labels (in both Chinese and English) are posted in the equipment's hazardous areas (e.g., drying oven, glue application rollers).

Personnel Training and Emergency Response: The manufacturer provides operational training; this manual is attached with emergency shutdown procedures and contact information for fault handling.

2. Welcome & Company Introduction

Thank you for choosing products from RANOW Equipment. Throughout the full-cycle usage, the stable performance and excellent functionality of RANOW Equipment will bring you peace of mind and convenience.

Huzhou Ranow HI-TECH machinery co.,ltd. has always adhered to the concept of "pursuit of details" in R&D and production, integrating "designs that meet production needs" and "equipment stability" into all aspects of production management. We attach great importance to user experience: designated personnel conduct regular customer visits, and users' needs and suggestions are timely fed back to the R&D team—this is the core driving force behind the company's sustained and rapid development. The company's main products include: Wood Veneer Finger Jointing Machines, Wood Veneer Laminating Machines, Wood Veneer Sanding Machines, Wood Veneer Slitting Machines, Wood Veneer Joining Machines, etc. All equipment is manufactured in compliance with EU CE safety standards to ensure durability and safety.

3. Safety Declaration & Warning

3.1. general safety rules

The design, manufacturing and inspection of this equipment fully comply with ISO 19085-11:2024 and EU CE safety standards (such as 2006/42/EC). Any operation, maintenance or repair work must be performed by professionally trained and qualified personnel, and all provisions of this manual must be strictly abide by. Improper operation may result in equipment damage, fire or personal injury (e.g., pinching, scalds, electric shock), which must be taken seriously**.**

For your own safety, read the user's manual carefully. Learn its application and limitations as well as specific potential hazardspertinent to this machine.Do not attempt to operate until you have read thoroughly and understand completely all instructions,rules, etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock, or serious personal injury. Keep owners manual and review frequently for continuous safe operation.

3.2 mandatory safty requirement

Before operation, protective equipment must be worn: non-slip gloves (to avoid glue contamination and mechanical scratches), safety goggles (to prevent glue splatters), and heat-resistant aprons (to prevent scalds in the drying oven area).

When the equipment is in operation, it is prohibited to insert hands, tools, or other foreign objects into moving parts (such as composite rollers, winding shafts, or inside the drying oven). When the drying oven is in operation, its surface temperature can reach 80-120℃. Do not touch the oven's outer casing to prevent scalds. Before repairing or cleaning the equipment, the main power supply must be disconnected and the plug must be unplugged. Meanwhile, a "Do Not Switch On" sign must be posted.

If the equipment malfunctions (e.g., abnormal noise, smoke, or glue leakage), immediately press the emergency stop button (red, located in a prominent position on the main operation panel), disconnect the power supply, and contact after-sales service. Do not stack flammable and explosive materials (such as alcohol, thinners) near the equipment.

A dry powder fire extinguisher must be provided in the drying oven area.

So you have to follow the below key instructions

*KEEP GUARDS IN PLACE AND IN WORKING ORDER. REMOVE ADJUSTING KEYS AND WRENCHES.

For habit of checking to see that keys and adjusting wrenches are remove from the machine before turning it on.

*KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents.

*DO NOT USE IN DANGEROUS ENVIRONMENTS.

Do not use power tools in damp or we locations, or expose them to rain. Keeps work area well illuminated.

*KEEP CHILDREN AWAY.

all visitors should be kept at a safe distance from work area.

*MAKE WORKSHOP CHILDPROOF.

with padlocks, master switches, or by removing starter keys.

*DO NOT FORCE THE MACHINE.

It will do the job better and be safer at the rate for which it was designed.

*USE THE RIGHT TOOLS.

Do not force the machine or attachments to do a job for which they were not designed.

*WEAR PROPER APPAREL.

Avoid loose clothing, gloves, neckties, rings, bracelets, or jewelry, which could be caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

*SECURE WORK.

use clamps or a vice to hold work when practical. It is safer than using your hand and frees both hands to operate the machine.

*DO NOT OVERREACH.

keep proper footing and balance at all times.

*MAINTAIN MACHINE IN TOP CONDITION.

Keep machine clean for best and safest performance. Follow instructions for lubricating and changing accessories.

* DISCONNECT MACHINE FROM POWER SOURCE.

before servicing and when changing accessories, or when mounting and remounting motor.

*USE RECOMMENDED ACCESSORIES.

consult the owner's manual for recommended accessories.

*NEVER LEAVE MACHINE RUNNING UNATTENDED.

When the power is turned off, do not leave the machine until it comes to complete stop.

*AVOID ACCIDENTAL STARTING. Make sure switch is in " OFF " position before plugging in cord. Never clean or remove chips while the machine is running.

*WARNING LABELS.

do not remove or alter warning labels and replace any that become obscured.

4. Manual Description

4.1 manual purpose

This manual is a dedicated operation guide for the RB320/RB420 Wood Veneer Finger Jointing Machine, designed to help operators:Correctly understand the equipment structure and functions; Safely and standardizedly complete the composite production process; Master daily maintenance methods and common fault troubleshooting; Ensure the long-term stable operation of the equipment and produce high-quality continuous lengthened wood veneers.

4.2 scope of application

Applicable machines：RB320/RB420RB660 veneer jointing machine；

Applicable person：equipment operators and maintenance personnel trained and certified by the manufacturer；

Applicable range：all kind of natural veneer & engineered veneer（thickness 0.25-0.50mm）。

4.3 important note

Before using the equipment for the first time, the operator must read and fully understand all contents of this manual. Starting the machine is prohibited if the operating procedures are not mastered. This manual must be stored in the designated document box next to the equipment for easy reference at any time, and must not be altered or lost.Equipment parameters (such as heating temperature, torque value) shall be adjusted according to the thickness of wood veneers and the type of

glue. It is recommended to conduct small-batch test runs before the first production. If the content of this manual is updated, the manufacturer will notify through after-sales channels, and the latest version shall prevail.4.4. Packing and unpacking

4.41 general safety rule for machine unpacking

1. Pay special attention to the balance of the machine while lifting.
2. Use a forklift with sufficient loading capacity to lift the machine.
3. Have another person help guide the way when lifting the machine.
4. The forks of forklift must protrude from under the machine underside.
5. The forklift must only be driven by an experienced forklift driver.

4.42 the machine is loaded into a box. This box is made by plywood and steel. The plywood is belong to the treated wood. So it is no problem in any country importing control on fumigating .

4.43 the machine is packed with plastic film to avoid any humidity and dust. All moving parts are fixed firmly . there are two bolts screwed on the pallet to fix machine on the pallet.

4.44 please pay attention to the instruction label on the box. And find the front side (labeled with gravity) as the forklift side. Any other side can not be unload .adjust fork position at the gravity let the box keep horizontal while lift.

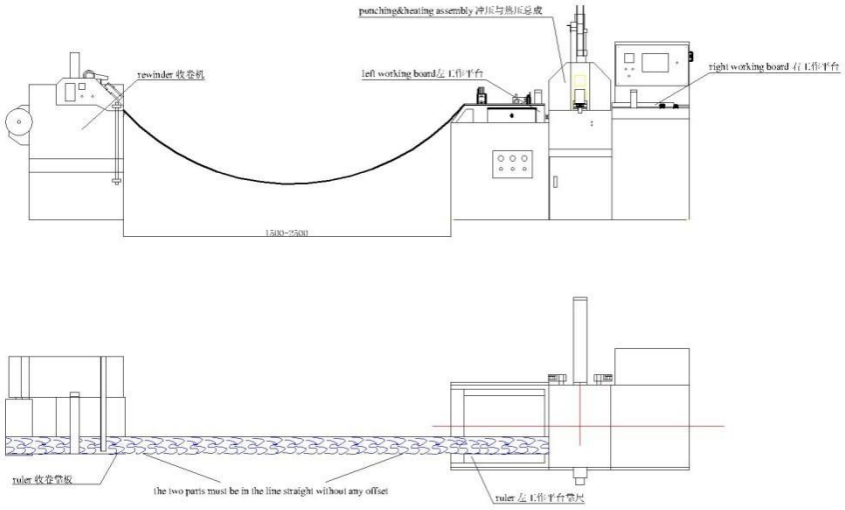
4.45 broken the front side(labeled with gravity) to open the box. Unscrew the bolts and unloaded machine with forkcar. The forkcar max.lift power must be exceed 3 tons.

5. Machine Profile

5.1.Installation

5.11. selection of location

Requirement of operating environment the operating temperature for this machine should be between +5℃ and +40℃,while the relative humidity should not exceed 50% at a maximum temperature of +40℃. Improper environment will affect the machine's safe operation, avoid the following working area



5.12 CONNECT POWER SOURCE WIRES

1. Before connecting the power wires make sure the voltage between the machine and your factory power source is the same.
2. Take out the electrical cover at the electrical control box (**No.18**)outside.
3. Connect the power wires to the plug.
4. The machine must be properly grounded to prevent possible injury fromelectrical shock.
5. Connect the power wires from machine bed to the electrical control box according connecter type.
6. Qualified electrical personnel should perform all electrical connections.
7. open the electricity box and find the R S T and at the bottom of the electricity board (**No.19**) . Connect the PE line at the screw post and fast with bolt. Please make sure all lines are connected firmly .

5.13 .connect the press air into

There is a hose of Φ10 at the main pressure regulation valve. Connect a Φ10mm air pipe into it. The input air pressure is over 6 bars.

5.14. transportation

Carefully check over the machine whether it is damaged during transportation. While moving the machine, be sure to note its weight distribution as well as its balance. If the machine is damaged while being moved, please contact the manufacturer immediately. The lifting of the machine is as easy as follows: The machine can be lifted by a forklift. Their forks should insert through the machine bottom. Attention should be paid to the balance of the machine while lifting. The weight of the machine is listed below.

Model Machine weight Forklift capacity (3 tons)

RB320 800KG/RB420 900Kgs

5.2 machines overview

The veneer jointing machine is designed special for the edge banding processing. There are two parts in this line one is jointing machine ,the other is rewinder station. It features excellent mechanical performance, high finger jointing speed, aesthetically pleasing and tight joints, secure and smooth gluing, as well as reduced labor costs.

5.3 veneer jointing machine overview

Jointing rewinder station

finger jointing machine

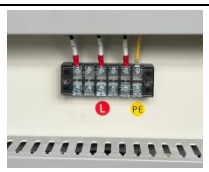
5.4 The production line consists of two core components, and the functions of each component are as shown in the table below.:

Machine componet	Core function
Finger jointing machine	Jointing veneer with glued tape
Jointing rewinder station	Rewinding the jointed veneer into roll

6. Introduction to Basic Equipment Functions

No.	Photo	Basic function
1		Basic control panel The basic function of the line will be controlled with these buttons
2		Veneer infeed side plate
3		Veneer our feed plate
4		Veneer pull out deviation unit
5		Veneer pull out wheel
6		Getting tape homing sensor
7		Getting tape in-place sensor

8		Heating press homing sensor
9		Punch sensor
10		Start fiber sensor amplifier
11		Rewinder Swtich & break
12		Rewinder station control panel
13		Length counting meter
14		Shaft sleeve

No.	Photo	Basic function
15		Inflatable shaft foot Switch
16		Tape releasing sensor
17		Tape bracket
18		Electricity box
19		Power connection post
20		Pull-out wheel & deviation wheel Up/down switch
21		Brush & length counter Up/down switch
22		Auto rewinding sensor

7. Operation Procedures

7.1 Control Panel(drawing 1)

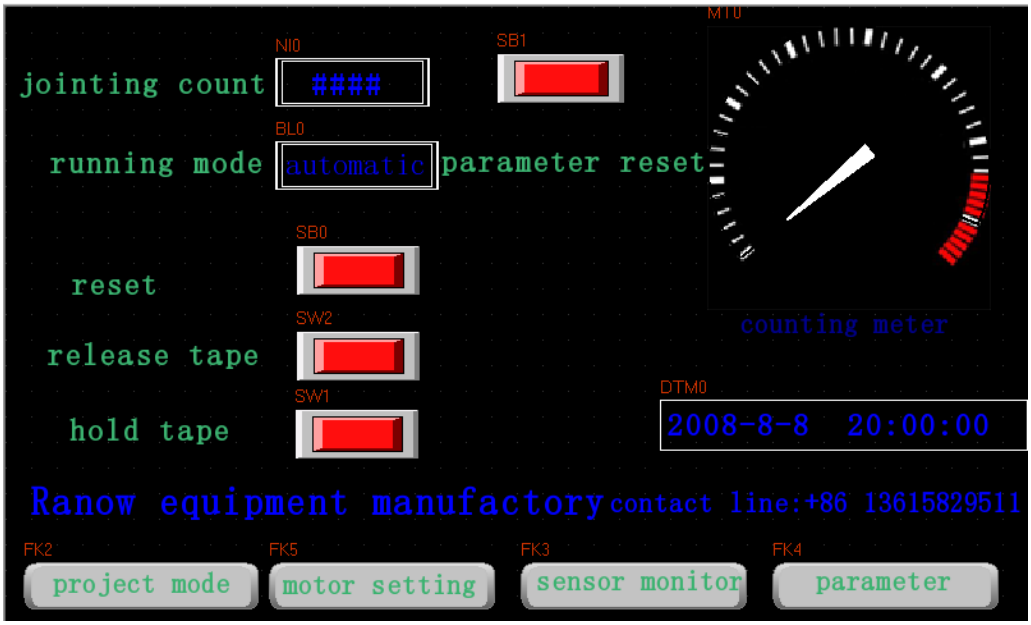
This panel page will be automaticly shown while switch on the machine (drawing 1 the main page). it is used for showing the mode ,jointing times,etc. You can choose any further function . Up to now ,we can only offer English and Chinese copy(customerized).

Working mode—showing the running mode.

Jointing time mater—showing the jointing times

Release tape – the tape clip open to let the tape insert

Hold tape—fix tape when the tape inserted



Drawing 1

7.2. Parameter setting(drawing 2)

Hot press time –usually set at 1.2-2.0sec.

Infeed time—setting for the bumper starting time while using the auto mode

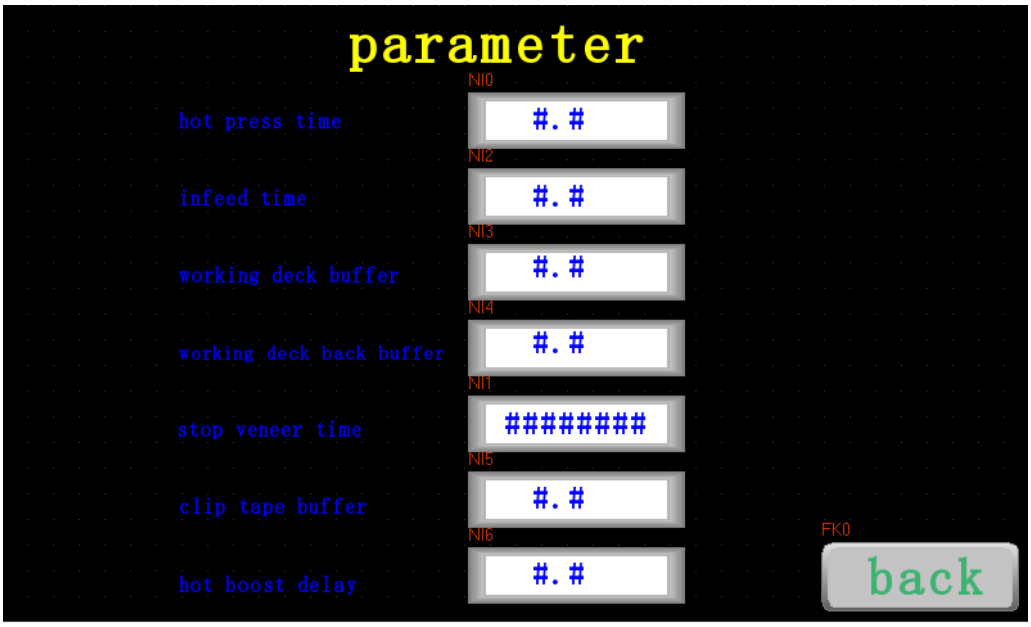
Working deck buffer—setting for the bumper time after punching

Working deck back buffer—setting for the time of staying after punching

Stop veneer time – the auto stop veneer time setting

Clip tape buffer— buffer time for the clipping tape

Hot boost delay—the heating press bumper



Drawing 2

7.3 feed out motor setting(drawing 3),

Acc.rate 1—50-100.

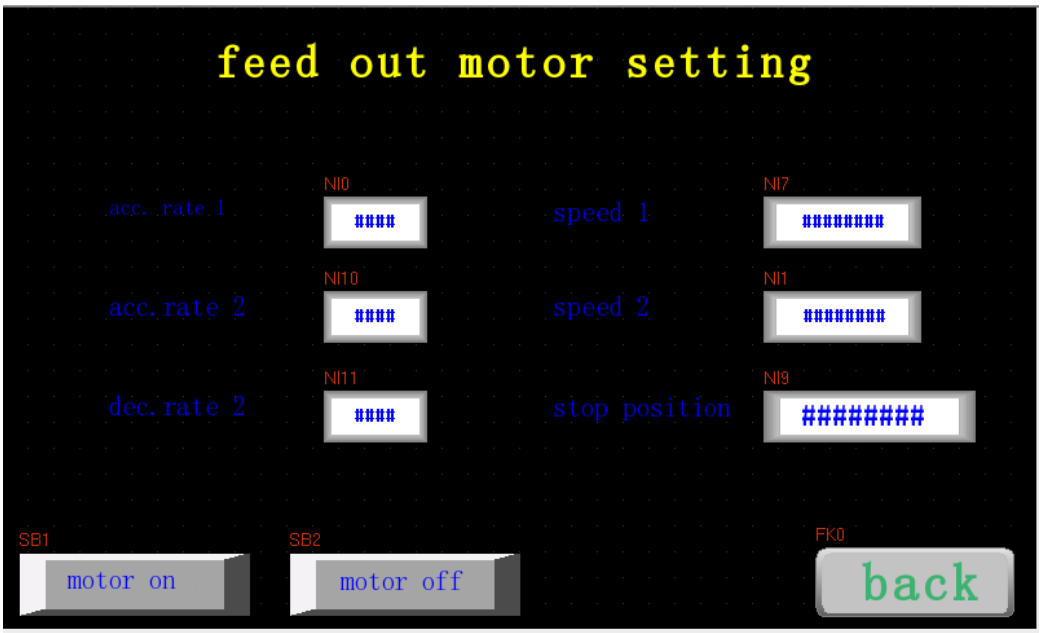
Acc.rate 1—50-100.

Dec.rate 2—50-100

Speed 1 – 900-1800

Speed 2—900-1800

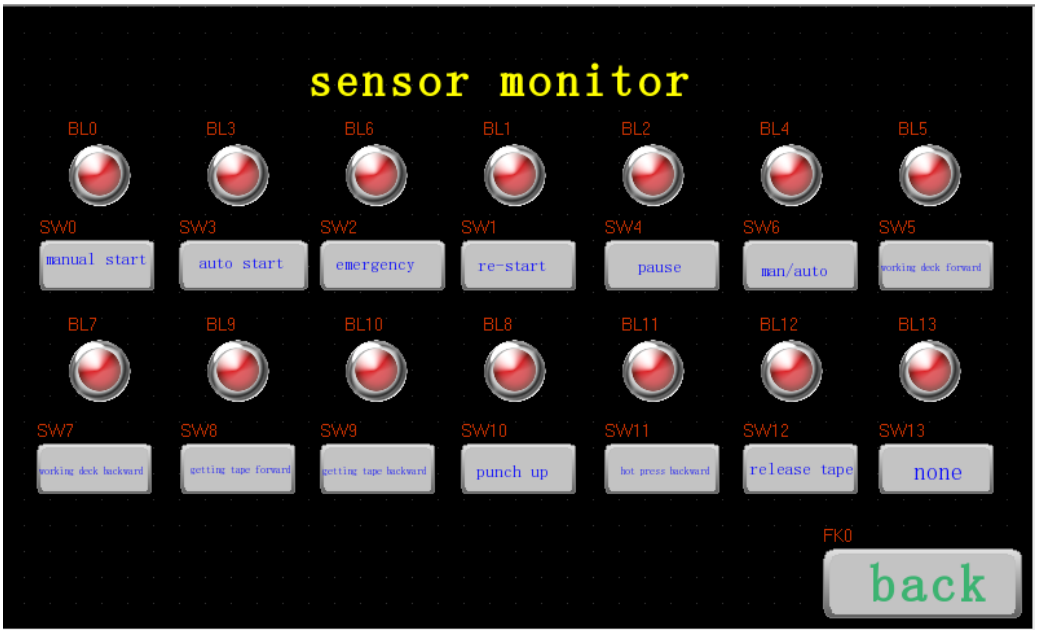
Stop position—70-250 (it is set for the trim end of feed our veneer postion in the machine).



Drawing 3

7.4.sensor monitor(drawing 4) .

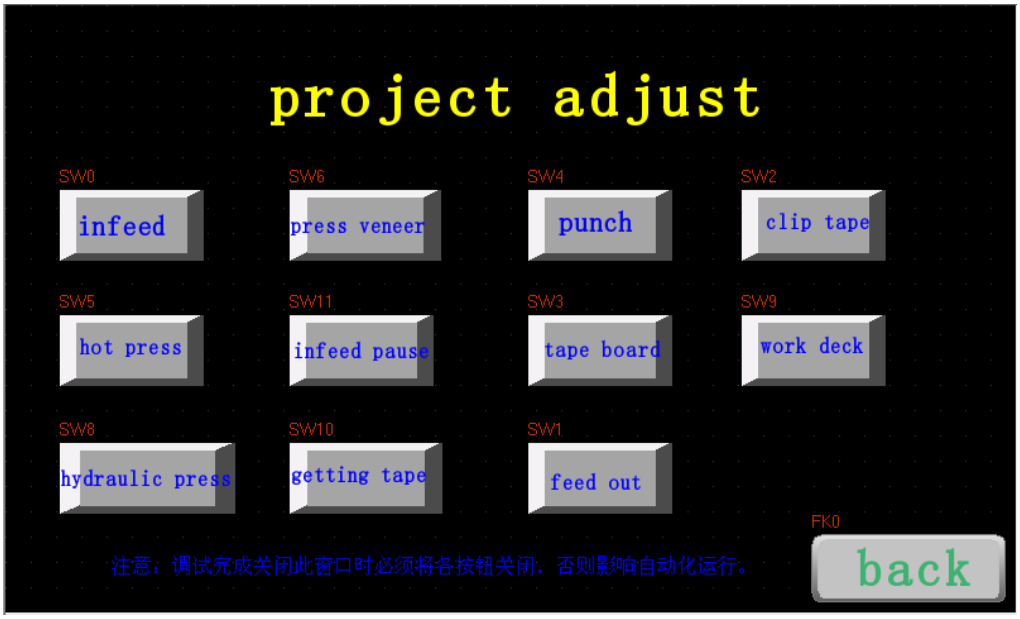
Inspection on all sensor postion and function



Drawing 4

7.5. project adjusting(drawing 5)

In this page ,all cylinder action can be controlled manually. It is aimed for the checking the sound of function of the cylinders



Drawing 5

7.6. prepare for use

Switch on the power switch ,the machine touch screen will on and the heating tube will begin to heat, it is usually take 5-15 minutes to reach the working temperature. the per-heating time is largely depend on your workshop moisture and temperature. The stop button(red light) is on .

A. let the pressure air into air filter. The input air press is 0.6-0.8Mpa (6-8bars). All working part on machine will be in ready position .

B. install the tape on the tape roll, touch screen into **drawing 1**. Touch button “release tape”, the tape feeder cylinder will open ,then you can put the tape along the channel and insert the tape board ,adjust the tape input length to reach the upper board end. At last, touch the button “hold tape” to fix the tape.(please refer to **drawing 1**)

C. the screen into **drawing 1** to help you monitor the machine condition ,**drawing 1** will show you the machine jointing account.

D. Adjust the sensor(**No.16**) position at the behind of machine, it is installed on the clipping arm. This sensor position will decide the tape length. The rest of the tape length on veneer is 5-10mm. this work will demand some experiments.

E. Insert the tape roll into the tape bracket(**No.17**),pay attention to the side of tape.

7.7. running machine

A. for the first beginning , you have to put a veneer which is over 1000mm from the left board(**No.3**). You can switch the button "up/down" to let the roller and deviator up(**No.20**) so that you can easy feed the veneer into machine . you have to check the veneer stop position with the eye though the tape feeder hole. The best position is stop at the upper knife , pay attention .do not let the veneer reach the heating down board. It will make the machine run improperly and fail to jointing. When you insert the veneer properly, switch the "up/down" button(**No.20**) to let the roll and deviator (**No.4**)/ (**No.5**)down to fix veneer.

B. switch button"start" (**No.1**)to make the machine into auto mode. Put veneer from the right deck(**No.2**). You have to insert veneer **without any stop** until the veneer stop by a pole in the machine. From the insert moment to the machine running . you will have **0.5-1.2 second** to feed veneer. You must insert veneer along firmly with the ruler. Any deviation will make the joint result badly.

C. when the finished veneer length reach 4 meters around, you can stick the veneer on a paper tube (diameter 200mm suggested). and put the tube on the rewinder axis(**No.14**) .turn the "deviator" and" brush" button(**No.21**) let the brush and deviator up in order to let the veneer insert rewinder easily. then inflate the axis let the spline up and fix the paper tube by step the foot swtich(**No.15**). You have to pay attention to the paper tube fixed position on axis. Turn the"deviator" and" brush"button(**No.21**) again let the brush and deviator down to press veneer . set on the rewinder direction and switch the rewinding mode into AUTO(**No.12**). The rewinder will be in the ready working condition.

D. the rewinder will rewind the veneer automatic after you jointed the veneer every each time. If you do not need the veneer rewind up, you can switch "rewinder" into un-auto turn(**No.12**).

7.8. Emergency Stop

Press "Emergency sw." button(**No.1**) to stop machine working when emergency state happening during do manual or auto operation.The issues regard the state of any one of below mention as "emergency stop";

1. To open any door under auto operation.

2. To turn off the power under auto operation.

3. To press "emergency stop sw." button under auto operation. The red lamp of tricolor lamp will shine when emergency stop start. At this time, should enter touch screen interface to do manual operation, to restore each cylinder or fixture before go to next action for safety.

7.9. Manual operation and adjustment

Operator must know manual operation and adjust before do auto operation; this is first step to manufacture good quality product.Operator should know about safety operation step also. Beside to know the notion of basic industry safety, the operator should read the operation manual before operate machine for safety.

1. Make sure machine connect with master power and air-pressure source securely.
2. Adjust spin air-pressure source to the setting rate, about 5kg/cm2.
3. Operator should stand at safe operate position.
4. Know all buttons and every signal of control panel(**drawing 4**).
5. Turn the sw. on Manual position from the (No.1)(Manual←→Auto) of control panel to enter the word block of touch screen interface for manual adjust setting(**drawing 5**).
6. Do number adjust from word block of touch screen interface, such as the time, data and separate action of cylinder,fixture and vacuum clamp.(**drawing 1)**
7. When a operator do manual operation and adjust, must no have another person doing machine adjust at the same time, except operator, another person should go away from the machine operate area. Even do instruction adjust, each action must be make sure before go to next operate action.
8. To know all manual operation of above mention.
9. Know about action step from further chapter.

operation Safe rules:

1. Don't open the machine box**(No.18**) / control box except professional.
2. Don't touch heater mold for fear of scald after start machine.

3. Don’t place the food, drink or anything at any where of machine.
4. After press Power start button, if found work-piece doesn’t on correct position after feed work-piece into mold, don’t use hands or head enter to inside for correction. Should press EMG. Button to stop machine first(**NO.1**), and then correct work-piece on correct operation position or solve other problems.
5. Don’t operate machine except professional who adopted complete tech- train.
6. Don’t shake or press or turn any button and sw. during the operator is adjusting mold for fear of hurting the operator.
7. The spanner should keep away from the heater tube during adjust the flat heater mold for fear of get an electric shock. (power supplying and heating) Don’t not place the spanner or anything not belong the machine at any where of machine after adjust the flat of heater mold for

7.10.Machine daily upkeep and maintain for operator:

1. Mold, fixture and spare parts should keep clean.
2. Check the power source loose or not.
3. Check heater tube, notice renew or not.
4. Check all cylinder, screw to keep loose.
5. Clean the air filter of air-units periodically. Should use clean water or clean liquid, don’t use the volatility clean liquid.
6. Clean the heater mold during the heater mold still heating or warm keeping. Turn off power after clean.
7. Cylinder buffer should adjust to minimum rate under no effect cylinder action for keeping the life of cylinder.
8. Clean machine periodically, no place anything not belong the machine.
9. Clean machine outside and apply the maintain-oil to machine if no use machine in long time.
10. Professional machine upkeep and maintain:

usual or not?

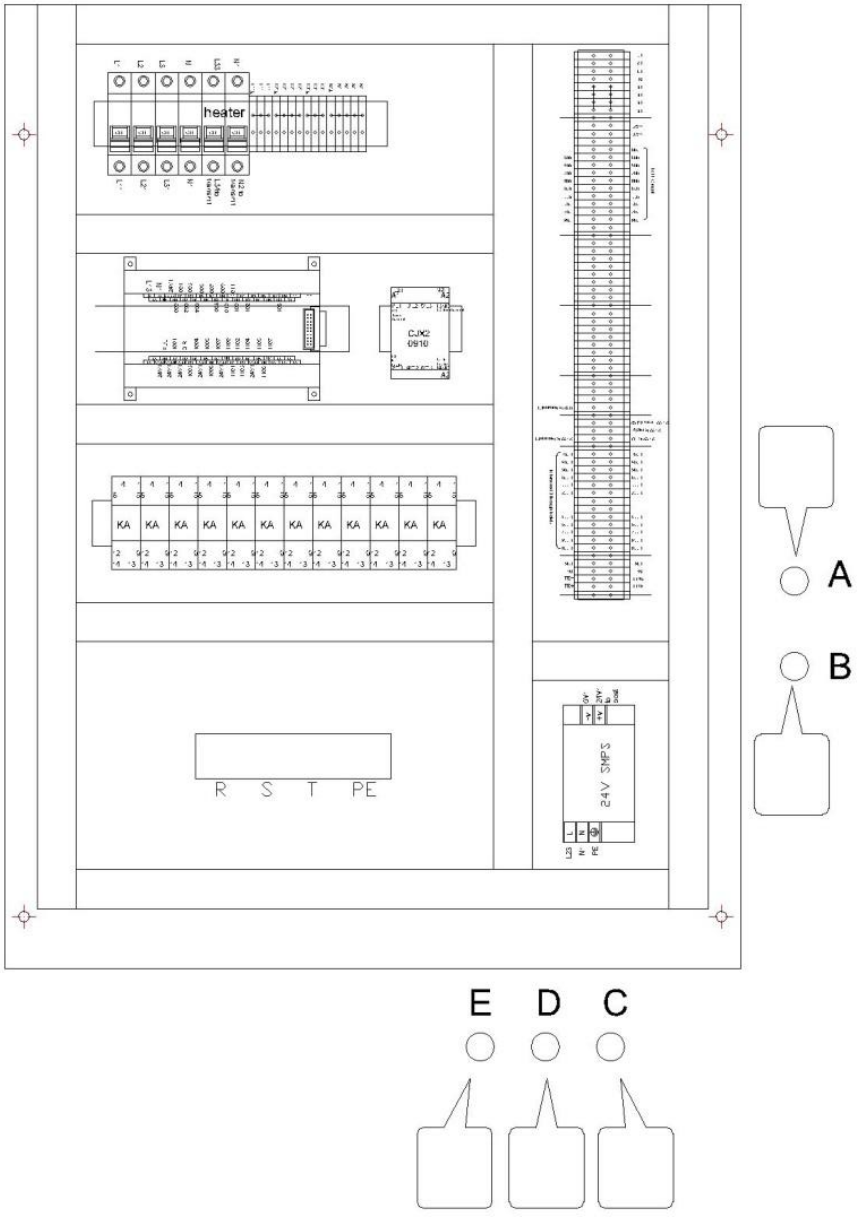
1. normal checking at a glance
   a. Component action has no lubrication for action, should lubricate industry lubrication oil.
   b. Component malfunction or broken, should renew.
2. Machine transmission component action shake or no smooth.
   a. Component action has no lubrication for action. Lubricate industry lubrication oil.
   b. Screw loose. Locking the screw and check again.
3. Machine component rusty or attrite.
   a. Remove the rusty first, and then apply antirust oil or protection paint.
   a. Heating mold to setting rate first, and then use cotton clothe with silicon-oil to clean
4. the aluminum surface. Don’t use sharp stuff to clear it.
5. Check the filter store water or not. The air-pressure source component should has ability to cool and dry the air.
6. Clean and dry the water, apply the industry-oil to machine.

7.11. Normal safty rules for electrical control system

1. Only personnel who are properly trained and have adequate knowledge and skill should undertake all electrical/electronic troubleshooting and repair.
2. Do not alter or bypass protective interlocks.
3. Before starting, read and observe all warning labels.
4. When trouble shooting make sure the power source has been disconnected and main switch has been locked.
5. Take extra precautions in damp areas to protect you from accidental grounding.
6. Before applying power to any equipment it must be established, without a doubt, that all persons are clear.
7. Do not open the electrical control panel unless it is necessary to check the electrical equipment.
8. Do not alter the electrical circuits unless authorized to do so by the manufacturer.
9. When replacing electrical components, make sure they conform to the manufacturer's specifications, including proper colour coding.
10. Do not wear metal frame glasses, metallic necklaces or chains while working on any electrical equipment. Also do not wear any

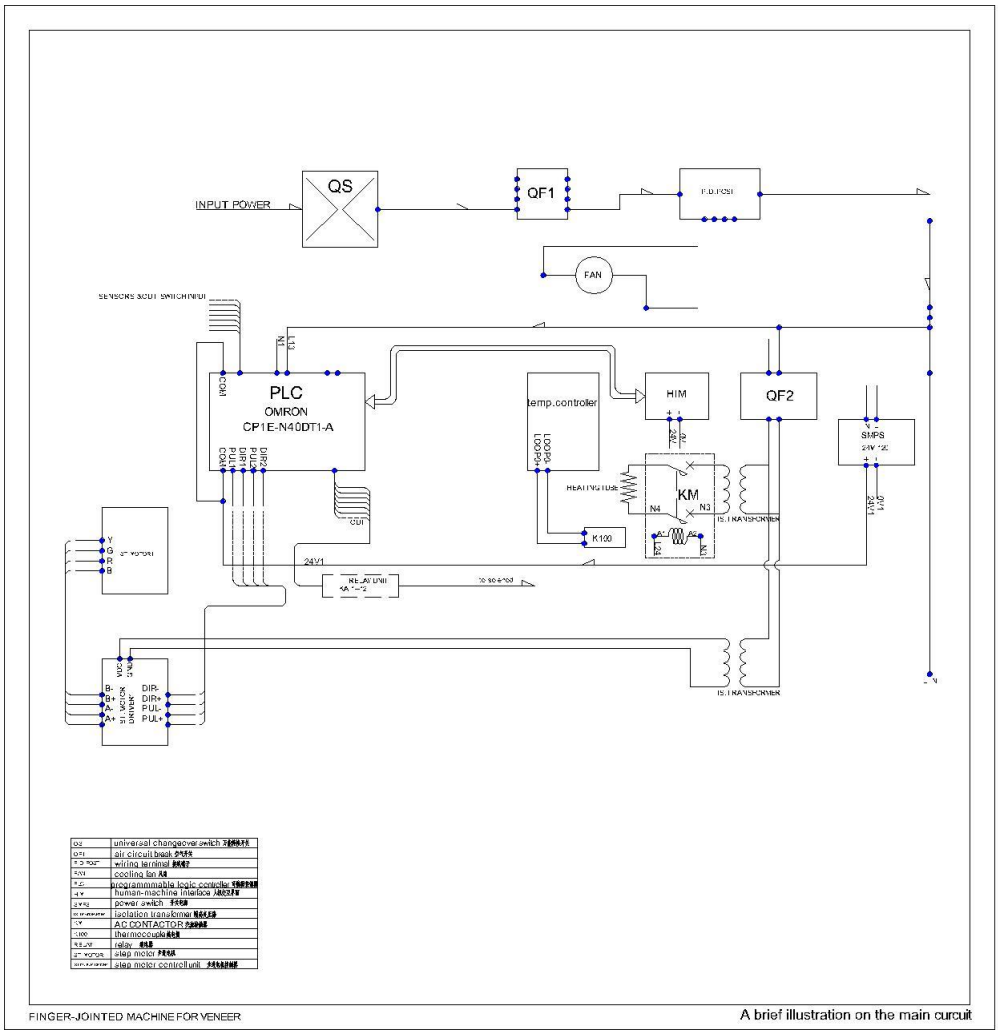
8. diagram

8.1 out-lay of the main switch panel



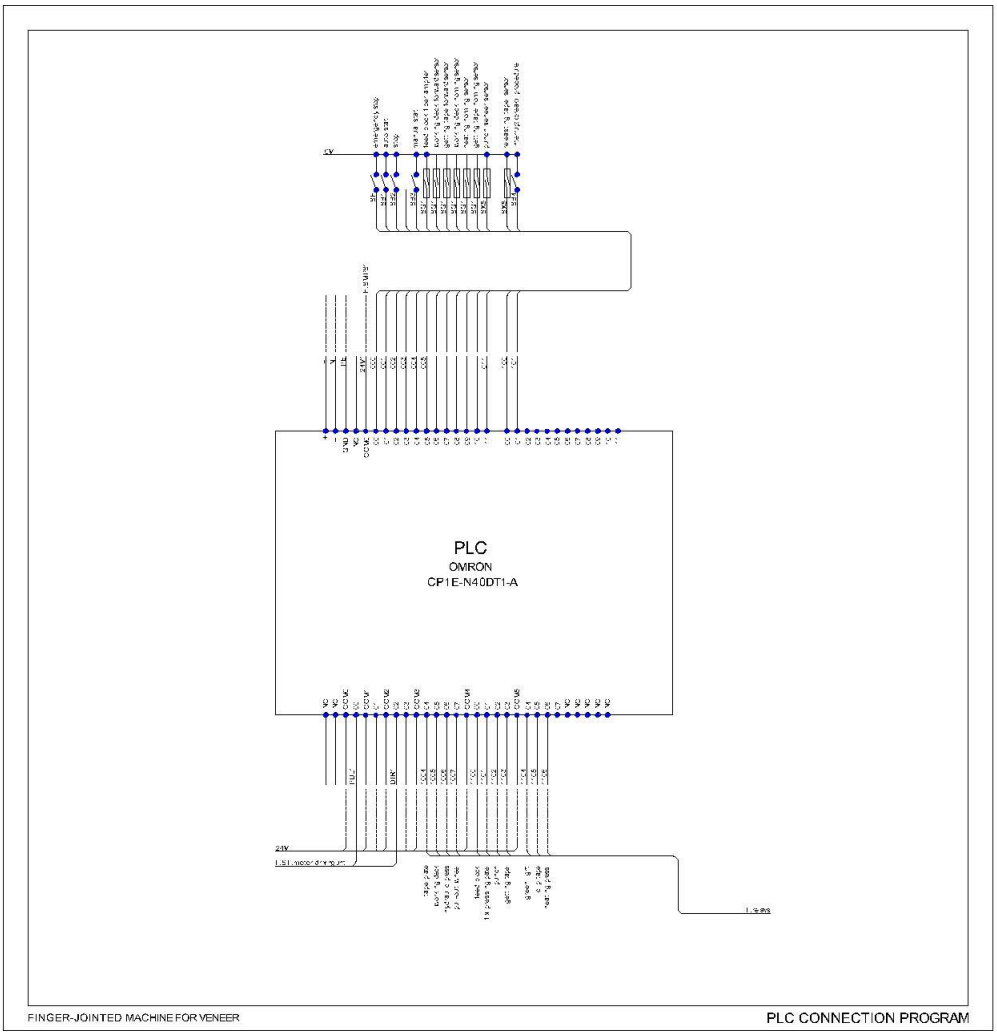
8.2 diagrame

8.2.1 A illustration on the mian cuicuit

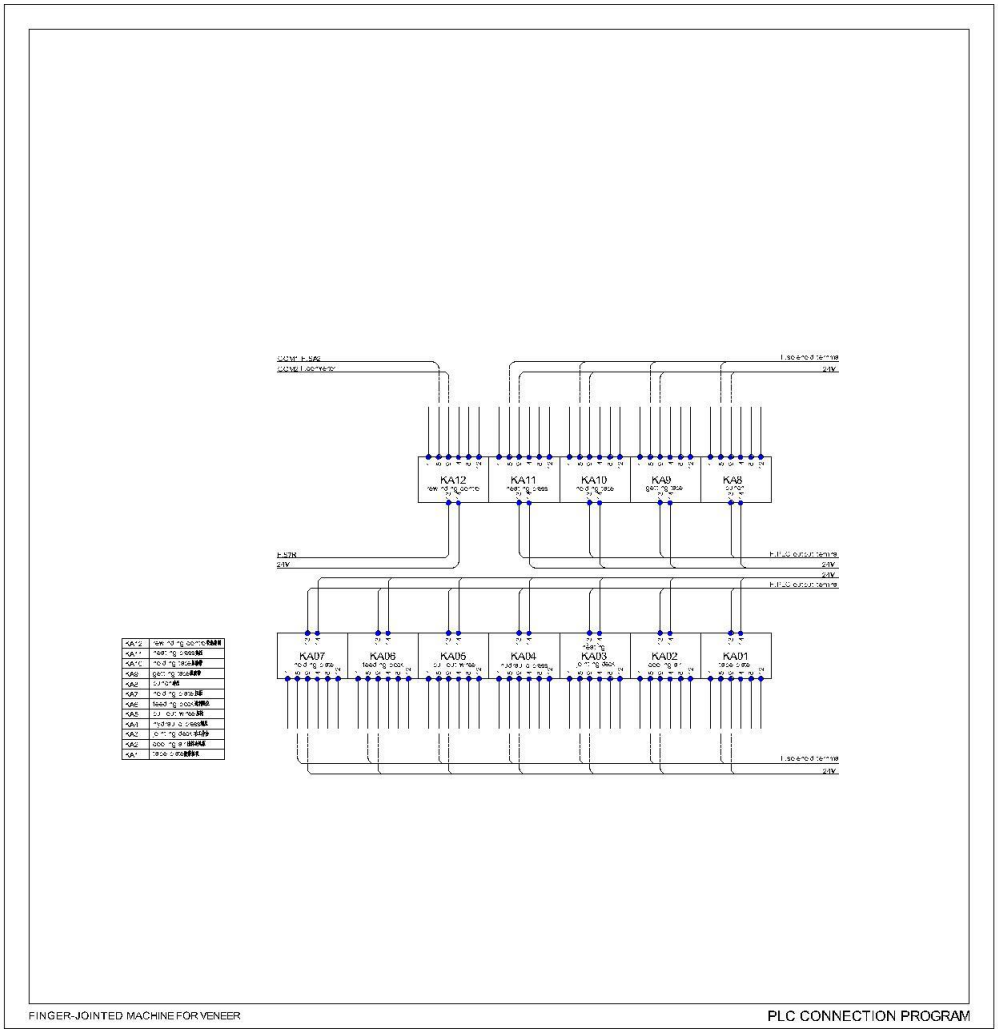


QS	universal changeover switch
QF1	air circuit break
	wiring terminal
FAN	cooling fan
	programmable logic controller
HIM	human-machine interface
	power switch
	isolation transformer
KM	AC CONTACTOR
K100	thermocouple
	relay
	step motor
	step motor controllunit

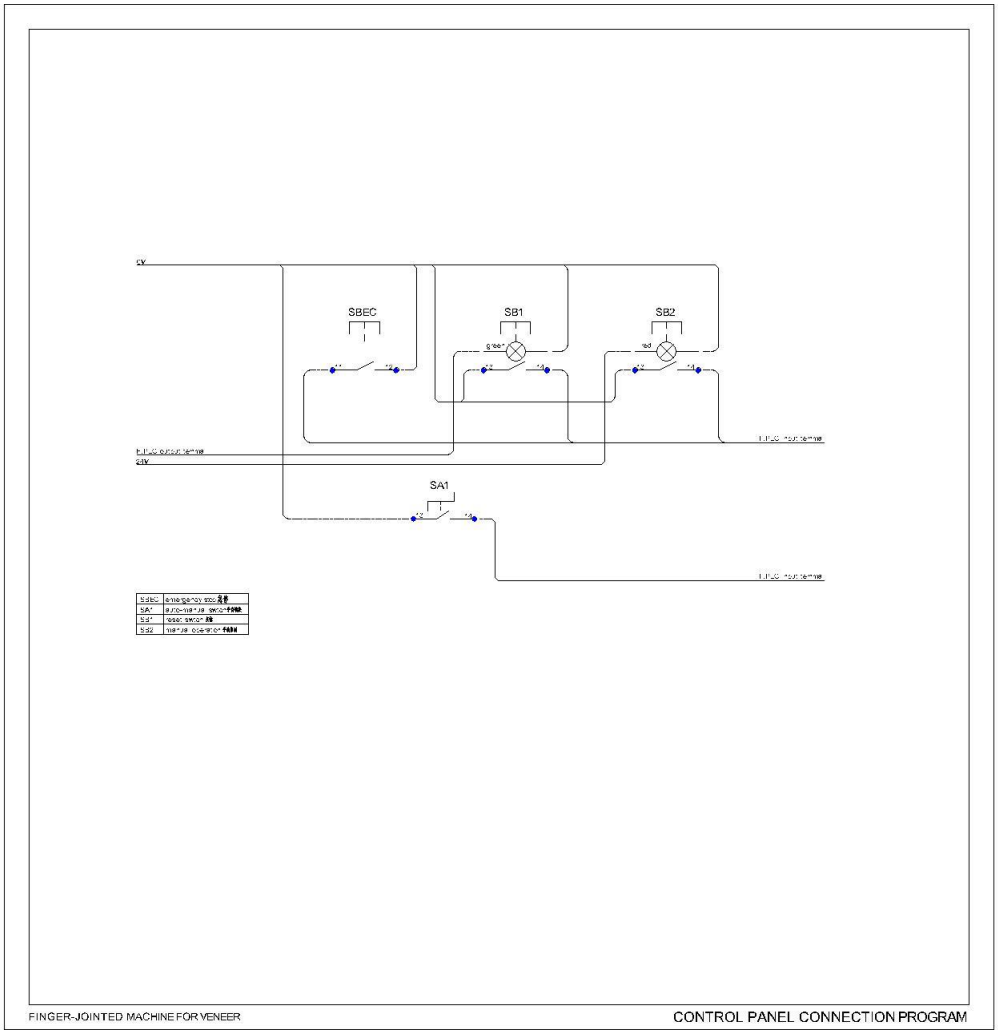
8.2.2


PLC
OMRON
CP1E-N40DT1-A
FINGER-JOINTED MACHINE FOR VENEER
PLC CONNECTION PROGRAM

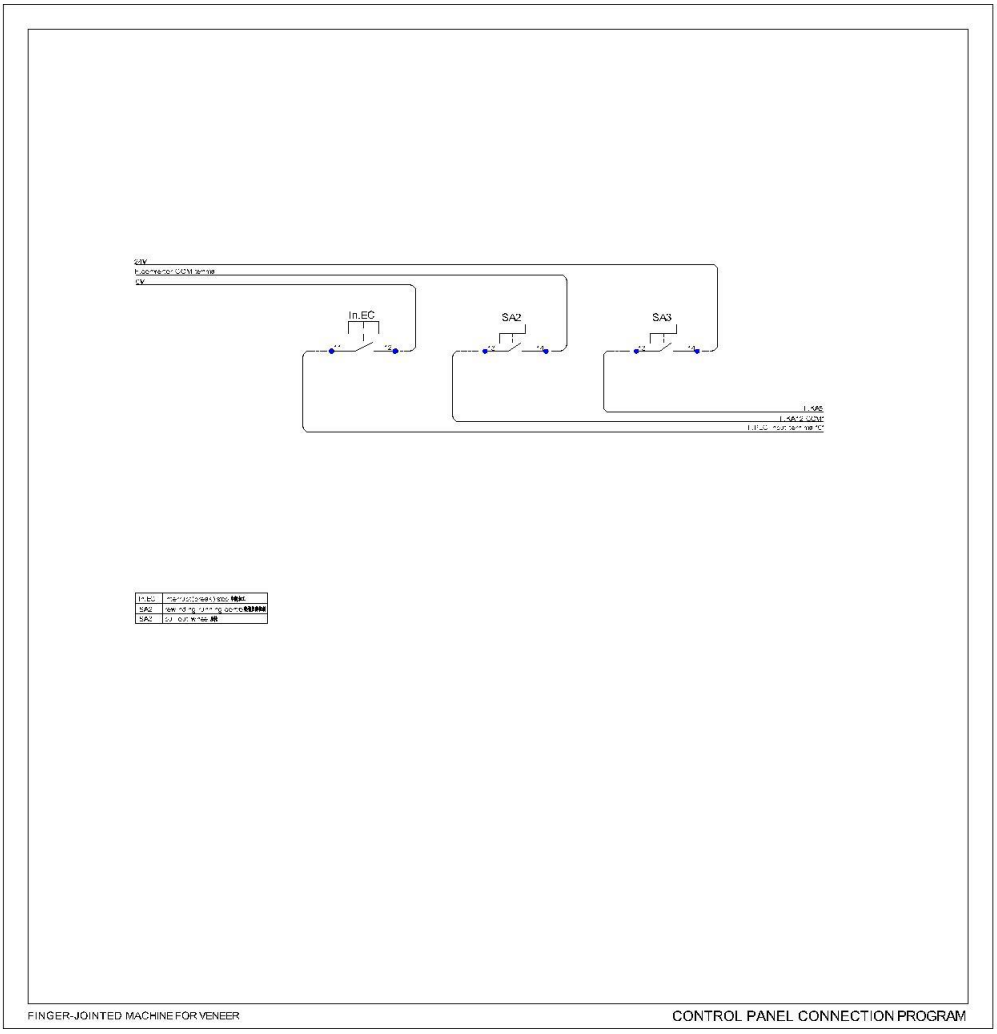
8.2.3


KA12
KA11
KA10
KA9
KA8
KA07
KA06
KA05
KA04
KA03
KA02
KA01
FINGER-JOINTED MACHINE FOR VENEER
PLC CONNECTION PROGRAM

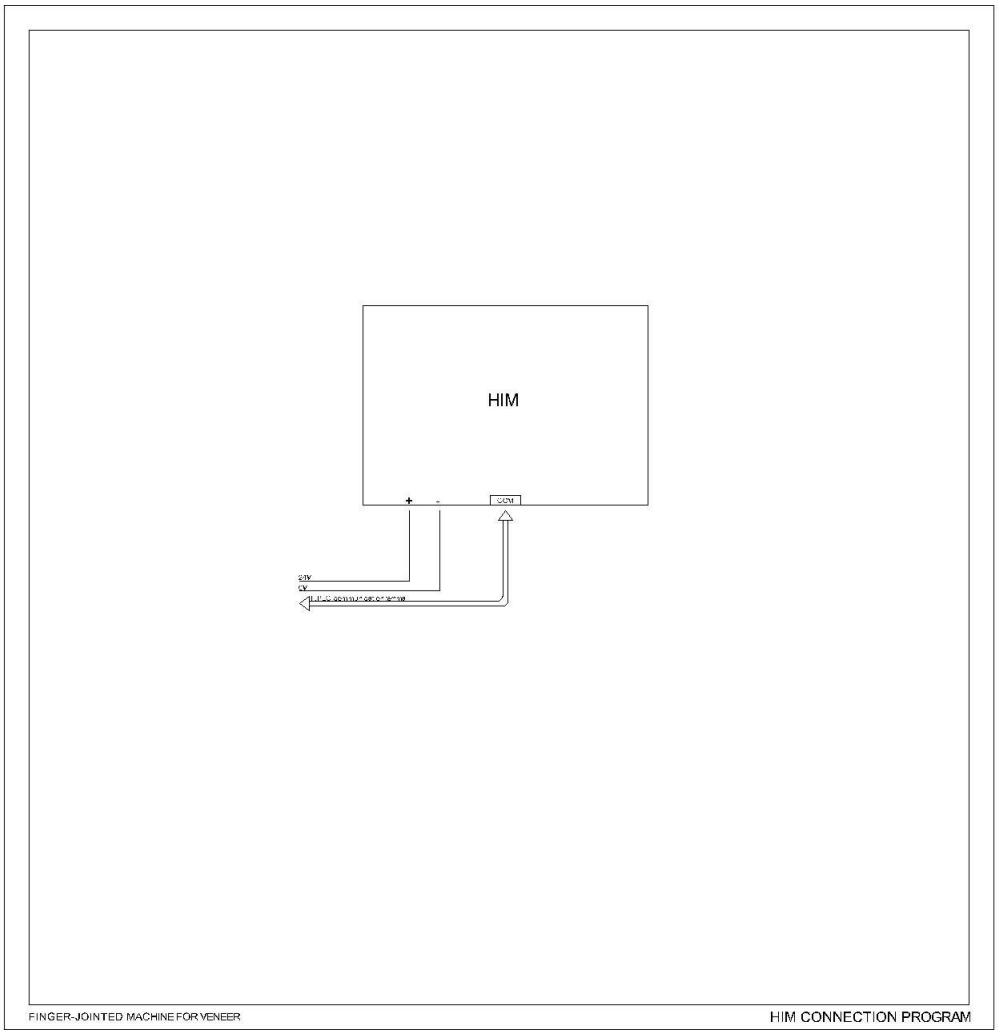
8.2.4


SBEC
SB1
SB2
SA1
FINGER-JOINTED MACHINE FOR VENEER
CONTROL PANEL CONNECTION PROGRAM

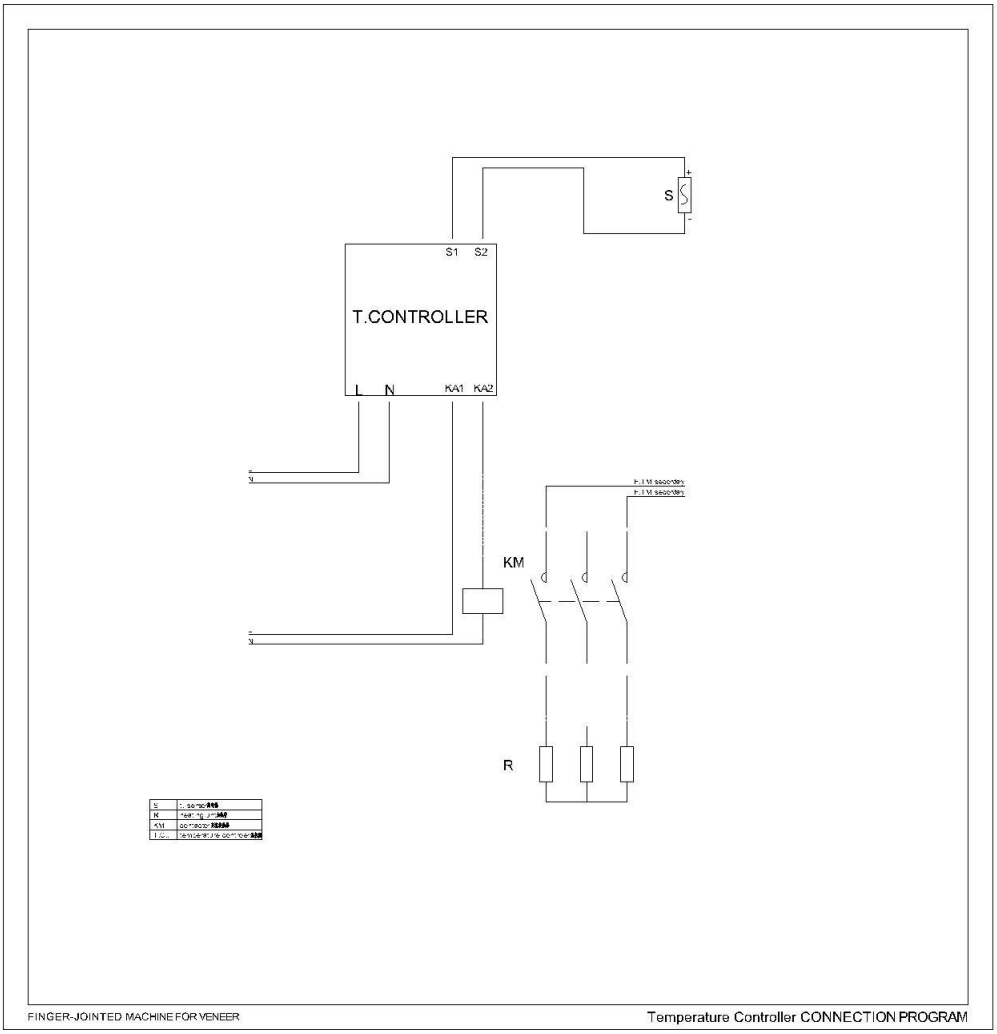
8.2.5


In.EC
SA2
SA3
FINGER-JOINTED MACHINE FOR VENEER
CONTROL PANEL CONNECTION PROGRAM

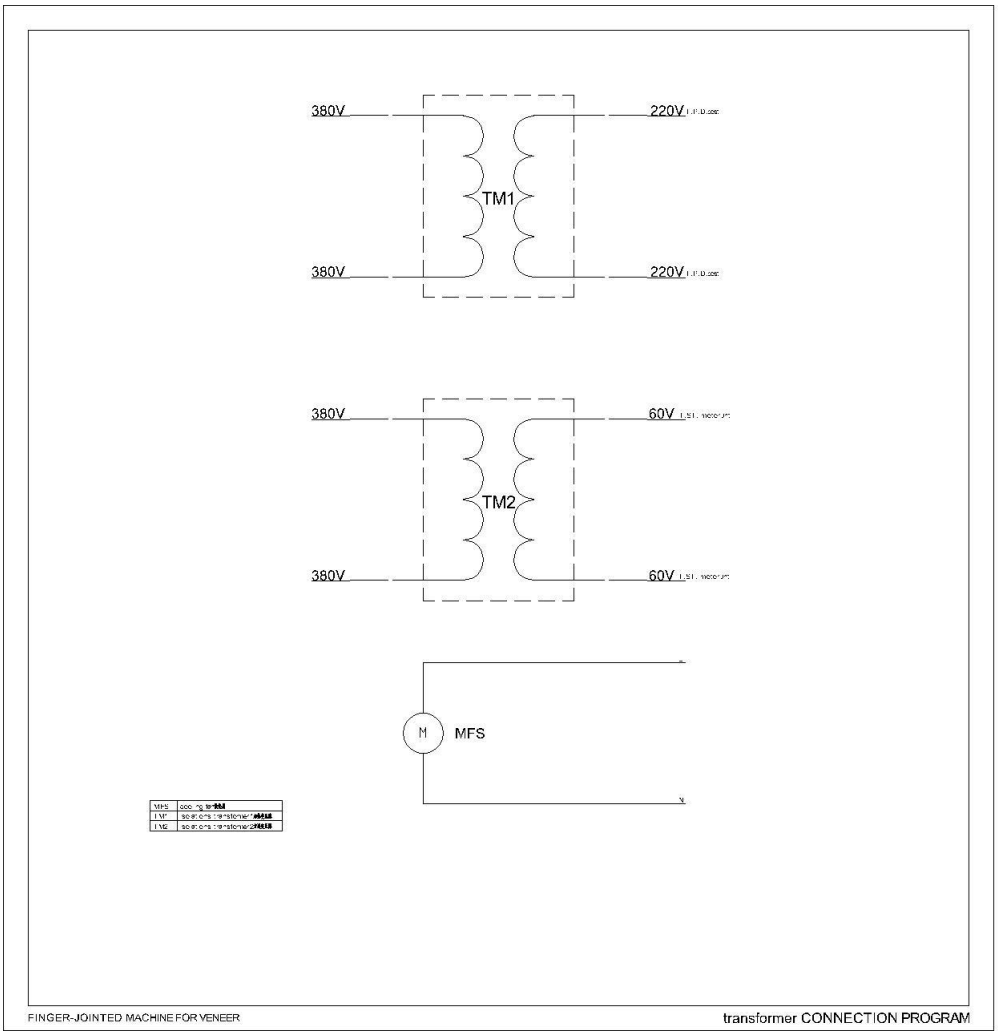
8.2.6


HIM
+
-
CAN
24V
0V
FINGER-JOINTED MACHINE FOR VENEER
HIM CONNECTION PROGRAM

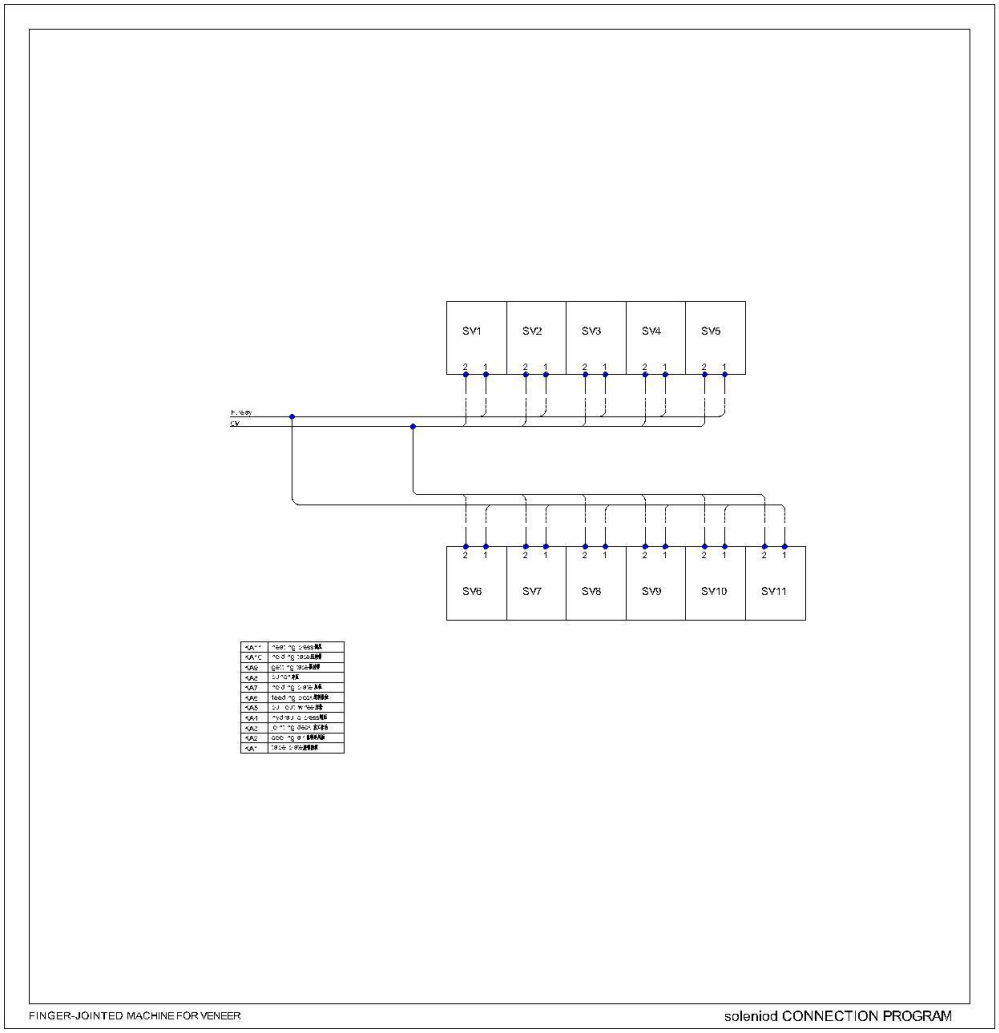
8.2.7


S
S1 S2
T.CONTROLLER
L N KA1 KA2
KM
R
FINGER-JOINTED MACHINE FOR VENEER
Temperature Controller CONNECTION PROGRAM

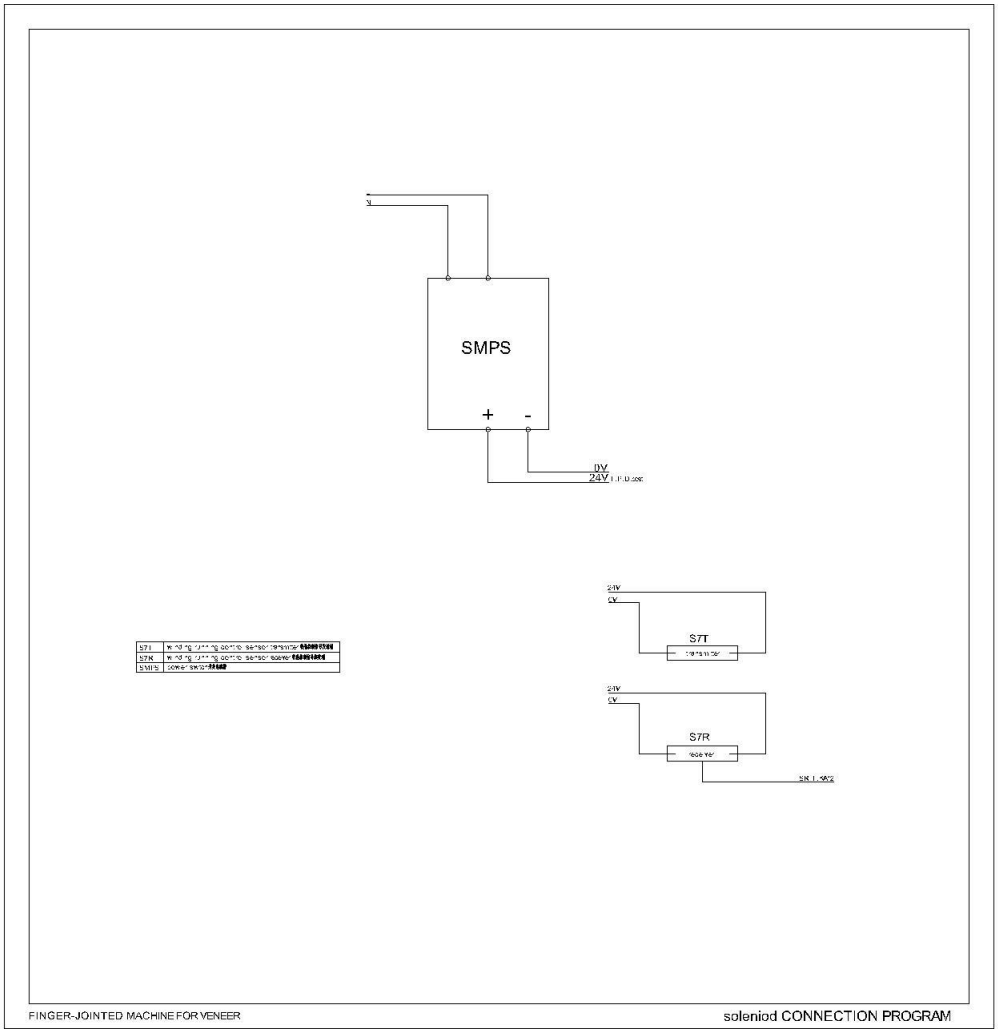
8.2.8


380V
220V
TM1
380V
220V
380V
60V
TM2
380V
60V
M
MFS
FINGER-JOINTED MACHINE FOR VENEER
transformer CONNECTION PROGRAM

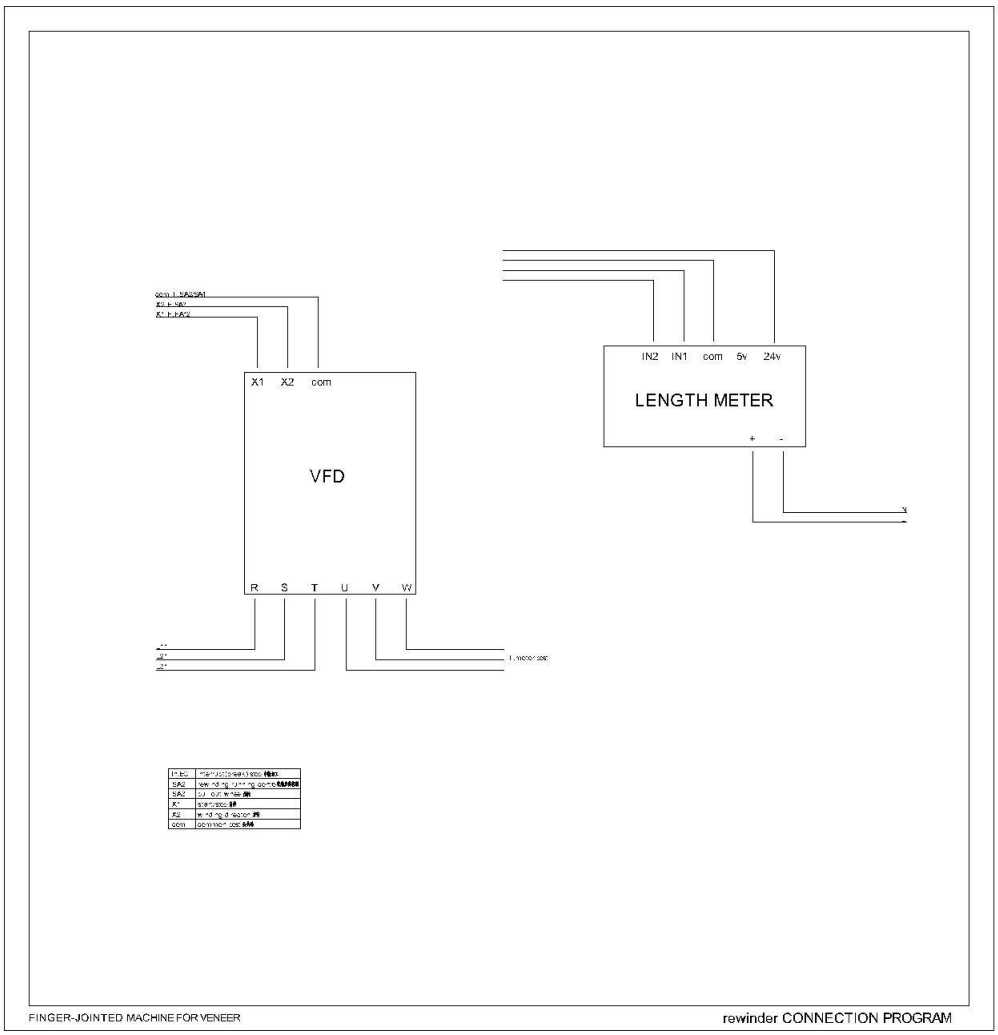
8.2.9


SV1
SV2
SV3
SV4
SV5
SV6
SV7
SV8
SV9
SV10
SV11
FINGER-JOINTED MACHINE FOR VENEER
solenoid CONNECTION PROGRAM

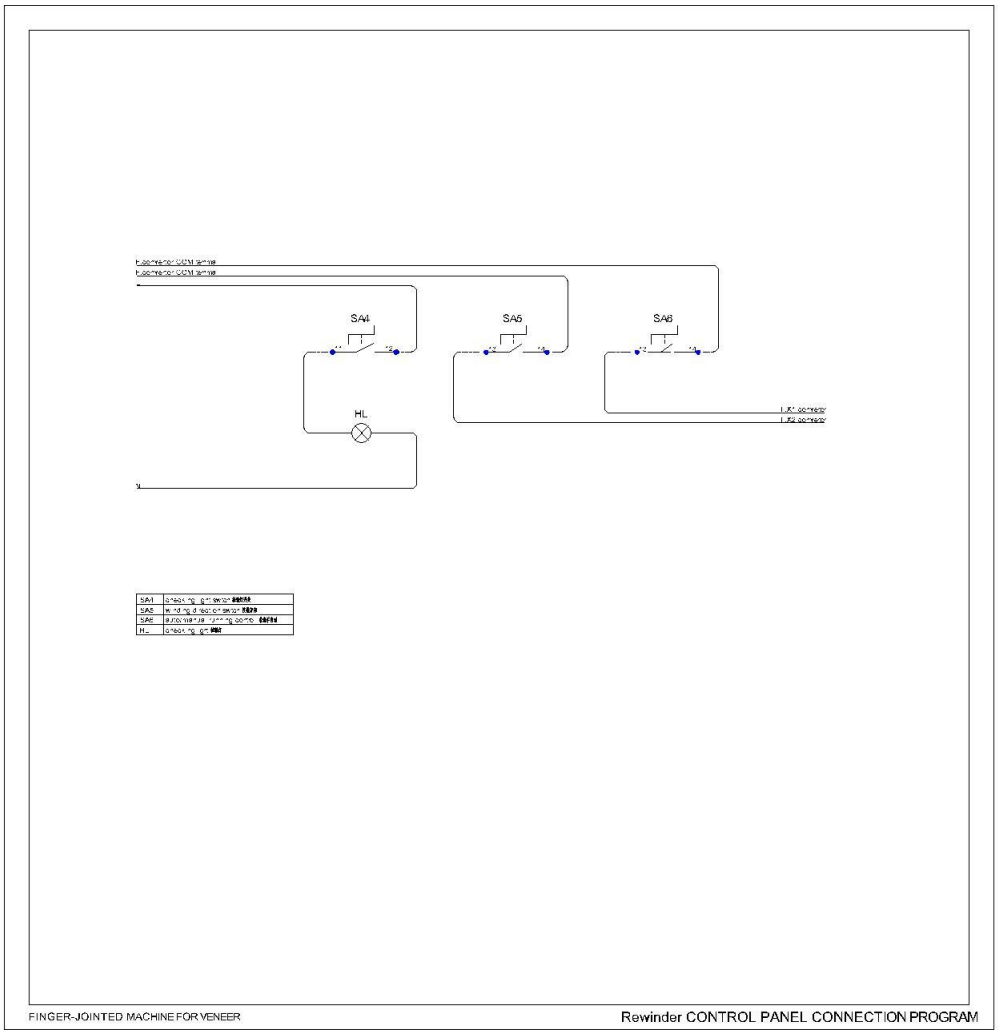
8.2.10


SMPS
+
-
0V
24V
24V
0V
S7T
24V
0V
S7R
FINGER-JOINTED MACHINE FOR VENEER
soleniod CONNECTION PROGRAM

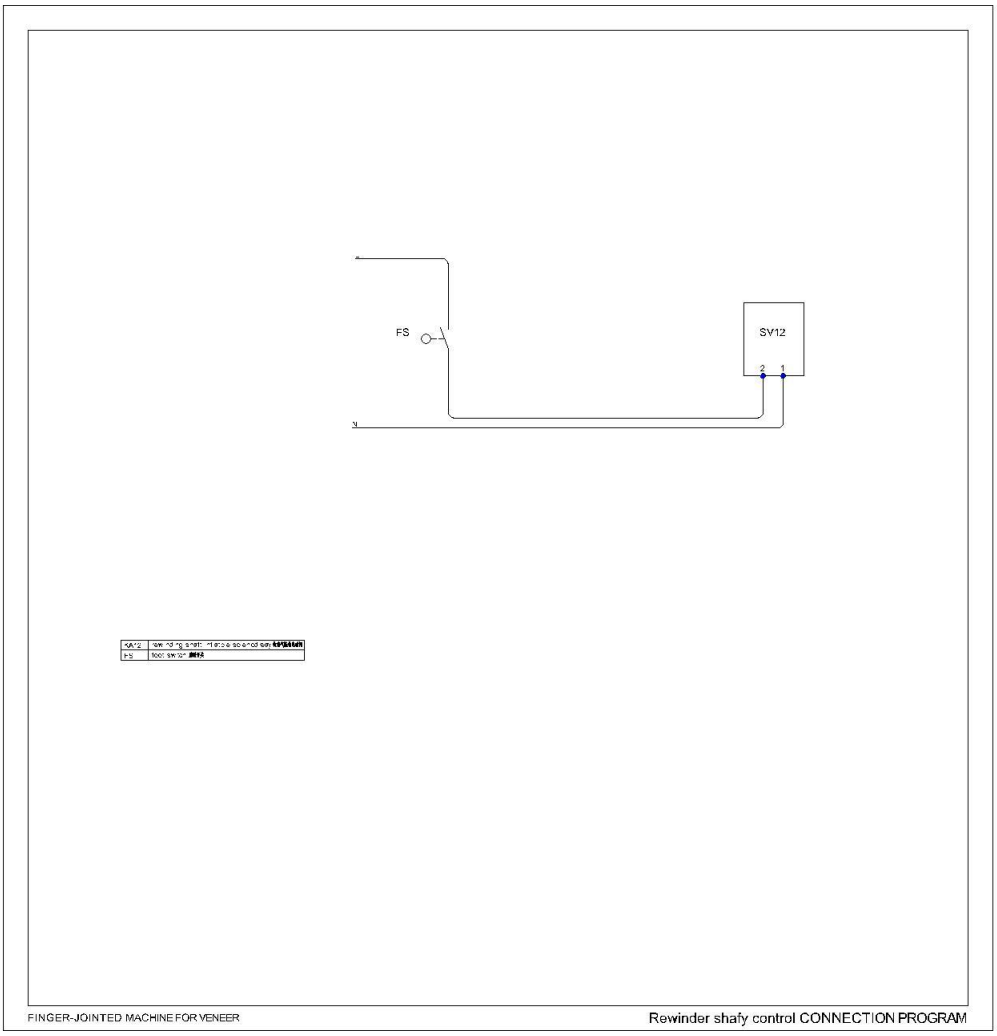
8.2.11


IN2 IN1 com 5v 24v
LENGTH METER
+ -
X1 X2 com
VFD
R S T U V W
FINGER-JOINTED MACHINE FOR VENEER
rewinder CONNECTION PROGRAM

8.2.12


SA4
SA5
SA6
HL
FINGER-JOINTED MACHINE FOR VENEER
Rewinder CONTROL PANEL CONNECTION PROGRAM

8.2.13


FS
SV12
2
1
FINGER-JOINTED MACHINE FOR VENEER
Rewinder shafy control CONNECTION PROGRAM

9 spare parts list

9.1 Air cylinder parts

No.	Parts	Specification	Quan.	Brand
FL1.1	fleece shaft up-down cylinder 复合辊升降气缸	SC80-125-S	2	星辰气动 XINGCHEN
FL1.2	Glue spreader up-down cylinder 涂胶升降气缸	SC32-100-S	2	星辰气动 XINGCHEN
FL1.3	Dryer channel lift cylinder 烘干箱开启气缸	SC32-300	3	星辰气动 XINGCHEN
AR1.7	Glue spreader up-down cylinder 涂胶升降气缸接头	SDA25-10	8	星辰气动 XINGCHEN
FL1.5	rewinder deviation cylinder 收卷机纠偏气缸	SDA25-10	1	星辰气动 XINGCHEN
AR1.8	rewinder deviation cylinder bracket 收卷机纠偏气缸支座	STA-63-50-3T	1	SENTO
AR1.1	Cold shaft up-down solenoid valve 复合辊升降电磁阀	SDA12-5	1	AirTAC
AR1.1	hot shaft up-down solenoid valve 热压辊升降电磁阀	SDA12-15	1	AirTAC
AR1.1	Glue spreader up-down solenoid valve 涂胶升降电磁阀	SDA20-20	1	AirTAC
AR1.		SDA20-20	2	AirTAC
AR1.1	releaser inflatable shaft solenoid 放卷气胀轴电磁阀	4V110-06 DC24	10	AirTAC
AR1.1	dryer channel open solenoid 烘干箱开启电磁阀	4V310-10 DC24	4	AirTAC
AR1.4	Oil-water separator 油水分离器	AL3000-03	1	星辰气动 XINGCHEN
AR1.5	releaser shaft air pressure Valve 放卷轴调压表	AR2000-02 with bracket 带支架	3	星辰气动 XINGCHEN
AR1.5	releaser shaft air pressure Valve 放卷轴调压表	F-GF4010M	2	星辰气动 XINGCHEN

9.2 Electricity parts

No.	Parts 品名	Specification 规格	Quan.数量	Brand 品牌
EA2.1	start/stop switch 启动/停止开关	XA2ED25	1	Schneider Electric
EA2.1	Pull out wheel switch 出料压轮开关	XA2ED25	1	Schneider Electric
EA2.1	Mode switch 手自转换开关	XA2ED25	1	Schneider Electric
EA2.6	CAM switch 万能转换开关	VCD0C	1	Schneider Electric
EA2.33	temperature controller 加热温度控制器	KT72-4011*A（K）	1	tQidec
EA2.13	Emergency socket 急停座	F22-12D	1	N/M
EA2.5	SBEC emergency stop 急停	XA2ES542	1	Schneider Electric
EA2.34	temperature sensor 温度传感器	M6-K (1.5meter)	1	TLPY
EA2.52	power switch supply 开关电源	DR-120-24	1	MW
EA2.25.4	machine air switch 空气开关	iC65N D25A 4P	1	Schneider Electric
EA2.16.2	air switch 空气开关	iC65N D16A 2P	1	Schneider Electric
EA2.26	intermediate relay 中间继电器	MY2N-GS DC24	12	OMRON
EA2.27	intermediate relay socket 中间继电器底座	PYF08A-E	12	OMRON
EA2.28.12	AC contactor 加热辊交流接触器	LC1D12	1	Schneider Electric
EA2.22	PLC 可编程控制器	CP1E-N40DT-A	1	OMRON
EA2.23	HIM 触摸屏	ET2070	1	Kinco
EA2.29	wire end 接线端子	UK2.5	N/M	PODDUX
EA2.30	fixings 终端固定件	E/UK2	N/M	PODDUX
EA2.31	connect strip 短路连接条	FBI-10-6	N/M	PODDUX
EA2.32	common barrier 通用挡板	D-UK2.5B， 1.5N	N/M	PODDUX
EA2.15	cylinder magnetic switch 气缸磁性位置传感器	CS1-U	2	AirTAC
EA2.17	fiber amplifier 光纤放大器	ER2-18ZW	1	BOJKE
EA2.18	fiber 光纤	PT-420	1	BOJKE
EA2.20	power transformer 变压器	1500VA 380-220	1	N/M
EA2.21	power transformer 变压器	400VA 380-60	1	N/M
EA2.44.2506	terminal block 接线端子排	TB25-06	1	N/M
EA2.45.16	water-proof joint 防水接头	PG16（白）	N/M	N/M
EA2.54	frequency converter 变频器	AD300-4T1.5GB	1	KEWO
EA2.14.1	signal (receiver)启停光电信号(接受端)	G18-3C7NA	1	Qaw
EA2.14.2	signal (transmitter)启停光电信号(发射端)	G18-3C7NA	1	Qaw
EA2.11	proximity signal 接近信号（方）	TL-Q5MC1-Z	3	OMRON
EA2.12	proximity signal 接近信号（圆）	E2B-M18KS05-WZ-C1	1	OMRON
EA2.8	RB420step motor 步进电机	86HS11860A4JEP 8.5NM	1	SUMTOR
EA2.9	RB320step motor 步进电机	86HS9860A4JEP 6.8NM	1	SUMTOR
EA2.7	step motor driver 步进电机驱动器	DM1-860C	1	雷赛智能 Leadshine
EA2.35	fan 降温风扇	YMST12038	1	YMST
EA2.36	dust proof screen 防尘网	12CM	1	YMST

9.3 veneer jointing rewinder station

Air cylinder&parts

No.	Parts 品名	Specification 规格	Quantity 数量	Brand 品牌
AR1.18	manual valve 手拉阀	4R210-08（4L210-08）	1	
R1.2	bumper brush cylinder 毛刷压力气缸	SDA25-40	1	
AR1.5	air pressure Valve 调压表	AR2000-02 with bracket 带表支架	2	
AR1.1.1	solenoid valve 电磁阀	4V110-06 AC220	1	
AR1.19	cylinder joint 浮动接头	M5x0.8，JA15-5-080	1	
AR1.2	rotary joint 旋转接头	KSL06-02S L 型	1	

Electricity parts

No.	Parts 品名	Specification 规格	Quantity 数量	Brand 品牌
EA2.1	CW/CCW switch 正反向开关		1	
EA2.1	auto/manual switch 手动/自动开关		1	
EA2.1	Observation light switch 观察灯开关		1	
EA2.54	frequency converter 变频器	AD300-4T1.5GB	1	
EA2.38	gear motor 电机*	GV-28-750-15-S 键 8	1	LULIAN
EA2.41	gear motor 电机*	RF37DRE80M4 0.75 15.6	1	
EA2.43	meter counter 测米器	GQ889	1	
EA2.14.2	Start-stop signal (transmitter)启停光电信号(发射端)	G18-3C7NA	1	
R2.9	LED Observation light 观察灯	N/M	1	N/M
EA2.42	rewinder shaft foot switch 脚踏开关	LT4 (yellow) (self-lock) (自锁)	1	N/M

Auxiliary parts

No.	Parts 品名	Specification 规格	Quantity 数量	Brand 品牌
R3.1	deviation Stainless Spring 纠偏弹簧	Φ1.2,EX.dia 外径 12, length 长度 65, 14 圈	2	N/M
MD3.12	Shaft bearings 收卷轴轴承	FL208	2	*
R3.3	Shaft belt pulley 轴上皮带轮	2B-140/40/10	1	N/M
R3.4	motor belt pulley 电机皮带轮	2B-80/28/8	1	N/M
R3.5	belt 三角带	B1194	2	*
MD3.28.20	brush linear bearing 毛刷升降直线轴承	LMH20	2	
MD3.19.5.5	deviation adjusting screw 纠偏力调整螺钉	M5*40 	2	N/M

10. Daily Maintenance

Cleaning, Lubrication, Fastening, Adjustment, Inspection

Regardless of the equipment type, daily maintenance revolves around these "5 core actions," with precise operations required for each link:

Maintenance Actions	Specific Operation Points	Common Misunderstandings
Cleaning	1. Electrical components (motors, distribution boxes, sensors): Clean with dry cloths or compressed air; do not wipe directly with water or alcohol. 2. Moving parts (guide rails, bearings, chains): Apply grease after cleaning to prevent rusting. 3. Oil stains/iron filings: Clean with special oil stain cleaners (e.g., kerosene) to avoid residual oil absorbing dust.	1. Washing the equipment with water (may cause electrical short circuits or component rust). 2. Neglecting sensor cleaning (may lead to signal misjudgment, such as fiber optic probes being blocked by dust causing "failure to recognize materials").
Lubrication	1. Select the correct oil type: Strictly follow the oil 型号 specified in the equipment manual (e.g., 3# lithium grease for bearings, 220# industrial gear oil for gearboxes); mixing different oil types is prohibited. 2. Control dosage: The oil level should ideally "cover 1/3-1/2 of the component" (excessive oil causes overheating and leakage; insufficient oil leads to dry friction). 3. Timely lubrication: Follow the "lubrication schedule" (e.g., daily lubrication for guide rails, weekly lubrication for chains, monthly oil level checks for gearboxes).	1. Selecting oil based on experience (e.g., using engine oil instead of grease, resulting in lubrication failure). 2. Not cleaning after lubrication (oil absorbs dust to form "oil sludge," exacerbating wear).
Fastening	1. Key parts: Check anchor bolts, motor fixing screws, and connectors of transmission components (pulleys, couplings) with a wrench to ensure no looseness (especially for high-frequency vibrating equipment such as crushers and machine tools).	1. Only fastening "visible" screws while ignoring internal connectors (e.g., motor end cover screws). 2. Over-tightening (causing screw stripping or component deformation).

Maintenance Actions	Specific Operation Points	Common Misunderstandings
	2. Electrical connections: Check for loose terminal blocks and plugs in the distribution box (operate after power-off) to prevent overheating or power failure due to loose connections.	
Adjustment	1. Transmission components: Adjust the tension of belts/chains (belts should "sink 1-2cm when pressed"; chains should have no obvious slack or jamming). 2. Precision components: Adjust sensor positions (e.g., the gap between proximity switches and detection parts, usually 0.5-2mm) and guide rail parallelism (to prevent worktable deviation). 3. Control parameters: If the equipment has "slight deviations" (e.g., inaccurate feeding), fine-tune touch screen parameters (e.g., pulse count, speed setting) according to the manual; major adjustments are prohibited.	1. Over-tightening of belts (increasing motor load and accelerating bearing wear). 2. Randomly adjusting core parameters (e.g., modifying temperature control thresholds without following procedures, causing overtemperature).
Inspection	1. Wear parts: Check for cracks in belts, broken links in chains, and aging of seals (e.g., O-rings). 2. Safety components: Check the calibration validity period of safety valves and pressure gauges (ensure they are within the qualified period); test overload protection devices (e.g., whether the motor automatically shuts down after overload). 3. Auxiliary systems: Check if hydraulic oil is emulsified (caused by water ingress) and if there is condensed water in the pneumatic system (regular drainage is required).	1. Ignoring inspection of wear parts (e.g., failure to timely replace cracked belts, leading to breakage during operation and production shutdown). 2. Using expired uncalibrated pressure gauges (failing to accurately monitor pressure,

11. Troubleshooting

11.1 If the green indicator light and touch screen do not light up after startup(No.1)

first check whether the main power cables to the distribution box are securely connected. If the connection is secure and the voltage is normal (indicating the external circuit is in good condition), open the distribution box**(No.18)** and sequentially check whether the power cables are firmly installed and whether the air switch has tripped.

11.2 After power-on, one or several of the indicator light, touch screen, temperature control meter, and motor speed control panel do not light up.

First, open the distribution box**(No.18)** and check whether the relevant circuits have an open circuit. If there is no open circuit, check whether the circuits of the equipment outside the distribution box are normal. If all circuits are normal (no open circuit), replace the aforementioned components to check if they are damaged.

11.3. Automation fails to start.

a. First, check if the emergency stop switch**(No.1)** is pressed. If it is pressed, release the emergency stop switch to resolve the issue.

b. Next, check if the two fibers are broken**(No.10)**. In the initial state, the clamping arm should be returned to its homing position, and this switch must be lit to start the automation program. Then check if the start fiber amplifier (**No.10**) is light on. In the initial state, the hot pressing plate should be lifted, and this switch must be lit to start the automation program. Also, check if the magnetic switch on the stamping cylinder is lit. In the initial state, the stamping cylinder should be returned to its home position, and this magnetic switch should NOT be lit—if it is lit, the automation program cannot start.

c. If none of the above issues exist, check the fiber optic amplifier(**No.10**). If the system fails to start in the green light mode, but starts in the red light mode (yet the wood veneer fails to stop automatically), it indicates a fault in the fiber optic assembly. Insert and pull out the wood veneer repeatedly, and observe if the red light of the fiber optic amplifier changes. If there is no change, the fiber optic is faulty. Check if the green light of the fiber optic amplifier stays on. If the green light of the fiber optic amplifier flickers or is dim, clean the fiber optic head and check if the fiber optic head is loose or displaced.

11.4.Left/right deck fail to operate or fail to stop.

If the decktable fails to operate: Turn off the power, check if the decktable is in the correct position. If not, manually push the decktable to the appropriate position. And check the sensor(**drawing 4**) on the cylinder of deck , if it is mis-position or loose. And you may have to replace te deck cylinder soon.

11.5.The automation program stops without subsequent actions after the pressing ,the process is completed.

Check if the appromix sensor on the pressing cylinder is right condition. If it is not lit, the sensor is loose or displaced—adjust its position until it lights up(**No.8**), and the automation program will resume operation.

11.6.getting tape arm fails to move forward.

First, check if the getting tape arm proximity sensor (**No.6**) and the hot pressing proximity switch (**No.8**) are lit. If either one is not lit, the getting tape arm will not move forward. If the hot pressing proximity sensor is not lit: Check if the hot pressing plate is fully lifted. If it cannot be fully lifted, insufficient air pressure may be the cause.

11.7.pull-out motor fails to stop.

First, check the fiber optic amplier(**No.10**)—in most cases, a faulty fiber optic causes the motor to fail to stop.

11.8.pull-out motor stops inaccurately.

First, check if the feeding stop time on the touch screen has been manually altered. If not, check if the motor speed control panel(**drawing 3**) has been manually adjusted. Note: Occasional inaccurate stopping may be caused by issues with individual wood veneers, such as cracks, pinholes, or light transmission in the veneer.

11.9.Wood veneers are not joined straight.

First, check if the wood veneers themselves are straight. Next, check if the operator has aligned the wood veneers tightly and correctly against the fence. If neither is the cause, adjust the corrector screws until the veneers are joined straight.

11.10.Gaps at the joints or overlapping joints.

Adjust the screw on the left deck .

11.11.getting tape arm fails to grip the tape.

Check if the gripper jaws align with the semicircular notch of the tape holder. If not, adjust t Check if the gripper jaws are too smooth due to wear—if so, attach a thin piece of non-slip material to them. Note: Occasional failure to grip the tape may be caused by issues with specific parts of the

tape, such as moisture absorption, warping, or sagging.

11.12.A specific cylinder fails to operate consistently during operation.

Open the pneumatic mounting plate, use the manual operation buttons on the touch screen, and check if the light of the corresponding solenoid valve lights up. If it does not light up: Check if there is an open circuit in the solenoid valve wiring. If no open circuit is found, open the distribution box, use the manual operation buttons on the touch screen, and check if the light of the corresponding relay changes. If the relay light does not change: Check the relay wiring. If no open circuit is found, try replacing the relay or the solenoid valve head.