

THE INSTRUCTION FOR SQUARING THE TIGERTEC CNC ROUTER'S WORK TABLE

(Weihong NK105 control system /steel gantry)

1 Note

Normally the machine's work table has been squared before it leaves the factory, operators don't need to resquare the table again. But sometimes the work table's diagonal tolerance maybe changed (e.g. the gantry is hit by the external force, the motors are changed, the motor driver is damaged, the bolts fixing the gantry are loose, etc), then the operators need to adjust the table's diagonal tolerance and resquaring the table again.

The following directions describe how to check the mechanical assembly, check the square of the table and adjust the square of the table.

Some helpful hints are also provided.

2 The tools

The required tools are as follows:

- Screwdrivers and hexagonal wrenches
- Tape measure
- Cutting head prepared to mark material (e.g. V point cutter, flat engraving cutter, permanent marker)
- Two people
- Calculator

3 Check the mechanical assembly

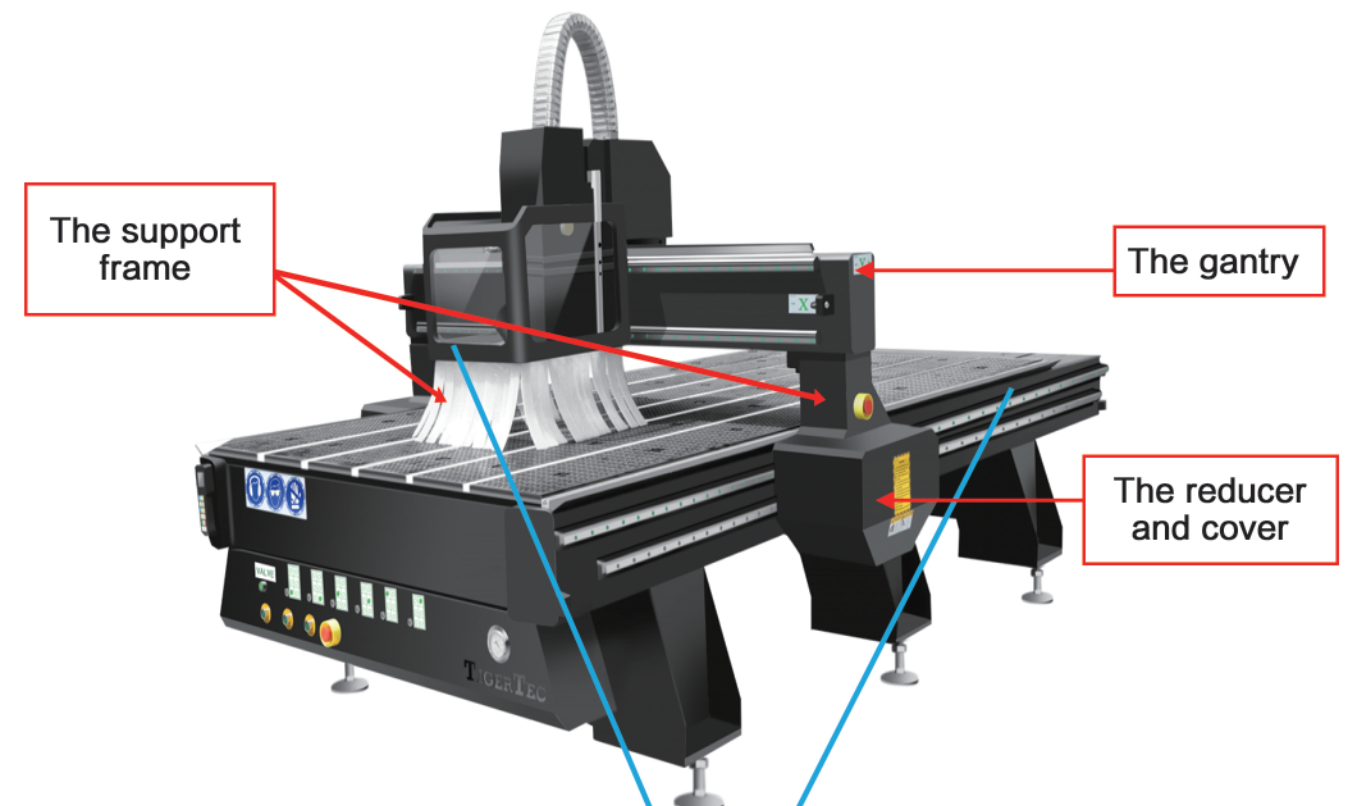


FIG.1

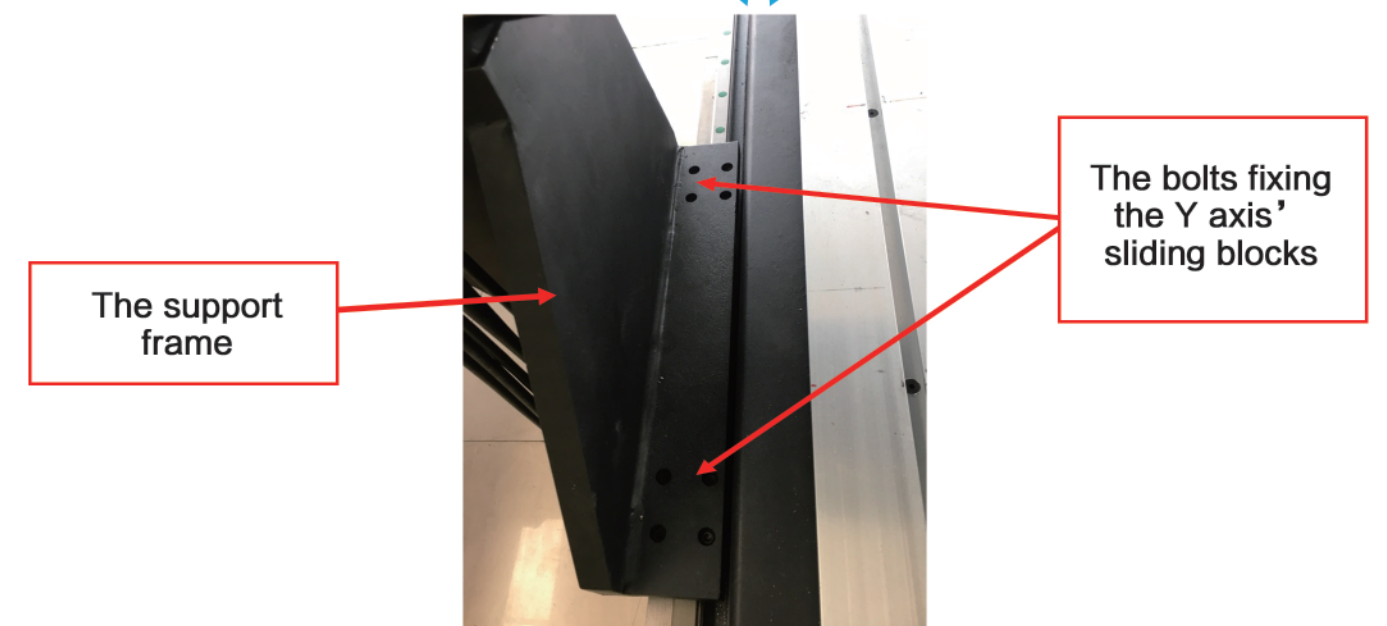
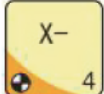


FIG.2

1 Turn on the power and back to mechanical origin

Press  +  key in the panel, the three axes will go to the mechanical origin.

2 Check the assembled condition of spindle

Shaking the spindle by hand, then check whether the spindle is assembled tightly. If it is assembled loosen, you should find out the loosen bolts and tighten them. (refer to Fig.3)

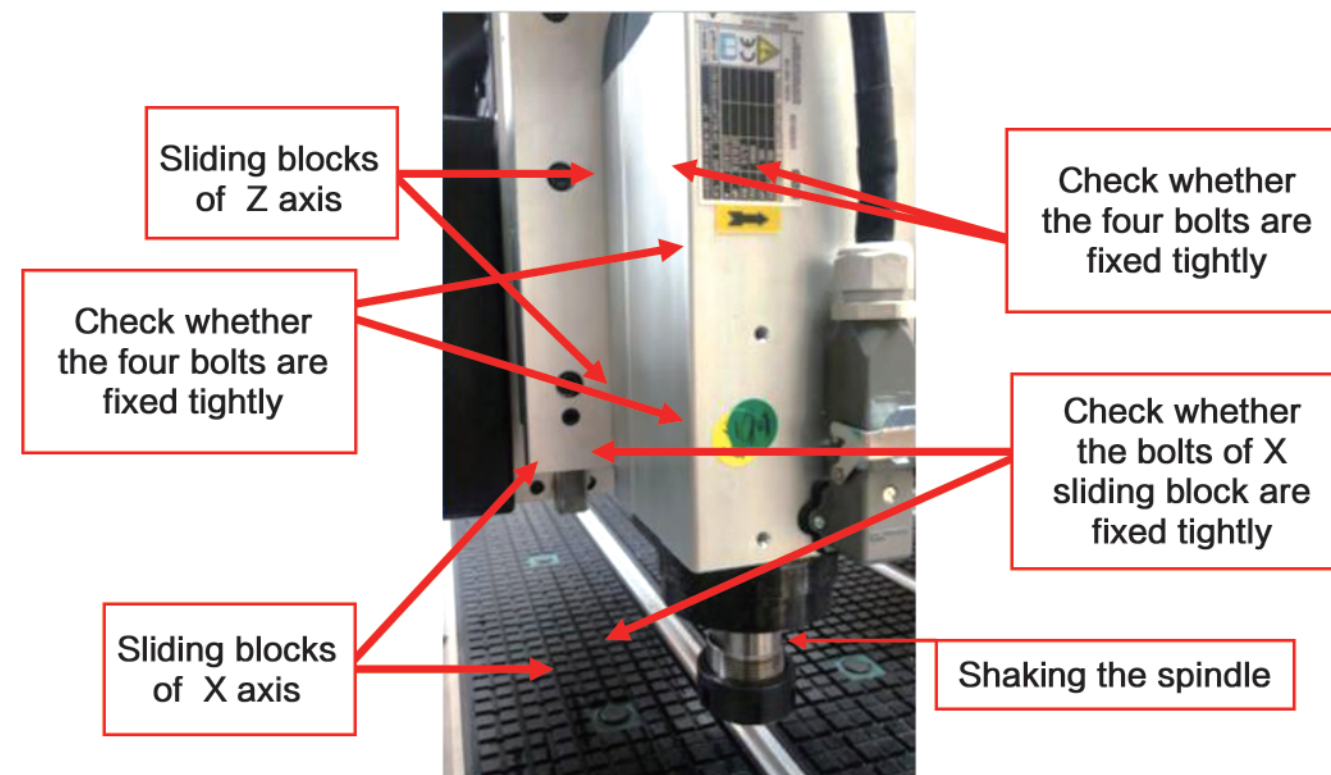


Fig.3 Check the assembled condition of the spindle

After you fastening the loosen bolts, you can shake the spindle again and check whether the X axis' sliding blocks can move on the X guide or not. (refer to Fig.3)

If it moving means that the X axis' gearbox doesn't assemble tightly and you should check the assembled condition of X axis' gearbox.

3 Check the assembled condition of X axis

Shaking the spindle by hand, then check whether the spindle is assembled tightly. If it is assembled loosen, you should find out the loosen bolts and tighten them. (refer to Fig.3)

- Check whether the belt in gearbox is fastened tightly, if it loosen you should fasten it(refer to Fig.4).
- After fastening the belt ,check whether the X axis' linear bearing can be moved when shaking the spindle .If it can be moved again you should adjust the four bolts fixed the gearbox to assemble the gear and rack tightly. (refer to Fig.5)

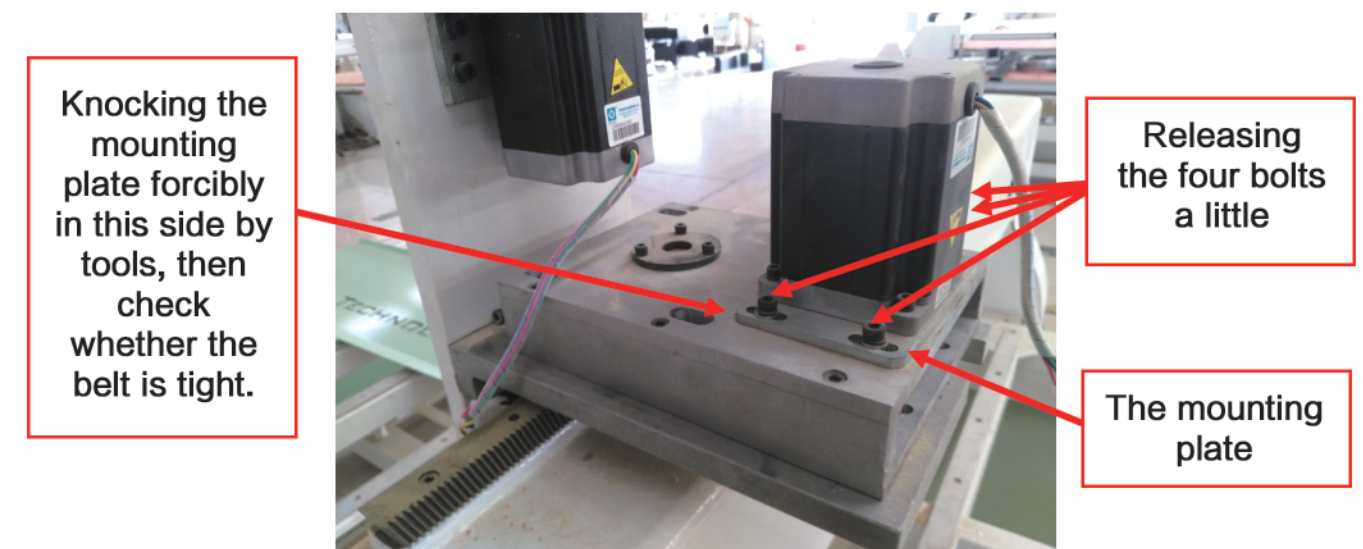


Fig.4 Adjusting the belt of X gearbox



Fig.5 Checking the belt of X gearbox

4 Check the assembled condition of Y1 axis and Y2 axis

You can shake the both sides of the gantry to check whether the sliding blocks of Y1 axis and Y2 axis can move on the guides(refer to Fig. 6).If the sliding blocks can be moved when you shaking the gantry ,you should check as following way :

- Jog the gantry to the end of the work table until the bolts fixing the Y axis’ sliding block can be checked.(refer to Fig.2)
Check whether the bolts fixing the sliding blocks are tightly, otherwise you should tightening them by hexagonal wrenches. There are have 16 bolts fixing the 4 Y axis’ sliding blocks totally.
- Removing the support frame’ cover , check whether the belt in the Y axis’ gearbox are working well. If they are loose or damaged, you should tighten it or change a new one. (refer to Fig. 7).
Check the bolts in the pulley make sure they are fastened tightly (refer to Fig. 7 and 8).

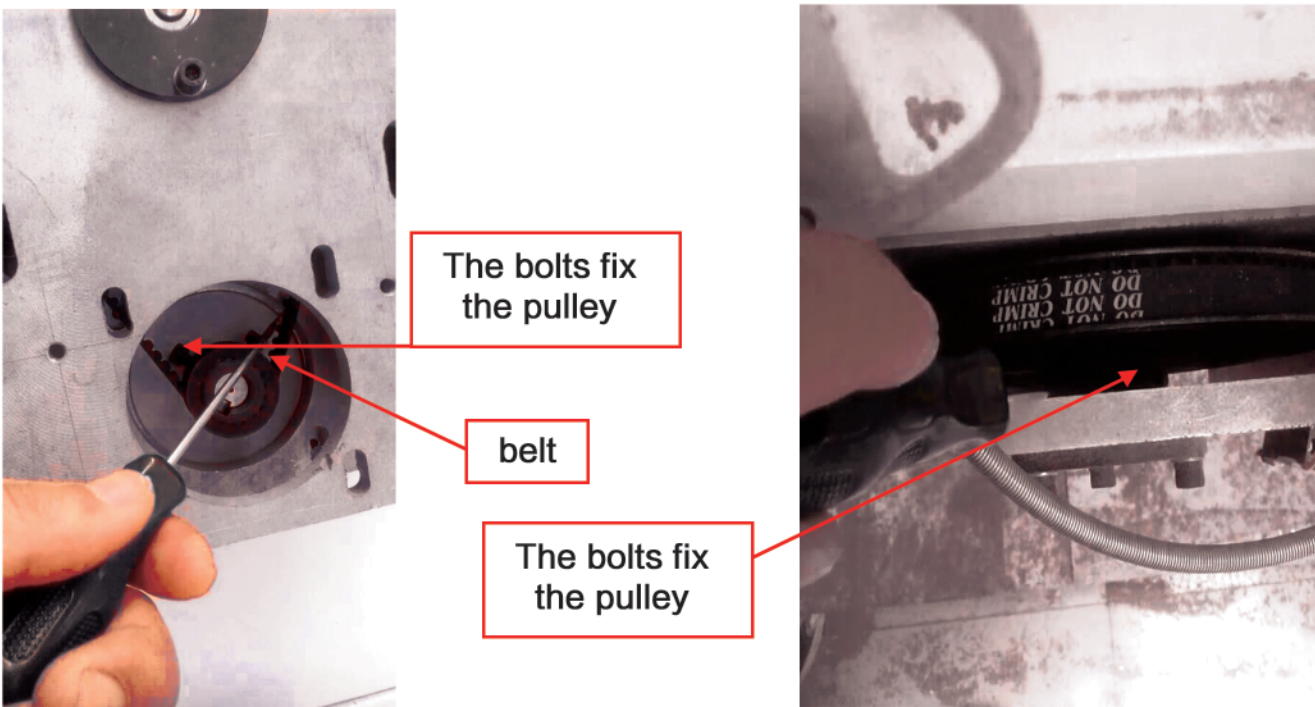


Fig.7 Check the bolts and belt of Y axis Gearbox

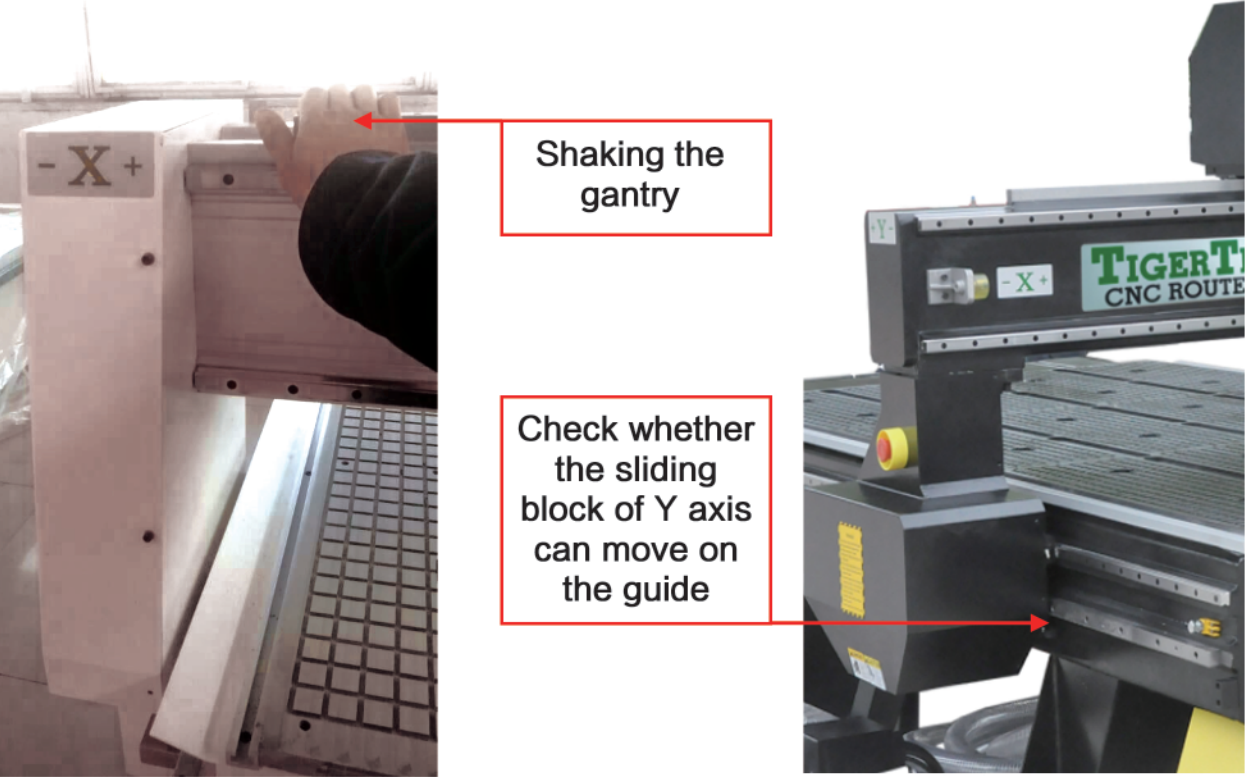


Fig.6 Checking Y axis’ sliding blocks

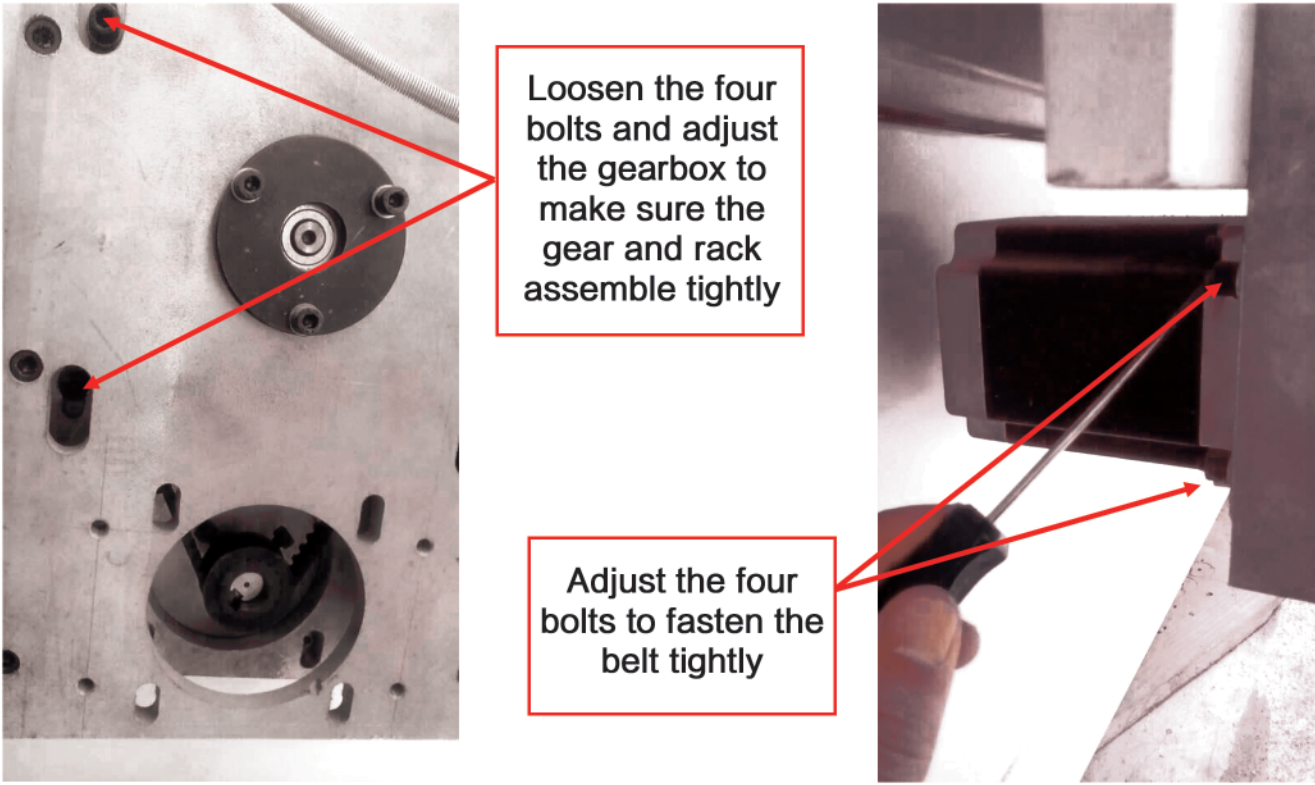


Fig.8 Adjusting the assembly position of Y axis’ gearbox and motor

- After fastening the belt , you can check whether the sliding blocks can be moved or not while shaking the gantry by hand .If it can be moved you should loosen the bolts fixing the gearbox slightly to make sure the gear and rack assemble tightly. (refer to Fig. 8).

After checking by aboving steps , then you can check the square or rectangle of the work table.

4 Check the square(or rectangle) of the table

1 Backing to mechanical origin

Press  +  key in the panel, the three axes will go to the mechanical origin.

2 Install a V point cutter or flat engraving cutter or permanent maker to the cutting head. Cleaning up the top surface of the worktable.

3 Jog the cutting head to the lower left corner of the table.

4 Press for zero clearing , then the workpiece origin along with X and Y axis is confirmed.

5 Jog the cutting head down in Z to make a small mark at X0,Y0.

6 Jog the cutting head up , press key in the panel and change the motion mode into “Stepping” , then you can exactly position the cutting head at the next corner of a large square or rectangle , then make another small mark .

Note: Under the “stepping” mode, you can move the cutting head in exactly distance by the follow way:

Press  in the panel → select “Step XY” and set the step distance (e.g. set the step distance into 1000mm) → press  → press  or  or  or  key , then the cutting head will move to next exactly position.



7 Repeat step # 6 until all 4 corners of the square or rectangle have been marked.

Note:

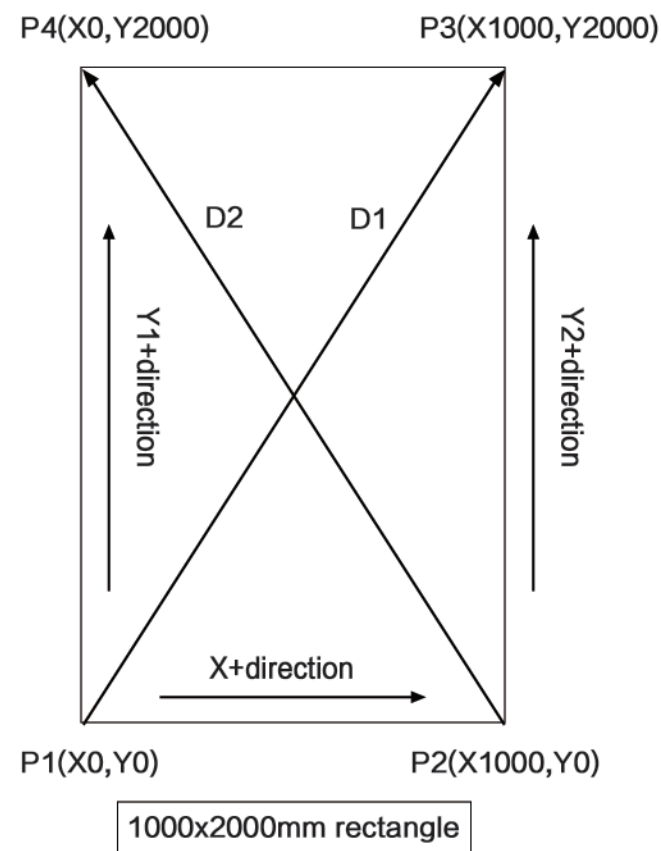
- The measurement will be more accurate if the square is larger (e.g. 1000 × 2000 rectangle is better than 500 × 1000 rectangle).
- For TR408 CNC router: usually place marks at (0,0),(1000, 0),(1000,2000), (0,2000).
- For TR710 CNC router: usually place marks at (0,0),(1500, 0),(1500,2500), (0,2500).

8 Measure the distance between the two diagonal points (D1 and D2) using the tape measure.

- ◆ If the distances are the same , then the work table don' t need to adjust.
- ◆ If the distances are different , then should adjust the work table' s square or rectangle.

Note:

- At least 2 operators should be involved when checking the square or rectangle of the work table.
- Operators should begin measuring from the 1” or 10” mark on the tape measure. This provides greater accuracy.



5 Adjust the work table's square or rectangle

- 1 If D1 and D2 are different lengths, then the operator should use the following formula to correct the square or rectangle value.

$$\frac{D1-D2}{2} = \Delta Y$$

D1- the first diagonal distance (e.g. 0,0 to 1000,2000)

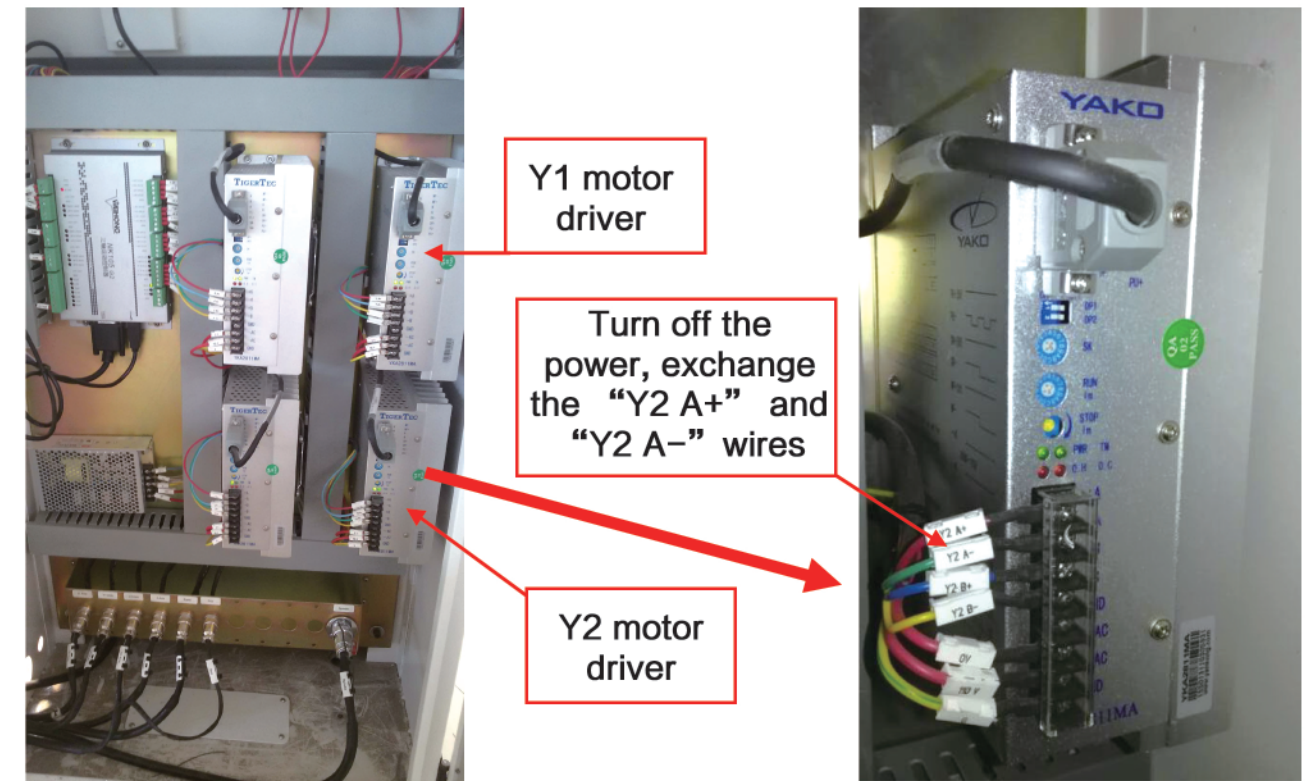
D2- the second diagonal distance (e.g. 1000,0 to 0,2000)

ΔY - the square or rectangle value should be adjusted in Y axis direction.

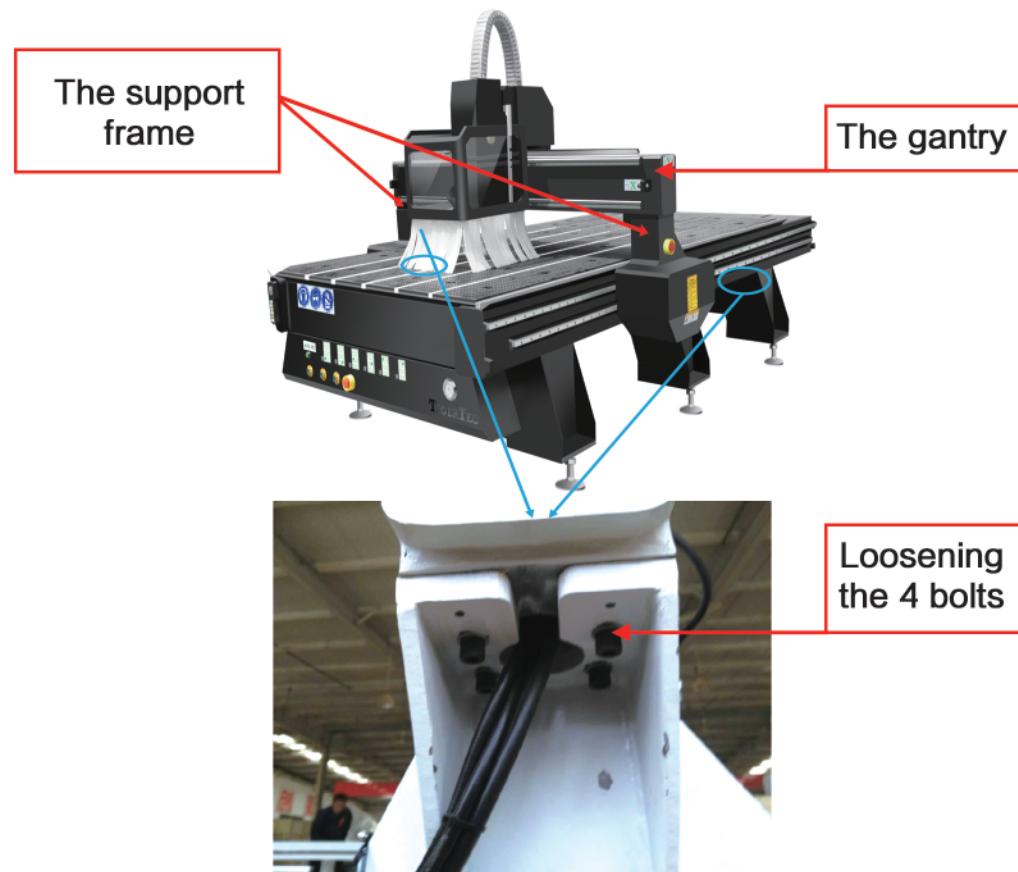
Note: We think there isn't necessary to adjust the square or rectangle of the work table if (D1-D2)'s absolute value less than 0.5mm.

- 2 Under "Jog" mode, moving the gantry to the middle of the work table in Y axis direction.

- 3 Turn off the power and open the cabinet, then exchange the "Y2 A+" and "Y2 A-" wires in Y2 motor driver.



- 4 Remember! After power on pressing  key and don't need to back to REF. point (mechanical origin), then press  key and change the motion mode into "Stepping", then press  for zero clearing, then the workpiece origin along with X and Y axis is confirmed. Then press  in the panel → select "Step XY" and set the step distance : 0.1 →press .
- 5 Removing the support frame's cover in both Y1 and Y2 axis sides and loosening the 8 bolts fixing the gantry and the support frame (there are 4 bolts in Y1 or Y2 axis side).



- ⑥ If D1 distance is longer than D2 distance and ΔY is a positive value, you should press  key under “Stepping” mode until the Y axis moving distance is same to ΔY , then tightening the 8 bolts which fixing the gantry and the support frames.
- If D1 distance is shorter than D2 distance and ΔY is a negative value, you should press  key under “Stepping” mode until the Y axis moving distance is same to ΔY 's absolute value, then tightening the 8 bolts which fixing the gantry and the support frames.
- ⑦ Turn off the power and open the cabinet, then reexchange the “Y2 A+” and “Y2 A-” wires in Y2 motor driver.
- ⑧ Turn on the power, repeat step # 4.1 ~ 4.8 to check the work table's diagonal distance again.
- If the distance are the same (or $|D1-D2| \leq 0.5\text{mm}$), then the machine is square or rectangle.
- If the distance are different, you should repeat step # 5.1 ~ 5.8 to adjust the work table again.

Note: Accurately squaring the gantry to the machine may take more than one attempt.

THE INSTRUCTION FOR SQUARING THE TIGERTEC CNC ROUTER'S WORK TABLE

(Weihong NK105 control system /TR710/steel gantry)

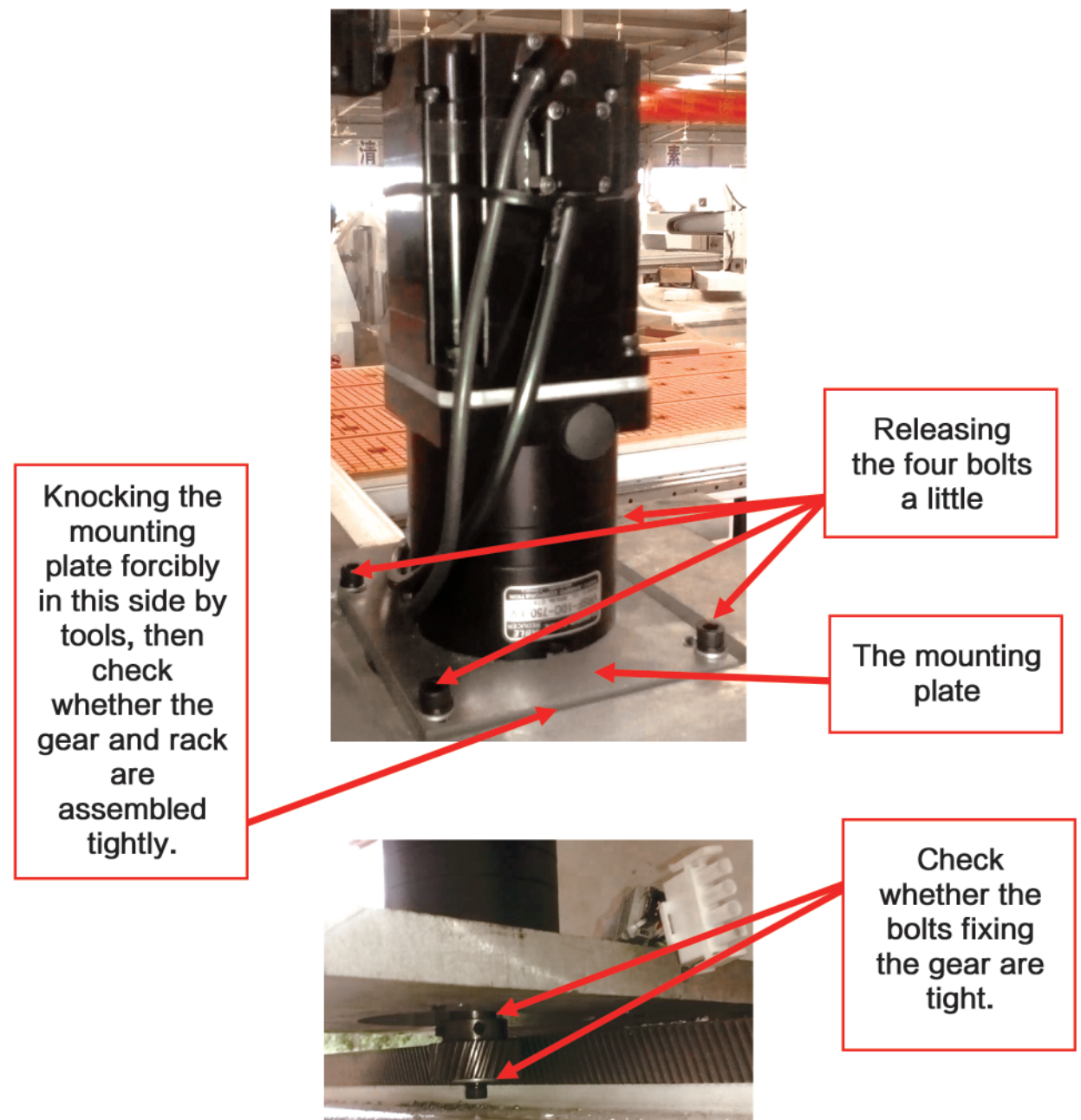
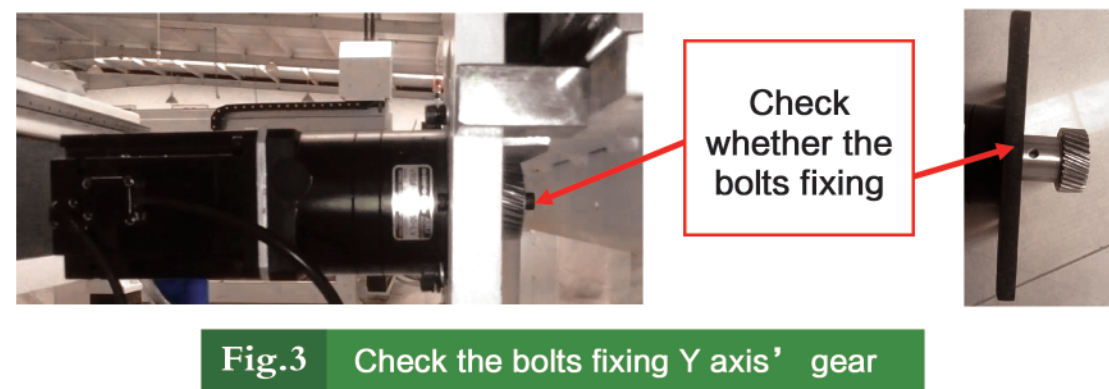
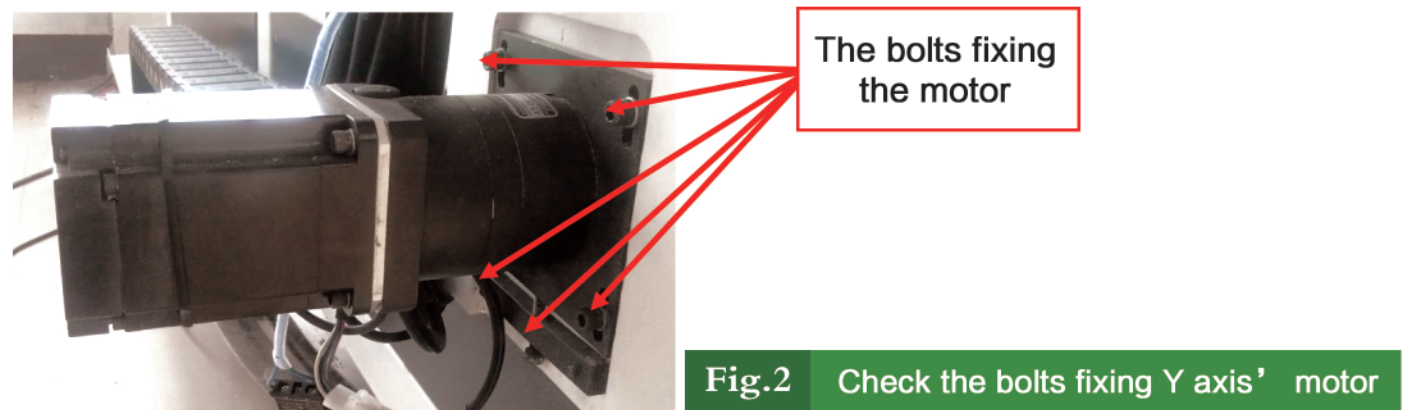


Fig.1 Checking the bolts of X axis



Step	Display after Operation	Keys	Description
1	Pn000		Press the MODE/SET Key to select the parameter setting mode. If Pn000 is not displayed, press the UP or the DOWN Key to select Pn000.
2	n0010		Press the DATA/SHIFT Key for approximately one second. The current data of Pn000 is displayed.
4	n0011		Press the UP Key once to change "n.0011."
5	n0011 Display blinks		Press the MODE/SET Key. The value blinks and is saved. Then the parameter is reset successfully.
6	Pn000		Press the DATA/SHIFT Key for approximately one second. "Pn.000" is displayed again.
7 To enable the change in the setting, turn OFF the power and ON again.			

THE INSTRUCTION FOR UPDATING THE NK105 G2
(NO ATC) CONTROL SYSTEM

(Update Software Version:NK105G3_27_72f2)

1 Check the software version of current control system

Press → select "8.Diagnosis" → select "1.System Info" → select "1.Software Ver." , if it is older (e.g. NK105G3_20) than the update version(the software version of the update file is NK105G3_27_72f2), you can try to update the system by referring to following steps. Otherwise , no need to update it.

2 Because some parameters of the control system need to be reset after updating the system, so it' s necessary to write down the value of these parameters at first.

- 1 Press → select "5.Mfr Param" → Input the passwords:33587550→ select "1.Velocity" → select "7.Max speed" , then write down the "Max speed" value of the three axis.
- 2 Press → select "5.Mfr Param" → Input the passwords:33587550→ select "2.AxisOutputDi ." , then write down the "Output direction" value of the three axis.
- 3 Press → select "5.Mfr Param" → Input the passwords:33587550→ select "3.Pulse Equvi." , then write down the "pulse equivalent" value of the three axis.
- 4 Press → select "5.Mfr Param" → Input the passwords:33587550→ select "4.Machine Stroke." , then write down the "Stroke upper and lower limit" value of the three axis.

5 Press  → select “6.Param Upkeep” → select “1.Backup Params”

3 Backup and update the current control system

1 Copy all the six files in “Update files” folder, then paste them to the root directory of the USB disk (refer to Fig. 2-1)



Fig. 2-1 Update files

2 Insert the USB disk to the NK105 controller.

3 Turn on the power and the system will be restarted, click  key at least ten times at the same time. After the system displays “USB Available Now” , press [OK] key ,then it will display system update interface, as shown in Fig. 2-2.

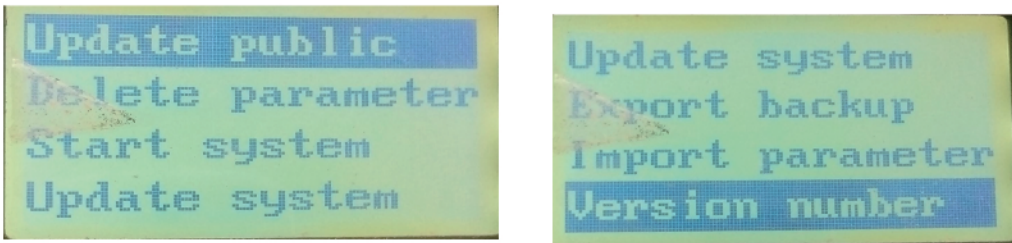


Fig. 2-2 System update page

You can select a corresponding operation in this page by pressing “Up” or “Down” key.

4 Select “Export backup” option, then it will create a backup folder about current control system in the USB disk at first. In case you can’ t update the system successfully , you can also restore the system to old version.

5 Select “Delete parameter” in the update interface to delete the configuration file in BOOT, it must be executed before “Update system” ; After configuration files are deleted, select “Update system” to start updating the system application. After updating completes, the system will be restarted automatically. Press “ESC” key to cancel “Back to REF. point” operation at first, because the parameters of the new system hasn’ t been reset.

Note: Maybe the language of the control system will be changed into Chinese after updating the system, then you can change it into English as following way:

Press  → select “7.系统维护” → select “1.选择语言.” → select “2.英文.”

Then it will restart automatically,Press “ESC” key to cancel “Back to REF. point” operation at first.

4 Import the parameters to the control system

- 1 Repeat above step #3.2~3.3
- 2 Select “Import parameter” and it will import automatically.
- 3 Restart the system after importing parameter successfully. Remember:Press “ESC” key to cancel “Back to REF. point” operation after restarting system.

5 Reset the parameters

Reset the parameters which are wrote down in step #2, then restart the system and it will be ok.

Note: How to restart the system?

- 1 You can turn off the power , then turn on the power and the system will restart automatically.
- 2 You can also press ESC key and hold about 5 seconds when the system is under main interface, then it will display a restart interface, then select 0 key in the panel, then it will also restart.

If you haven't set all the Mfr. Parameters correctly, please don't press ESC key to cancel "Back to REF.Point" operation.

6 Test the machine

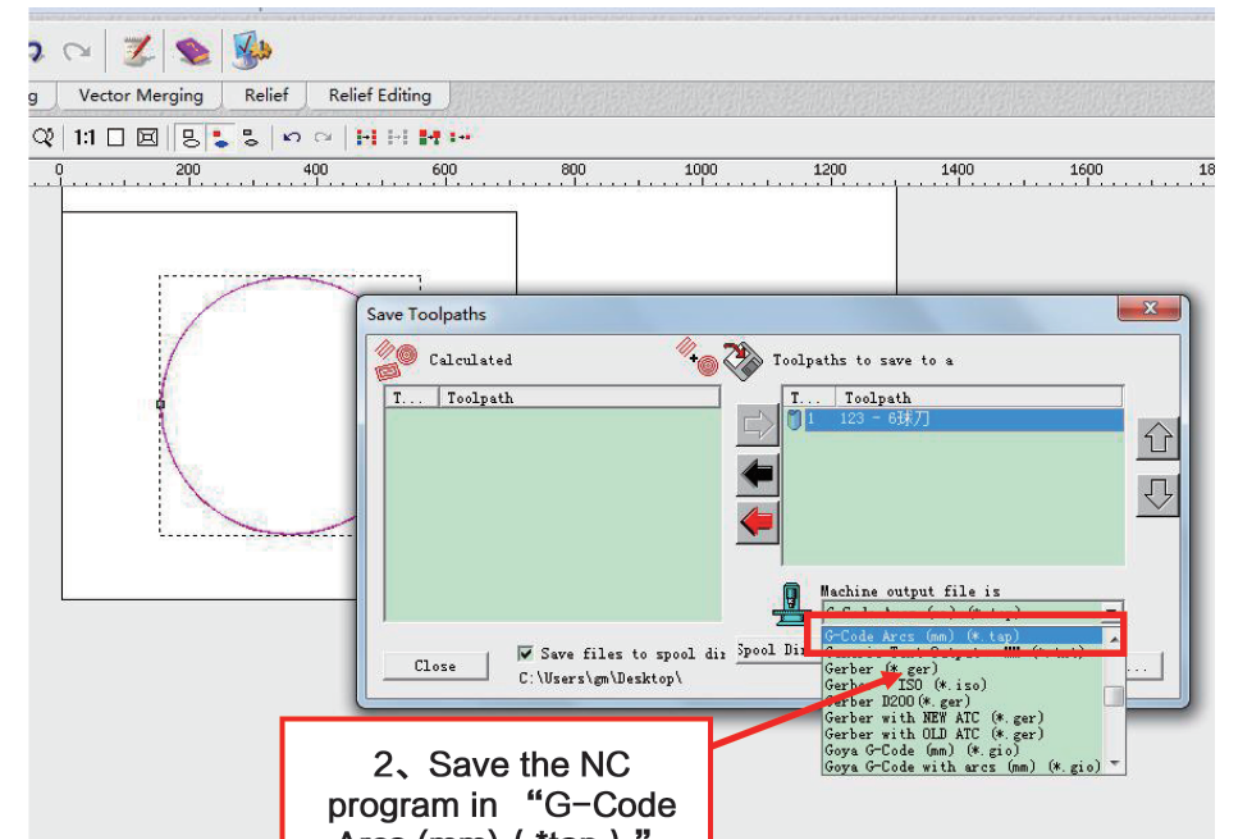
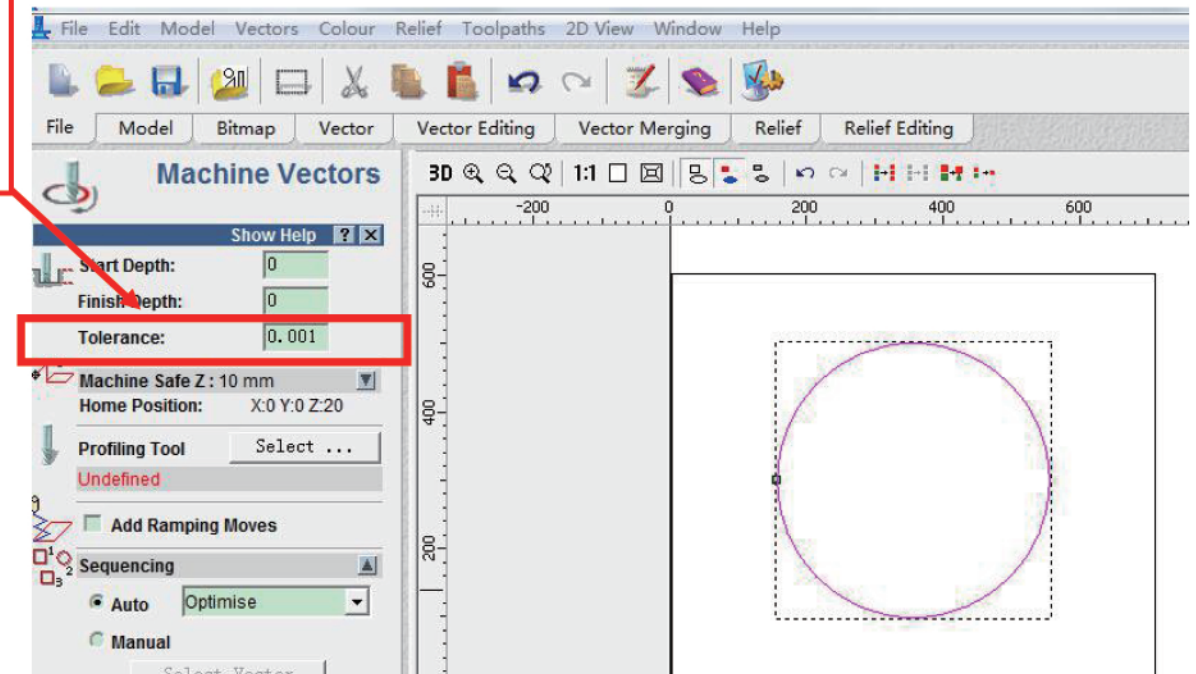
After updating the system and reset the parameters correctly, you can try to test the machine ,then check whether it' s work well or not.

7 Make a new Backup of the system

Press  → select “6.Param Upkeep” → select “1.Backup Params”

Then you can make a new backup of the new control system by referring to above steps #3.2~3.4.

1、 Set the value of tolerance into 0.001



2、 Save the NC program in “G-Code Arcs (mm) (*.tap) ” format or “Pacer Arcs(*G00)” format.

You can try to solve the issue as following ways;

- ① When you create the toolpath by Artcam software, you'd better set the curve's tolerance value more smaller(e.g.0.001), Please refer to the first attachment.
- ② You can save the program in "G-Code Arcs(mm)(*tap)" format or "Pacer Arcs(*G00)" format. Please refer to the second attachment.
- ③ You can try to decrease the machining speed, maybe it will be better.

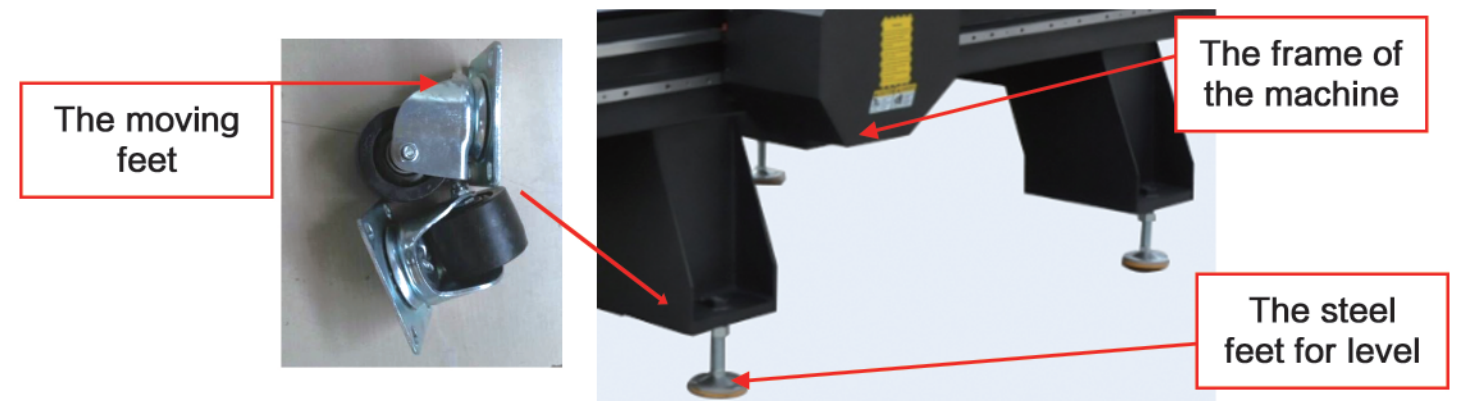


THE INSTALLATION PROCEDURE OF TIGERTEC CNC ROUTER

You can install Tigertec CNC Router as following steps:

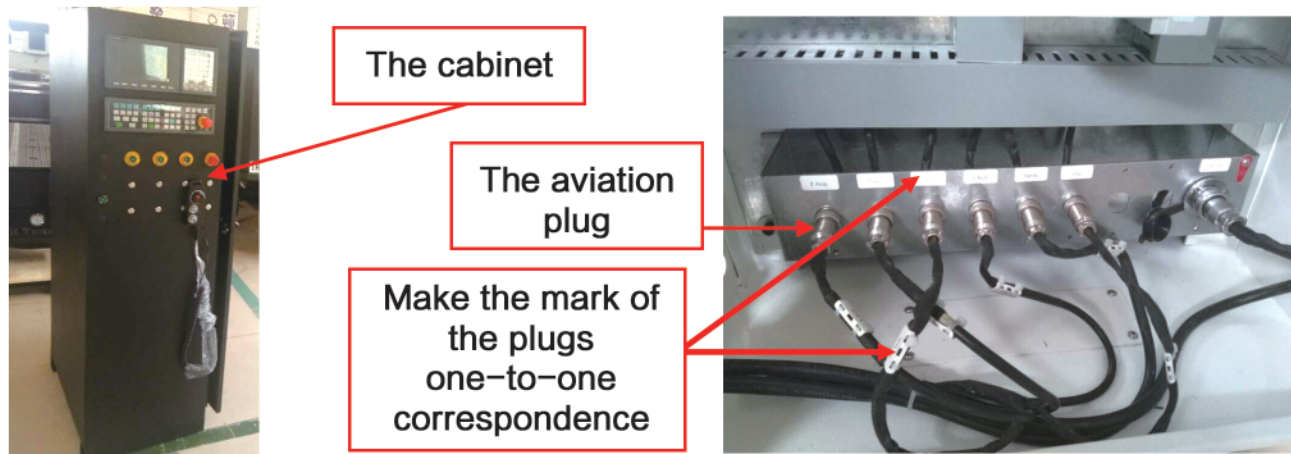
1 Keep the machine level

Install the six steel feet to the legs of the machine' s frame, then keep the machine level by adjusting the steel feet. You can also install the moving feet to the frame, it will be more convenient when you move the machine to other place.



2 Connecting the cabinet with the machine

Open the back door of the cabinet using the key in the toolbox, then installing and tightening the aviation plugs to the cabinet one by one.



Note:

- You should prepare a four cores cable for supplying power to the machine. If the power of the spindle is less than 5KW, you should use $4 \times 4\text{mm}^2$ cable; if the spindle's power is between 5KW and 10KW, you should use $4 \times 6\text{mm}^2$ cable.
- You should prepare a voltage stabilizer if the voltage supplying for the cabinet of the machine isn't stable, otherwise it will damage the spindle or electric elements inside the cabinet.

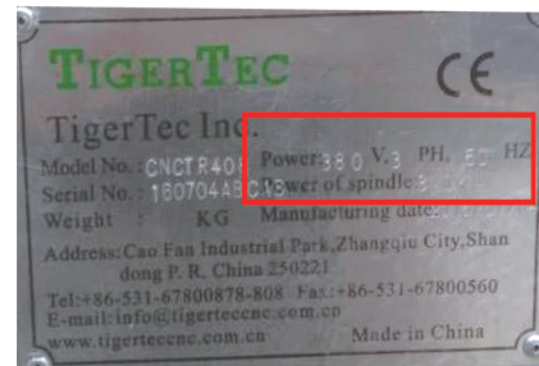
- 2 Connect the power cord to the power terminal by a flat head screw driver, you can refer to the following instruction:



Flat head screw driver

3 Connecting the power cord of the cabinet

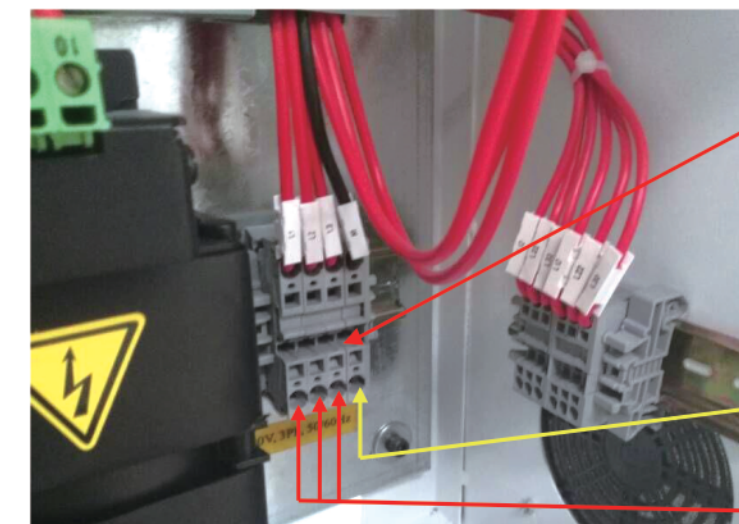
- 1 Refer to the nameplate in the backside of the machine's frame, preparing the suitable power cable for the machine.



Power supply specification



The power cable

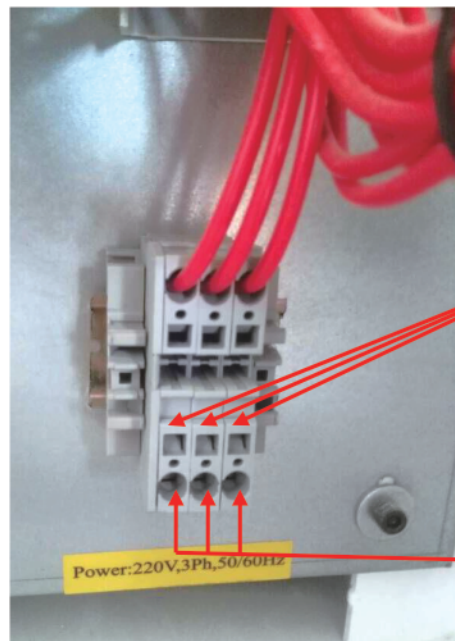


Insert the screw driver's flat head to the square terminals one by one, then you can connect the power cord to these terminals.

The null wire should be connected to this round terminals

The three live wires should be connected to the three round terminals

① The power cord's connection
(380V $\pm$ 10%/3PH/50HZ/60HZ)



Insert the screw driver's flat head to the square terminals one by one, then you can connect the power cord to these terminals.

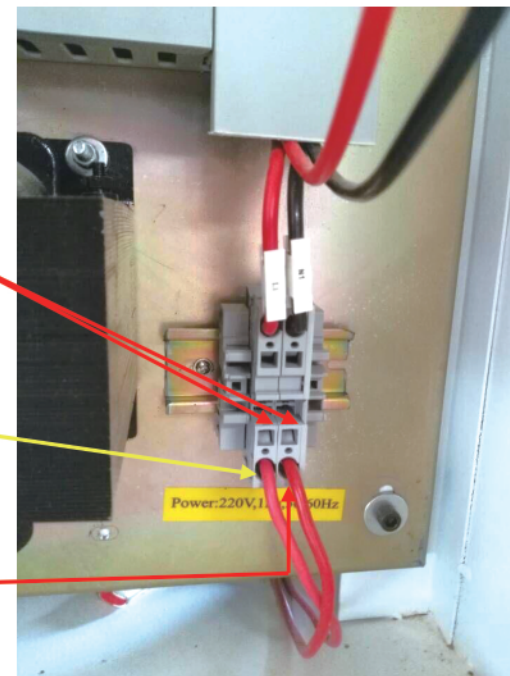
The three live wires should be connected to the three round terminals

② The power cord's connection (220V $\pm$ 10%/3PH/50HZ/60HZ)

Insert the screw driver's flat head to the square terminals one by one, then you can connect the power cord to these terminals.

The null wire should be connected to the left round terminals

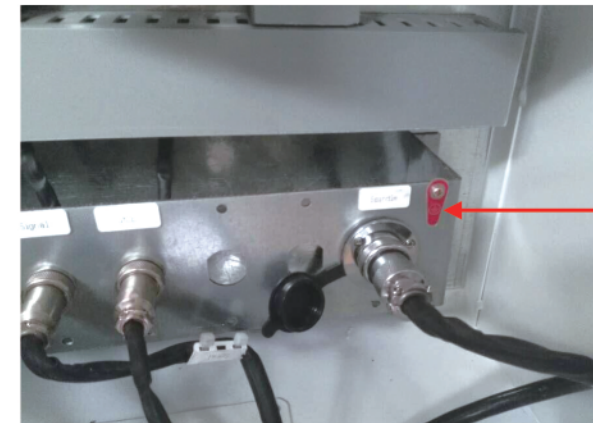
The live wire should be connected to the left round terminals



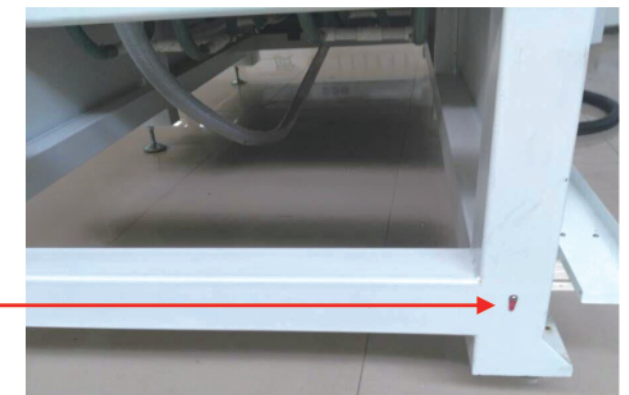
③ The power cord's connection (220V $\pm$ 10%/1PH/50HZ/60HZ)

③ Ground connection

The cabinet and the frame of the machine should be connect to the ground correctly by a wire (the wire's diameter should be 4mm)



The ground terminal in the cabinet



The ground terminal in the backside of the frame

4 Install the vacuum pump

① Install the filter to the pump and connect the steel wire tube to the filter tightly.



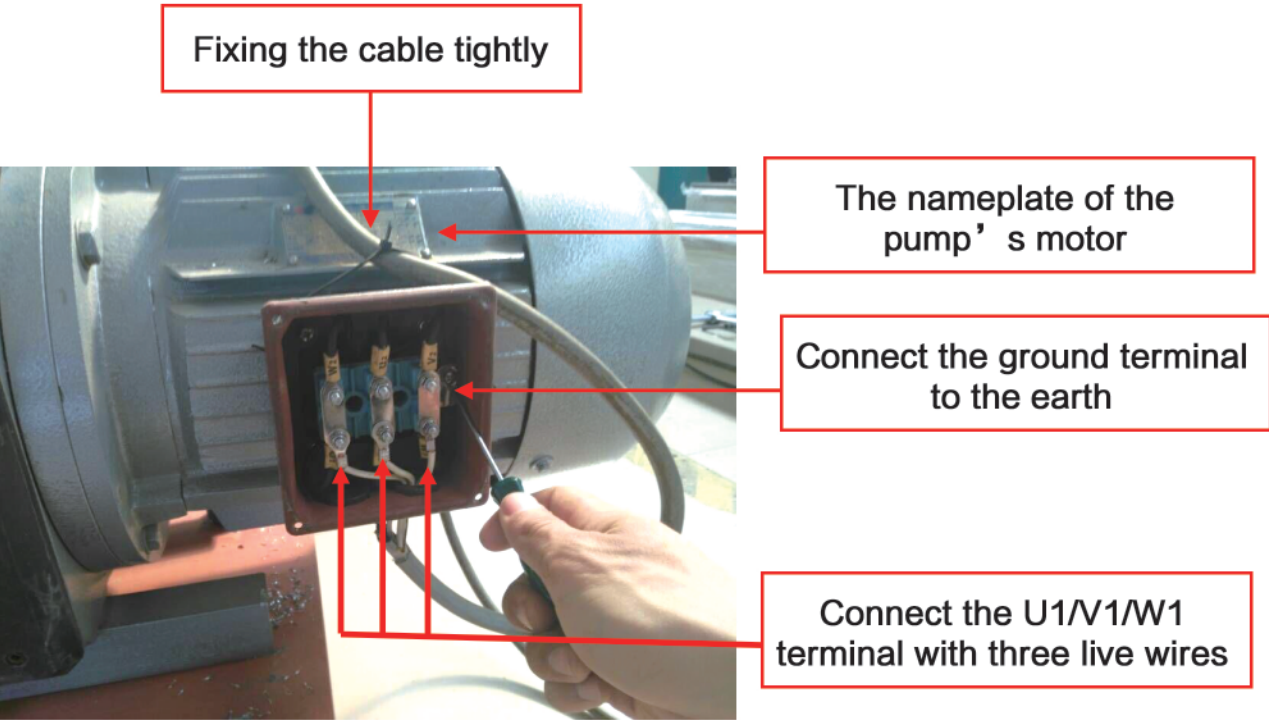
The filter

The steel wire tube

The vacuum pump

2 Connect the power cord of the pump

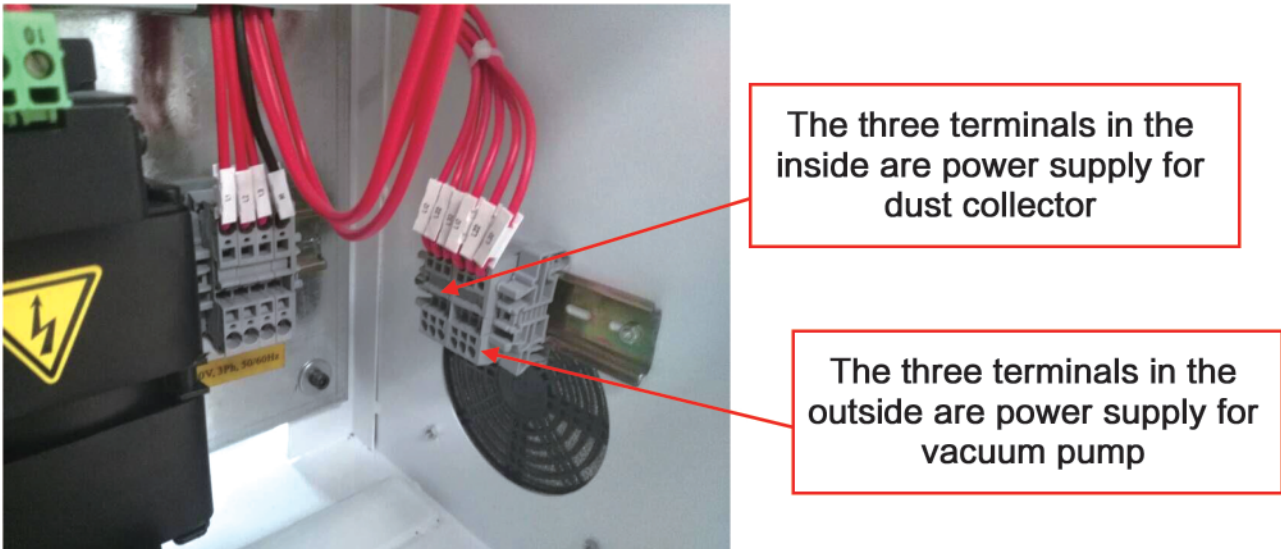
First, check the power supply specification of pump motor by it' s nameplate(check the voltage and the wires connection is Δ connection or Y connection), using a $4 \times 4\text{mm}^2$ cable connect to the power terminal.
Note: It' s more better if you fix the cable tightly after connecting the wires.



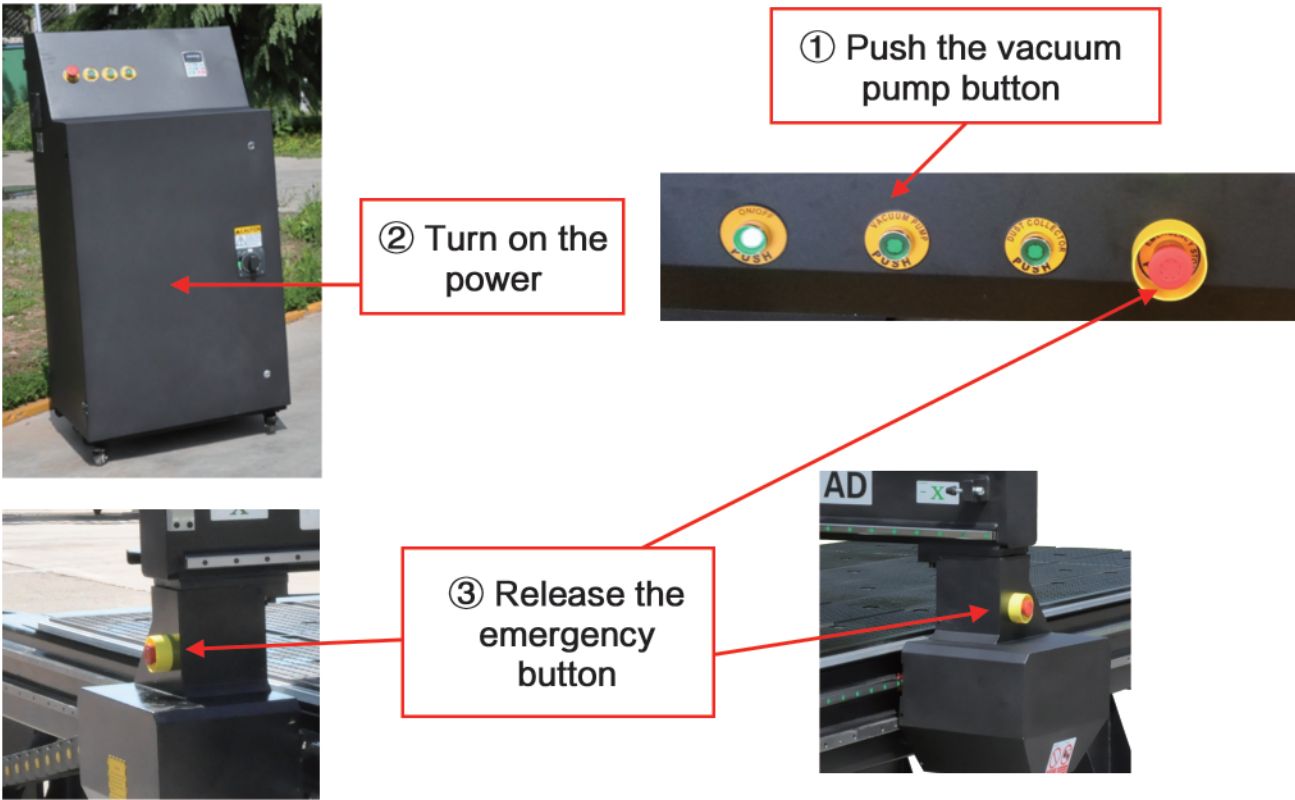
The sketch of Δ wires connection of vacuum pump



Second, you can supply the power to the pump from the vacuum pump' s terminal in the cabinet.



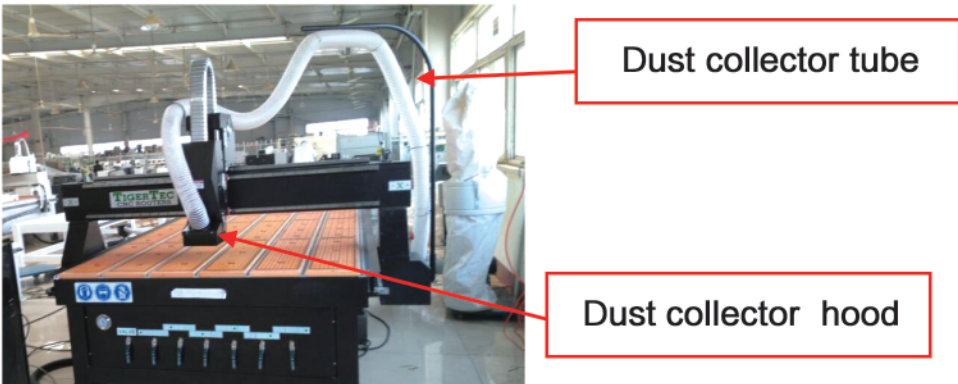
Note:
a)Turn on the power of the cabinet , then push vacuum pump button in the cabinet and check whether the pump is working. If it doesn' t work, you can turn off the power and reconnect the three wires to the dust collector' s power supply terminal. Then try again.



b)When the vacuum pump is power on ,check whether the rotation direction of the pump motor is in clockwise, otherwise you should turn off the power and exchange any two wires connecting to the vacuum pump terminals in the cabinet.

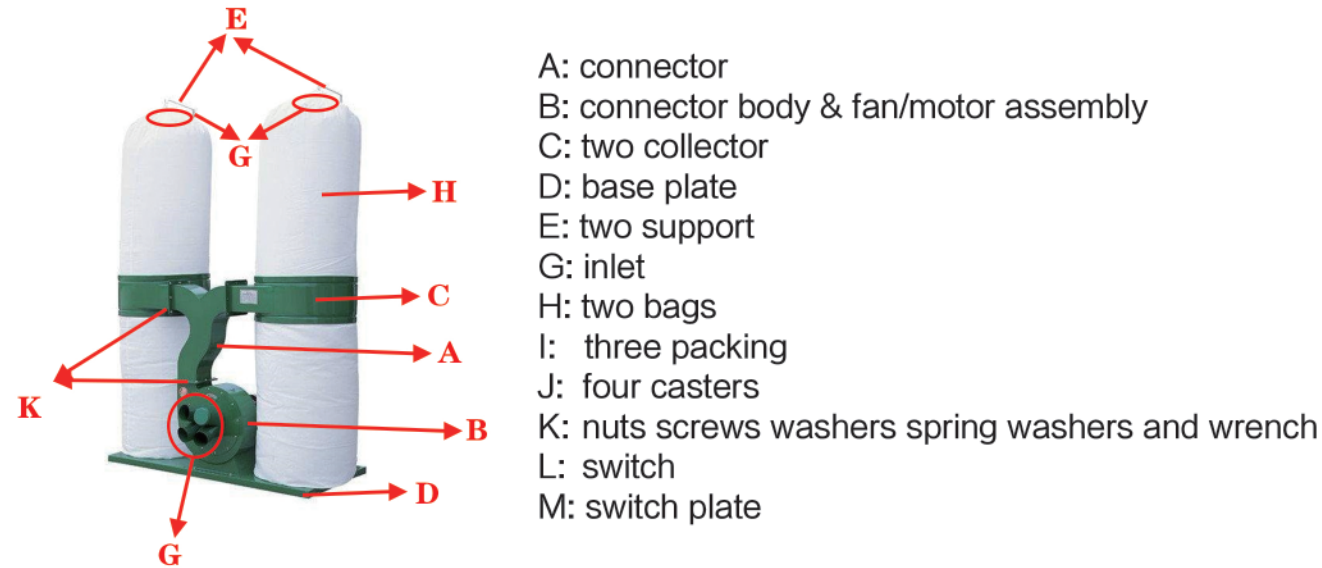
5 Install the dust collector

- 1 Assemble the dust collector and connect it to the machine
You can refer to the following photos:



- To assemble ,first place the base plate upside down and attach the tour casters to the holes provided and tigh. Ten with the wrench.
- The collector body cover loose the screw with the wrench as shown in.
- With the collector body & fan/motor assy in place,secure it to the base plate using the screws and washers pro vided as shown in.
- Install the packing and connec tor to the collector body assy using eight screws and washers provided.
- Next install the two collectors (c) two packing(i) to the outlet as shownn in.
- Shows the two collectors attached to the outlet and fan/motor assy.
- Now install the two collector supports(f) as shown in.
- Shown the dust collector as it should now appear.
- The switch fixed to the collector body with wrench as shown in.
- At the time the upper bag support should be installed onto the collector support as

- Next, hang the two bags(h) from the support rods as shown in.
- Now attach thne twc: ilter and two collection bags to the collectors using the bands sewn in the base of.
- The shutter can now be placed on the intake hole of the fan/motor assy as shown in



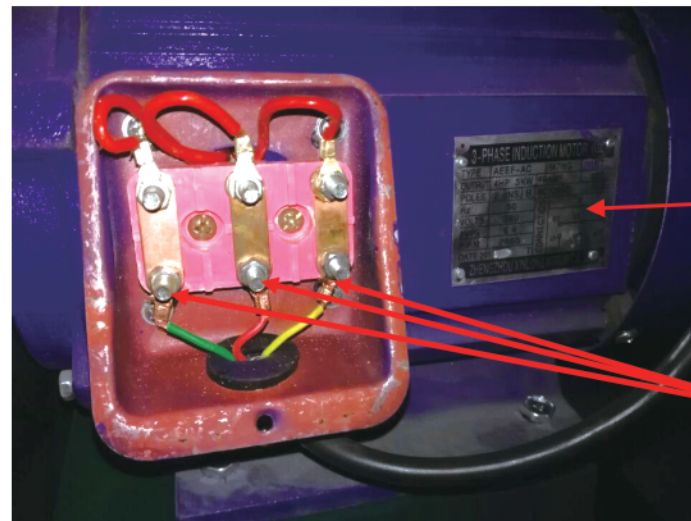
TECHNICAL DATA

Motor power (HP/Watt)	3/2200
Inlet diameter (inch/mm)	4/100 × 3
Fan diameter (inch/mm)	12/305
Bag capacity (cubic meter)	0.3
Collection capacity(cubic meter/hr)	6000
Overall size (LWH) (MM)	1400 × 600 × 1960
Weight (kgs)	59

2 Connect the power cord of the pump

First, check the power supply specification of motor by it’ s nameplate (check the voltage and the wires connection is △ connection or Y connection), using a 4 × 4mm² cable connect to the power terminal.

Note: It’ s more better if you fix the cable tightly after connecting the wires. The dust collector also need to connect to the ground

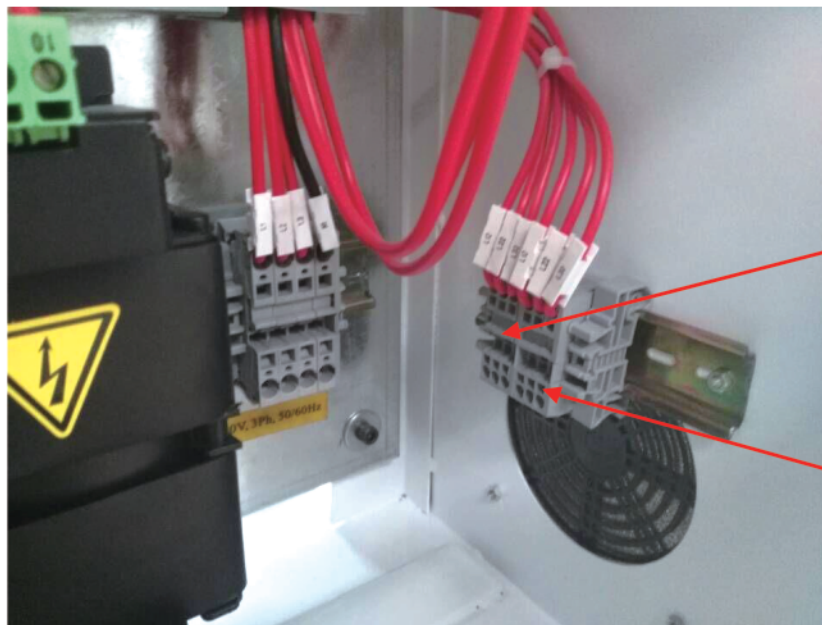


The nameplate of the motor

Connect the U1/V1/W1 terminal with three live wires

The sketch of Δ wires connection of the dust collector pump

Second, you can supply the power to the motor from the dust collector's terminal in the cabinet.



The three terminals in the inside are power supply for dust collector

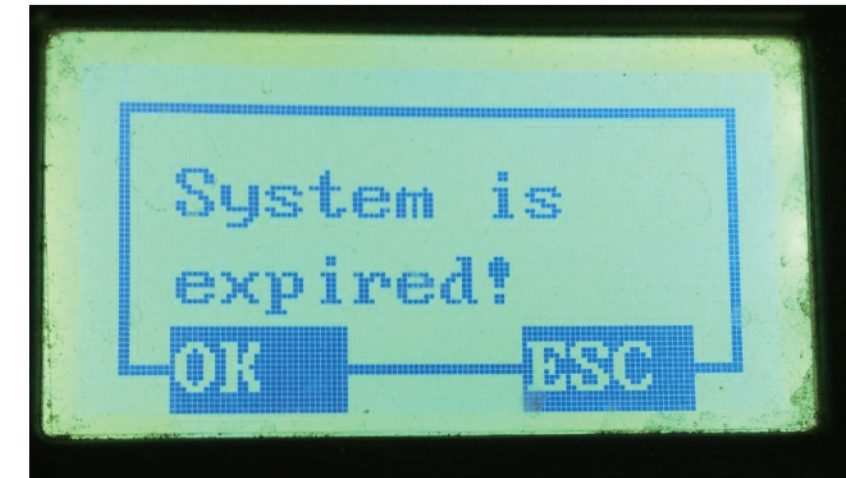
The three terminals in the outside are power supply for vacuum pump

Last, push on the dust collector button in the cabinet, check whether the rotation direction of the motor is in clockwise, otherwise you should turn off the power and exchange any two wires connecting to the dust collector terminals in the cabinet.

6 Turn on the power, then you can operate the CNC router now.

THE INSTRUCTION FOR UPDATING THE WEIHONG CONTROL SYSTEM WHEN THE SYSTEM IS EXPIRED

You can try to update the control system when the system is expired. The steps as following:



- 1** Because it need to reset some system parameters sometimes after updating the system, so you'd better write down the value of some important system parameters at first.
 - 1** Press → select "5.Mfr Param" → Input the passwords:33587550→ select "2.AxisOutputDi." , then writing down the "Output direction" value of the three axis.
 - 2** Press → select "5.Mfr Param" → Input the passwords:33587550→ select "3.Pulse Equvi." , then writing down the "pulse equivalent" value of the three axis.
 - 3** Press → select "5.Mfr Param" → Input the passwords:33587550→ select "4.Machine Stroke." , then writing down the "Stroke upper and lower limit" value of the three axis.

2 Copy the eight updating files to root directory of the U disk , then insert the U disk to the control box.

The eight updating files

CHN

Config

ENG

Font

NewNK200

EBOOT105.nb0

NK105_FPGA_R7.2.0

NK105_NK_R6.1.2.nb0

2016/7/5 16:42

2016/7/5 16:42

2016/7/5 16:42

2016/7/5 16:42

2016/7/5 16:42

2015/2/2 8:43

2015/5/8 12:47

2015/1/16 17:24

文件夹

文件夹

文件夹

文件夹

文件夹

NB0 文件

PPTV媒体文件(d...

NB0 文件

512 KB

288 KB

20,480 KB

3 Backup and update the current control system

1 Turn on the power and restart the system, click  key at least ten times at the same time. After the system displays “USB Available Now” , press [OK] key to enter the system update interface, as shown in Fig. 3-2.

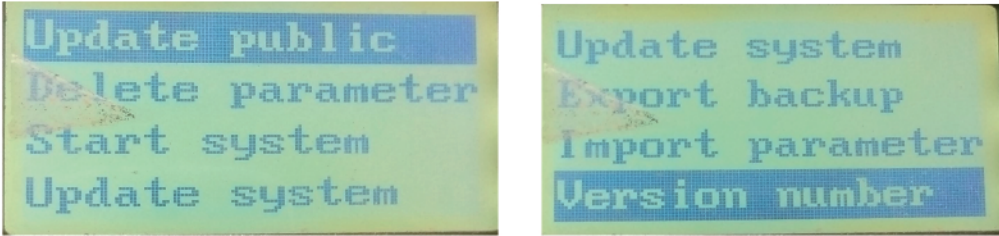


Fig. 3-2 System update page

You can select a corresponding operation in this page by pressing “Up” or “Down” key.

2 Select “Export backup” option, then the current control system will be exported to the usb disk for backup , with it’ s backup folder named backup.

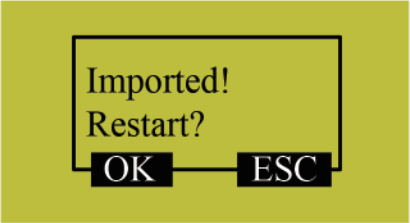
3 Turn on the power and restart the system, click  key at least ten times at the same time. After the system displays “USB Available Now” , press [OK] key to enter the system update interface, as shown in Fig. 3-2. Select “Delete parameter” to delete the configuration file in BOOT, it must be executed before “Update system” ; After configuration files are deleted, select “Update system” to start updating the system application. After update completes, the system will be rebooted automatically. Then the system will not display the “system is expired” information and work well.

Note: Maybe the language of the control system will become Chinese sometimes after updating the system, then you can change it into English as following way:

Press  →select “7.系统维护” → select “1.选择语言.” → select “2.英文.”

4 Import the backup parameters

Press  → select “6.Param Upkeep” → select “5.Import Params” After import is successful, the system will display a prompt of system reboot as shown in following Fig. and press[OK] key to reboot the system.



5 Reset the parameters

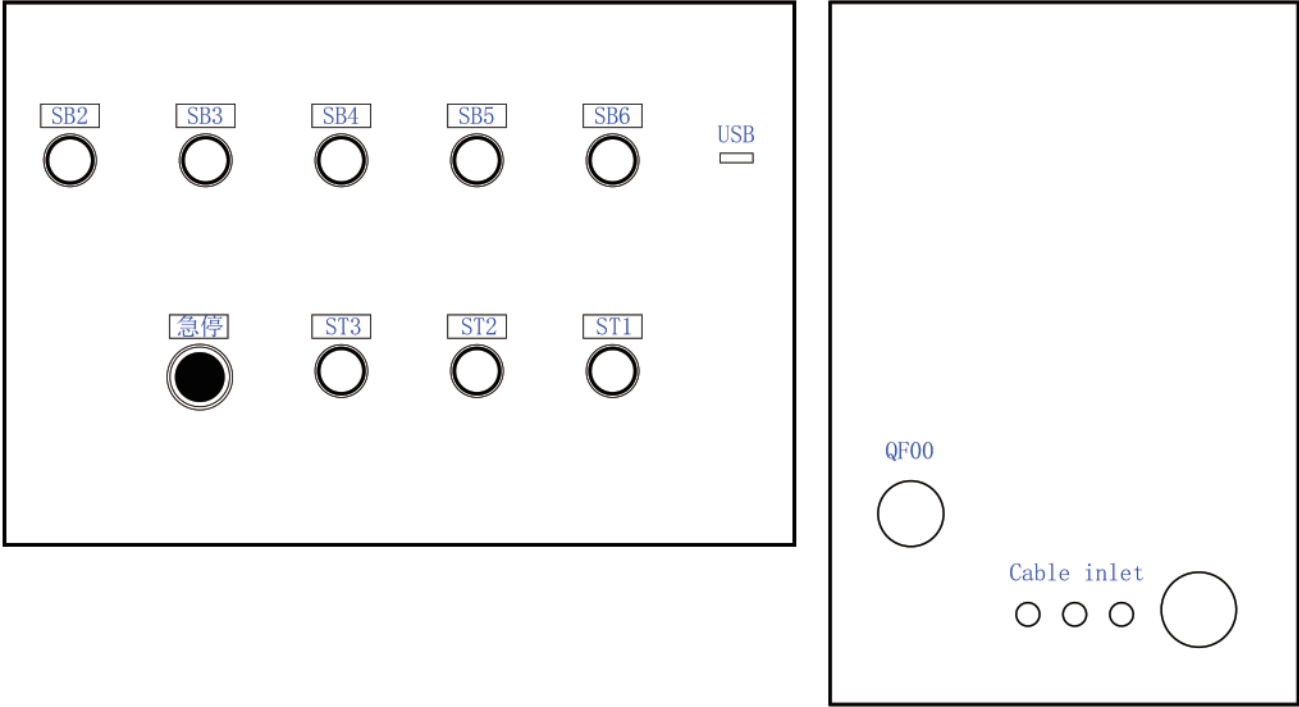
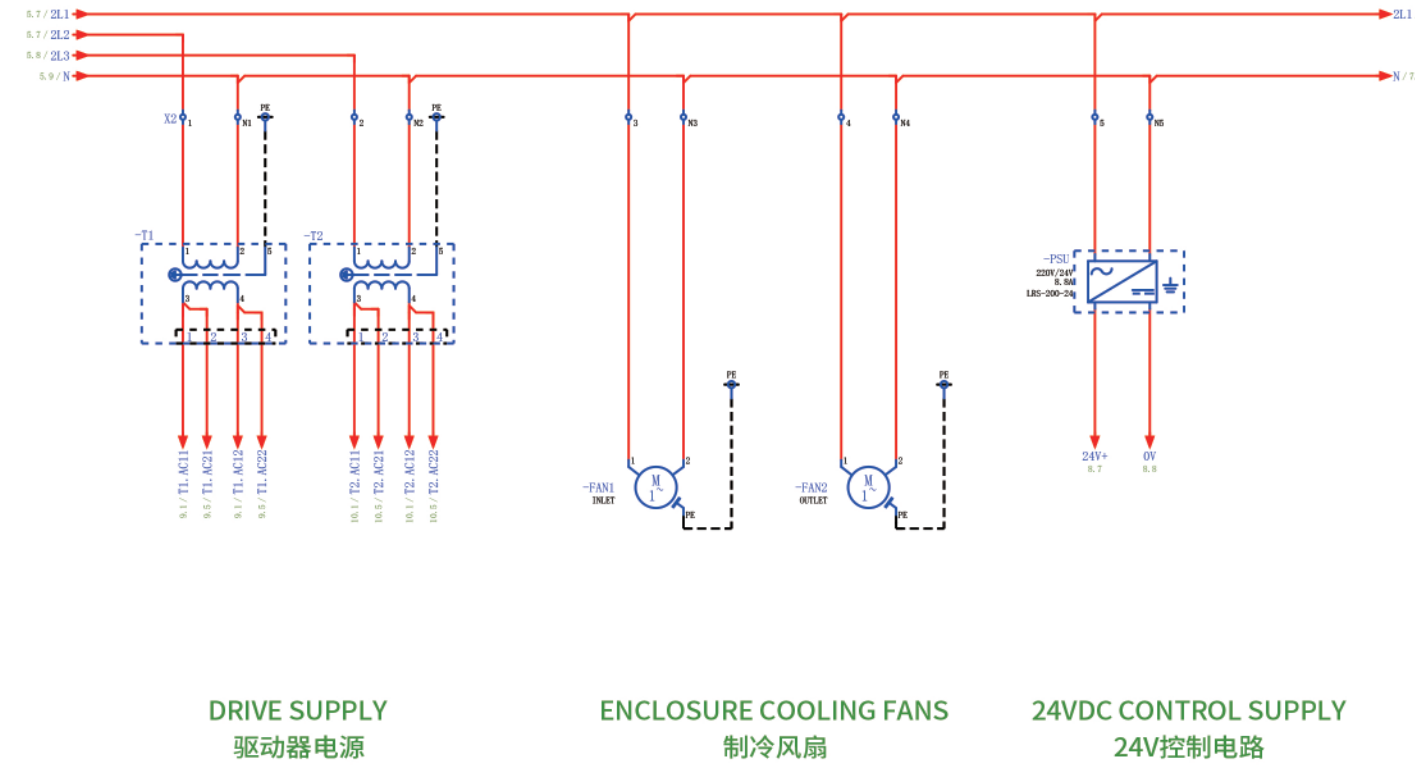
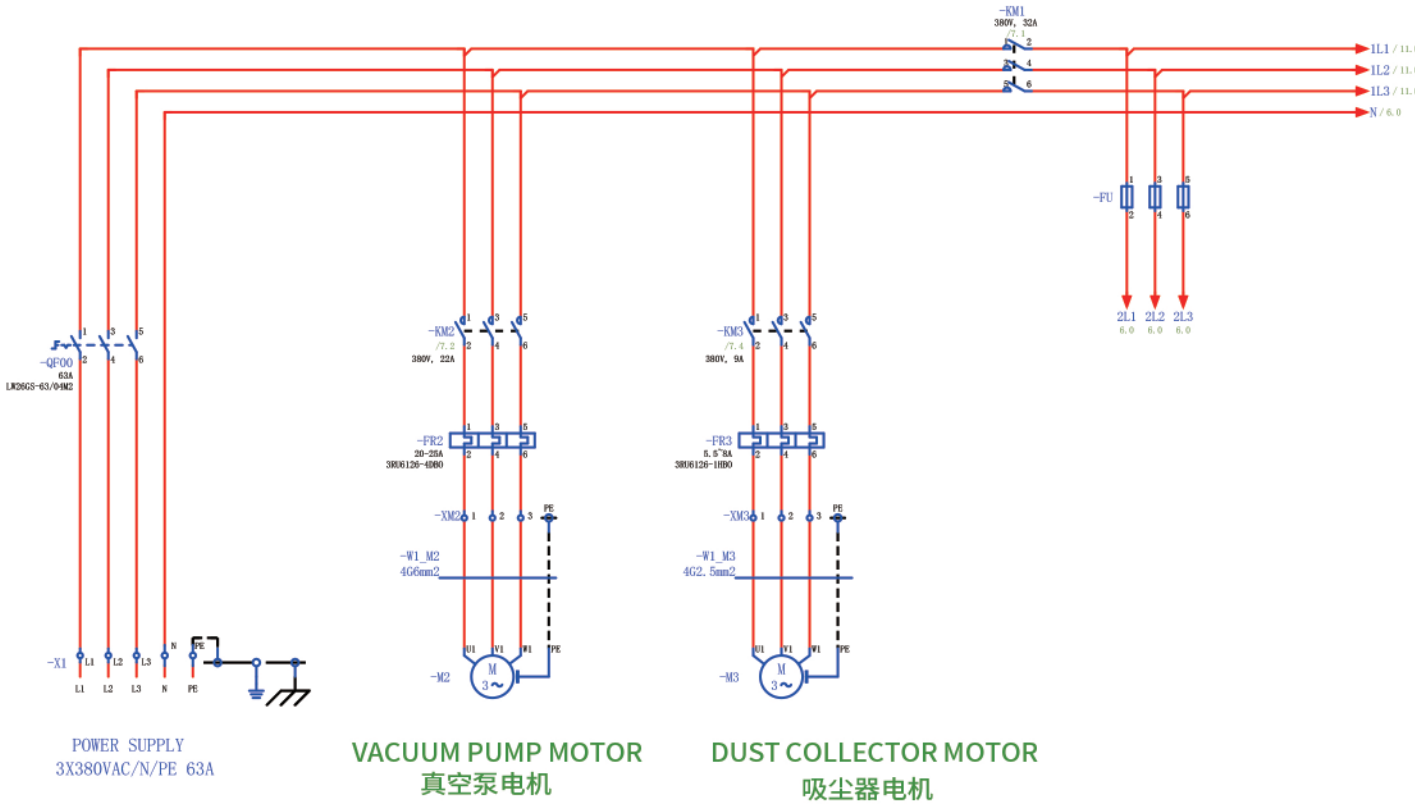
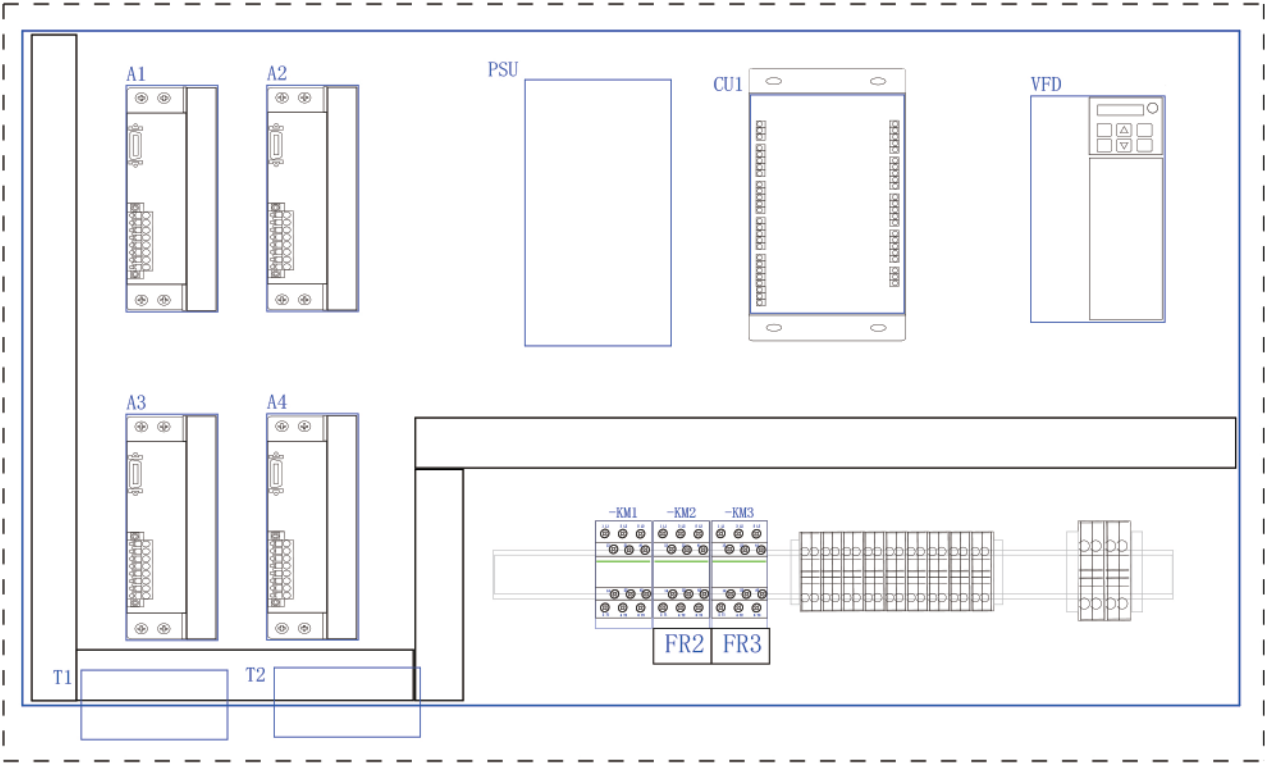
After importing the backup parameters successfully, you can check whether some important parameters are correct referring to # step1. If they are incorrect, you should reset them , then reboot the system. After doing as aboving steps, you can try to running the machine and check whether it’ s work well now.

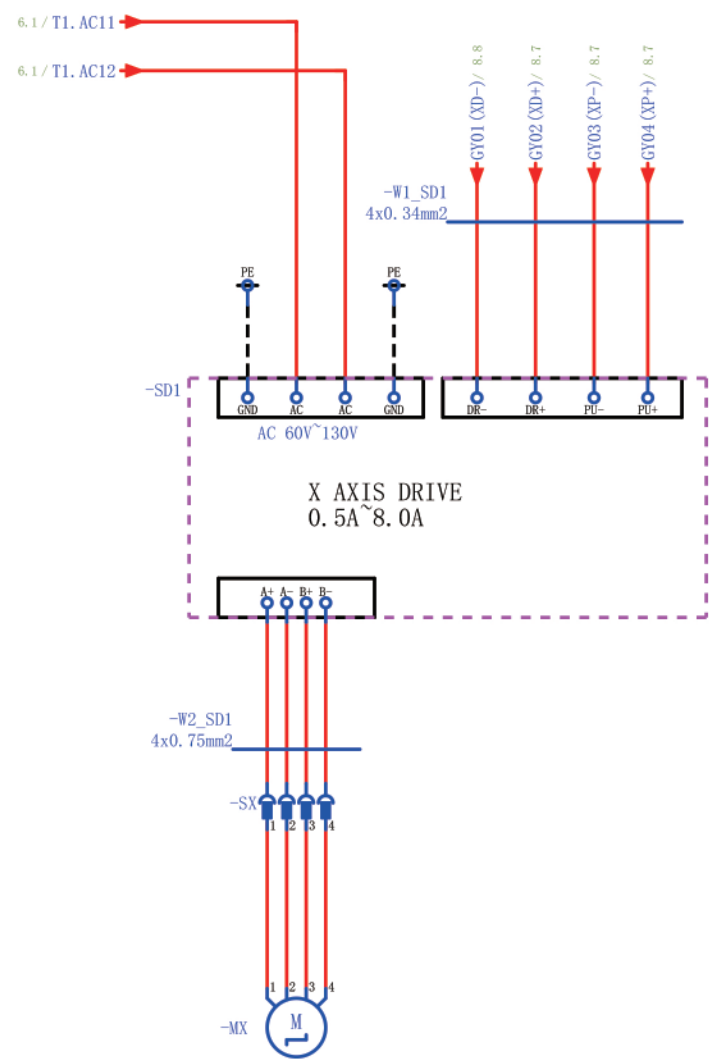
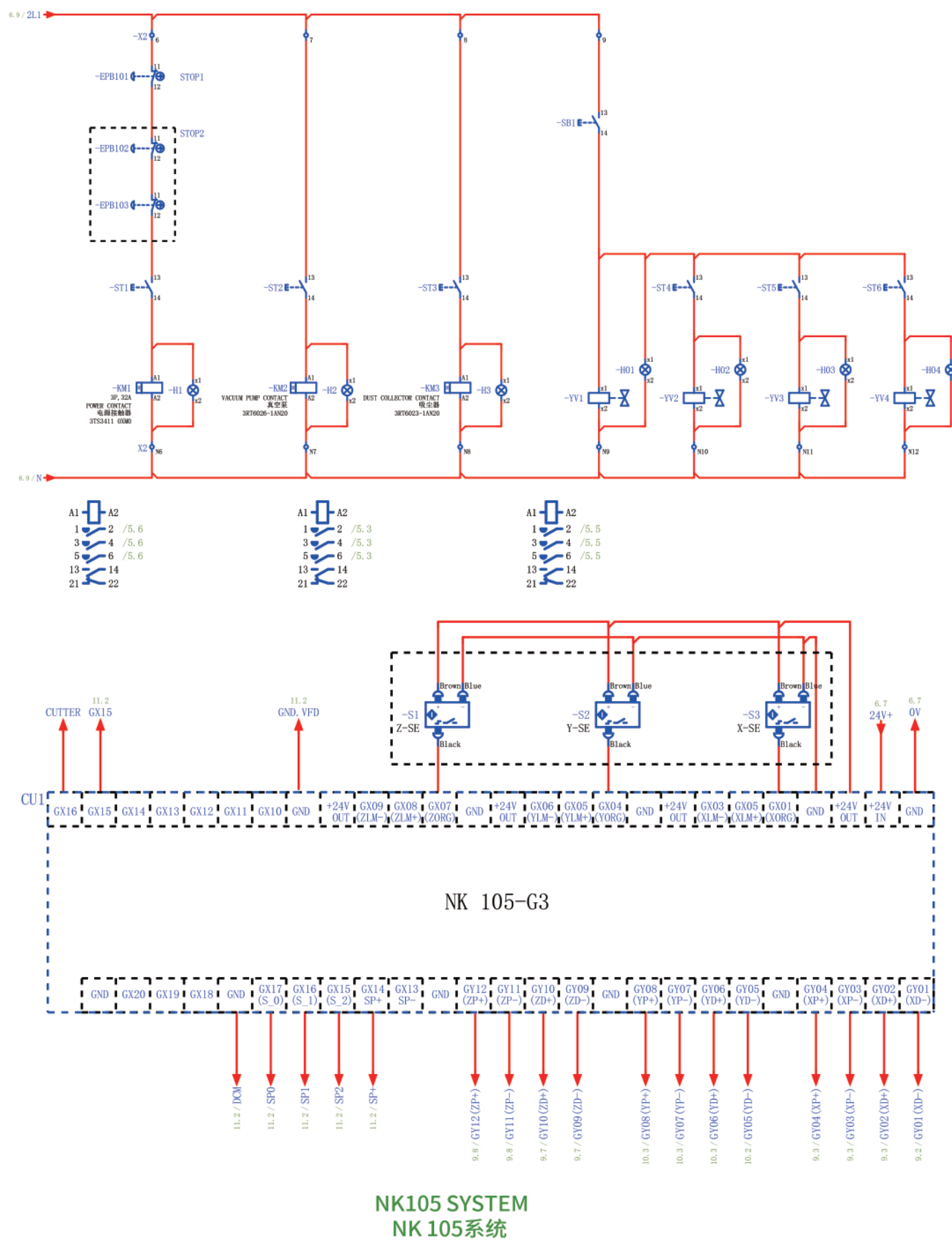
○ 目录 ○ CONTENTS

+CABINET/3	-----	图纸说明
+CABINET/4	-----	布局图
+CABINET/5	-----	主电源
+CABINET/6	-----	变压器，开关电源
+CABINET/7	-----	220V控制回路接触器，电磁阀
+CABINET/8	-----	NK105 控制系统
+CABINET/9	-----	步进驱动器 X,Z轴
+CABINET/10	-----	步进驱动器 Y1,Y2轴
+CABINET/11	-----	主轴变频电机
+CABINET/12	-----	端子图表=+CABINET-X1
+CABINET/13	-----	端子图表=+CABINET-X2
+CABINET/14	-----	端子图表=+CABINET-XM2
+CABINET/15	-----	端子图表=+CABINET-XM3

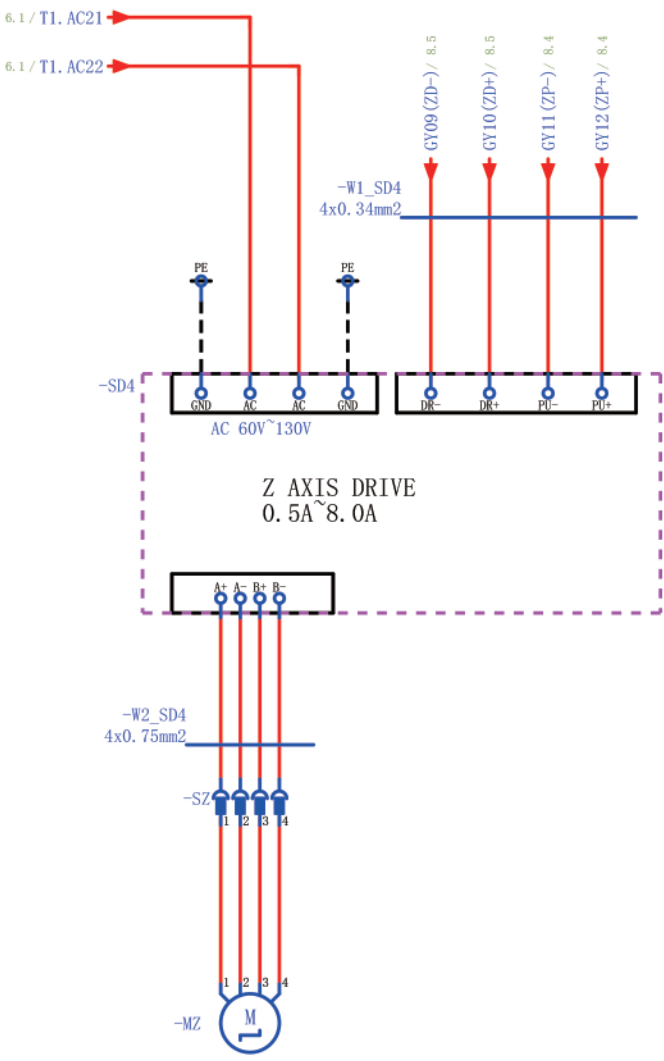
○ 元器件描述 ○
COMPONENT DESCRIPTION

QF00	-----	ROTARY SWITCH 旋转手柄开关
NK105	-----	SYSTEM 控制系统
S	-----	PROXIMITY SWITCH 接近传感器
ST	-----	START PUSH BUTTON 开始按钮
EPM	-----	EMERGENCY STOP PUSH BUTTON 急停按钮
KM	-----	POWER CONTACTOR 控制接触器
FR	-----	THERMAL OVERLOAD RELAY 热过载继电器
T	-----	TRANSFORMER 变压器
FU	-----	FUSE 保险丝
M	-----	MOTOR 电机
VFD	-----	INVERTER 变频器
SD	-----	STEPPER DRIVE 步进驱动器
PSU	-----	POWER SUPPLY UNIT 开关电源
YV	-----	SOLENOID VALVE 电磁阀
SB	-----	BUTTON 按钮开关
H	-----	LIGHT 灯
X	-----	TERMINAL BLOCK 接线端子
PE/G	-----	GROUND CONNECTION 接地

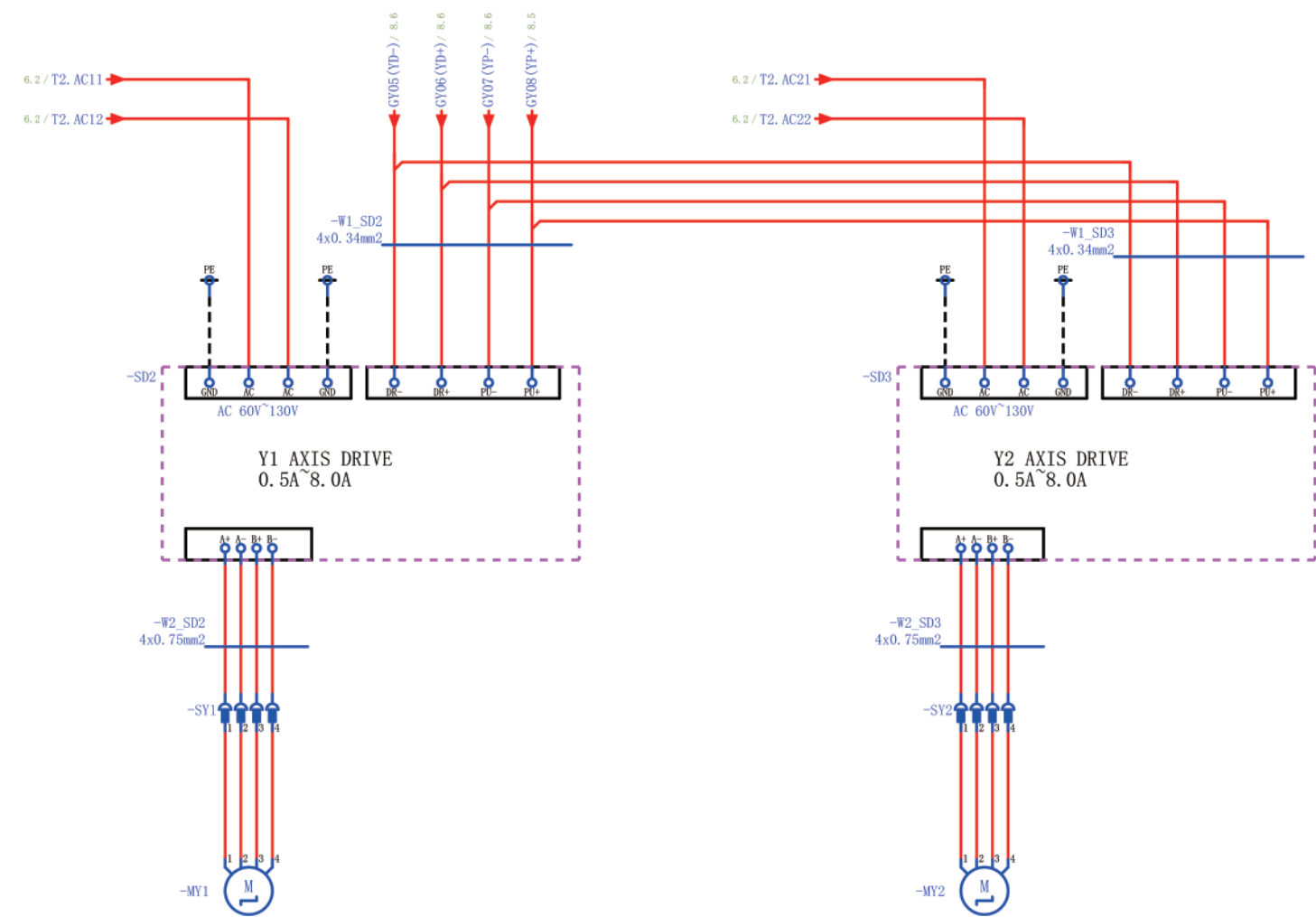




STEP MOTOR X AXIS
步进电机 X 轴

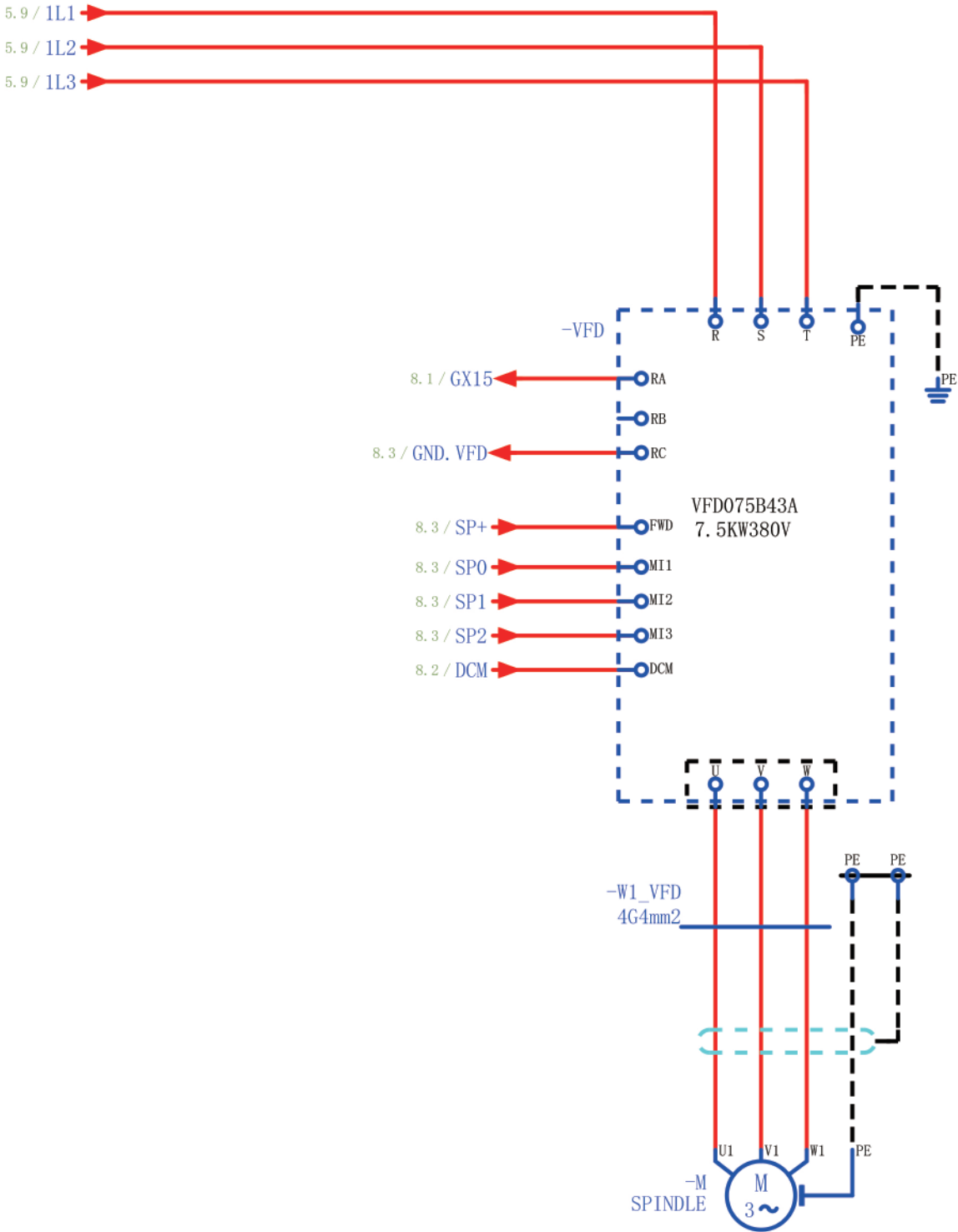


STEP MOTOR Z AXIS
步进电机 Z 轴



STEP MOTOR Y1 AXIS
步进电机 Y1 轴

STEP MOTOR Y2 AXIS
步进电机 Y2 轴



SPINDLE INVERTER MOTOR
主轴变频电机

Termianl Diagarm

[illegible]

Termianl Diagarm

Comments	Outside Join	X2					Page	
		Join	Terminal	Jumper	Inside Join	Join		
	–T1	1	1		–FU	4	/6.1	
DRIVE SUPPLY 驱动器电源	–T2	1	2		–FU	6	/6.2	
=	–FAN1	1	3		–FU	2	/6.4	
ENCLOSURE COOLING FANS 制冷风扇	–FAN2	1	4				/6.5	
=	–PSU		5				/6.7	
	–EPB101	11	6				/7.1	
	–ST2	13	7				/7.2	
	–ST3	13	8				/7.4	
	–SB1	13	9				/7.5	
	–T1	2	N1			–X1	N	/6.1
DRIVE SUPPLY 驱动器电源	–T2	2	N2					/6.2
=	–FAN1	2	N3					/6.4
ENCLOSURE COOLING FANS 制冷风扇	–FAN2	2	N4					/6.6
24VDC CONTROL SUPPLY 24V控制电路	–PSU		N5					/6.7
			N6		–KM1	A2	/7.1	
					–H1	x2		
			N7		–KM2	A2	/7.2	
					–H2	x2		
			N8		–KM3	A2	/7.4	
					–H3	x2		
			N9		–YV1	x2	/7.5	
					–H01	x2		
			N10		–YV2	x2	/7.6	
					–H02	x2		
			N11		–YV3	x2	/7.7	
					–H03	x2		
			N12		–YV4	x2	/7.8	
					–H04	x2		

Termianl Diagarm

[illegible]

Termianl Diagarm

[illegible]