

# Instruction Manual



## TMP-70100 Oblique Arm Flat Screen Printer

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## 1. Safety instruction

### 1.1 Safety Regulation

#### 1.1.1 General Safety Regulations

- **KNOW YOUR MACHINE.**  
For your own safety, read the owner's manual carefully. Learn its application and limitations as well as specific potential hazards pertinent to this machine.
- **KEEP WORK AREA CLEAN.**  
Cluttered areas and benches invite accidents.
- **KEEP NON-PROFESSIONALS AWAY.**  
All visitors should be kept at a safe distance from work area.
- **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.
- **DO NOT MAINTAIN THE MACHINE WHILE IT IS RUNNING.**  
Keep machine maintain properly, such as lubricating, adjusting.
- Before servicing and changing accessories, or when mounting and remounting motor, disconnect the machine from the power source.
- Protective guards and shields must be in place at all times
- Never leave the machine running unattended.
- Use clamps or a vice to hold work when practical. Do not use your hands.
- Keep proper footing and balance at all times.
- Never clean while the machine is running.
- Do not remove or alter warning labels and replace any that become obscured.

#### 1.1.2 Special safety regulation

- Do not stand close to the both sides of the machine when it is running.
- Wear the respirator, protective gloves and other protective equipment while working.
- Check the main circuit first before connecting the power. Check the switch, live wire and neutral wire whether they are connecting to the power correctly.
- Stop the machine to check if the working condition is abnormal.

- Brake or press the emergency switch if you find the abnormality or the materials has not been put away during printing.
- Turn on the safety switch when wash the screen plate or check the screen printing frame.

### ● 1.1.3. Safety device of the machine

When there is the emergency situation, please press the red protective safety plate in the front of the machine and the machine will stop immediately. Loose the protective plate which is pressed and start the function switch, then the machine will work again.



Safety board

## 1.2. Warning plate



Add infuse grease



Electric shock



Press



Electric shock



Emergency stop



Against harmful materials



Earthing



Don't disassemble



Danger

## 1.3 Name Plate 机器铭牌

	<b>SCREEN PRINTER</b>	
MODEL: <input type="text" value="TMP-70100"/>	NO: <input type="text"/>	
POWER: <input type="text" value="2.3"/> Kw 220 v	PRESSURE: <input type="text" value="0.6"/> Mpa	
MaxP: <input type="text" value="700X1000X50"/> mm	WEIGHT: <input type="text" value="480"/> Kg	
SIZE: <input type="text" value="1600X1350X1280"/> mm	DATE: <input type="text"/>	
SHENZHEN TAMPRINTER PRINTING MACHINERY LIMITED ADD: 111 Fourth Industrial Zone Guanlan Shenzhen City Guangdong China Tel: 0086-159-94744161 Fax: 0086-755-23148182 Email: Tam@tamprinter.com Web: www.tamprinter.com		

## 2. Specification 規格

### 2.1 Specification 規格表

Type	TMP-6090	TMP-70100	TMP-90120
Worktable size (mm)	720*1000	800*1100	1000*1300
Max print area (mm)	600*900	700*1000	900*1200
Max plate size (mm)	900*1200	1000*1300	1200*1500
Min plate size (mm)	450*550	550*650	650*700
Thickness of substrate (mm)	0-20、0-50	0-20、0-50	0-20、0-50
Printing speed (pcs/h)	500-1200	500-1200	400-1000
Working air pressure (Mpa)	0.3-0.5	0.3-0.5	0.3-0.5
Gas consumption (0.6Mpa) (L/pcs)	13/pcs	13/pcs	13/pcs
power (kw)	2.3	2.3	3.7
Work table minimum relative height (mm)	820	820	820
Overall Dimension (l×w×h) (mm)	1500*1200*1250	1600*1350*1280	1800*1400*1300
weight (kg)	410	480	550

Rated voltage(V/Hz)	220V50Hz	220V50Hz	220V50Hz
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## 2.2. Machine noise

The equivalent continuous A-weighted pressure level at workstations not exceeds 70 dB (A).

## 2.3. Function of machine

It is the oblique arm type screen printing press. Pneumatic control of the front and back scrapers; induced draft printing platform; the second printing needn't to raise the arm. The printing process is stable and with exact contraposition. There are shields above the operation panel to protect the operator from the injuries effectively. The maximum dimension is 700mm×1000mm and the plate size is 800mm×1100mm. The thickness of the printing is 0.1-20mm. The speed is 400-1000 times per hour. It is satisfied with the needs of the most products.

The printing materials are the dissolvent oil or ink and can use with different oils which can be dried by ultraviolet light, infrared or natural. The machine's adaptability is very strong.

There are many tiny aspiration holes in the bedplate. The printing materials can adsorb well in the bedplate that can reach high precision.

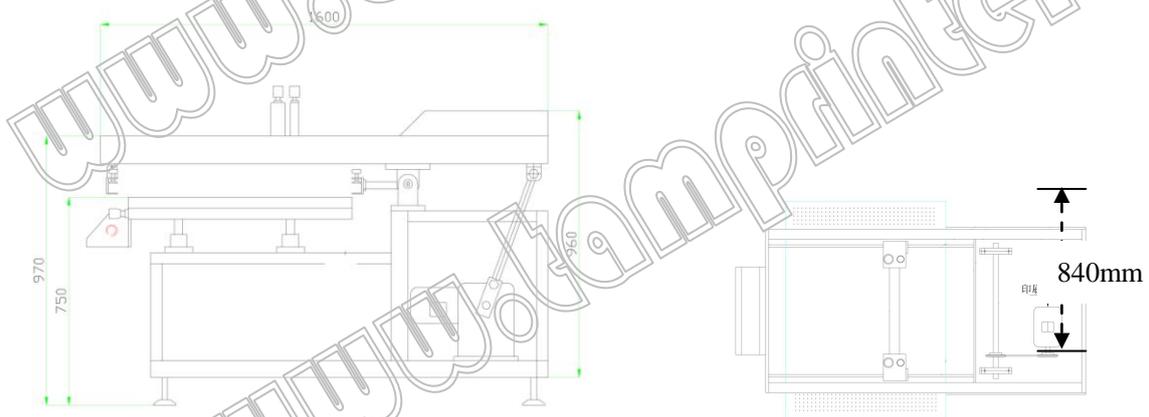
The adjustment of it is very convenient, rapid. It takes just a few minutes to complete fixing block, orientation, adjusting of the front and back scraper.

## 2.4. Legend of the machine



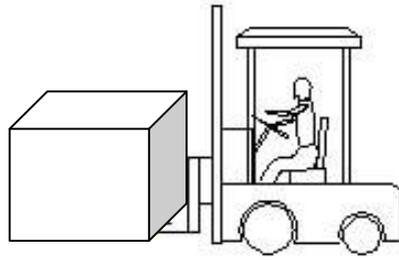
1. Cover boarding
2. Machine base
3. Truckle and Tack Bolt
4. Work table & tray
5. Control panel
6. Front mesh folder
7. Scraper/ doctor blade adjusting system
8. Front & back stroke adjustment
9. Back mesh folder
10. snap-off device
11. Safety brake
12. Table inching handle
13. Printing frame head
14. Regulation handwheel

## 2.5. Machine dimension



## 3. Installation

### 3.1 Lifting the Machine/Drawing



## 3.2 Installation/Drawing

### 3.2.1. Rules for machine installation

3.2.1.1. Check the device carefully after entering the factory that if it was spoiled during the process of transportation and unfolding the package.

3.2.1.2. Posit the equipment in workshop, and then adjust the four tack bolts in the base of the machine to reach the ideal position and level.

3.2.1.3. Confirm if the power source and gas source are conformable. If there is no doubt, connect the three-phase wires into the air switch in the order of L<sub>1</sub>, L<sub>2</sub>, and L<sub>3</sub>. Note :( The neutral wire is that cannot be connected with any phase lines, then check if the voltage is accorded with the acquirement of the equipment.)

3.2.1.4. Connect gas source: Connect the outer gas source into the oil and water filter of the device, and then spin adjust device to let the air pressure reach to the 0.6-0.8.

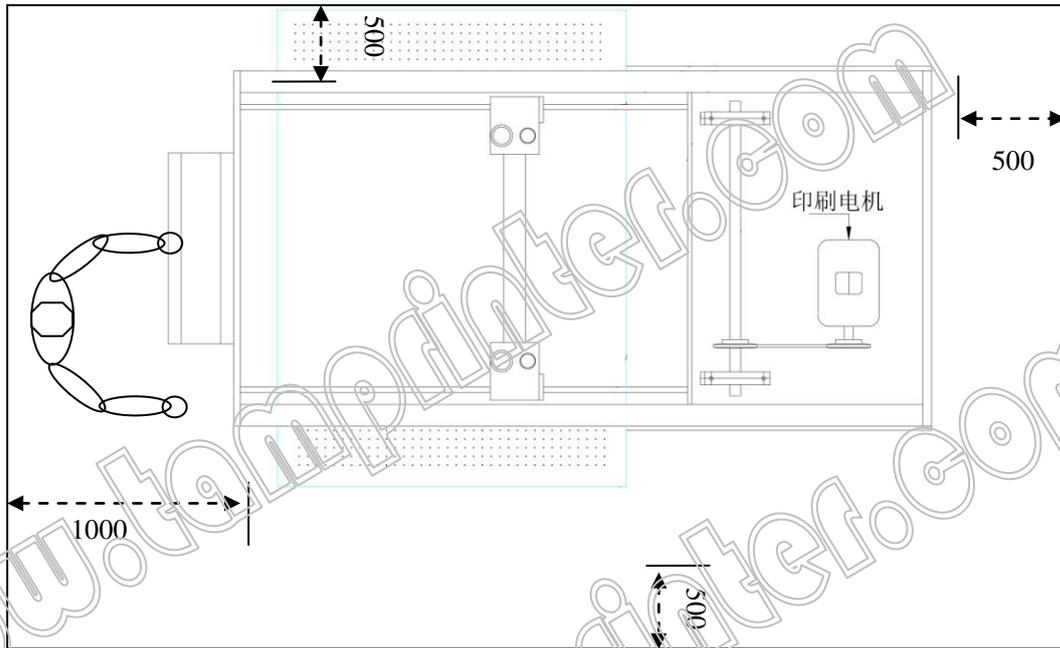
Operate correctly: Lift up the adjusting turning button. Clockwise increase the pressure and counterclockwise to decrease pressure.

Note: make sure lift the turning button up, if not it is easy to break.

3.2.1.5. Power source: workshop should be prepared with the 380v supply (three-phase five wires) or 220v supply (two-phase line). Please use the air switch with capacity equal to or more than 30A. The machine is equipped with a three-phase five wires (about 5m). Please distinct the live wires and neutral wire carefully.

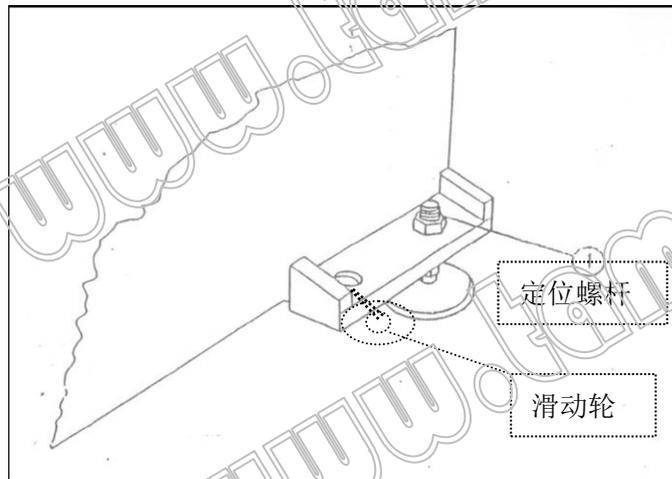
3.2.1.6. Gas source: arrange the flux of the gas accord with the number of the devices. Its Consumption is 0.03m<sup>3</sup>/min. The intake pipe is  $\phi$  8mm that is connected with the outer gas source.

### 3.2.2 Installation dimension diagram



### 3.3 Installation and Leveling

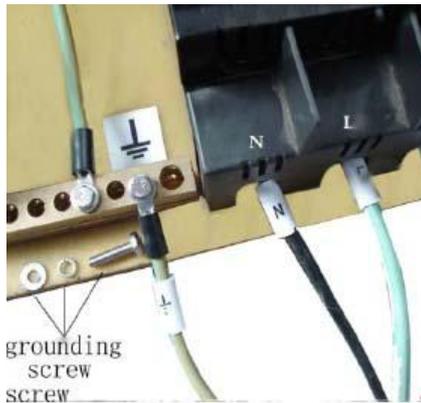
Sample as follows:



### 3.4 Power supply requirements

Model	Kw	Voltage	Current	Wire size
TMP-70100	2.3KW	220V	15A	6m <sup>2</sup>

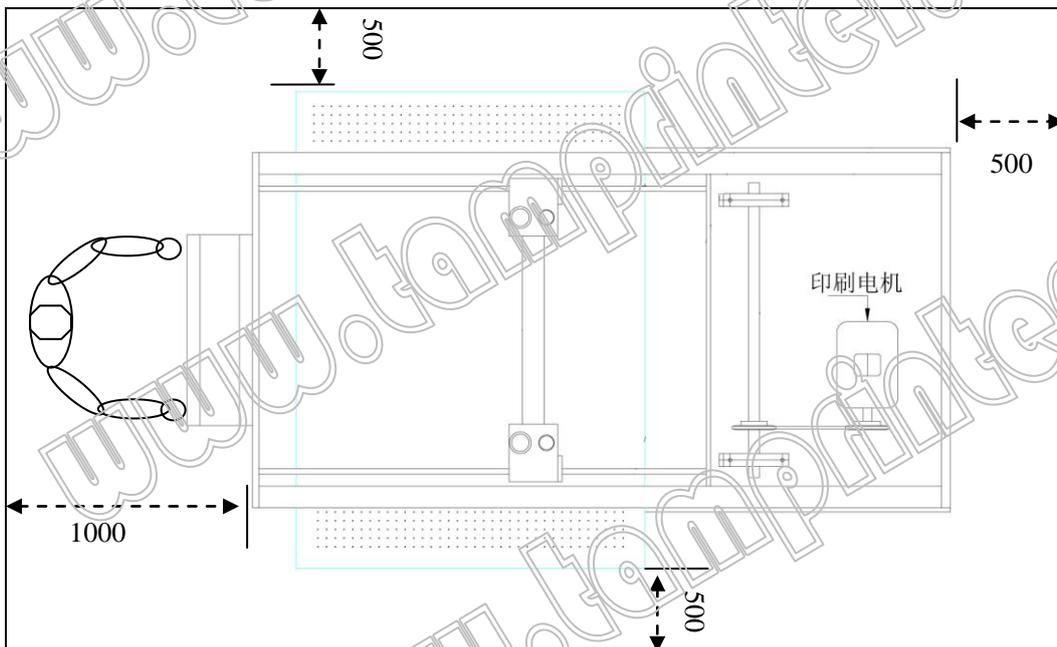
### 3.5 Connect Power Source Wires



220V 单相三线电源

## 4. Operation

### 4.1 Operator Position



## 4.2 Control Panel



1	Power switch	Control the power of the whole machine.
2	Power instruction light	Instruct the condition of power supply.
3	VAC-sorb switch	Control the opening and closing of the fan
4	Pressing governor	Adjust the speed of printing; Clockwise make it quick and counterclockwise make it slow.
5	Ink reclaiming governor	Adjust the speed of reclaiming. Clockwise make it quick and counterclockwise make it slow.
6	Printing counter	Display how many sheets has the machine complete.
7	Counter clear switch	When the work has completed, use this switch to set the number of the counter to zero.
8	Two times	When printing the special material need two times, use this switch to set that: only two times has completed could the machine head been put up.
9	Operation mode	This button has three modes: manual /semiautomatic /automatic. When a mode has been selected, relative light will shine.  The manual mode usually been selected when testing or adjusting the plate.  When the semiautomatic mode been selected (use the star-up switch or foot switch.), only one unite will

		<p>complete every time.</p> <p>When the automatic mode has been selected, once the machine has been started, it will go on working until semiautomatic, manual or brake mode been selected.</p>
<b>10</b>	Autotimer	When the automatic mode has been selected, use this button to control the interval time
<b>11</b>	Manual	It's no use
<b>12</b>	VAC-sorb mode	<p>It is used complied with the switch of fans, there two modes: long time, automatic. Long time means that the printing table is in the sorb condition all the time.</p> <p>Automatic means that when the printing frame head descend, the printing table will sorb automatically, when the printing frame head lift up, the printing table will stop sobbing</p>
<b>13</b>	Scraper/Back blade switch	When it is in the manual mode, push this button to adjust the heights of scraper and Back blade (first putting machine's head down, make the Back blade down to just attached to the screen painting plate, then Scraper switch down and just press on the substrate).
<b>14</b>	Printing stop mode	<p>When some crafts need oil seal printing, the ink reclaiming stop mode should be selected. When some need not, the print stop mode should be selected.</p> <p>Otherwise this button also can be used as push-on button( it is can be used to adjust stroke)</p>
<b>15</b>	Off-set switch	It is usually used in large area printing; it can be switch off when there is no need.
<b>16</b>	Start/stop	When the power has been connected correctly, it can be used to power on or power off the machine.

### 4.3 Emergency Stop

There is an emergency stop switch on the right side of the control panel. When the machine is working, you can push the emergency switch in any emergency, the machine will stop. When operate the machine again, not forget to release the button by rotating it clockwise. The emergency is on the side of the machine.

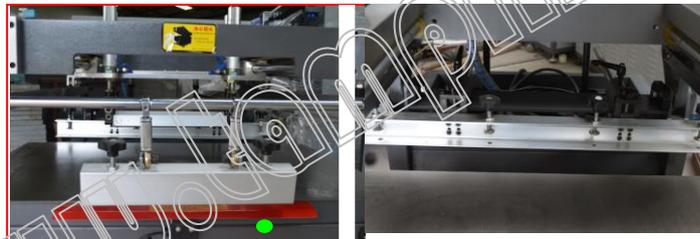


### 4.4 Operation Procedure

#### 4.4.1 Fix the screen plate

Screen plate fixing diagram

- 1—Front mesh folder
- 2—Off-set adjust handle
- 3— Back mesh folder
- 4—Screen plate telescopic link
- 5—distance adjusting system of the mesh.



- Power on the machine, turn on the foot switch or switch on the control panel, make the printing frame head in the highest place, then turn on the safety switch.
- Lock the screen plate in the back mesh folder, loose the locked screw of the telescopic link, then, and fix the front mesh folder.
- Low down the printing frame head after the front and back mesh folders have been locked. Check the distance between the screen plate and printing table. Four sides should in the same level; hexagonal head screw usually could be used as plug gauge.

- If the screen plate is not level, first turn the front and back mesh folder into right-angle, then, adjust it into an appropriate level. In the adjusting process, the front mesh folder is adjusted by the pothook; back mesh folder is adjusted by the screw.
- Lock the adjusting handle when the mesh distance has been mixed up.

#### 4.4.2 Installation the Blade

- 1——doctor blade locking frame      2——doctor blade locking clip  
 3——doctor blade                      4——ink reclaiming blade  
 5——adjust and lock screw of doctor blade angle.

4.4.2.1 Open the front mesh folder, take out the screen plate, and install the doctor blade.

4.4.2.2 First, put the doctor blade locking clip on the frame, adjust it to a loosing condition, then, put the doctor blade/ink reclaiming blade into it, and lock them.

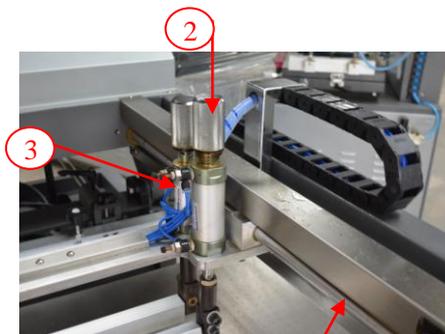
4.4.2.3 Angle adjusting: loose angle locking screw, then adjust it to an appropriate angle, and lock it. Normally the angle of ink reclaiming blade is  $90^{\circ}$ , the angle of pressing blade is  $70-80^{\circ}$ . There is also some exception.

4.4.2.4 Ink reclaiming blade adjusting: fix on the screen plate, start the machine, switch the ink reclaiming blade, low down the printing frame, adjust the pressure handle in order to make two end of the ink reclaiming blade in parallel and make the blade just attach to the screen plate. When there is oil, adjust it to make the ink uniformity.

4.4.2.5 Doctor blade adjusting: switch the doctor blade, adjust the pressure handle in order to make two end of the doctor blade in parallel and make the blade just attach to the printing table. Adjust the pressure when pressing.

#### 4.4.3 Adjust the printing pressure

- 1——machine head beam  
 2——pressure adjusting handle  
 3——air pressure regulator



①

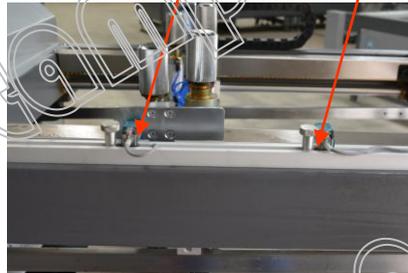
4.4.3.1 Low down the machine head beam.

4.4.3.2 Loose the air pressure regulator locking screw, then, adjust the pressure to make the cylinder moving uniformly.

4.4.3.3 Doctor blade/ ink reclaiming pressure adjusting: adjust the pressure adjusting handle according to the need of the screen plate's pressure.

#### 4.4.4 Printing stroke adjustment

- 1—front limit switch  
2—back limit switch



4.4.4.1 Move the front and back limit switches according to the pattern's size.

4.4.4.2 Do not impact front and back mesh folder when adjusting, and then testing it use the inching switch.

#### 4.4.5 Printing table adjustment

- 1—lifting handwheel  
2—overall lifting system



When the screen plate and printing table are not in parallel, you can use the overall lifting system to adjust it according to the technical requirements of the product being printing.

#### 4.4.6 Prepare work for starting machine

- 4.4.6.1 Check that there is no loose or leak condition in the power circuit and pneumatic circuit.
- 4.4.6.2 Check that there is no screw is unlocked.
- 4.4.6.3 Check that any adjusting part has lubricant.
- 4.4.6.4 Test if manual function is normal.
- 4.4.6.5 Check whether the distance of the printing stroke is appropriate.
- 4.4.6.6 Check that the screen plate has been locked by the front and back mesh folder.

## 5. Maintenance

### 5.1. Day/week/month/year maintenance

- 5.1.1. The whole body of the machine should wipe cleanly after work. Do not leave the oil on it.
- 5.1.2. Use the manual mode to see if there is something abnormal after connecting the power before work.
- 5.1.3. Observer if there is lube in the place which is movable.
- 5.1.4. Change the oil of the lifting decelerator every 2-3 months, and please take down the record every time.
- 5.1.5. Check if the wires of the controlled electrical box are slack every five months.

### 5.2 Lubrication

Type	maintenance period	Lubricant	Memo
lifting decelerator	season maintenance	30# -140#	Maintain the Lubricity of the machine. Make sure the life of the machine. Oiling the axletree of the drive scalable link
Axletree of the machine base	month Maintenance	Ditto	Maintain the Lubricity of the machine ,make sure the life of the machine
Printing scraper frame	day Maintenance	engine oil 0#	Oiling the active part
Machine	day	bright	Make sure the outlook is new all the time

surface	Maintenance	cleanse	
miscella filter	season maintenance	engine oil	

### 5.3 Trouble Shooting

5.3.1. Power circuit trouble: when the machine runs irregularly or runs not accord with the function switch, please ask the personnel to repair it.

5.3.2. Pneumatic circuit: when the transmission parts or squeegee blade do not work well , please check the valve of the pump if it is open and the flowing is enough.

### 5.4 Waste Disposal

1). waste disposal information

Part	Procedure
Package	The plastic package should be disposal according to regulation of the country.
products for maintenance	Exhaust all the products for maintenance out.
Machine structure	The disassembly machine can be grouped into these groups: plastics, Nonferrous metals components with chemicals motor control component steel

2) Disassemble

Comply with the guidance in the instruction manual

Cool down the machine

Turn off the power supply

Stop provided the product of maintain.

Comply relative regulations of disassemble.

## **5.5 The permissible ambient conditions**

5.5.1 Absolute atmospheric pressure: within 89.9 KPa (or altitude 1000m)

5.5.2 Ambient temperature: less than 313K (40 °C)

5.5.3, absolute humidity: less than 70%

## **5.6 Storage Conditions**

5.6.1 In order to avoid damage from wet materials and insulators, machine should be placed on a clean, ventilated, dry and non-corrosive gas indoors.

5.6.2 Articles placed on the rack weight must not exceed 10kg.

## **6. Electric**

### **6.1 Safety Rules for Electrical Control System**

Pay attention to the safety regulation while operation the electric

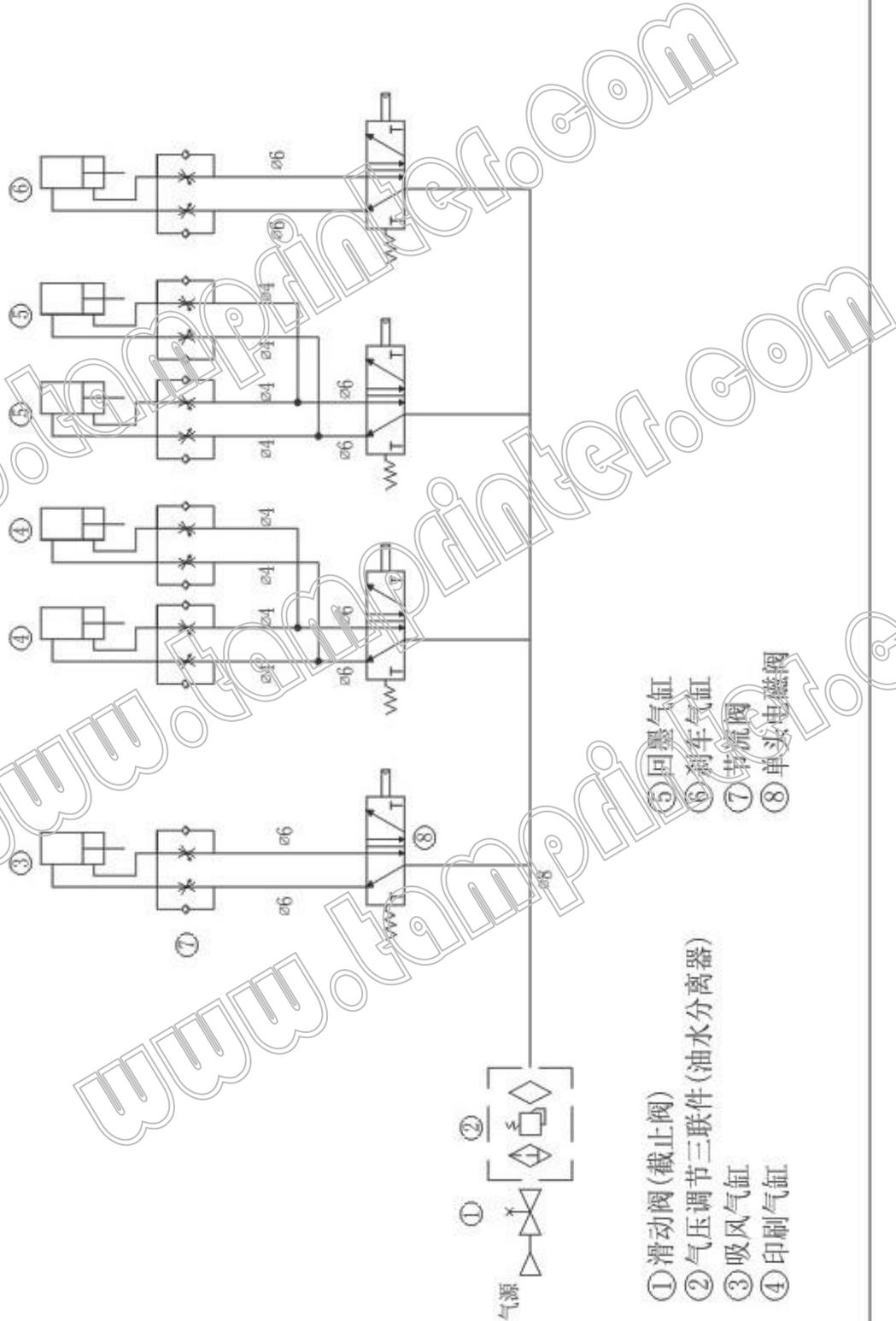
6.1.1. Only the authorized professionals can open the electrical cabinet.

6.1.2. Read the safety tips and look the Warning Plate before operating.

6.1.3. Do not change the arrangement of the circuit without the permission of the manufacturer

### **6.2 Electrical Drawing**

斜臂机气路图  
 Gas path view



- ① 滑动阀(截止阀)
- ② 气压调节三联件(油水分离器)
- ③ 吸风气缸
- ④ 印刷气缸
- ⑤ 回墨气缸
- ⑥ 刹车气缸
- ⑦ 节流阀
- ⑧ 单头电磁阀



### 6.3 Electrical Part List

symbol	function	maker	model	specifications	approval
M1	Printing motor	YU SIN	GV-18	380 50HZ	CE
M2	Exhaust motor	FU LI	HG750S		
M3	Doctor blade motor	SANYE	3-PHASE	220 50HZ	
QS	Foot switch	tend	TFS-302	15A 250VAC	
TC	DVM transducer	Panasonic	DVM-4T022G	220V 0.75KW	CE
SB	Emergency stop	LONG T I L E	LA110-B2	10(6)A 400V	CE
YV1	Scraper cylinder	LONG T I L E			
YV2	Back blade cylinder	LONG T I L E			
YV3	Suction cylinder	LONG T I L E			
YV4	Off-grid cylinder	LONG T I L E			
YV5	Brake cylinder	LONG T I L E			

### 7. Hydraulic / Pneumatic



The voltage among 0.4-0.6MPa during printing



if you need the vacuum continue for longer time, pls check 5 and 6 same to photo, if the vacuum take longer time until the frame up and before the robotic arm move, may be not flying