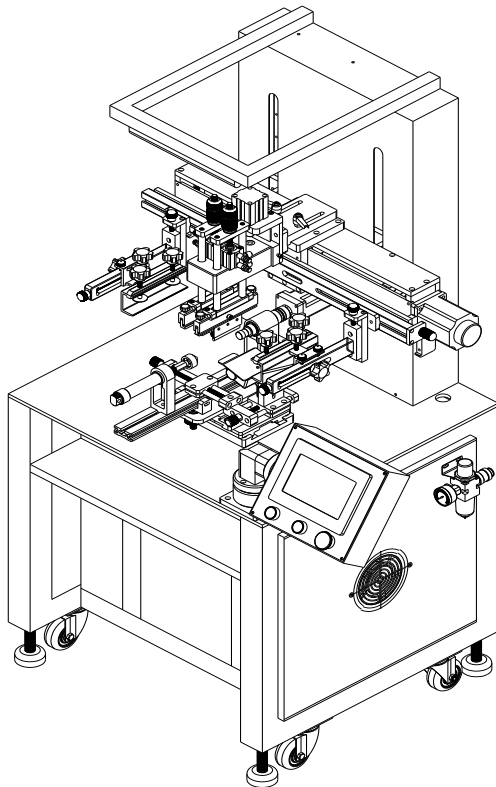




PS-100SL

伺服定位曲面丝印机





◆ 机器简介

Introduction

This is a high precision and efficient round flat dual screen printing machine, compact, fast, stable performance, can be formed in the smaller plant space silk screen production line, especially for round products. Network arm design of the fine-tuning function, debugging more convenient, more accurate printing.

1, touch screen man-machine interface with programmable controller, durable, easy maintenance, powerful

2, full touch screen man-machine dialogue control mode, simple operation

3, automatic four-digit counter, the number of statistical printing.

4, double column lift structure, smooth and high precision.

5, left and right travel adjustable, Taiwan photoelectric switch limit.

6, the printing action design a variety of printing cycle, the user can choose a free printing process.

7, up and down around with Taiwan CEC hydraulic buffer to eliminate printing vibration.

8, the location of the frame can be around, the level, level adjustment.

9, scraper constant pressure device to ensure that the printing process of pressure stability

10, the whole machine running fast, smooth, low noise.

这是一款高精密高效率的圆平两用丝印机,外形小巧,运行速度快,性能稳定,可在较小的厂房空间组成丝印生产线,尤其适合圆形产品。网臂更设计了微调功能,调试更方便,印刷更精准。

- 1、 触摸屏人机介面配合可编程控制器,经久耐用,维护简单,功能强大
- 2、 全触摸屏人机对话控制模式,操作简单
- 3、 自动的四位数计数器,统计印刷数量。
- 4、 双柱式升降结构,平稳精度高。
- 5、 左右行程可调,台湾光电开关限位。
- 6、 印刷动作设计多种印刷循环,用户可视印刷工艺自由选择。
- 7、 上下左右配备台湾 CEC 油压缓冲器消除印刷震动。
- 8、 网框位置可前后,左右,水平,高低调节。
- 9、 刮刀恒压装置,确保印刷过程中的压力稳定
- 10、 整机运行速度快,平稳,噪音小。



技术参数

Technical parameters

印刷面/ Shape : 圆面/ Round

印刷颜色/color : 可套色印刷/Overprint

使用电压/power supply : 220V 50—60MHZ/100W

压缩空气压力/Compress air: 0.5-0.7MPA

1、动作模式选择/action mode choice:

2、启动方式/start mode: 面板 / 脚踏开关 Panel/Footswitch

3、刮刀压力控制/Squeegee pressure controlling: 调压阀恒压/ Pressure adjustment

4、上下驱动方式/Drive of up-down: 电机 Motor

5、左右驱动方式/drive of right-left: 伺服 Servo

6、左右行程/Left-right stroke: 350MM

7、上下行程/Up-down stroke: 120MM

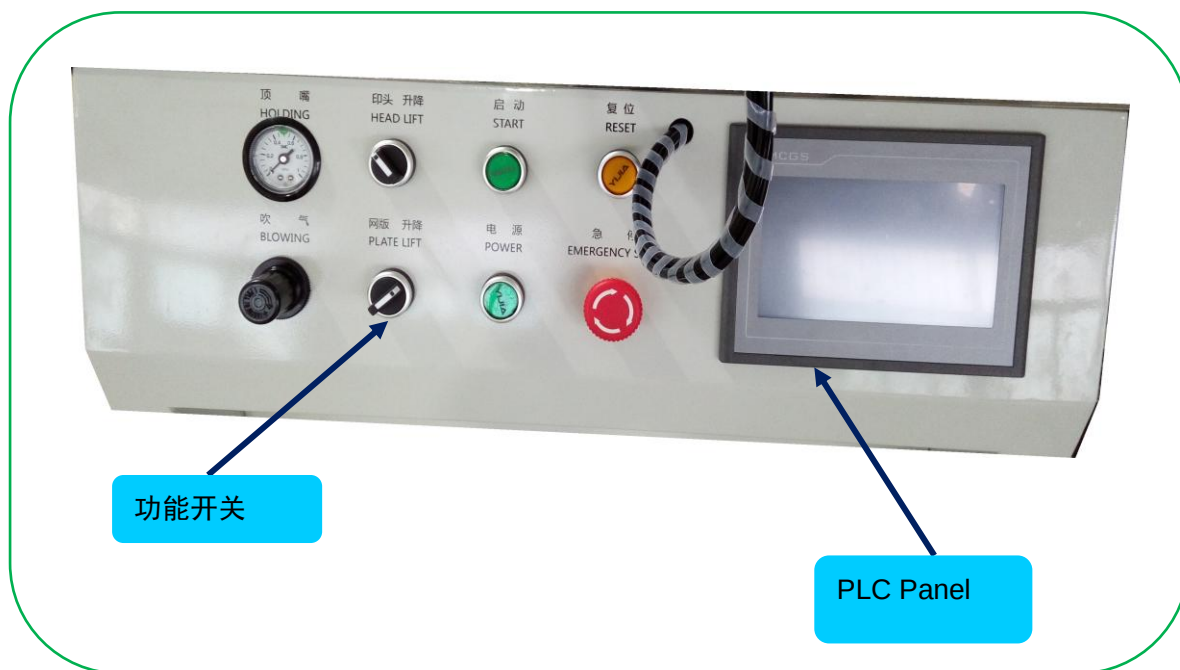
9、最大网版尺寸/max screen plate size: 250*500MM

10、最大产品高度/Max products height: 100MM

11、定位精度/Registering Accuracy <0.02MM

◆ PLC 操作面板

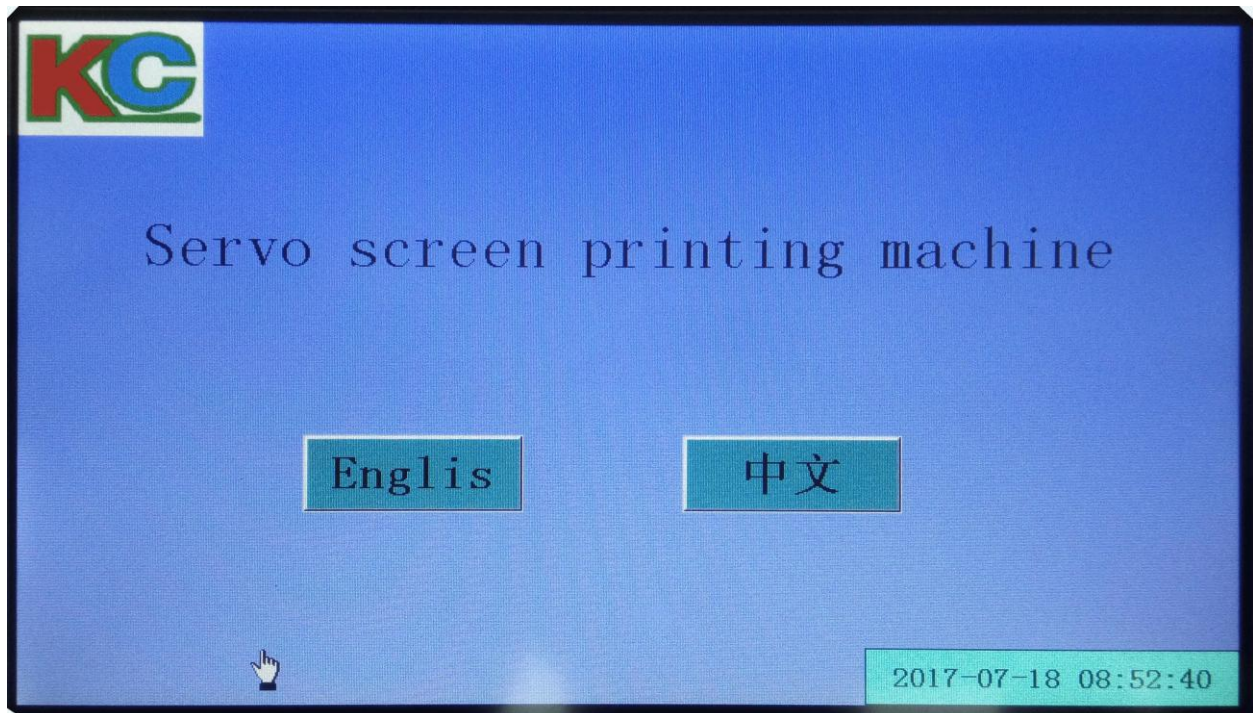
PLC Operation panel



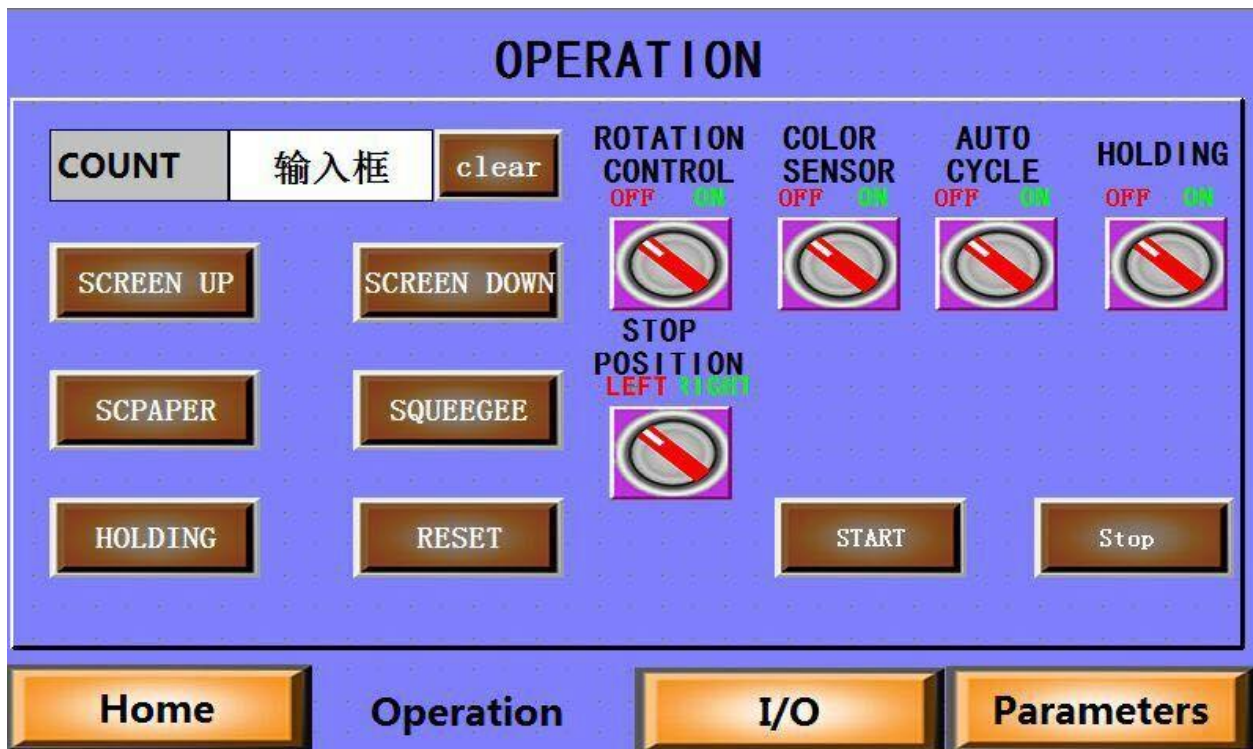
- 1) 顶嘴/holding-压力表/pressure meter--Show the pressure of air
- 2) 印头升降开关/Head lift--switch of print head lift and drop
- 3) 启动/STAR--/Press the switch, screen will be light.
- 4) 复位/RESET--Machine reset
- 5) 吹气/BLOWING-- Some soft bottle need blowing, turn on it.
- 6) 网版升降/PLATE LIFT-- Switch of screen plate lift and drop.
- 7) 电源/POWER-- connect power supply.
- 8) 急停/ EMERGENCY STOP--When emergency, press the button to stop the machine



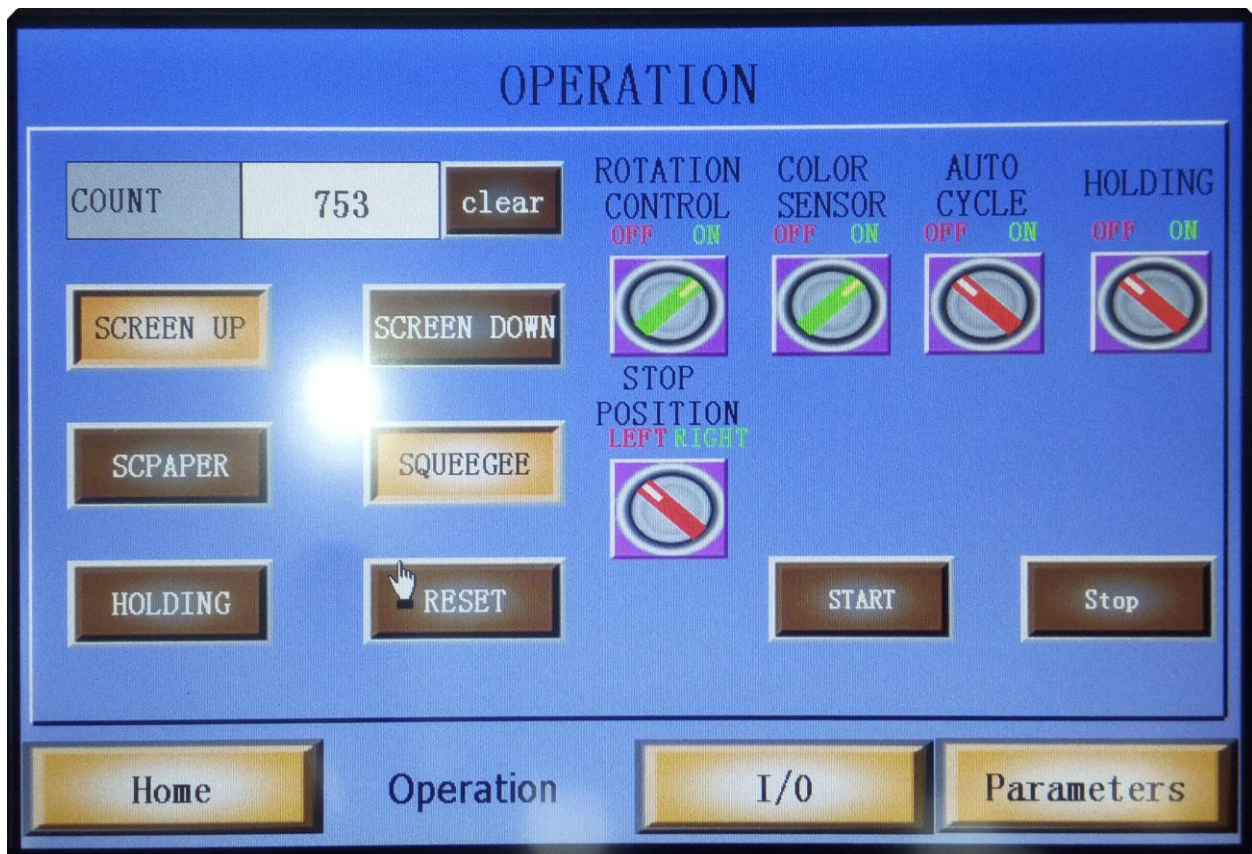
Press the power , the screen will be light on and show the interface



Choose English or 中文 enter into language interface.



English operation interface:



Count: Record printing times when machine running;

Clear: Reset the count to zero;

Screen up: Press the key, the screen plate will be rise up;

Screen down: press the key, the screen plate will be drop;

Scraper/Squeegee: Press the key to switch squeegee and scraper;

Holding: the cylinder of holding push out;

Reset: The cylinder of holding push in;

Rotation control: Control the fixture rotate or not;

Color sensor: Shut on and off sensor . The first color printing no need sensor, the second color need sensor turn on;

Auto cycle: Machine run on auto or semi-auto;

Holding: air blowing or not;



Stop position: Print head stay at the left side oh right side;

Start: Start the machine;

Stop: Stop the machine.





中文操作界面

生产计数: 机器运行时记录印刷次数;

清零: 记录次数归零;

网版向上: 按此键, 网版上升;

网版向下: 按此键, 网版下降;

刮刀气缸/印头气缸: 按此键, 刮刀气缸和印头气缸进行切换。

顶嘴气缸: 按此键, 顶嘴气缸顶出;

复位开关: 按此键, 顶嘴气缸复位;

旋转控制: 控制夹具的旋转;

搜标控制: 控制光标的打开和关闭;

循环控制: 机器进行自动和半自动的控制;

顶嘴控制: 吹气或者不吹气控制;

停机位置: 印头停在网版的左侧或者右侧;

启动开关: 启动机器;

停止开关: 关闭机器.

Press I/O button into I/O interface, please do not adjust.

I/O											
Input						Output					
X0	Color sensor	X10	RESET	X20	NOT USED	Y100	*CA1	Y110	CONT1/MD	Y120	ALARM
X1	CONT5	X11	EMERGENCY SOTP	X21	NOT USED	Y101	*CA2	Y111	CONT2/ST	Y121	RUN
X2	B/IN	X12	INP	X22	NOT USED	Y102	NOT USED	Y112	CONT3/LOW	Y122	STANDBY
X3	Rotate ORG	X13	OK	X23	NOT USED	Y103	*CB1	Y113	CONT4/AW	Y123	BUZZRE
X4	Screen left limit	X14	Rotating servo alarm	X24	NOT USED	Y104	*CB2	Y114	SCREEN UP		
X5	SCREEN DOG	X15	Screen servo alarm	X25	NOT USED	Y105	NOT USED	Y115	SCREEN DOWN		
X6	Screen right limit	X16	Inverter alarm	X26	NOT USED	Y106	HOLDING	Y116	NOT USED		
X7	SCREEN TOP	X17	Foot switch	X27	NOT USED	Y107	SCRAPER	Y117	NOT USED		
X8	SCREEN LOWER	X18	SCREEN MANUAL	X28	NOT USED	Y108	NOT USED	Y118	NOT USED		
X9	START	X19	SCREEN ORG	X29	NOT USED	Y109	NOT USED	Y119	NOT USED		

Home

Operating

I/O

Parameters

I/O 画面											
输入						输出					
X0	☐		Y0	☐	网版向上						
X1	☐		Y1	☐	网版向上						
X2	☐	网版上位	Y2	☐	顶嘴气缸						
X3	☐	网版下位	Y3	☐	刮刀						
X4	☐	启动	Y4	☐	回墨刀						
X5	☐	急停	Y5	☐							
X6	☐	网版伺服报警	Y6	☐	印头气缸						
X7	☐	旋转伺服报警	Y7	☐							

开机画面

运行画面

I/O画面

参数设定

Press " Parameter" enter into Parameter interface.



PRINTING SERVO PARAMETER SETTING

SCREEN LEFT POSITLON	输入框	MM	+	MANUAL LEFT	MANUAL RIGHT
SCREEN RIGHT POSITION	输入框	MM		ROTATE RIGHT	ROTATE LEFT
AUTO PRINT SPEED	输入框	MM/S		SCREEN HOMING	ROTATE HOMING
PRINT RETURN SPEED	输入框	MM/S		CURSOR SEATCH	HOLDING
PRINTING POSITION	输入框	MM			

Operating Other parameters Rotation parameter Printing parameters Parameter

PRINTING SERVO PARAMETER SETTING

SCREEN LEFT POSITLON	-50.00	MM	+	MANUAL LEFT	MANUAL RIGHT
SCREEN RIGHT POSITION	75.00	MM		ROTATE RIGHT	ROTATE LEFT
AUTO PRINT SPEED	300.00	MM/S		SCREEN HOMING	ROTATE HOMING
PRINT RETURN SPEED	100.00	MM/S		CURSOR SEATCH	HOLDING
PRINTING POSITION	-50.00	MM			

Operating Other parameters Rotation parameter Printing parameters Parameter



Screen left position--set the position of screen left side

Screen right position --set the position of screen right side

Auto print speed--set the printing speed

Print return speed--set fixture reset speed after printing

Printing position --set the printing begin position

Manual left-- Keep pressing the button, the screen plate will move to left

Manual right--Keep pressing the button, the screen plate will move to right

Rotate left--Keep pressing the button, fixture will rotate to left

Rotate right--Keep pressing the button, fixture will rotate to right

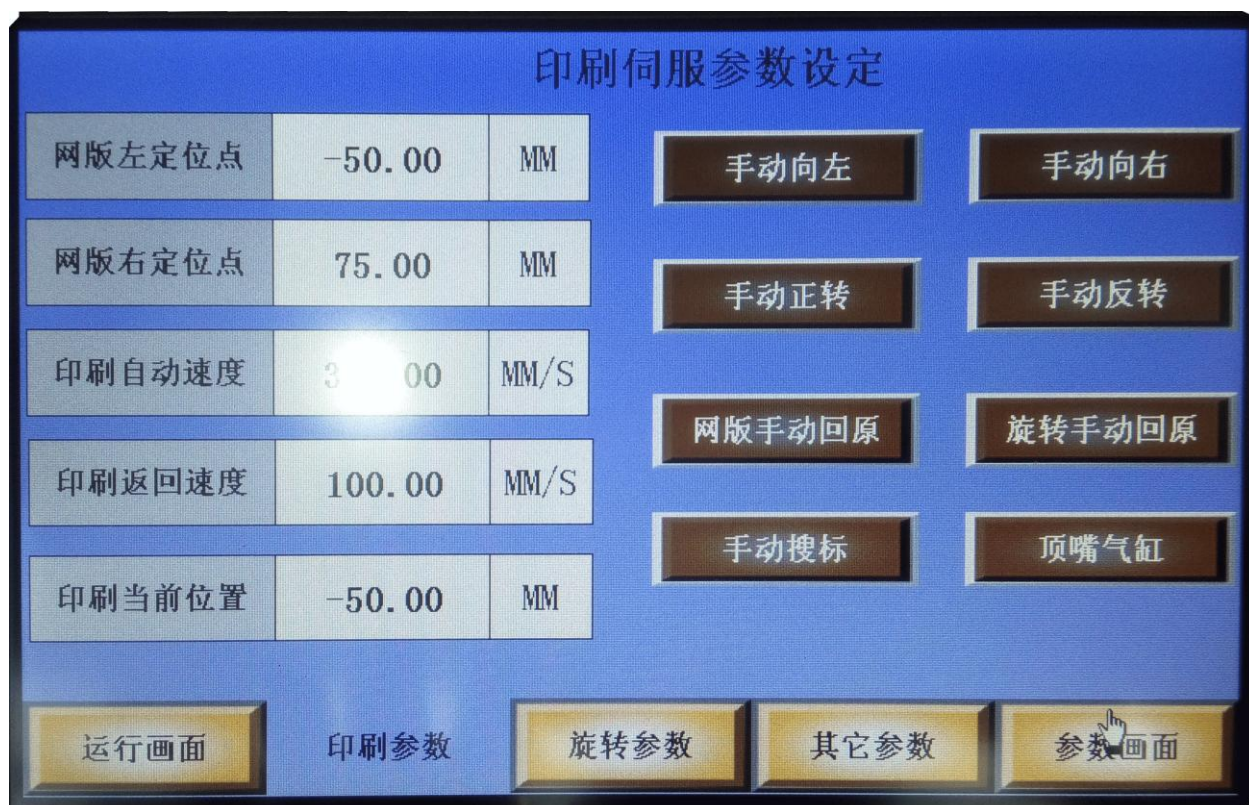
Screen homing--Press the button, screen plate reset position

Rotate homing--Press the button, Fixture reset position

Cursor search--Press the button, search the cursor

Holding--cylinder of fixture action.

印刷伺服参数设定			
网版左定位点	输入框	MM	+
网版右定位点	输入框	MM	
印刷自动速度	输入框	MM/S	
印刷返回速度	输入框	MM/S	
印刷手动速度	输入框	MM/S	
旋转当前位置	输入框	度	
运行画面 旋转参数 其它参数			
			印刷当前位置 输入框 MM
			手动向左 手动向右
			手动正转 手动反转
			网版手动回原 旋转手动回原
			手动搜标 顶嘴气缸
			复位开关



Real time Printing servo parameter setting

网版左定位点 -- 设定网版左边的起始定位点

网版右定位点 -- 设定网版右边的定位点

印刷自动速度 -- 设定正常的印刷速度

印刷返回速度 -- 设定印刷完毕后网版回到起始位置的速度

印刷当前位置 -- 设定印刷当前的位置

手动向左 -- 按住此键，网版将向左移动。

手动向右 -- 按住此键，网版将向右移动。

手动正传 -- 按住此键，夹具正方向转动。

手动反转 -- 按住此键，夹具向反方向转动。

网版手动还原 -- 手动使网版回到起始位置

旋转手动还原 -- 手动使夹具会到起始位置

手动搜标 -- 手动搜索光标

顶嘴气缸 -- 顶嘴气缸进出。



Press "Rotating parameter" Enter below interface

ROTARY SERVO PARAMETER				
DIAMETER	输入框	MM	MANUAL LEFT	MANUAL RIGHT
Rotating shift	输入框	MM	ROTATE RIGHT	ROTATE LEFT
Search target speed	输入框	R/S	SCREEN HOMING	ROTATE HOMING
Rotate position	输入框	Deg	CURSOR SEATCH	HOLDING
Operating Printing parameters Other parameters Rotation parameter Parameter				

ROTARY SERVO PARAMETER				
DIAMETER	80.00	MM	MANUAL LEFT	MANUAL RIGHT
Rotating shift	2.00	MM	ROTATE RIGHT	ROTATE LEFT
Search target speed	100.00	R/S	SCREEN HOMING	ROTATE HOMING
Rotate position	672.3	Deg	CURSOR SEATCH	HOLDING
Operating Printing parameters Other parameters Rotation parameter Parameter				



Rotary servo parameter

Diameter: Please measure the diameter of products to be printed. If the object is taper, please input middle-end diameter of picture.

Rotating shift: the distance between the cursor and printing position.

Search target speed: Show the speed of search color point

Rotate position: Show the fixture rotate length.

旋转伺服参数设定				
产品直径	输入框	MM	手动向左	手动向右
色标偏移	输入框	MM	手动正转	手动反转
旋转手动速度	输入框	MM/S	网版手动回原	旋转手动回原
搜标速度	输入框	MM/S	手动搜标	顶嘴气缸
印刷当前位置	输入框	MM		复位开关
旋转当前位置	输入框	度		
运行画面 印刷参数 其它参数			光标设定说明	

旋转伺服参数设定				
产品直径	80.00	MM	手动向左	手动向右
偏移	2.00	MM	手动正转	手动反转
搜标速度	150.00	圈/M	网版手动回原	旋转手动回原
旋转当前位置	672.3	度	手动搜标	顶嘴气缸
运行画面 印刷参数 旋转参数			其它参数 参数画面	



旋转参数

产品直径: 测量承印物的直径并输入，对于椎体，请去印刷位置的中间段直径。.

偏移: 光标与实际印刷起始位置的距离.

搜标速度: 搜索光标的速度

旋转当前位置: 显示夹具旋转的具体角度.

Other parameters

OTHER PARAMETER		
HOLDING TIME	0.10	S
SQUEEGEE DELAY TIME	0.30	S
SCREEN DELAY TIME	0.10	S
AFTER PRINTING UP DELAY	0.10	S
CYCLE DELAY	1.00	S

Operating Printing parameters Rotation parameter **Other parameters** Parameter

Holding time: --cylinder push out time

Squeegee delay time:-- Squeegee printing delay time

Screen delay time:-- Screen plate move back delay time

After printing up delay:-- After printing, screen plate rise delay time

cycle delay:--Fixture rotate back delay time

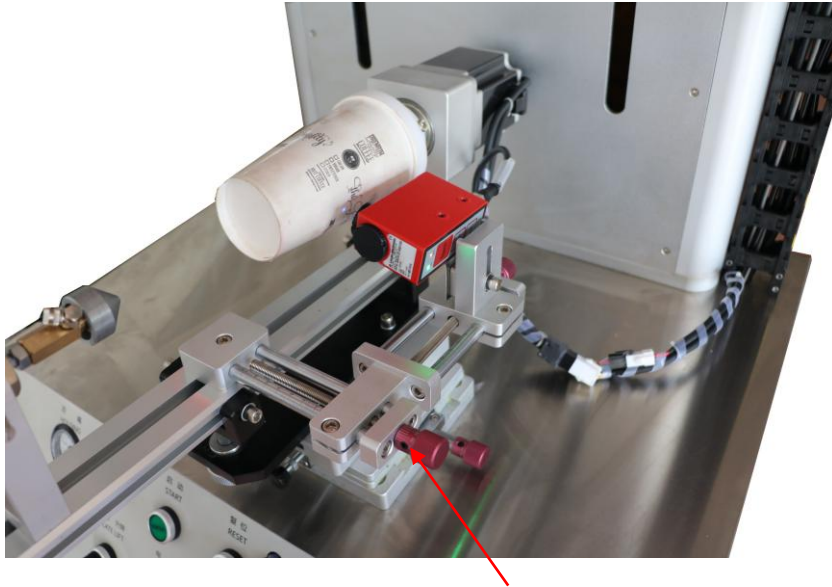
其它参数设定		
顶嘴气缸时间	输入框	S
刮刀时间	输入框	S
网版延时下降	输入框	S
回墨延时启动	输入框	S
循环延时	输入框	S

运行画面
印刷参数
旋转参数
参数画面

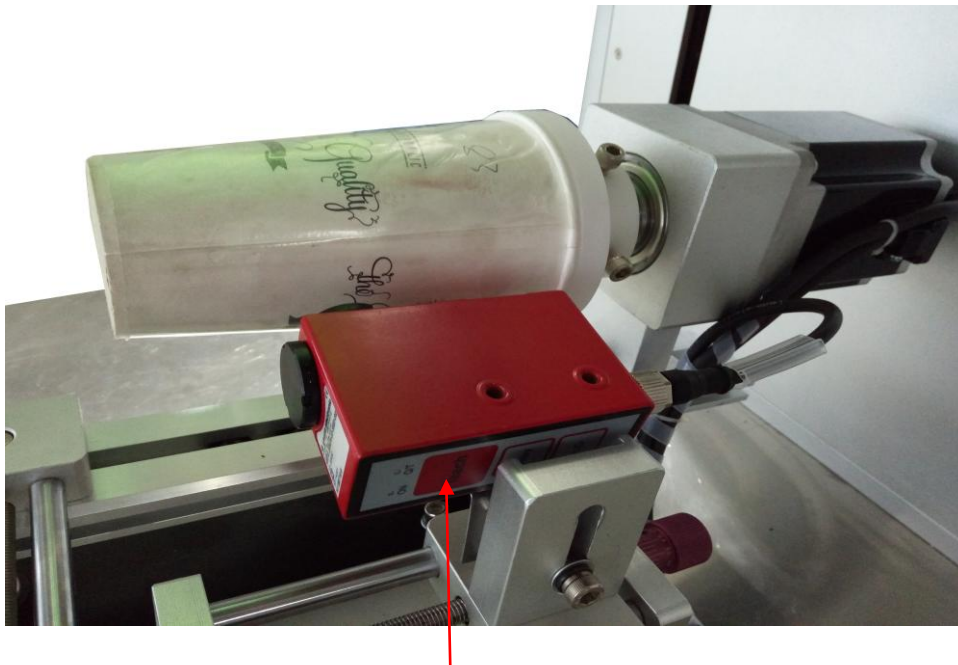
- 顶嘴气缸时间** --气缸伸出的时间设定
- 刮刀时间** -- 刮刀印刷后延迟抬起的时间
- 网版延时下降** -- 网版延时下降的时间设定
- 回墨延时启动** -- 回墨刀延时抬起的时间
- 循环延时** --印刷一个周期延时的时间设置

光标的调整

- 1) 已经预印第一色的产品安装到夹具上；调整光电开关的前后位置，对准产品印刷图案里比较简单， 图案间距较大的位置；
- 2) 调整光电开关标左右的位置，让光标的光点在印刷图案上形成一个小点，并对准产品图案的中心，
- 3) 按手动夹紧气缸夹紧产品，确保夹紧气缸和夹具旋转中心的同心度；
 按住光标上（ TEACH）键 2 秒，光标开始闪烁，按下旋转伺服参数界面的手动正传旋转，使夹具旋转一圈，再轻按 TEACH
 如果黄灯停止闪烁，表明调整成功， 如果黄灯继续闪烁为调整失败，调整失败后按一下 TEACH 复位。
- 4) 重新检测产品安装的同心度，调整光电开关前后位置，更换另一处图案后重复操作直至光标调整成功。



Adjust the position of sensor



TEACH



How to adjust the light sensor

- 1) has been pre-printed the first color of the product installed on the fixture; adjust the photoelectric switch before and after the location, alignment of the product printing pattern is relatively simple, larger pattern spacing position;
- 2) adjust the position of the photoelectric switch standard, so that the cursor spot in the printing pattern to form a small point, and alignment of the product pattern center,
- 3) press the manual clamping cylinder clamping products to ensure that the clamping cylinder and fixture rotation center of the concentricity;

Press the cursor (TEACH) button for 2 seconds, the cursor starts to flash, press the rotary servo parameters of the interface of the manual rotation, so that the fixture rotation, and then press the TEACH

If the yellow light stops blinking, indicating that the adjustment is successful, if the yellow light continues to blink for the adjustment fails, the adjustment fails after pressing the TEACH reset.

- 4) re-test the concentricity of the product installation, adjust the photoelectric switch before and after the location, replace the other pattern after repeated operation until the cursor adjustment is successful.

丝印机的安装、测试、使用

Install & test & use

本机适宜于安装在环境清洁，空气流动量不大，无粉尘及温度保持在 25 度左右的厂房（温度越高油墨越容易挥发），为了保证本机的机的精密度，在运输过程中不可受大力撞击。

The machine is suitable for installation in the environment clean, air flow is small, no dust and temperature to maintain the plant at about 25 degrees (the higher the temperature the more volatile the ink), in order to ensure the precision of the machine, Can not be hit by vigorously.

1. 调节机身平衡：

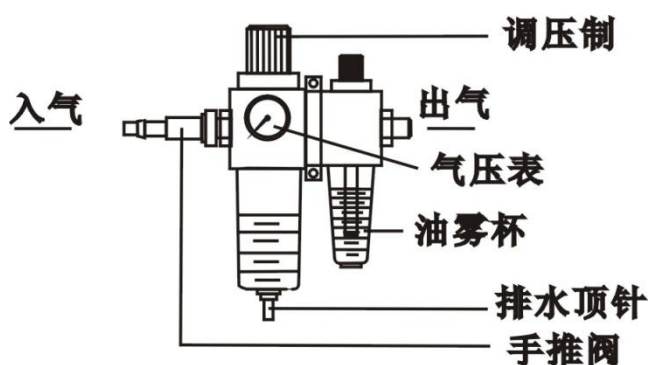
1. Adjust the fuselage balance:

在机座的四个脚掌板上分布有平衡调节螺丝，调节时先将配有的脚掌圆饼对准螺丝放在地上，再将螺丝上的螺母旋松，然后将螺丝顺时针旋转，使螺丝压紧脚掌圆饼，再逐一调节四颗螺丝的高度，使机身平衡后，锁紧上面的螺母，防止松动。

In the base of the four feet on the distribution of balance plate adjustment screw, adjust the first with the soles of the feet with the screws on the ground, and then screw the nut on the screw, and then turn the screw clockwise, the screw Press the foot of the round cake, and then adjust the height of a four screws, so that the body balance, the lock above the nut to prevent loosening.

2. 调试气压表:

2. Debugging barometer



本机工作时，进气压力表通常调整至 5-7BAR 为宜，如发现指数偏高时，可先将调压阀推上，然后逆时针方向旋转至标准压力，反之，反向调整，待调整至所需压力后，再把调压制按下，锁定气压在标准范围内。为了使机器正常运作，防止外来水份渗入本机安装的个

种精密气动组件之中，须经常把过滤器胶杯内的水或污物排出，将过滤器的排水顶针（见图四）向上按多次即可排出污水。同时须不定期向油雾杯加入润滑油，以保持各气动零件运作的顺畅性（松开油雾杯时须先除开气源）。

When the machine is working, the intake pressure gauge is usually adjusted to 5-7BAR is appropriate, if the index is high, you can first push the valve, and then counterclockwise rotation to the standard pressure, otherwise, reverse adjustment, to be Adjust to the required pressure, then the pressure control press, lock the pressure in the standard range. In order to prevent the normal operation of the machine, to prevent the infiltration of foreign water into the installation of a variety of precision pneumatic components, must always filter the water or dirt in the plastic cup, the filter drainage thimble (see Figure 4) According to many times to discharge sewage. At the same time to the oil mist cup from time to time to add lubricants, in order to maintain the smooth operation of the pneumatic parts (release



the oil mist cup must first remove the gas source).

3. 各机械部件的运作测试：

4. Operation test of each mechanical part:

各机械部分的运作是否正常，对产品的印刷品质和机器的寿命都有影响，因此，在印刷工作之前，测试各部件的运作是一件重要事项。

<1>插上电源，并开启电源开关后，机器触摸屏界面亮灯

<2>检查网臂左右移动是否顺畅，有无异常响声发出。

<3>检查工作台升降是否正常，高低位置是否需要调整。

<4>开启自动印刷状态，看网臂滑动和工作台升降的速度节奏是否配合，运行过程中是否有异常响声发出。

The operation of the mechanical parts is normal, the printing quality of the product and the life of the machine have an impact, so the printing work before the test of the operation of the various components is an important matter.

<1> plug in the power, and turn on the power switch, the machine touch screen interface lights

<2> Check whether the arm around the arm is moving smoothly, with or without abnormal sound.

<3> Check whether the lift is normal, whether the high and low positions need to be adjusted.

<4> to open the automatic printing state, see the arm sliding and the speed of the table movements are raised with the rhythm of the process, whether the process of abnormal sound issued.

Precautions

注意事项

1, The workplace should try to keep the dust-free state, because the dust will seriously affect the quality of silk screen,

2, Ensure flat table of the fixed device, so that the printed matter can be free to put and remove, but also to achieve the purpose of precise positioning, so there should be a set of suitable fixtures to be printed, Shape different, so the fixture to be identified and manufacturing with the need.

3, When the printing plate blocked , the application of dilution water or water washing network to clean the screen, is strictly prohibited to take water to clean days, or days of water and the screen in the photo resist chemical reaction, destruction of silk screen plate pattern

4, Pay attention to the use of plastic scraping, appearance is consistent with the characteristics of printed. Plastic scraping with a flat scraping (square angle) and the sharp scraping two kinds, when printed as a flat or printed relatively flat state, to use flat scraping (square angle) plastic scraping is



appropriate, printed out better; Printed with curvature or convex and concave state, the use of sharp scraper scraping is appropriate, printed better results.

5, According to the requirements of printing patterns, select the appropriate density of the yarn.

6, The required ink to reconcile the use of suitable for printing, such as ink too sticky, one to lack of activity, and secondly easy plug network, causing printing difficulties, if the ink is too thin, will lead to print the pattern or line color is not enough Deep, easy lines and other defects, so silk screen ink adjustment must not be underestimated. And a wide variety of ink, must be printed with the characteristics of the ink in line with the ink, can produce a beautiful printing effect.

7, The amount of ink stored in the screen when the amount of ink can not be too much or too little, or prone to seepage network, plug net, printing patterns uneven defects

1、工作车间应尽量保持无尘状态，因为粉尘会严重影响丝印质量，

2、做好被印件在平面台的固定装置，使被印件既可以随意放入和取出，又达到精确定位的目的，故此要有一套安放被印件的合适夹具，由于被印件的外形各不相同，故夹具要随需要而确定及制造。

3、当印刷发生塞网时，应用稀释水或洗网水来清洗网板，严禁用天拿水去清洗，否则天拿水与网板中的感光胶发生化学反应，破坏丝印网板的图案。

4、注意所采用的胶刮，外型是否符合被印件的特性。胶刮有平刮(方角)和尖刮二种，当被印件为平面或印刷较平较硬状态时,以采用平刮(方角)胶刮为宜,印出的效果较佳;当被印件为有弧度或凸凹面状态时,以采用尖刮胶刮为宜,印出的效果较佳。

5、根据印刷图案的要求，选择密度合适的网纱。

6、将所需用的油墨调和至适合印刷之用，如油墨过粘，一来缺乏活性，二来容易塞网，引致印刷困难，如果油墨过稀，会导致印出的图案或线条颜色不够深，线条容易起毛等缺陷，所以丝印油墨的调较切不可轻视。而油墨种类繁多，一定要用与被印件的特性相符合的油墨，才可产生美好的印刷效果。

7、印刷时存放在网框内的油墨量不可过多或过少,否则容易发生渗网、塞网，印刷图案浓淡不均等缺陷。

◆ 保养与维护

◆ Maintenance

1, Per week add grease to the screen arm sliding rails and lifting seat once, so that the machine-oriented components to maintain lubrication.

2, Compressed air moisture to be filtered to avoid moisture into the cylinder and



reduce the life of the cylinder and solenoid valve.

- 3, Pay attention to exclude the water in the Air valve,
- 4, Keep the body clean, often cleaning the ink attached to the surface.
- 5, Turn off the machine power and cleaning off the screen, glue on the ink, to prevent ink after the solidification caused by plug net, bad net and so on.

1、每周必须给网臂滑行导轨及升降座加注润滑脂一次，使机器导向部件保持润滑。

2、压缩空气的水分要过滤干净，以免水分进入气缸而降低气缸和电磁阀的使用寿命。

3、注意每班后，排掉水隔中的积水，

4、保持机身的洁净，经常清洗粘附在表面的油墨。

5、每次下班时，必须关闭机器电源及清洗掉网板、胶刮上的油墨，防止油墨凝固后造成塞网、坏网等。