

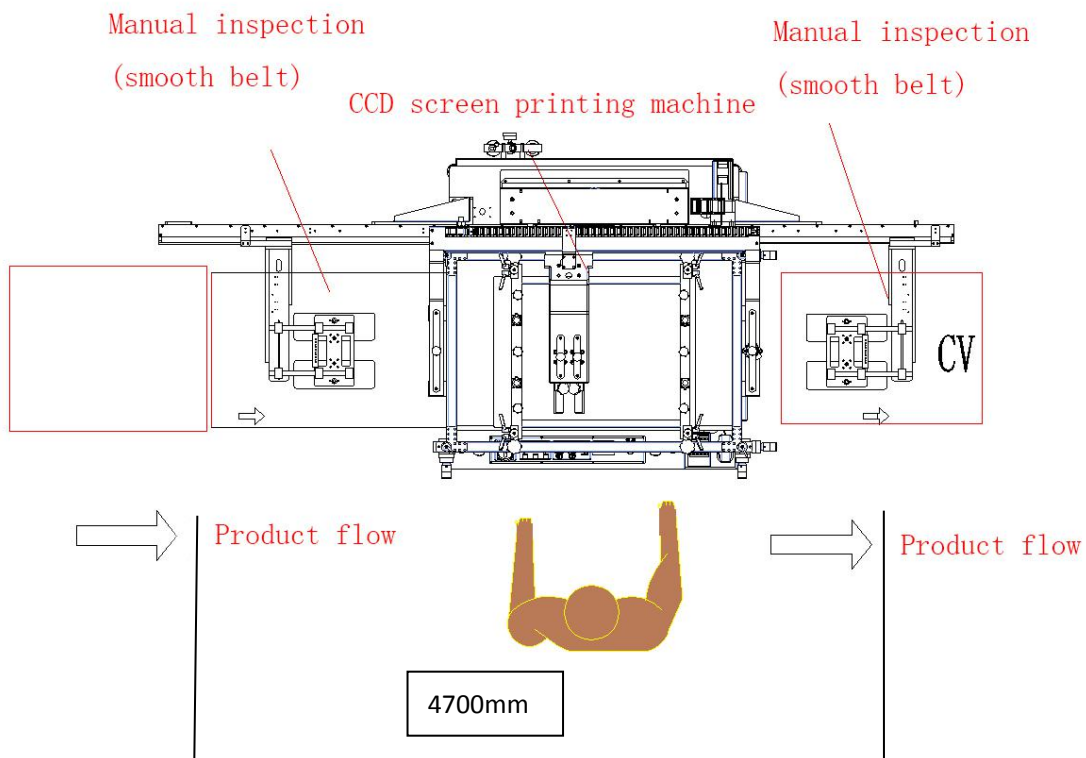
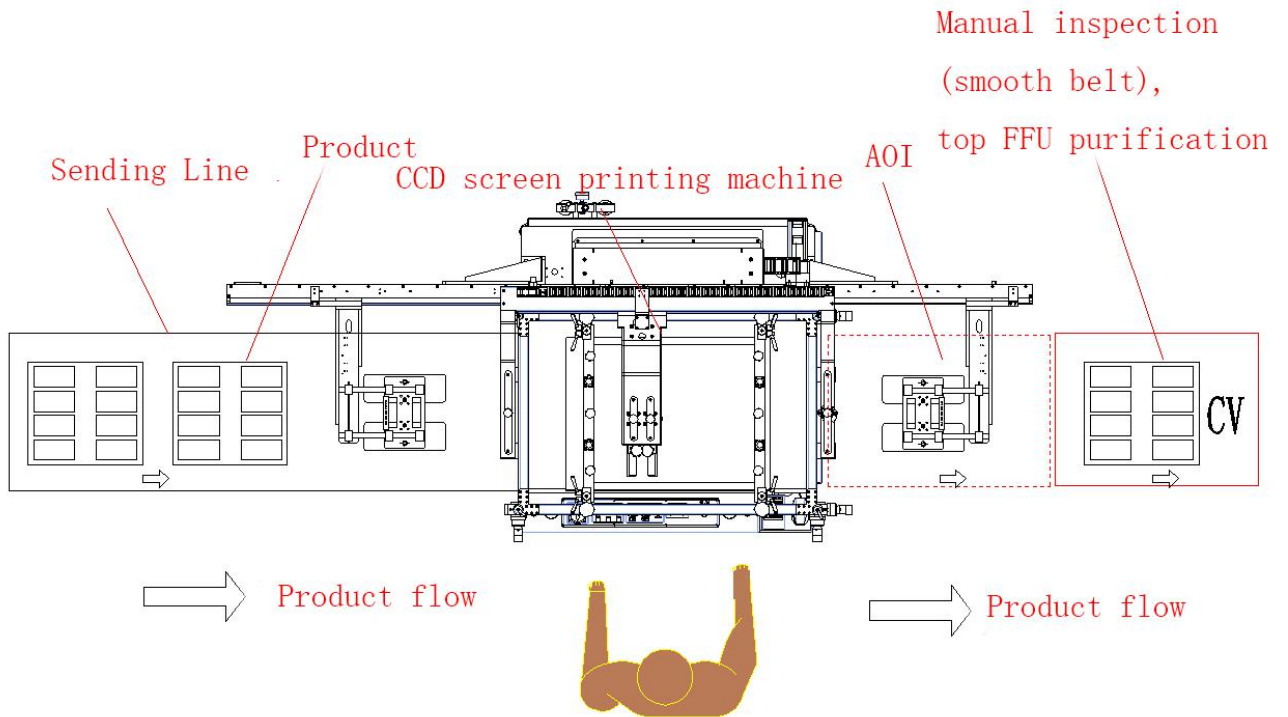


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Sheet to Sheet CCD Alignment Screen Printing Machine Specs

一、The device schematic and FIG Size

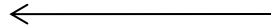
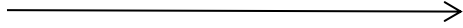




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二、Screen printing machine parameters

Printing table size:	780 * 780mm
Maximum printing area:	600 * 600mm
Frame size range :	350 ~ 1100 mm
Maximum frame thickness:	25 ~ 55mm (special can be customized)
The fastest printing speed (full speed):	500 P / H
Scraper angle range:	$\pm 20^\circ$
Scraper stroke:	0-850mm
Off-grid mode:	automatic adjustment
Power specifications:	3-phase, 380V, 50Hz
Air source pressure:	5 ~ 6kg / cm ² PSI
Air consumption:	2.6L / cycle
CCD positioning accuracy:	± 0.02 mm
Alignment method:	adopt two-point Mark to grab alignment
Printing accuracy (non-material shrinkage and screen expansion):	± 0.05 mm
CCD field of view : 220 mm (adjustable range:	horizontal ± 140 mm, vertical 0mm) (special can be customized)
Product specifications:	length 400 ~ 600mm; width 350 ~ 600mm, thickness 100 ~ 300um
Machine size:	3200 * 1240 * 1850mm
Machine weight:	about 1500 KG
Net spacing adjustment method:	Servo parameter setting



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Equipment purification method;	FFU purification device
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三、 Loading, screen printing, blanking , (AOI), buffer machine process

1. Loading

- 1) Adjust the material feeding position of the lifting and lowering tray of the material feeding robot, and locate the position of the platform. Loading and feeding position of the loading arm. Feeding robot arm picking and feeding position.
- 2) Adjust the field of view of the CCD of the sheet CCD registration screen printing machine according to the size of the material.
- 3) Adjust the position of reclaiming and discharging by reclaiming robot.
- 4) According to the overall efficiency, adjust the speed of each machine separately to achieve the optimal state.
- 5) After the adjustment is completed, the material is manually placed on the assembly line and reaches the feeding area of the screen printing machine, and the manipulator transfers the material to the CCD printing platform

2. Sheet CCD alignment printing machine screen printing

- 1) The sheet CCD alignment printing machine performs CCD alignment according to the material Mark point .
- 2) After the alignment is completed, the printing machine screen prints.

3. Reclaiming robot picking

After the printing is completed, the suction cup of the blanking robot moves above the printing table. The suction cup sucks the unprinted part and sends the sheet to the AOI detection area .

4. AOI detection

The material is placed in the AOI transfer area to detect the material in the unloading manipulator . If any defect or deviation is detected, the device will have an alarm prompt and the printing equipment will be shut down. If there is no problem, flow to the next process.

5. Buffer machine



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If the screen printing equipment fails, the buffer machine will buffer the incoming materials of the previous process, which will play a role in stopping the line and stopping the line.

四、Specifications of material feeding robot

1. Main equipment configuration and brand :

Serial number	Module	Features	Main components	Brand
1	Electronic control part	Fast speed, good stability, continuous operation	Panasonic plc+ Panasonic servo + Stepper motor	Servo motor Panasonic
				Stepping motor control
				Human-computer interface Kunlun Tongtai
2	Lifting table components	Ensure that the materials are at the same height when retrieving	86 through motor, linear bearing, screw	Through motor Raiser
				Bearing NSK
				Grinding screw TBI
3	Distributing components	Separate the upper and lower pieces of material	Airtac cylinder, suction cup, gas nozzle	Cylinder SHAKO
				Suction cup SMC
				Turbo reducer Jin Hongda
4	Feeding components	Put material into screen printing machine	Panasonic servo motor, HIWIN guide rail, synchronous wheel, synchronous belt	Servo motor
				Linear guide HIWIN
				Synchronous round, timing belt MISUMI
5	Suction fixture	Ensure that the material will not wrinkle when gripped.	Acrylic plate, aluminum parts, vacuum suction cup.	Reducer magenta
				Coupling Xingda
				Photoelectric sensor Omron

2、Parameter index:

Serial number	Item	Parameter
1	Dimensions (L × W × H)	2200 * 1240 * 1850



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2	a fixed way	Floor-mounted, with casters
3	Weight	About 700KG
4	Supply and demand power	Single-phase AC220V
5	Environmental requirements	Clean, dust-free, clean room
6	Working air pressure / pipe diameter	0.55MPA, dry compressed air, air consumption about 2 L / Min, intake pipe \varnothing 10mm
7	Machine parts and surface treatment	Paint, chrome plating or oxidation treatment, the color of the whole machine is white

3. Technical standard of mechanical arm:

Serial number	Item	Parameter
1	Number of axes	Feeding robot (single axis), feeding robot (two axes)
2	Manipulator movement	Servo motor + linear guide + timing belt
3	Cutting stroke	1600mm
4	Feeding stroke	1400mm
5	2-axis stacking method	First install the Z axis on the Y axis, and then install the fixture set on the Z axis
6	Repeat position accuracy	± 2.5 mm.
7	speed	450PCS / h (max)

4. Fixture technical standard: the type of suction plate fixture can be customized according to product characteristics



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Serial number	Item	Parameter
1	Suction plate structure	Upper and lower acrylic plates, middle cavity.
2	Suction cup material	Acrylic
3	Gas source	Provided by 400w blower

5. FPC material technical standards:

Serial number	Item	Parameter
1	Applicable materials	FPC, FPC, PVC, PET, conductive film, film and other soft materials
2	Material requirements	The material is flat and free from bending deformation.
3	Material size	400 * 450 — 350 * 400mm

6. Consumable parts list

Serial number	name	specification	Brand / Supplier
1	Vacuum suction cup	Panjing \varnothing 8 / Panjing \varnothing 20	Jardine
2	Cylinder / Solenoid Valve		SHAKO
3	Button		
4	Trachea connector / trachea	\varnothing 8 / \varnothing 10	SHAKO
5	Scraper clip	Al6061	self made
6	scraper		self made



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7	Ink knife		self made
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7. Material technical standards:

Serial number	Item	Parameter
1	Applicable materials	FPC, FPC, PVC, PET, conductive film, film and other soft materials
2	Material requirements	The material is flat without bending deformation