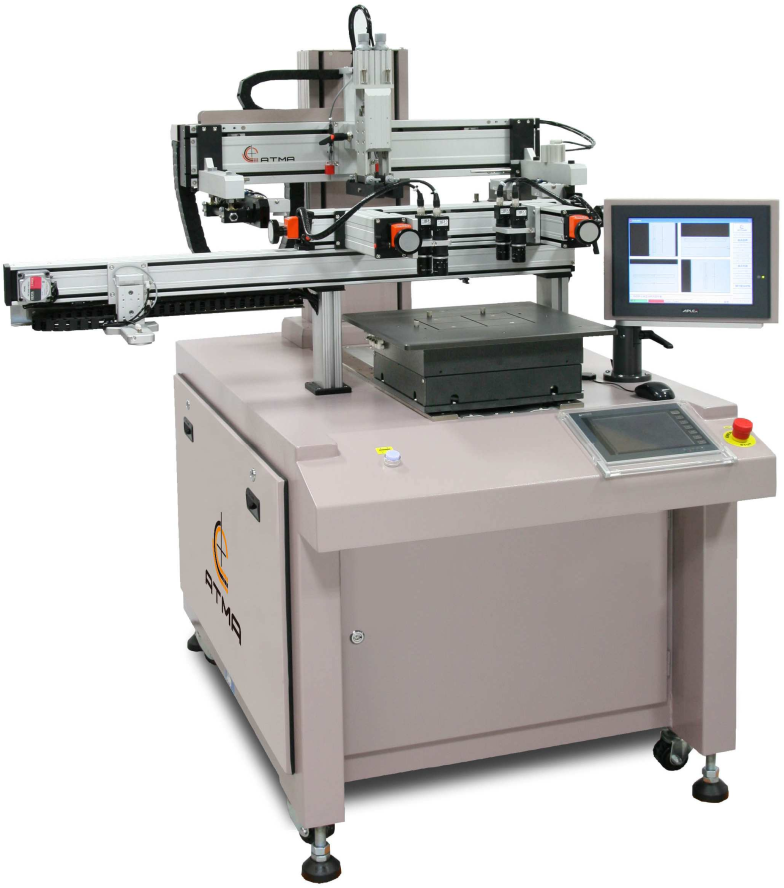
RH SOLUTIONS LLC
Bringing Print to Life

ATMAGP 50PP
CCD Center Registering Screen Printer



APPLICATION :

Specialized for high precision printing on center-registering tablet glass.

ATMA

SILVER NATIONAL AWARD OF EXCELLENCE

SYMBOL OF TAIWAN EXCELLENCE

NATIONAL INNOVATION RESEARCH AWARD

NATIONAL AWARD OF SME

NATIONAL QUALTY AWARD

ISO 9001 ISO14001 CERTIFIED

NATIONAL LITTLE GIANT AWARD

CE CERTIFIED

FEATURES :

General Structure

- **Smooth Movement:** Machinery is composed of alignment section, printing section and unloader section. Substrate is moved by sliding table consolidated vacuum pad unloader.
- **Energy Saving:** Electro-dynamic structure, extreme low air exhaustion, possible driven by air compressor 1/2HP, about 30% cost of energy conversion can be saved for long run.
- **Oil-free Air Filter:** Not discharge oil mist, suitable for operation in clean room.

Screen Up/Down Structure

- **Accurate Positioning:** Screen up/down structure is driven by Germen motor consolidated high-lead ball screw rod and encoder, digitalized analogy control. Screen up /down moves fast, stable and silence to attain positioning accuracy ±0.05mm.

Sliding Table Structure

- **Stable & Accuracy:** Shuttle table is driven by servomotor consolidated with timing belt to attain stable movement and high accurate positioning.
- **Hydraulic Buffer :** Adopted hydraulic buffer + electromagnet to assure shuttle table positioning accuracy 5μm.
- **Vacuum Suction:** Adopted silence vacuum generator for vacuum positioning, assuring glass substrate is not moved while table sliding and printing.
- **Handy Design:** Eight pop-up pins are equipped onto table to facilitate manual loading, and prevents scratching the glass while loading.

Registration Platform Structure

- **Refined Treatment:** Aluminum alloyed lamina with thickness 12mm is adopted for table top, hard anodizing treatment is done for anti-scratching.
- **Customized design :** Customized special table can be slotted for zero off-contact printing in according to glass substrate size for quick positioning.
- **Fast Registering :** Exclusive software for registration system which is consolidated Industrial Computer to setup parameter precise rate to attain fast displacement and registering.
- **Image Registering :** Adopted 3 servomotors to rotate printing table u/v/w axis, and vision alignment system can automatically judge and control displacement of printing table. High precision mechanism and fully automatic printing table alignment system can achieve repeatability alignment accuracy ±5μm. Alignment speed (includes searching targets, aligning, checking) < 1.5 second/piece.

Printing Head Structure

- **Handy Operation:** Up/down movement of squeegee and flood-coater is driven by cylinder to facilitate screen frame loading/unloading and ink cleaning.
- **Steady Movement:** Printing head is driven by Japanese DC motor with encoder, and consolidated linear guide rail. Moving speed is stable and moving stroke is accurate.
- **Handy Adjustment:** Levelness and angle of squeegee are adjustable. Downward depth of squeegee and flood-coater are also adjustable.

Screen Frame Holder Structure

- **Frame Width Detector:** Screen outer width can be automatically detected, and printing stroke will be adjusted accordingly to avoid crash screen frame and frame holder assembly.
- **Handy Adjustment:** Frame holder structure is very strong and designed according to standardized size of screen frame. Adjustment of frame holder cantilever is easy and fast.
- **Fast Loading/Unloading:** Adopted pneumatic screen clamps and 3 movable registration knobs to facilitate loading and unloading screen frame.
- **Screen Lifting Function:** Having screen lifting function to prevent substrate to be stuck under stencil after printing due to sticky ink/paste. Printing quality can be assured.

Control System

- **Digital Control:** Adopted 5.7” + 15” color touch screen panel. Several detailed function setups can be accessed, and parameters can be saved and retrieved. To enhance process management in digital, and effectively control stability of printing.
- **Easy to Save:** Alignment data can be saved in flash memory of machine or any other media on network.
- **Language Selection:** Chinese/English interface can be selected.
- **Protection Cover:** Protection cover of touch screen can avoid damages caused by inappropriate operation.

Vision Alignment System

- **Vision Alignment System:** Adopted industrial computer + Window OS to drive servo-alignment system at 3 axis. Alignment is fast and accurate.
- **High Pixel CCD:** Use high pixel CCD to zoom in target for analysis and comparison.
- **CCD Camera:** 4 CCD cameras are above table 130mm. CCD positions are adjustable.

Unloading Device

- **Vacuum Pad Unloading Device:** To take out substrate automatically to IR dryer without leaving marks or damages on substrate.

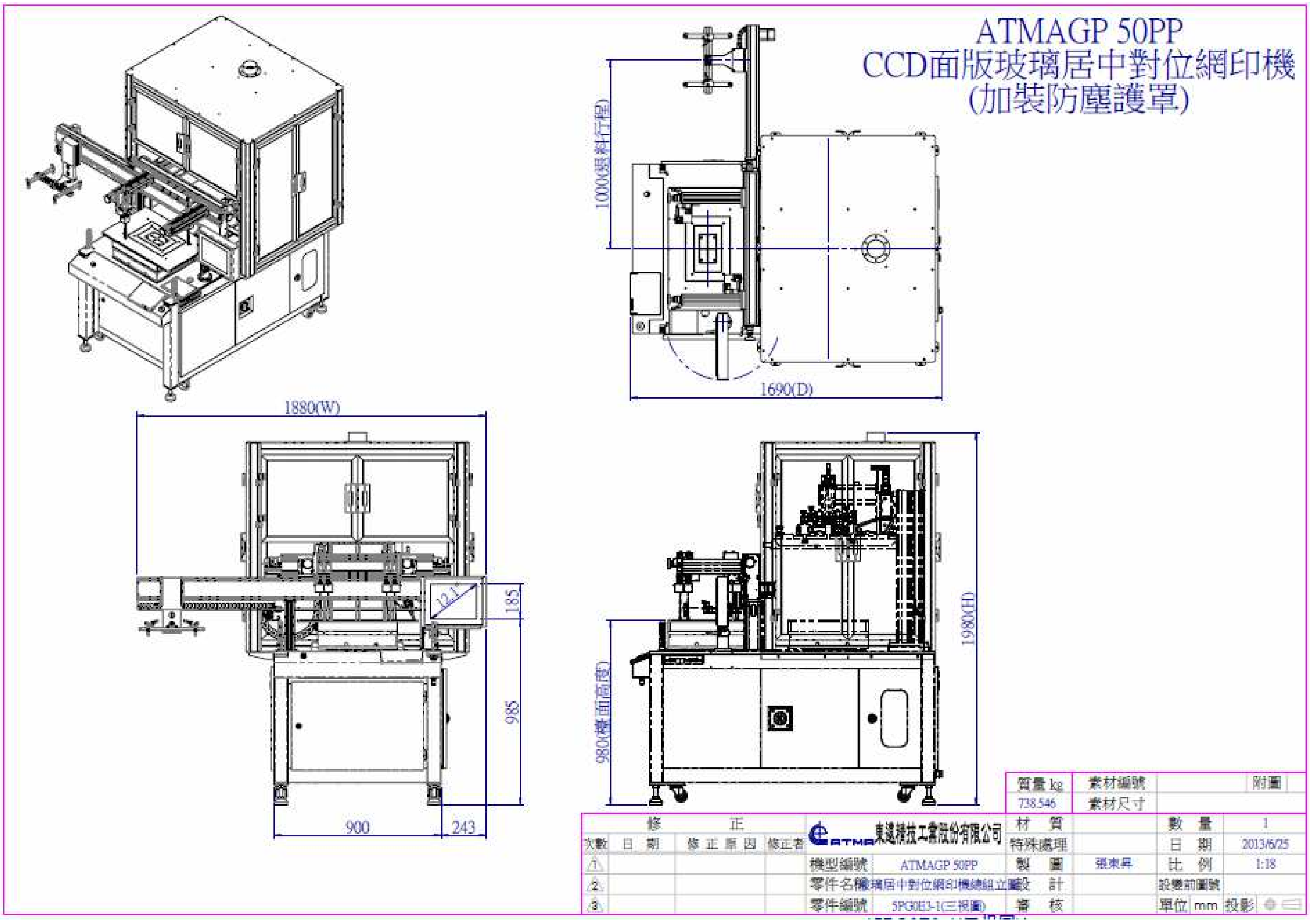
Safety Device

- **Error Message Display:** Error messages show on touch screen when breakdowns are happened, to facilitate eliminating breakdowns.
- **Emergency Stop Device:** Equipped emergency stop button to stop when emergency.

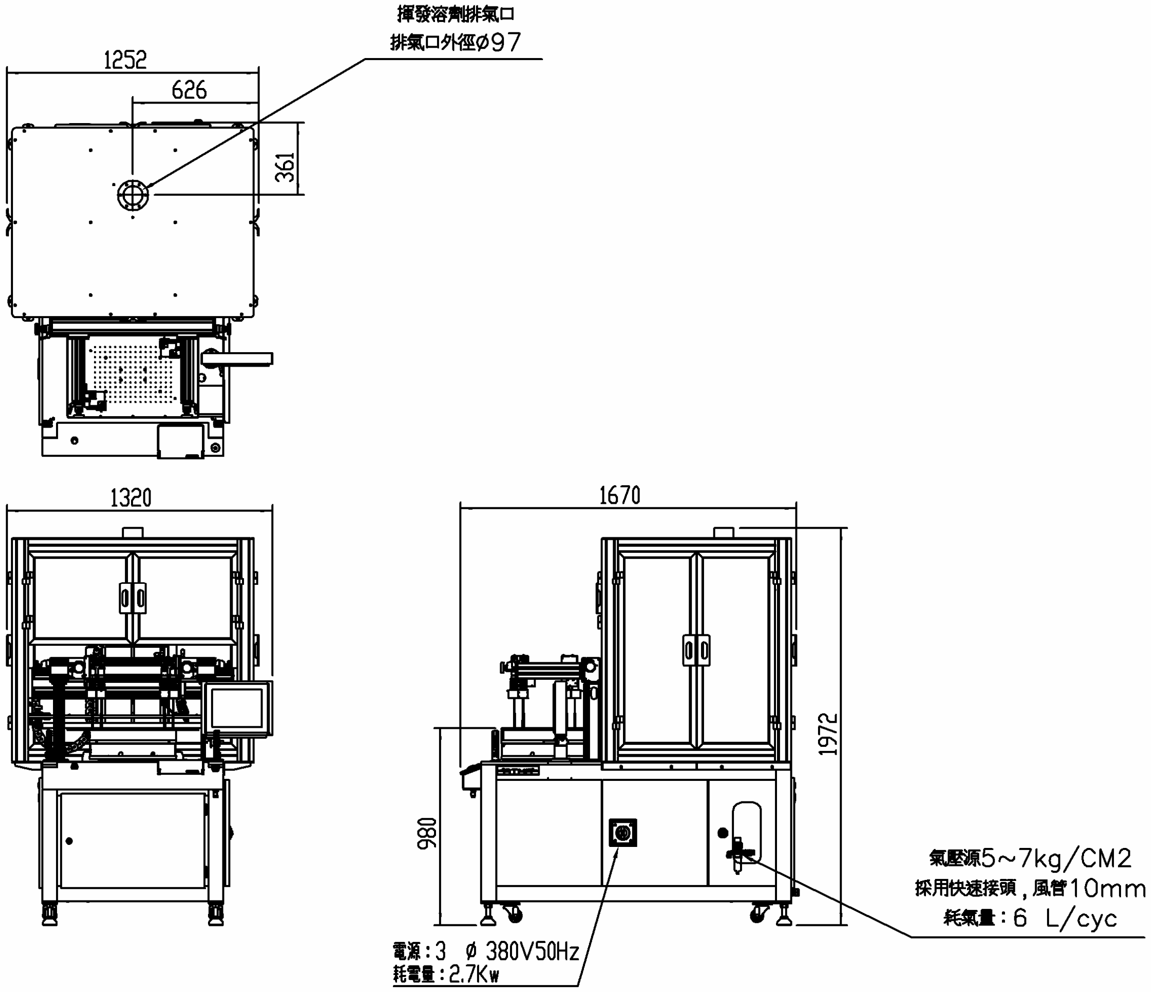
STANDARD SPECIFICATIONS :

	ATMAGP 50PP	Metric	US Standard Units
1	Machine dimensions (WxDxH)	1870 x 1670 x 1660 mm	73 5/8 x 65 ¾" x 65 3/8
2	Machine weight	620 kgs	1,367 lbs
3	Printing table height	980+50 mm	38 5/8 + 2
4	Substrate thickness	0.3 ~ 2.0 mm / 0.6 kg	0.01" ~ 1/8"
5	Max. printing area (DxW)	300 x 400 mm	11 ¾" x 15 ¾"
6	Min. printing area (DxW)	100 x 160 mm	4" x 6 ¼"
7	Max. capacity	420 P/H	
8	Air source pressure	5 ~ 7 kg/cm2	80 ~ 100 psi
9	Air consumption	6 L/cycle	0.2 cf/cycle
10	Power consumption	2.3 Kw	
11	Power source	3 phase, 220/380V, 50/60Hz	
12	Screen up/down transmission	driven by gear motor+ high lead screw rod	
13	Screen standby height	20 mm	¾"
14	Screen up height	360 mm	14 ⅛"
15	Repeat accuracy of screen up/down	0.1 mm	0.0394 "
16	Speed of screen up/down	1650 mm/sec	65"/sec
17	Screen lifting delay	0 ~ 10 sec	
18	Standard printing speed	55 ~ 550 mm/sec	2 ⅛" ~ 21 ⅝"
19	Max. printing stroke	500 mm	19 ¾"
20	Parallelism of print-head guide rail and table	< 0.1 mm	<0.0394"
21	Printing delay	0 ~ 10 sec	
22	Flood coating delay	0 ~ 10 sec	
23	Squeegee rubber profile	9 x 50 mm	
24	Flood coater type	M-type	
25	Squeegee skew angle	20°±10°	
26	Flood coater skew angle	45°±10°	
27	Downward depth of squeegee	12 mm	½"
28	Max. O/D frame size (DxW)	700 x 900 mm	27 ½" x 35 ⅜"
29	Min. O/D frame size (DxW)	600 x 650 mm	23 ⅝" x 25 ⅝"
30	Frame height	20 ~ 40 mm	¾" ~ ⅝"
31	Frame clamped	by 4 cylinders	
32	Screen cleaning height	0 ~ 360 mm	0 ~ 14 ⅛"
33	Screen peel-off height	20 mm	¾"
34	Table size (DxW)	430 x 550 mm	16 ⅞ x 21 ⅝"
35	Vacuum area (DxW)	240 x 340 mm	9 ½" x 13 ⅜"
36	Vacuum source	vacuum generator	
37	Air blow for positioning glass	standard enclosed	
38	Air blow for unloading glass	standard enclosed	
39	Pop-up pin for unloading	8 pins	
40	Registration platform displacement scope	X/Y/Y : ±5°/ ±5°/±5°	
41	Registration platform transmission	servomotor + ball screw rod	
42	Shuttle table transmission	servomotor + timing belt	
43	Shuttle table traveling distance	640 mm	25 ¼"
44	Shuttle table speed	1000 mm/sec	39 ⅜"/sec
45	Repeatability accuracy	0.005 mm	0.0002"
46	CCD WD (working distance)	150 mm	5 ⅞"
47	CCD FOV (field of view)	11.1 x 8.3 mm	½" x ⅜"
48	CCD capture area	X= ±200 ~ ±80 mm Y= ±150 ~ ±50 mm	X= ±7 ⅞" ~ ±3 ⅛" Y= ±5 ⅞" ~ ±2"
49	Light source	Front light	
50	CCD camera driven	handle wheel + tooth rod	
51	Number of CCD camera	4 pcs	
52	Image Integrated accuracy	target ±5μm / center ±20μm	
53	Integrated accuracy	target ±10μm / center ±30μm	
54	Height of vacuum cups	980 + 50mm	38 ⅝" + 2"
55	Discharge direction	toward to LEFT side	
56	Vacuum cup quantity / diameter	4 / ∮ 10 mm	4 / ∮ ⅜"
57	Type of vacuum cup	PEEK material	
58	Vacuum cup loading weight	1.5 kgs	3.3 lbs
59	Emergency stop switch	standard enclosed	
60	Error message display	standard enclosed	
61	Safety raster	standard enclosed	

DIAGRAM :


ATMAGP 50PP
CCD面版玻璃居中對位網印機
(加裝防塵護罩)
1000(搬料行程)
1690(D)
1880(W)
12.1"
185
985
900
243
980(檯面高度)
1980(H)
質量 kg
738.546
素材編號
素材尺寸
附圖
修
正
次數
日 期
修 正 原 因
修正者
東遠精技工業股份有限公司
材 質
特殊處理
數 量
1
日 期
2013/6/25
機型編號
ATMAGP 50PP
製 圖
張東昇
比 例
1:18
零件名稱
璃居中對位網印機總組立圖
設 計
設變前圖號
零件編號
5PG0E3-1(三視圖)
審 核
單位
mm
投影

ATMAGP 50PP without vacuum cup take-off


揮發溶劑排氣口
排氣口外徑ø97
1252
626
361
1320
1670
1972
980
氣壓源5~7kg/CM2
採用快速接頭，風管10mm
耗氣量：6 L/cyc
電源：3 ø 380V50Hz
耗電量：2.7Kw