RH SOLUTIONS LLC
Bringing Print to Life

ATMAGP 30PP
CCD Centered Registering Screen Printer

APPLICATION :

Specially designed for center aligned printing on high precision tablet glass w/o targets.

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

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ATMA

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FEATURES :

General Structure

⊙ **Fluent Movement:** Machinery is composed of alignment section, printing section and unloader section. Substrate is moved by sliding table consolidated vacuum pad unloader.

⊙ **Energy Saving:** Machinery is mainly motorized so air consumption is very low (can be driven by 1/2 HP air compressor). About 30% cost of energy conversion can be saved for long run.

⊙ **Oil-free Air Filter:** Free of discharging oil mist. Suitable for operating in a clean room environment.

Screen Up/Down Structure

⊙ **Accurate Positioning:** Screen up/down structure is driven by German made motor consolidated high-lead ballscrew and encoder (digital control). Screen up/down fast and silent with positioning accuracy ±0.05mm.

Sliding Table Structure

⊙ **Steady Movement & High Positioning Accuracy:** Sliding table is driven by servomotor consolidated timing belt to achieve steady movement and high positioning accuracy.

⊙ **Electromagnet:** Electromagnet to assist positioning of sliding table, and positioning accuracy can be 5μm.

⊙ **Vacuum Suction:** Adopted vacuum generator for vacuum suction, assuring substrate is not moved while table sliding and printing.

⊙ **Handy Design:** Printing table is equipped 4 ejector pins and 3 adjustable registration pins.

Alignment Table Structure

⊙ **Strengthen Treatment:** Table top is made of 12mm aluminum alloy plate with hard anodizing treatment to resist scratching.

⊙ **Feature Available:** Customized table can be slotted for zero off-contact printing according to substrate size.

⊙ **Fast Alignment:** Software of alignment system is equipped with industrial computer for setup of parameter accuracy.

⊙ **High Precision Alignment System:** 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

⊙ **Up/down movement of squeegee and flood coater:** Driven by air cylinder to facilitate fast screen frame loading/unloading and ink cleaning. Squeegee and flood coater does not need to be removed which provides a faster change-over.

⊙ **Steady Movement:** Printing head is driven by Japanese DC motor with encoder, and linear guide rail. Moving speed is stable and moving stroke is accurate.

⊙ **Squeegee level and angle are adjustable:** 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 crashing into screen frame and frame holder assembly.
- **Frame Holder 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:** Useful to prevent the substrate from getting stuck underneath stencil/mesh during print stroke due to sticky ink/paste. Print quality can be assured and also known as Peel-off function.

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:** Touch screen displays error messages to facilitate guidance during troubleshooting and alerts operator or technician of where the fault has occurred.
- **Emergency Stop Device:** Equipped emergency stop button to stop when emergency.

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STANDARD SPECIFICATIONS :

	Specification	Metric	US Standard Units
1	Machine dimension (WxDxH)	1600mm x 1360mm x 1600mm	63" x 53 ½" x 63"
2	Machine weight	470 kgs	1037 lbs
3	Printing table height	980+50 mm	38 ⅝" + 2"
4	Substrate thickness	0.3 ~ 2.0 mm	0.01" ~ ⅛"
5	Max. printing area (DxW) (can be customized)	200 x 300 mm (to be customized)	7 ⅞" x 11 ¾"
6	Min. printing area (DxW) (can be customized)	110 x 160 mm (to be customized)	4 ⅜" x 6 ¼"
7	Max. capacity	480 P/H	
8	Air source pressure	5 ~ 7 kg/cm2	80 ~ 100 psi
9	Air consumption	8 L/cycle	0.28 cf/cycle
10	Power consumption	1.5 Kw	
11	Power source	3 phase, 220/380V, 50/60Hz	
12	Screen up/down transmission	driven by induction motor + high-end screw rod	
13	Screen standby height	20 mm	¾"
14	Screen up height	310 mm	12 ¼"
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	135 ~ 675 mm/sec	5 ¼" ~ 26 ⅝"/sec
19	Max. printing stroke	450 mm	17 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 profile	9 x 30 mm	⅜" x 1 ⅛"
24	Flood coater type	PA-type	
25	Angle of squeegee	horizontal ±20°; vertical ±10°	
26	Angle of flood coater	35°±10°	
27	Downward depth of squeegee	10 mm	⅜"
28	Max. O/D frame size (DxW)	500 x 700 mm	19 ¾" x 27 ½"
29	Min. O/D frame size (DxW)	600 x 350 mm	23 ⅝" x 13 ¾"
30	Frame height	20 ~ 40 mm	¾" ~ 1 ⅝"
31	Frame clamped	by cylinders	
32	Screen cleaning height	0 ~ 315 mm	0 ~ 12 ⅜"
33	Screen lifting height	20 mm	¾"
34	Table size (DxW)	380 x 460 mm	15" x 18 ⅛"
35	Vacuum area (DxW)	175 x 275 mm	6 ⅞" x 10 ⅞"
36	Vacuum source	vacuum generator	
37	Blowing for assisting glass loading	optional	
38	Blowing for vacuum breaking	standard equipped	
39	Injection pin for glass unloading	4 injection pins	
40	Movement range of table	u & v -axis: 4°; w -axis: 1.8°	
41	Table alignment transmission	servomotor + screw rod	
42	Table sliding transmission	servomotor + timing belt	
43	Table sliding stroke	480 mm	18 ⅞"
44	Table sliding speed	1,000 mm/sec	39 ⅜"
45	Repeat accuracy of table sliding	5 μm	
46	CCD WD (working distance)	130 mm	5 ⅛"
47	CCD FOV (field of view)	7 x 5 mm	9/32" x
48	CCD capture area	X= ±155 ~ ±80 mm Y= ±105 ~ ±55 mm	X= ±6 ⅛" ~ ±3 ⅛" Y= ±4 ⅛" ~ ±2 ⅛"
49	Light source	white coaxial light	
50	CCD camera driven	by handle wheel	
51	Number of CCD camera	4	
52	Integrated vision align. accuracy	target ±5μm / center ±20μm	
53	Integrated align. accuracy	target ±10μm / center ±30μm	
54	Height of vacuum pad	990 mm	39"
55	Discharge direction	to LEFT side	
56	Vacuum pad diameter	1 / 25 mm	1"
57	Vacuum pad	PEEK material	
58	Vacuum pad weight load	1.5 kgs	3.3 lbs
59	Emergency stop button	standard equipped	
60	Auto error message display	standard equipped	

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