



# ATMAOE 1014 OPTO-electronic High Precision Screen Printer



This photo is for reference only.

Located to the right of the print table is an optional Transport loader / unloader for rigid substrates.



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SYMBOL OF  
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INNOVATION  
RESEARCH AWARD



NATIONAL  
AWARD  
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NATIONAL  
QUALITY  
AWARD



ISO 9001  
ISO 14001  
CERTIFIED



NATIONAL  
LITTLE GIANT  
AWARD



CE  
CERTIFIED



## APPLICATION :

Suitable for high precision screen printing on film/flat thin plate / glass, such as Electroluminescent (EL), Light Guide Plate (LGP), Diffusive Panel, Touch Panel and so on.

## CHARACTERISTIC :

### Stencil Structure

- ☺ Adopted German motor + chain to transmit four-post synchronously with encoder digital control positioning.
- ☺ Equipped with synchronous air locking device for printing section four-post to assure accuracy of printing ink deposition.
- ☺ Three sections of screw hole locking the left right lateral frame holder, clamping firm, each holder is equipped with 2 pins for convenient and fast centering the stencil. Enable to change use air locking left right frame holder upon request.
- ☺ Mechanism of height adjustment is equipped at four corners of left right lateral frame holder, enable to adjust individually screen leveling.
- ☺ Screen frame holder allows stencil to extend backward for printing image at center position.
- ☺ Equipped with air locking for screen micro-adjustment, stencil and frame holder to obtain fast installing / removing screen as well as positioning. And check valve is attached to secure locking while air and power supply is terminated at abnormal condition.
- ☺ Servo motor synchronous peel-off avoids screen mesh to get stuck with substrate, digitally preset peel-off height and start point, automatic arithmetic to match printing stroke distance and speed.

### Table Structure

- ☺ German motor + swivel arm to drive sliding table in/outward with leading by Linear Guide Rail to achieve accurate positioning within  $\pm 0.01$  mm.
- ☺ Linear Guide Rail is protected and supported by new type high rigidity Aluminum extrusion profile, mounting surface was machined precisely to secure extreme parallel.
- ☺ Precise machining Aluminum alloyed table top lamination to achieve extreme strength and accurate even flatness (tolerance of flatness within  $\pm 0.08$ mm)
- ☺ Vacuum hole size  $\phi 1.5$ mm to assure substrate flatness laid on table top.



### **Printing Structure**

- ☺ Fast and precise printing stroke is driven by servo motor + hollow shaft gear motor, preset speed of squeegee / flood coater to keep stable traveling and precise positioning.
- ☺ Linear Guide Rail is protected and supported by new type high rigidity Aluminum extrusion profile, mounting side is machined precisely for extreme parallel.
- ☺ Squeegee / flood coater up down is driven by guide rail cylinder, precise smooth leading expresses complete printing pressure onto substrate to assure even ink deposit.
- ☺ Equipped with adjustment structure for squeegee / flood coater depth / skew angle / swivel angle (micro adjustment depth adopts precise dial gauge)
- ☺ Digital setting pressure and auto equalizing control for squeegee / flood coater.
- ☺ Delay printing function, the preset initial printing stroke travels with slight pressure, then it shifts to the preset squeegee pressure for the rest distance of printing stroke, such may avoid substrate's edge or corner to tear off screen mesh and to damage squeegee.

### **Electrical System**

- ☺ Adopts 7 inch colored touch-screen for versatile setting various function and parameters, quick save and retrieve 100 groups of memory to obtain the digitalized control printing quality.
- ☺ Equipped with switches panel for instant manual operation and air locking.
- ☺ Safety guard loop, if setting or operation was failed or malfunction, machine stops immediately, error message and restoration icon are shown onto touch-screen.

### **Safety Device**

- ☺ FRL unit with switch for auto pressure detection, insufficient air pressure source may cause to stop machine running in order to secure all printing to get done in condition of sufficient air pressure.
- ☺ In case of front safety bar is not at home position, sliding table doesn't come out to protect operator health and safety. (bilateral sides of machine and front of both sides are equipped with safety bar to protect operator safety.)



### Special Options :

- ☺ Shoveling & Anti-drip device : if shoveling is applied, squeegee stays on mesh, flood coater moves forward to reach squeegee to hold ink, then squeegee / flood coater uplift together and moves to the start point of printing to drop ink off, such feature is dedicated to high viscosity ink uneasy coating even ink deposit on mesh. If driplless squeegee is applied, squeegee stays above mesh, flood coater moves forward to position underneath squeegee to receive residue ink drip from squeegee and prevents residue ink to drop onto mesh to cause uneven ink spot.
- ☺ Anti-static bar : before table enters into printing section, static on substrate surface must be eliminated.
- ☺ Adhesive paper tape roller : before table enters into printing section, dusts or particles on substrate are removed to secure printing quality.
- ☺ Automatic gripper take-off : gripper take-off + table air blow to assist off-loading, conveyor uplifts to receive substrate and then lower for delivery to assure thin film without folding damage.
- ☺ CCD registering device : assures substrate on table top for accurate registration.
- ☺ CCD screen registration device : raises speed and accuracy of screen positioning.
- ☺ Automatic up down registration pin : registration pins follow printing cycle to raise and lower to achieve fast and precise registration.
- ☺ Automatic up down pop-up pin : printing accomplished, pop-up pins lift up substrate fro convenient off-loading / loading.

Note : CCD registration device and cleaning device can not get mounted simultaneously.



**Specifications :**

Item	Descriptions	ATMAOE 1014
1.	Machine dimension	58 <sup>1</sup> / <sub>4</sub> " x 107 <sup>1</sup> / <sub>8</sub> " x 131 <sup>1</sup> / <sub>8</sub> "
2.	Machine weight	4,233 lb
3.	Working table height	38 <sup>5</sup> / <sub>8</sub> " + <sup>3</sup> / <sub>4</sub> "
4.	Substrate thickness	1 <sup>1</sup> / <sub>8</sub> " - 1 <sup>1</sup> / <sub>3</sub> "
5.	Cycle Speed (full speed full stroke)	71-85 PSI
6.	Compressed air source	5~7kg/cm <sup>2</sup>
7.	Air exhaustion	1 gal/cycle
8.	Power consumption	6.2kw/11.8A
9.	Electrical power	3 φ , 220/380V , 50/60Hz
10.	Squeegee traveling direction	From left to right
11.	Printing head carriage driven	Servo motor + hollow shaft gear box
12.	Squeegee speed	1"~24 <sup>5</sup> / <sub>8</sub> "/sec
13.	Max printing area	39 <sup>3</sup> / <sub>8</sub> " x 55 <sup>1</sup> / <sub>8</sub> "
14.	Print head skew angle	±4°
15.	Distance between squeegee / floodcoater	1 <sup>3</sup> / <sub>4</sub> "
16.	Squeegee pressure	6.6 lb ~ 136.7 lb
17.	Flood coater pressure	6.6 lb ~ 136.7 lb
18.	Squeegee skew angle	20±15°
19.	Flood coater skew angle	45±15°



Item	Descriptions	ATMAOE 1014
20.	Frame installment direction	Installed from front side
21.	Max screen frame O/D size	59" x 74 <sup>3</sup> / <sub>4</sub> "
22.	Min screen frame O/D size	43 <sup>1</sup> / <sub>4</sub> " x 51 <sup>1</sup> / <sub>8</sub> "
23.	Screen frame height scope	1" x 1 <sup>3</sup> / <sub>4</sub> "
24.	Screen micro adjustment X / Y / Z	X± <sup>3</sup> / <sub>8</sub> ", Y± <sup>3</sup> / <sub>8</sub> ", Z± <sup>1</sup> / <sub>8</sub> "
25.	Screen frame locking	Clamped by 6 pcs air cylinders / 2pcs screw
26.	Peel-off	Synchronous peel-off driven by servo motor
27.	Peel-off height	0 ~ 1 <sup>3</sup> / <sub>8</sub> "
28.	Screen cleaning level	13 <sup>3</sup> / <sub>4</sub> "
29.	Working table size	49 <sup>1</sup> / <sub>4</sub> " x 63"
30.	Vacuum area	39 <sup>3</sup> / <sub>8</sub> " x 55 <sup>1</sup> / <sub>8</sub> "
31.	Max substrate size	39 <sup>3</sup> / <sub>8</sub> " x 55 <sup>1</sup> / <sub>8</sub> "
32.	Min substrate size	23 <sup>5</sup> / <sub>8</sub> " x 23 <sup>5</sup> / <sub>8</sub> "
33.	Vacuum hole diameter	ø0.059"
34.	Sliding table positioning	Encoder + photo sensor switch
35.	Safety bar	Pushing aside
36.	Emergency stop button	Attachment
37.	Bilateral safety bar underneath cantilever arm	Attachment
38.	Bilateral front safety bar	Attachment



**THREE VIEW LAYOUT DRAWING FOR MACHINE :**

