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ATMAOE
(G7 Version)

Optoelectronic
High Precision
Screen Printer



Suitable for High Precision
Automatic Screen Printing.

Applications include
Membrane Switch/Overlays,
Electroluminescent Panel,
Light Guide Panel, Diffusion
Panel, Touch Screen, Flexible
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Display Glass and much
more.

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and press operator friendly.***

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ATMAOE Optoelectronic High Precision Screen Printer SPECIFICATIONS

	ATMAOE 56 (Metric Units)	ATMAOE 56 (U.S. Standard Units)	ATMAOE 67 (Metric Units)	ATMAOE 67 (U.S. Standard Units)	ATMAOE 710 (Metric Units)	ATMAOE 710 (U.S. Standard Units)
Table Size (DxW)	680mm x 700mm	26¾" x 27½"	800mm x 800mm	31½" x 31½"	950mm x 1390mm	37¾" x 54¾"
Table Height	970mm+30mm	38⅞"+1⅞"	970mm+30mm	38⅞"+1⅞"	970mm+30mm	38⅞"+1⅞"
Vacuum Area (Standard)	420mm x 500mm	16½" x 19⅝"	600mm x 660mm	23⅝" x 26"	700mm x 800mm	27½" x 31½"
Vacuum Area (Max)	500mm x 600mm	19⅞" x 23⅝"	600mm x 740mm	23⅝" x 29⅞"	760mm x 1060mm	30" x 41¾"
Maximum Print Area (Standard)	420mm x 500mm	16½" x 19⅝"	600mm x 660mm	23⅝" x 26"	700mm x 800mm	27½" x 31½"
Maximum Print Area (Max)	500mm x 600mm	19⅞" x 23⅝"	600mm x 750mm	23⅝" x 29½"	750mm x 1050mm	29½" x 41⅞"
Minimum Print Area	250mm x 250mm	9⅞" x 9⅞"	300mm x 300mm	11¾" x 11¾"	300mm x 300mm	11¾" x 11¾"
Table Speed	1000mm/sec	39"/sec	1150mm/sec	45"/sec	1150mm/sec	45"/sec
Screen X/Y Adjustment	±10/±10mm	±⅜"/±⅜"	±10/±10mm	±⅜"/±⅜"	±10/±10mm	±⅜"/±⅜"
Substrate Thickness	0.1mm - 30mm	0.0039" - 1⅞"	0.1mm - 30mm	0.0039" - 1⅞"	0.1mm - 30mm	0.0039" - 1⅞"
Maximum O/D Frame Size	950mm x 950mm	37¾" x 37¾"	1100mm x 1100mm	43¼" x 43¼"	1200mm x 1400mm	47¼" x 55⅞"
Minimum O/D Frame Size	800mm x 800mm	31½" x 31½"	900mm x 900mm	35⅝" x 35⅝"	1000mm x 1200mm	39⅝" x 47¼"
Screen frame height (other heights available)	25mm to 45mm	1" to 1¾"	25mm to 45mm	1" to 1¾"	25mm to 45mm	1" to 1¾"
Screen Height at Clean-up Lift Level	285mm	11¼"	350mm	13¾"	350mm	13¾"
Servo Driven Peel-off height	0-20mm	0-¾"	0-25mm	0-1"	0-30mm	0-1⅞"
Servo Driven Peel-off	Preset servo peel-off on touch panel		Preset servo peel-off on touch panel		Preset servo peel-off on touch panel	
Print Pressure	3 - 62 kg	6.6 - 136 lb	3 - 62 kg	6.6 - 136 lb	3 - 62 kg	6.6 - 136 lb
Squeegee Inclination Angle	20° ±5°	20° ±5°	20° ±5°	20° ±5°	20° ±5°	20° ±5°
Print Head Speed	20mm - 625mm/sec	¾" - 24"/sec	20mm - 625mm/sec	¾" - 24"/sec	20mm - 625mm/sec	¾" - 24"/sec
Servo Driven squeegee and flood stroke	Preset servo driven squeegee and flood stroke on touch panel		Preset servo driven squeegee and flood stroke on touch panel		Preset servo driven squeegee and flood stroke on touch panel	
Printing-head Skew Angle	±5°	±5°	±5°	±5°	±3°	±3°
Maximum Capacity (P/H non-stop full stroke)	600	600	570	570	480	480
Power Consumption (kW)	2.93 kW	2.93 kW	3.25 kW	3.25 kW	3.35 kW	3.35 kW
Power Source	3 phase, 220/380V, 50/60Hz					
Air Pressure	5-7kg/cm²	71-100psi	5-7kg/cm²	71-100psi	5-7kg/cm²	71-100psi
Air Consumption	5 L/cycle	1.38 Gal/cycle	5 L/cycle	1.38 Gal/cycle	5.3 L/cycle	1.47 Gal/cycle
Dimensions (WxDxH)	150cm x 210cm x 145cm	59" x 83" x 57"	156cm x 240cm x 145cm	62" x 95" x 57"	200cm x 270cm x 145cm	79" x 106" x 57"
Weight	1000 kg	2005 lbs	1120 kg	2470 lbs	1155 kg	2547 lbs

Features and Benefits

- ▶ **SEMI-AUTOMATIC OPERATION** with sliding table for manual substrate load/unload. See below for options including Gripper Take-Off System, CCD Surveillance System for substrate and/or screen alignment and much more.



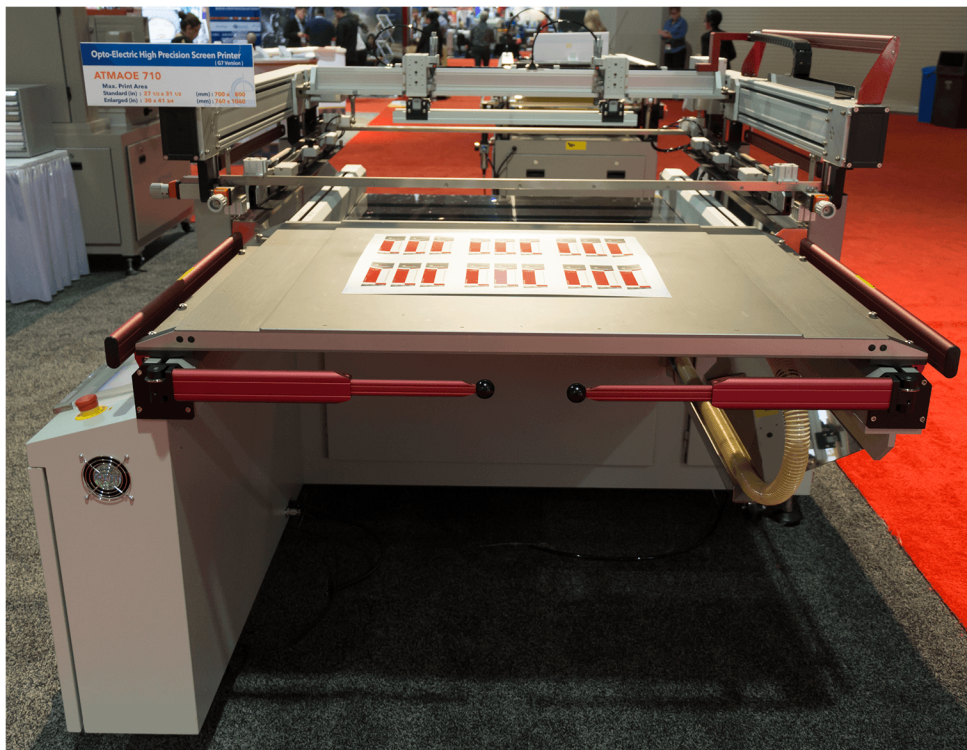
- ▶ **ERGONOMIC DESIGN** Optimized for ease of use with open access for accurate substrate registration, efficient off-loading, and easy screen cleaning. All setup controls are within close reach of the operator.



- ▶ **HORIZONTAL HEAD LIFT** keeps screen parallel with printing table for even ink flow.
- ▶ **FRONT FRAME LOADING** for fast setup.

Features and Benefits

A. DIGITAL STORAGE OF SETTINGS Up to 100 recipes of digital settings containing all important print parameters can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Includes, but is not limited to, off-contact, off-contact delay, all peel-off functions, all print modes, preset number of prints, squeegee and flood coater stroke length, pressure range, and speed. This time-saving feature offers repeatability and efficiency while significantly reducing job set-ups and changeovers. HMI color touch panel with 7" screen provides consistent control over print quality.



B. FRAME (CHASSIS) New high rigidity frame designed for highest torsional strength keeps machine vibration free at all speeds and suitable for CCD Surveillance System.

C. PRINT TABLE Print table top is high strength aluminum alloy with 2 mm thickness, precision milled surface to achieve precise flatness. Interior structure is honeycomb construction positioned on a cast aluminum base. Vacuum hole size of 1.0 mm with a pitch of 14 x 14 mm distributed in clusters of four holes surrounding a center hole to ensure maximum surface contact of substrate with print table throughout the printing cycle. Recommended for thin films and other substrates. (For thinner films/substrates, smaller hole size is available to custom specification.)

D. SLOTTED PRINT TABLE Print table is slotted on each end to allow frame holding rails to recess down so that the screen distance to print table can be minimized for nearly zero off-contact distance. This reduces mesh elongation for precise close tolerance registration.

Features and Benefits



E. TURBINE VACUUM Heat dissipating turbine vacuum offers powerful suction and blowback. Vacuum and blowback micrometers are independently controlled and numbered for repeatability. Blowback function allows substrate lift when (optional) gripper holds the leading edge of substrate to avoid scratching when print table returns to operator.

F. SCREEN UP/DOWN German SEW-Eurodrive motor powers four-post head lift on linear bearings and guide rails. Includes synchronized transmission shaft, double chain, encoders and photo sensors to control screen up / down position.

G. GRIPPER Gripper Take-off optional. Three-quarter automatic operation with manual substrate loading and registration, sliding table with integrated gripper take-off, adjustable speed automatic conveyor belt, and rear delivery.

H. PRINT OFFSET DISTANCE Touch-screen digital settings can be set for light squeegee pressure at the beginning of the print stroke and then once past the edge of substrate regular full pressure can be applied according to the input setting distance. This feature prevents squeegee rubber from ripping screen against direct contact of sharp edge or corner of rigid substrate. Allows longer life of mesh and squeegee rubber. Digital setting of print parameter can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Reduces setup and changeovers.

I. OFF-CONTACT Touch screen digital setting of off-contact is an important print parameter that can be stored, saved, and recalled for repeat jobs and/or common applications. Reduces setup and changeover.

J. SERVO DRIVEN SQUEEGEE AND FLOOD STROKE Squeegee and flood coater travel is servo-driven for stable low to high speed control, with linear guide rails and cog toothed belt for smooth, precise, vibration free printing, ensuring absolutely even and uniform ink deposit. Touch screen digital setting of this print parameter can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Reduces setup and changeovers.

Features and Benefits

K. SERVO DRIVEN PEEL-OFF Digitally controlled servo peel-off distance of start/end point can be set relative to image size, with variable speed and height control. Touch screen setting of this print parameter can be stored, saved, and recalled for repeat jobs and/or common applications. Reduces setup and changeovers.

L. BALL BEARING MICROMETER DESIGN Special ball bearing micrometer design instead of thread bolt type adjustment. This is designed to prevent stripping out and offers play-free registration without backlash during setup.

M. FRAME REGISTRATION X/Y Three (3) micrometer registration adjustments for screen alignment of screen image on the substrate with numbered value for repeatability and standardization. Once alignment is completed the frame holding rails and screen can be pneumatically locked and secured.

N. PRINT TABLE MOVEMENT CONTROL Print table motion cycle driven by top-class servo motor, using swivel arm system guided by linear rail for consistent repeatability.

O. PNEUMATIC FRAME LOCKING system with check valves / airlock and four-sided frame holding assembly ensures rigidity and high stability.

P. DIGITAL PRESSURE EQUALIZATION Print and flood coater pressure is digitally settable with fully automatic pressure equalization system and auto-leveling function controlled by touch screen for precise balance and consistency of printed ink film layer. Digital setting of print parameter can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Improves print quality and reduces setup and changeovers.

Q. NO-PEEL FLOOD COATER FUNCTION No-peel flood coater function has digital settings that can be saved, recalled, and adjusted from the touch-screen.

R. HIGH-PARK OF SQUEEGEE AND FLOOD Squeegee & flood high-park allows screen loading and unloading without removing squeegee holder and flood coater. This facilitates rapid setups and change-overs.

S. PRINT SELECTION MODE Choice of flooding before the print stroke, flooding after the print stroke, or higher cycle speed-flood while screen lifts to full "up" position, and after specified number of print strokes (from 1 - 5 times in one cycle). Digital setting of print parameter can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Reduces setup and changeovers.

T. SET NUMBER OF PRINT CYCLES Digital setting for the number of print cycles necessary for printing job and the machine will stop running automatically upon completion of set amount. Print parameter can be stored, saved, and recalled from the touch screen for repeat jobs and/or common applications. Reduces setup and changeovers.

Features and Benefits

U. FRAME HOLDER PIN REGISTER Screen frame holder is equipped with rear registration pin system for fast and repeatable frame position centering to reduce setup time.

V. LINEAR GUIDE RAIL CYLINDER FOR SQUEEGEE AND FLOOD COATER Linear guide rail cylinder for smooth vibration-free squeegee and flood coater up and down movement. Includes precise micro adjustment control with numbered fine-tuning depth, skew-angle (snowplow feature), and numbered swivel angle of squeegee and flood coater. Allows the highest degree of repeatability, reliability, accuracy, and extremely precise even pressure of the squeegee and flood coater. Overall print quality is optimized.

W. FOUR-POST LOCKING Unique four-post locking system ensures that no lifting of print assembly or corner post can occur, while keeping perfectly parallel to the print table at all times during the printing sequence. This benefit allows controlled, consistent even ink deposit, while preventing mesh elongation. Accurate off-contact distance is effectively kept across the entire the surface of the mesh.

X. SAFETY LOCK FOR SCREEN CLEANING Screen cleaning safety switch located at the rear of the machine completely disables any start function to protect operator when cleaning the screen. Operator can completely lock out the machine to prevent any chance of machine activation.

Y. PRINT HEAD SAFETY GUARDS Print head safety guards on left and right side of print head. If activated, machine stops immediately and print head slowly lifts to full upright position.

Z. SQUEEGEE AND FLOOD COATER ADJUSTMENTS Squeegee and flood coater depth, inclination, and bias angle are finely adjustable using a sophisticated micrometer to minimize chatter and vibration from irregular print surface heights and traces.

AA. SCREEN LEVELING Four corner screen leveling of frame holder allows fine adjustment to compensate for mesh tension or uneven frames, and to always position mesh parallel with the table surface.

BB. LOW PRESSURE DETECTION STOPS MACHINE Filter regulator lubricator (FRL) triad assembly is equipped with an automatic pressure detection switch that stops the machine when low air pressure is detected.

CC. FRL OIL FREE FOR CLEAN ROOM ENVIRONMENT The control system for compressed air supply is an oil free FRL unit to prevent oil mist pollution, particularly applicable in clean room environments.

DD. SAFETY FEATURES Two safety bars are located in front of the sliding table, and bilateral safety bars are located along left and right side of four-post printing head. The safety bars stop the machine immediately when activated. An error message will be displayed and restart icon will appear on the touch screen. Once restored or reset properly the table or printing-head will return back to home position. Additional safety features include cycle start/interruption control on the foot switch, emergency stop button, safety reset key, automatic error diagnostic system on touch screen and power surge protection. Meets and exceeds all European and US Safety requirements.

OPTIONS:

- ▶ Dripless squeegee system (rotary type)
- ▶ Cleaning roller system
- ▶ Anti-static bar
- ▶ Additional registration pins
- ▶ Optic sensors for substrate alignment
- ▶ Pneumatic clamps for quick locking/unlocking of squeegee and flood coater
- ▶ Custom vacuum hole size
- ▶ Gripper Take-off system with up/down conveyor lower with air-blast system ideal for thin substrates

Other options available upon request

RH SOLUTIONS specializes in ATMA screen printing machinery covering seven industry sectors classified as: Industrial, graphic, glass, printed circuits, optoelectronic, biomedical, green energy and auxiliary.

ATMA produces the finest machinery specifically for close-tolerance and high precision requirements using only top quality components and materials.

To see our extensive range of high quality screen printing machines and auxiliary equipment, be sure to check out our website: www.rh-solutionsllc.com

ATMA is a world leader for high-end screen printers, winner of Taiwan's prestigious SYMBOL OF EXCELLENCE honor for more than ten consecutive years, and the only screen printing machine manufacturer to be ISO 9001/14001 CERTIFIED. This international certification assures the highest quality design and manufacturing.

ATMA's 35 years of experience with more than 200,000 screen printers installed worldwide makes them top choice for the highest quality machines with low maintenance cost, steadfast reliability, and long production life.

ATMA's policy is one of continuous improvement and accordingly, the manufacturer reserves the right to change specifications without prior notice.

