RH SOLUTIONS LLC
Bringing Print to Life

ATMA
Four-Post Screen Printers

ATMA

Features of ATMAOE (G7), ATMACE (G6), and ATMACE (G5) compared:

	ATMAOE Optoelectronic High Precision Four-Post Screen Printer (G7 Version)	ATMACE Four-Post Screen Printer with Gripper Take-Off (G6 Version)	ATMACE Four-Post Screen Printer with Gripper Take-Off (G5 Version)
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	Horizontal head lift keeps screen parallel with printing table for even ink flow.		
FRONT FRAME LOADING	Front frame loading for fast setup.		
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.		
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.		
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.		
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.		
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.		
PNEUMATIC FRAME LOCKING	Pneumatic frame locking system with check valves / airlock and four-sided frame holding assembly ensures rigidity and high stability.		

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SEMI-AUTOMATIC OPERATION	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.	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.	
FRAME (CHASSIS)	New high rigidity frame designed for highest torsional strength keeps machine vibration free at all speeds and suitable for CCD Surveillance System.	Heavy duty base frame keeps machine vibration free at all speeds.	
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.	Variable gripper release to synchronize with print table return includes dwell timer digitally controlled from touch screen to ensure level substrate drop off onto conveyor belt.	Variable gripper release to synchronize with print table return includes dwell timer controlled from analog switch to ensure level substrate drop off onto conveyor belt.
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.	Vertical screen leveling controlled laterally on left and right side of frame holder ensures that mesh is parallel with the print table surface.	Not Available.
FOUR-POST LOCKING	Unique four-post locking system ensures that no lifting of print assembly or corner post can occur, while keeping the screen 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.	Not available as standard.	Not Available.
TOUCH SCREEN / NEW PRINT CARRIAGE	Touch screen control with digital setting of pressure force with output range 6.6 – 137 lb. force (3-62 kg) onto substrate. Once parameter is numerically set it can be saved, stored, and recalled from a touch screen menu for repeat jobs and/or common applications. Pressure regulators are mounted on the carriage for displaying accurate printing pressure settings of both the squeegee and flood coater pressure. Includes accurate numeric readout and independent quick access pressure dial controls.	Touch screen control with digital setting of pressure force with output range 6.6 – 137 lb. force (3-62 kg) onto substrate. Once parameter is numerically set it can be saved, stored, and recalled from a touch screen menu for repeat jobs and/or common applications. Pressure regulators are mounted on the carriage for displaying accurate printing pressure settings of both the squeegee and flood coater pressure. Includes accurate numeric readout and independent quick access pressure dial controls.	Not available.
CONVEYOR BELT SPEED	Included when optional gripper is added.	Conveyor belt speed adjustable from HMI (range: 100~348 mm/sec). Allows more control of sheet transfer and synchronizing of press delivery conveyor to dryer conveyor.	Optional.
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.	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 gripper holds the leading edge of substrate to avoid scratching when print table returns to operator.	

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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.	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, substrate conveyor belt speed, 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 change-overs. HMI color touch panel with 7” screen with additional switch controls allows rapid setup/changeovers and provides consistent control over print quality.	Standard analog switch/buttons/dial controls.
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.		Mechanical peel-off and off-contact is built into 4-post design.
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.		Mechanical setting only.
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.		DC driven squeegee and flood travel on precision linear bearings and cog toothed belt.
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.		Pneumatically controlled squeegee and flood coater equalization allows precise pressure and ensures even ink deposit. Adjustments include numbered fine-tuning of depth, skew-angle (snowplow feature), and swivel-angle of squeegee and flood coater.
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.		Not available.
NO-PEEL FLOOD COATER FUNCTION	No-peel flood coater function has digital settings that can be saved, recalled, and adjusted from the touch-screen.		No-peel flood coater function.
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.		Choice of flooding before the print stroke, flooding after the print stroke, or higher cycle speed-flood while screen lifts to full "up" position. Includes selection of single or double print cycle.
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.		Select the number of print cycles necessary for printing job and the machine will stop running automatically upon completion of the set amount.
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.		Not available.

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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.)	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 1.5 mm with a pitch of 20 x 20 mm. Optional custom vacuum hole size is 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.)	Aluminum print table with honeycomb construction.
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.	Not available as standard.	Not available.
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.		Not available.
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.	Screen cleaning safety switches located at the front of the machine completely disable any start function to protect operator when cleaning the screen. Operator can completely lock out the machine to prevent any chance of activation.	Not available.
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.		Not available.
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.		Not available.
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.		Not available.
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.		
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.		To protect operator two safety bars are located in front of the sliding table. When safety bars are in the open position, the table cannot return back to home position until they are closed off. Meets and exceeds all European and US Safety requirements.
CONTROLS	HMI color touch panel with 7” screen streamlines setup and provides consistent control over print quality for repeat jobs by saving and restoring up to 100 sets of stored functions and parameters.	HMI color touch panel with 7” screen streamlines setup and provides consistent control over print quality for repeat jobs by saving and restoring up to 100 sets of stored functions and parameters. Includes switch controls for manual settings allowing rapid set up.	Standard analog switch/button/dial controls.

CUSTOM OPTIONS AVAILABLE UPON REQUEST.

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