

QUALITY BY CONVICTION

AP series

MODEL **AP430/AP1200/AP1500**

Automatic SMT Inline Printer



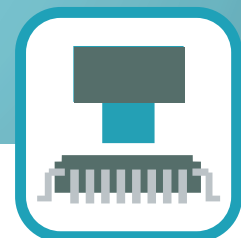
## This is Autotronic

Quality by conviction. It is our motto - but you can profit by it world-wide. To be on the winning team you rely on a partner who combines quality, flexibility and innovation.

A

utotronic is a global company with approximately 200 employees. We are your specialist for SMD stencil printers, pick and place machines and reflow ovens of low-to medium-Series and complete SMT production lines.

Our global commitment allows us to bring together the best components of all continents into an outstanding product.



[www.autotronic.de](http://www.autotronic.de)

**AUTOTRONIK**  
Fertigungssysteme für die Elektronikindustrie

## STRONG AND RIGID MECHANICAL DESIGN

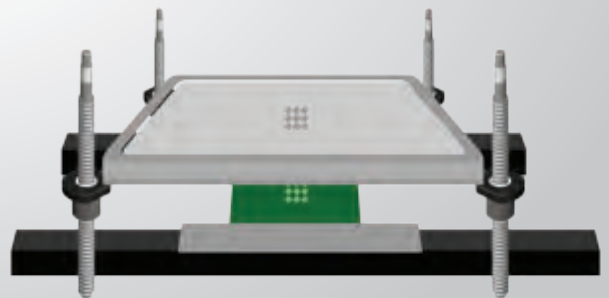


### Strong and rigid mechanical design

AP series with welded steel frame guaranteed a strong and rigid mechanical design. High quality printing is guaranteed by preloaded 4-point ball screws, which drives with an excellent parallel separation of stencil and PCB.



▲ 4 point ball screw drives excellent parallel separation of stencil and PCB

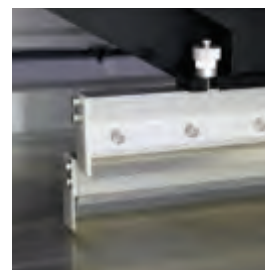


## DUAL, INDEPENDENT PRINT HEADS INCREASE THROUGHPUT



### Dual, independent print heads increase throughput

AP series two print heads are independently controlled by high-precision ball-screw drives with a programmable transport speed and closed loop stepped motor. Print pressure is uniformly and accurately controlled.

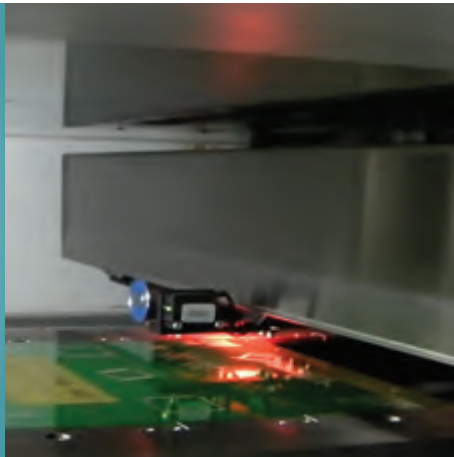


◀ AP series come standardly with a dual squeegee / dual stroke control system for the most economic use of solder paste.



◀ Self-leveling squeegees automatically adjust to the stencil surface to ensure perfect registration on every print.

# ADVANCED VISION ALIGNMENT



## Advanced Easy-Align-Check (EAC)

AP series advanced imaging system eliminates the need for specialized fiducial marks—any pad, from 0.5 mm to 3 mm, can be used as a fiducial mark. Multiple light source selection allows the vision system to work with a range of PCB substrate colors when learning fiducial reference points.

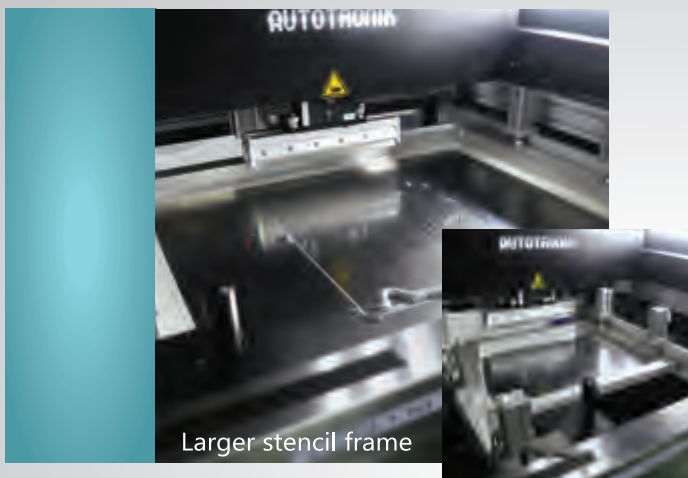


◀ Dual camera module allows upward and downward vision and facilitates the imaging speed



◀ Easy alignment checking by dual fiducial marks

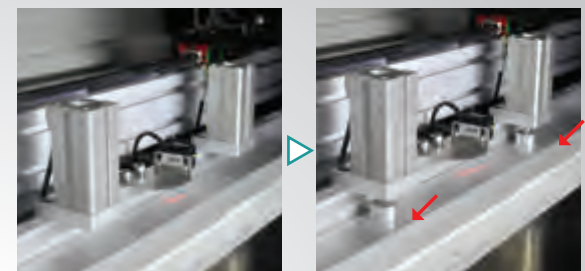
# FAST, EASY JOB CHANGEOVER



## Fast, easy job changeover

Autotronic AP series Stencil printer makes job set up simple: input the stencil size, insert the stencil into the frame mounter until it reaches the stopper and the system software will handle the rest. Be ready for the next production assignment in a matter of seconds.

Smaller stencil frame

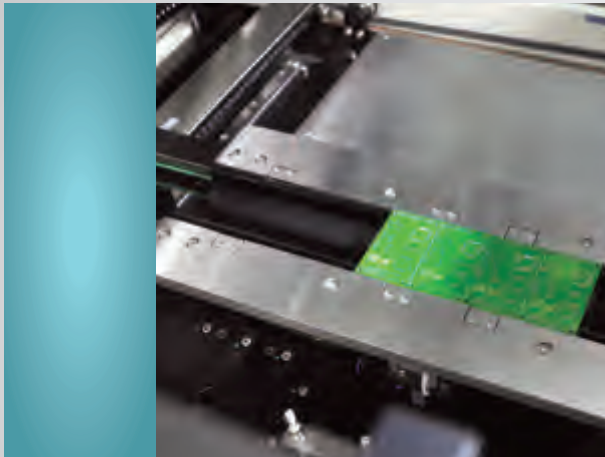


▲ Highly adaptable stencil frame clamping system



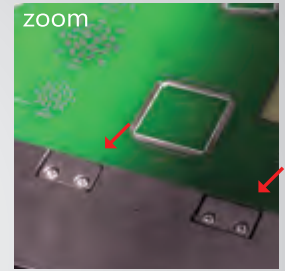
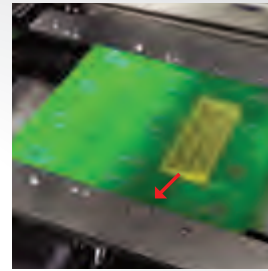
◀ Automatic adjustment for stencil frame in Y-axis

# UNIQUE CLAMPING DEVICE FOR INLINE INTEGRATION



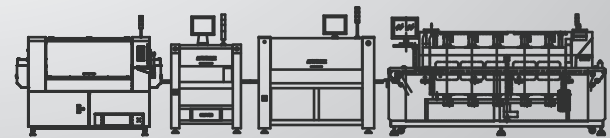
## Unique clamping device for inline integration

The efficient single-stage PCB transport system is SMEMA-compatible to interface with the other production equipment on your line.



▲ The unique clamping device prevents flexible boards from bending. The vacuum table holding fixture ensures that PCBs lay flat. The table moves to align the PCB to the stencil.

## Sample production line



AP stencil printer

Pick & Place machine

Reflow oven

# INTEGRATED UNDERSTENCIL WIPING



## Integrated understencil wiping

Automatic wet/dry/vacuum understencil cleaning is included with the AP series printer. The system can be programmed to clean the stencil using any combination of dry wipe, wipe with solvent ("wet wiping"), or wipe followed by vacuum to draw material out from the apertures.



◀ Connected with the vacuum pump to enhance the cleaning performance



◀ Flexible cleaning option (wet / dry / vacuum) is available for variety of real situation

# FULLY PROGRAMMABLE



- ▲ Fiducial learning could be controlled by multiple parameter, such as shape, color, brightness, contract, etc. or completed automatically.

## Fully programmable

Windows-based AP series is easy to program, allowing the printer to be up and running quickly after install. All parameters, including print speed (programmable from 20 to 120 mm/s), stroke length, squeegee pressure, etc., are fully programmable via the graphical user interface. During operation, all details, including process status, of the current job are displayed on screen. Multiple user permission levels prevents important machine parameters from being accidentally changed.



- ▲ **2D inspection** function allow the inspection of short circuit, deviation and coverage rate of the solder paste.



- ▲ Auto Production panel displays recent production status, camera image and related information.



- ▲ Conveyor control interface display multiple parameters control, such as in/out direction, PCB width, X/Y/Z position.

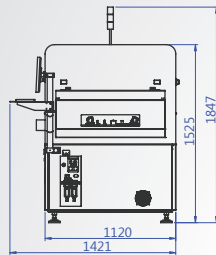
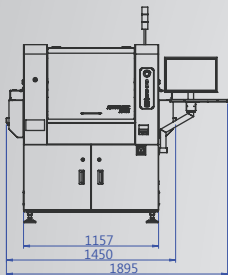


- ▲ Conveyor production control allows speed control, run option, SMEMA signal setting



# AP series

Automatic SMT Inline Printer



## MODEL **AP430/AP430L/AP660**

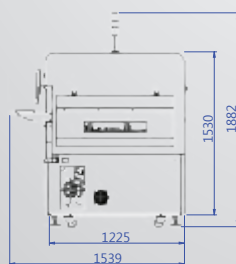
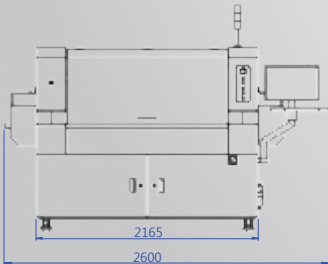
### Key Features

- Dual-camera vision for fast PCB orientation
- Print repeatability of  $\pm 0.008\text{mm}$
- Dual squeegees with dual-stroke control for efficient solder paste use
- Flexible mounting for single- or double-sided boards
- Fast job setup and changes
- Excellent parallel separation of stencil and PCB with programmable speed control for well-defined prints
- Accepts stencils size from min. 470 x 300 mm (AP430), 520 x 300 mm (AP430L), 736 x 736 mm (AP660) to max. 736 x 736 mm, 900 x 900mm (AP660)
- Accommodates PCBs to 400 x 300 mm (AP430), 450 x 350 mm (AP430L), 600 x 600 mm (AP660)

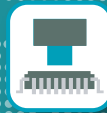
## MODEL **AP1200/AP1500**

### Key Features

- Dual-camera vision for fast PCB orientation
- Print repeatability of  $\pm 0.01\text{mm}$
- Dual squeegees with dual-stroke control for efficient solder paste use
- Flexible mounting for single- or double-sided boards
- Fast job setup and changes
- Excellent parallel separation of stencil and PCB with programmable speed control for well-defined prints
- Custom-designed clamping device holds long PCBs straight and suppresses the bending of flexible boards
- Vacuum table holding fixture keeps PCB flat for best printing result
- Automatic conveyor width adjustment for convenient board loading
- Accepts stencils size from min. 400 x 300 mm to max. 1600 x 300 mm (AP1200), 1900 x 300 mm (AP1500)
- Accommodates PCBs to 1200 x 300 mm (AP1200), 1500 x 300 mm (AP1500)



AP430 / AP430 L / AP660		AP1200		AP1500	
Printing Speed	10 to 120mm/s	10 to 120mm/s	10 to 120mm/s	10 to 120mm/s	10 to 120mm/s
Vision Alignment System	Automatic (any shape)	Automatic (any shape)	Automatic (any shape)	Automatic (any shape)	Automatic (any shape)
Stencil Frame Size (External Dimensions)	AP430 )	470 x 300 mm to 736 x 736 mm	400 x 300 mm to 1600 x 630 mm	400 x 300 mm to 1900 x 630 mm	400 x 300 mm to 1900 x 630 mm
	AP430L)	520 x 300 mm to 736 x 736 mm			
	AP660 )	736 x 736 mm to 900 x 900 mm			
Board Size	AP430)	50 x 50mm to 400 x 300mm	100 x 50mm to 1200 x 300mm	100 x 50mm to 1500 x 300mm	100 x 50mm to 1500 x 300mm
	AP430L)	50 x 50mm to 450 x 350mm			
	AP660 )	50 x 50mm to 600 x 600mm			
Board Thickness	0.4 to 5 mm	0.4 to 5 mm	0.4 to 5 mm	0.4 to 5 mm	0.4 to 5 mm
Board Warpage	Max PCB 1% of diagonal line	Max PCB 1% of diagonal line	Max PCB 1% of diagonal line	Max PCB 1% of diagonal line	Max PCB 1% of diagonal line
Blade Type	Metal or plastic, 45° or 60°	Metal or plastic, 45° or 60°	Metal or plastic, 45° or 60°	Metal or plastic, 45° or 60°	Metal or plastic, 45° or 60°
XY Adjustment	±10mm	±10mm	±10mm	±10mm	±10mm
Radial Adjustment	±2°	±2°	±2°	±2°	±2°
Registration Repeatability	±0.008mm	±0.01mm	±0.01mm	±0.01mm	±0.01mm
Transport cycle time	15s (exclude printing & cleaning)	15s (exclude printing & cleaning)	15s (exclude printing & cleaning)	15s (exclude printing & cleaning)	15s (exclude printing & cleaning)
Transport Height	900±20mm	900±20mm	900±20mm	900±20mm	900±20mm
Transport Direction	Left-Right / Right - Left / Left - Left / Right - Right	Left-Right / Right - Left / Left - Left / Right - Right	Left-Right / Right - Left / Left - Left / Right - Right	Left-Right / Right - Left / Left - Left / Right - Right	Left-Right / Right - Left / Left - Left / Right - Right
PCB Fixation	Screw clamping system and vacuum	Screw clamping system and vacuum	Screw clamping system and vacuum	Screw clamping system and vacuum	Screw clamping system and vacuum
Print mode	Single or double side printing	Single or double side printing	Single or double side printing	Single or double side printing	Single or double side printing
CCD FOV	5 x 7 mm	5 x 7 mm	5 x 7 mm	5 x 7 mm	5 x 7 mm
Vision Fiducial	Standard fiducial and any pads, 0.5 to 3 mm	Standard fiducial and any pads, 0.5 to 3 mm	Standard fiducial and any pads, 0.5 to 3 mm	Standard fiducial and any pads, 0.5 to 3 mm	Standard fiducial and any pads, 0.5 to 3 mm
Air & Power	220VAC 50 - 60 Hz power, 75psi (5 bar) air	220VAC 50 - 60 Hz power, 75psi (5 bar) air	220VAC 50 - 60 Hz power, 75psi (5 bar) air	220VAC 50 - 60 Hz power, 75psi (5 bar) air	220VAC 50 - 60 Hz power, 75psi (5 bar) air
Requirements	Windows 7	Windows 7	Windows 7	Windows 7	Windows 7
Operating system	Windows 7	Windows 7	Windows 7	Windows 7	Windows 7
Dimensions (L x W x H)	1450x1120x1525(AP430), 1900x1506x1550(AP660)	1450x1120x1525(AP430), 1900x1506x1550(AP660)	2300 x 1704 x 1878 mm	2600 x 1539 x 1883 mm	2600 x 1539 x 1883 mm
Weight	780 kg(AP430), 1000 kg(AP660)	780 kg(AP430), 1000 kg(AP660)	1200 kg	1200 kg	1500 kg



# AUTOTRONIK

Fertigungssysteme für die Elektronikindustrie



### Worldwide at your side.

We have service partners all over the world.



### Unbeatable Service

In case of problems we are disposal almost around the clock.



### Everything from one source

We are your partner for all process steps.



### Innovative Features

Our machines are using technical standards, which are normally used in bigger machines for mass production.



### Quality and Innovation at a fair price

Through global positions.



### A expert in small and medium-scale production.

## AUTOTRONIK-SMT GmbH

Sulzbacher Str. 111  
92224 Amberg  
Deutschland

Tel +49 (0) 96 21 -600 691

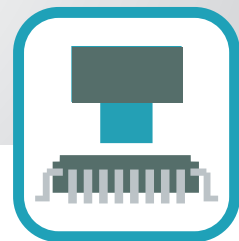
Fax +49 (0) 96 21 -600 692

E-mail [office@autotronic-smt.com](mailto:office@autotronic-smt.com)

Web [www.autotronic.de](http://www.autotronic.de)



[www.autotronic.de](http://www.autotronic.de)



# AUTOTRONIK

Fertigungssysteme für die Elektronikindustrie