

SP700avi
Inline stencil printer

The SP700avi stencil printer combines Speedprints commitment to high performance and reliability with outstanding value. The system has been developed to cope with the rigors of high volume SMT production and yet incorporates the flexibility that affords the fast set-up and product changeover demanded by low and medium operations working in hi-mix environments.



The SP700avi has been designed with ease of use, maintenance and low cost of ownership in mind. The system utilises the most advanced drive control technology available, including 1 micron resolution Linear encoders on all Axes, together with a suite of intuitive software that enables total control of the printing process.

The printer is fully equipped, as standard, with many features such as automatic rail width adjust, auto stencil loading and a fully programmable Under Stencil Cleaner.



The highly efficient Stencil Cleaner may be programmed to run wet / dry, with or without vacuum and allows for full optimisation of each specific product to be run.

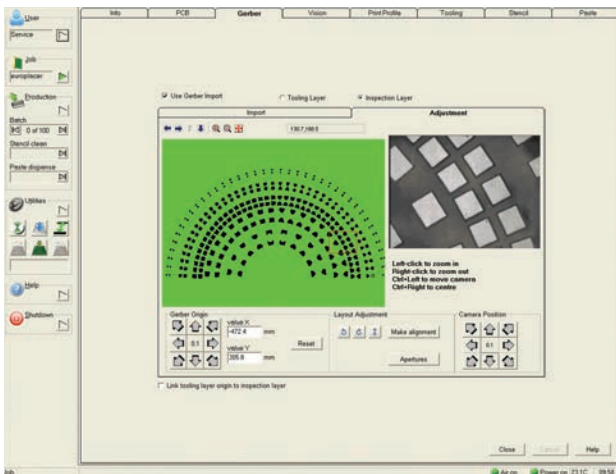
The vision system utilises a unique twin roving camera 'Look Down, Look Down' method of automatic vision alignment. This innovative vision system not only provides the highest level of alignment capability it also incorporates SmartCal.

With the ongoing miniaturisation of substrates and components continuously reducing the process window, SmartCal provides the user with immediate and cost free Calibration. SmartCal allows the user to maintain the maximum process window and maintain optimum performance for the life of the machine. Speedprint also uses the unique capability of checking for solder paste presence on the stencil before printing. The vision system aligns the PCB with the stencil using fiducial marks and/or PCB/Stencil features.

Speedprint's unique 'Optical Paste Bead Inspection' comes as standard and is fully programmable. The top camera is used to check that adequate solder paste is present on the stencil before printing and if necessary will alert the operator with a 'low paste' warning.

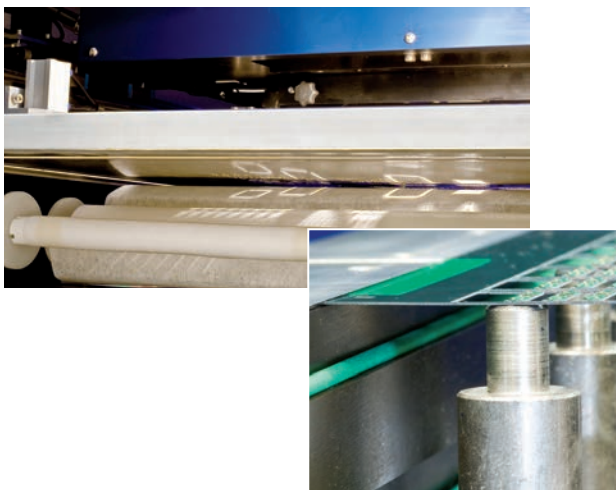


The SP700avi incorporates an advanced user interface running on WINDOWS 7 PRO. In addition to the simple and intuitive nature of the interface, it also provides comprehensive self diagnostic capabilities, such as production logging and automatic fault report generation which enables 'on the fly' troubleshooting.



The 2D+ Inspection system is simple to program and will examine the print for solder bridges regardless of component orientation. The precision machined print head, features closed loop squeegee control as standard with fully programmable print parameters.

The PCB transport system includes a fully programmable board stop and employs pneumatically controlled foil PCB clamping. The system is SMEMA compatible to ease integration with fully automated SMT production lines.

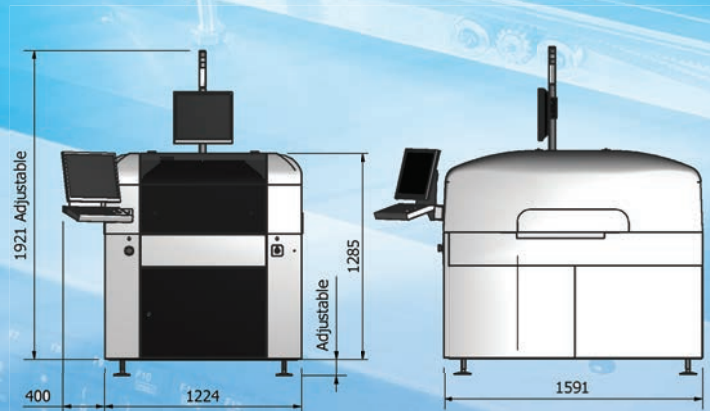


Standard features of the SP700

- **High Precision Axes** – Precision Linear Rail and Belt Drive provides accuracy and reliability
- **1 Micron resolution Linear Encoders** - on all axes for optimum positional accuracy
- **Twin Roving Cameras** – highly accurate and robust Vision Platform
- **SmartCal** – cost free immediate Process calibration
- **Precision Mono-fabrication** – precision engineered base structure
- **Distributed Control Network** – localised axis control reduces cables and increases reliability
- **User interface** – the simplest and most intuitive of User Interfaces
- **Paste on Stencil inspection** – providing feedback & set up of paste replenishment, a unique feature within the Avi range
- **Fully automatic Conveyor Adjustment** – ease and flexibility to manage a large range of board sizes
- **Programmable Vacuum Stencil Cleaner** – highly efficient wet and dry stencil cleaning system
- **Closed Loop Dual Squeegee control** – provides full control of the Print process
- **Auto Stencil Load and eject** – improved speed and ease of product changeover
- **Modular Conveyor** - Quick Changeover to Snugger Option

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As part of our policy of continuous development, specifications are subject to change without prior notice.

Technical Data

SP700avi

Max board size	610mm(x) by 508mm(y)
Min board size	45mm x 45mm
Maximum PCB weight	1Kg (2.2lb)
Underside component clearance	3 - 15mm **30mm
Underside edge clearance	5mm
Minimum board edge clearance	3mm
*Alignment Repeatability	20µm @ 6 Sigma 2cpk
Max print area	610mm(x) x 508mm(y)
Max PCB thickness	Up to 8mm (0.2") including 1% warpage
Min PCB thickness	0.3mm
X/Y PCB Alignment	± 5mm
Stencil image	Front and centre dedicated
Stencil load/unload	Automatic using print head
Stencil frame size (max)	736.6mm (29") x 736.6mm (29") max fame height 40mm
Stencil frame size (min)	584.2mm (23") x 584mm (23") max fame height 40mm
Squeegees	Metal or Polyurethane
Squeegee pressure	1-20kg
Squeegee control	Pneumatic using proportional valve
Print speed	5-250mm/sec
PCB separation speed	0.1-20mm/sec
Print modes	Print/print, flood/print, print/flood
Transfer height	939.8mm (37") - 965.2mm (38")
Transfer height (Siemens)	830mm
Transport direction	Right-left, left-right, left-left, right-right
Transfer system	Single pair conveyors with round 3mm poly belt drive
Board clamping	Foils (standard)
Board stop	Mounted on camera and fully programmable
Throughput time	11.5 seconds (excluding print time)
Up/down line protocol	SMEMA (alternative interfaces available)
Conveyor orientation	Front rail dedicated
Conveyor width adjustment	Automatic
Conveyors	3mm "O" Ring
Power consumption	13 amps
Power supply	110V - 240V
Air supply	6 Bar clean air supply
Air consumption	1.4 Lt per cycle without clean, 16 Lt during USC
Operating Temperature	10° to 35° C (50° to 95° F), Humidity 30% to 50% Relative Humidity (non condensing)
PCB support	Manual magnetic pins, position indicated by laser dot
Vision	Look down/look down
Camera field of view	10mm by 10mm
Camera system	Dual roving camera
User interface	Flat screen LCD monitor with keyboard and integral tracker ball
Number of fiducials	2
Fiducial size	0.5 - 5mm
Fiducial location	Anywhere on PCB
Stencil paste availability	Automatic measurement / alert
Weight	650kgs
Crated weight	800kgs

All details are subject to change without prior notice. * Full movement of all axes incl. squeegee. ** optional

Options

- 23" - 29" Stencil Capability
- 2D paste inspection
- 2D+ paste inspection with Gerber import tool and bridge detection
- Statistical Process Control (SPC)
- Vacuum board support
- Laser guided tooling
- Snugger PCB edge clamp
- VacunestTM
- Quik-Tool
- Red-E-Set
- Custom Tooling
- Stencil Paste Dispenser
- Temperature Control Unit



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