

Soldura - Full Automatic Screen Printer

Soldura SP-800

This inline full automatic visual printing machine has a machine vision automatic identification function. Adopting a highly precise Servo Driving System, it can achieve quick and accurate alignment and positioning with an accuracy of ± 0.01 mm and a printing cycle of shorter than 10s. Resulting in high quality solder paste printing and great production efficiency. The machine makes it possible to produce bonding pad with an ultra-small pitch of 0.3 mm.

Entirely controlled by a computer, configured with a Windows operating interface and abundant software functions, it can have printing parameters such as printing height, squeegee pressure, printing travel and rate, and automatic cleaning cycles of screen set by software. Both programming and operator interface are using graphic user interfaces (GUI) for simple operation. In the operator interface, the Step by Step Flow Control System shows the actual production status in order to easily monitor the production process.



Additionally, the Soldura has a perfect 2D solder paste inspection performance and CPK analysis performance, ensuring stable printing quality and offering great convenience for users.

Main Features

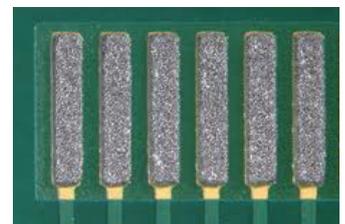
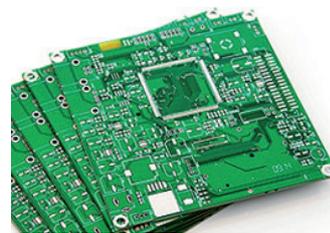
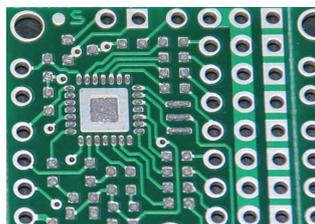
- In-line Automatic Screen Printing machine
- High speed production in less than 8 s.
- Self-leveling squeegees
- Automatic Screen Cleaning (dry/wet/vacuum)
- Three Stages Conveyor with stepper motor
- Precise Screen Positioning System
- 2D Print Inspection System
- Advanced Vision System ensuring perfect overlap screen and PCB.

Customer Benefits

- High quality solder paste print
- Highly efficient and time saving print process
- For regulating pressure and for protecting the squeegees.
- Easy cleaning
- High speed production
- Accurate match between the screen and the print.
- Digital control of the solder print to discover errors.
- High accuracy of vision.

Applications

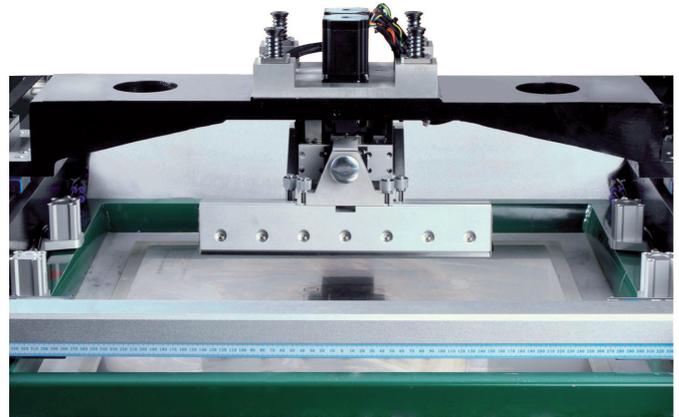
- Automatic Screen printing



Detailed information

Self-Leveling Squeegees

The Direct Drive System is composed of two independent print heads. Each is driven directly by a high precision stepping motor. Traditional air valve print head cannot satisfy the precision requested by new SMT process. With this system, the print pressure can be measured and controlled accurately. Self-leveling squeegee will automatically adjust to the screen surface and the paste can be perfectly printed on the PCB. The system also helps to improve the PCB separation process. With it, the squeegee will release its pressure before the PCB separation. The screen will stay flat during the process. This will help to prevent interference to the shape of the solder paste if the screen is bended during this PCB separation process.



Self-leveling squeegees

Squeegee Protection System

Squeegee Protection System is a unique feature of the print head. With the system, the squeegee will not be damaged even if excess pressure is applied. The Coil System in the print head will absorb excess pressure and protects the squeegee.



Automatic Cleaning System

Automatic Cleaning System

The system can be programmed for a variety of cycles: dry, wet and vacuum, to clean the lower side of the screen. The cleaning paper is pressed on the screen by two special design elastic tubes. The soft contact between cleaning paper and screen can remove the solder paste residue effectively and reliably. Both ends of the vacuum tubes in the wiper system are connected to the vacuum pump to ensure strong and stable vacuum pressure all over the tubes.

PCB Transport & Clamping System

The Transport System is driven by a stepper motor. A Stepper motor is smarter than an a/c motor as it separates the transport process into two stages. It will drive the PCB at a full speed in the first stage. When the PCB approaches the stopper, the stepping motor will reduce the speed to avoid the PCB to bump into the stopper.

Robust design of the PCB Clamping System ensures a long lasting accurate performance. For any PCB, single or both sides, hard or soft, the clamping system can handle it easily. The Slide Clamping System can handle most of the PCB's, while the Axis Clamping System can handle warped PCB's effectively.



Slide Clamping System

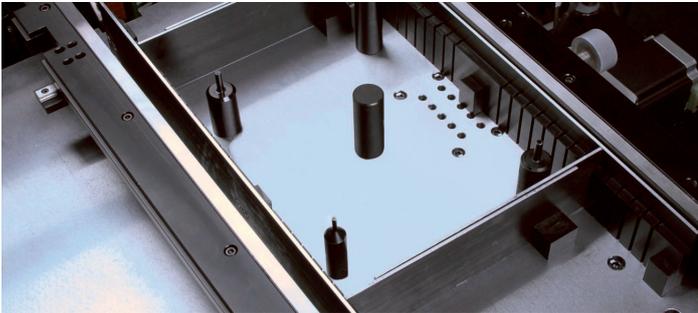
High Speed Production!

Enhance the production efficiency of the whole line, by loading the buffer zone while the machine is printing a PCB. Printing zone and buffer zone operate independently and at the same time, to save valuable time and to shorten the printing process.



Axis Clamping System

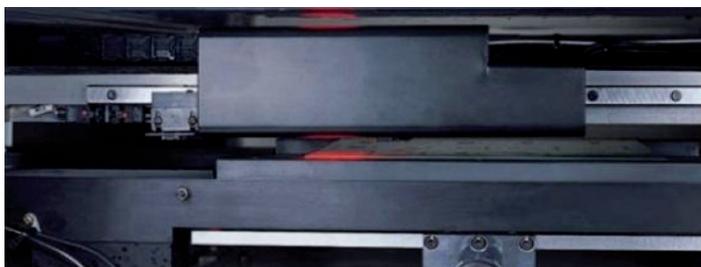
Detailed information



Vacuum chamber

Vacuum Chamber

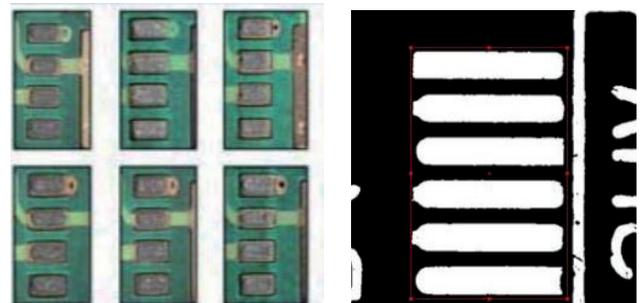
The strong vacuum chamber can print the thinner sheet and wane.



Precise Optics Vision System

2D Inspection System

2D Inspection System will take sampling of the most important printed area to ensure the printing quality.



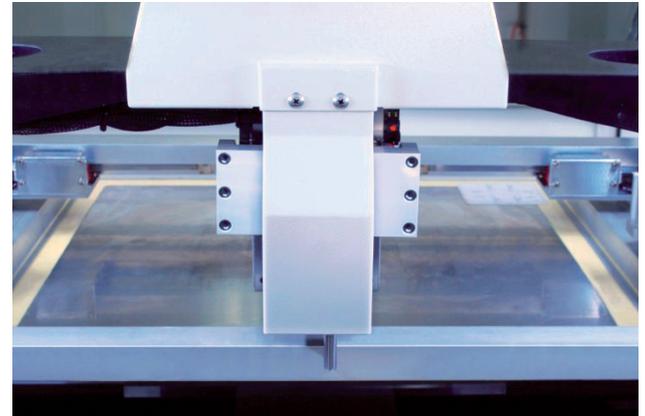
2D Inspection System

Precise Optics Vision System

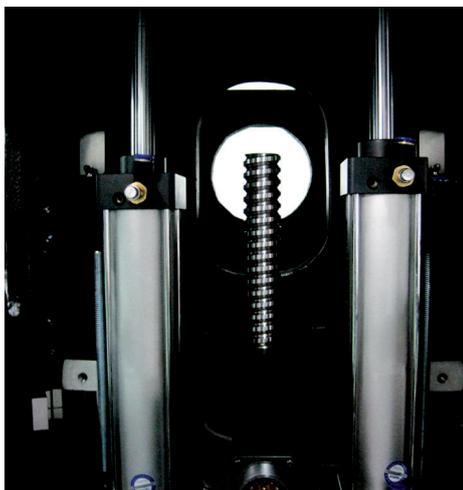
Advanced Vision System (up and down) ensures a perfect overlap between screen and PCB. The Omni directional lighting system ensures accuracy of vision. CCD X/Y axis is controlled by high precision servo motor and the most advanced ball screw. Linear slide-rail combination ensures accurate image capture.

Automatic Screen Positioning System

The Automatic Screen Positioning System is another unique feature to improve the line efficiency by reducing the changeover time. In each program, the engineer simply enters the screen size and the software will calculate the Y-axis position. The engineer inserts the screens into the frame moulder until he reaches the stopper. In just one simple step the screens are ready for production.



Automatic Screen Positioning System



Z-axis Lifting and Landing System

Z-axis Lifting and Landing System

The patented pneumatic system of dynamic balancing can realize high speed lifting and landing in Z-direction.



Calibration Platform

Calibration Platform

After comparing the marking point in PCB to the stencil, the Calibration Platform will compensate the deviation by X/Y/ θ direction.

Soldura Screen Printer		Automatic Inline Screen Printer
Type		Automatic Inline Screen Printer
DIMA article number		SP-800
Dimension (L x W x H)		1360 x 1140 x 1500 mm
Accuracy	Accuracy	± 0.025 mm
	Repeating Accuracy	± 0.01 mm
Cycle Time		< 8 s
Stencil/screen	Size	Min. 470 x 380 mm Max. 737 x 737 mm
	Clamping	Air Valve
	Positioning	Automatic
Platform	Calibration Limit	X: ± 4 mm Y: ± 6 mm
	Direction Limit	θ: ± 2°
PCB	Printing size	Min. 50 x 50 mm Max. 400 x 340 mm
	Thickness	0.4 - 5 mm
PCB Transport	Direction	L-R, R-L, L-L, R-R
	Speed	Stepping Motor - 100-1500 mm/s programmable
	PCB Weight	0-3 kg
	Height	900 ± 40 mm
	Width	50 - 340 mm
SMEMA Interface		Standard
PCB Separation		0.01 - 20 mm/s - 3 Stages Programmable Separation
Paste Inspection		2D Inspection standard
Work conditions	Power Input	AC: 220 ±10%, 50/60 HZ, single phase
	Power Consumption	3 KW
	Air Pressure	4.5 ~ 6K/cm ²
Weight		± 1000 Kg

Control System

All cables meet the European standard. The separation between signal cables and electrical system complies with current regulations, avoiding interference and ensuring accuracy and repeatability. The control units are clearly indicated for easy maintenance.



For more detailed information, please contact our Sales Representatives. We are very willing to explain you the product application opportunities, all the available system configurations as well as our customized turn-key automation facilities. We are pleased to serve you with the best process technologies and going for the best system fit into your manufacturing processes. Your success is ours too!

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