STENCIL PRINTING

Galaxy Plus

Fully automatic vision stencil printer

3-YEAR FACTORY WARRANTY

Easy to learn and use, with high precision and high stability. For PCBs from 50 × 50 to 450 × 350 mm.



450 × 350	±20 µm	< 7 s	< 5 min
Max. PCB, mm	Printing repeatability, 6σ	Cycle time*	Product changeover

01 / OVERVIEW

Key features

Accurate optical positioning
Four-way adjustable light source; recognises uneven marks on tin, copper and gold plated, HASL and FPC boards.

Intelligent squeegee system
Floating print head, two independent direct-connected motors, built-in precise pressure control.

Stencil cleaning
Drip cleaning system; dry, wet and vacuum modes in any combination.

PCB thickness adaptive platform
Platform height is calibrated automatically from the PCB thickness setting.

Servo-driven printing axis
Squeegee Y axis on a servo motor and screw drive: higher accuracy and longer service life.

2D inspection and SPC
Detects offset, insufficient paste, missing print and bridging; SPC software tracks the Cpk.

02 / TECHNICAL DATA

Machine specification

PCB PARAMETERS

Max. board size	450 × 350 mm
Min. board size	50 × 50 mm
PCB thickness	0.4–6 mm
Warpage	≤ 1% of the diagonal
Max. board weight	3 kg
Board margin gap	Configurable to 3 mm
Max. bottom gap	20 mm
Transfer speed	Max. 1500 mm/s
Transfer height	900 ± 40 mm from the floor
Transfer direction	L-R, R-L, L-L, R-R
Transfer mode	One-stage rail
PCB clamping	Programmable elastic side clamp, automatic board thickness adjustment, edge locking. Option: full-cavity or multi-point bottom vacuum
PCB support	Magnetic support pins and equal-height blocks. Option: vacuum suction cavity, dedicated fixture

UTILITIES

Power	AC 220 V ±10%, 50/60 Hz, 15 A
Compressed air	4–6 kg/cm²
Operating system	Windows 10
Dimensions (L × W × H)	1152 × 1415 × 1540 mm, without beacon, monitor and keyboard
Weight	Approx. 1000 kg

PRINTING PARAMETERS

Print head	Floating intelligent print head, two independent direct-connected motors
Stencil frame size	470 × 370 mm to 737 × 737 mm
Max. print area	450 × 350 mm
Squeegee type	Steel or rubber, angle 45°, 50° or 60° to match the process
Squeegee length	300 mm standard, 200–500 mm optional
Squeegee height	65 ± 1 mm
Blade thickness	0.25 mm, diamond-like carbon coating
Print mode	Single or double squeegee printing
Separation length	0.02–12 mm
Print speed	0–200 mm/s
Print pressure	0.5–10 kg
Print stroke	±200 mm from the centre

CLEANING

Cleaning mode	Drip cleaning system; dry, wet and vacuum modes
Wiping plate length	380 mm; optional 300, 450 or 500 mm

VISION

Field of view	8 × 6 mm
Platform adjustment	X ±5.0 mm, Y ±7.0 mm, θ ±2.0°
Fiducial type	Standard shapes (SMEMA), solder pads or apertures
Camera system	Independent camera, up/down imaging, geometric matching

PERFORMANCE

Alignment repeatability	±10 µm @ 6σ, Cpk ≥ 2.0
Printing repeatability	±20 µm @ 6σ, Cpk ≥ 2.0
Cycle time	< 7 s, excluding printing and cleaning
Product changeover	< 5 min

03 / STANDARD CONFIGURATION

What every Galaxy Plus includes

Optical positioning	The four-way light source is adjustable in intensity and gives uniform light for better image acquisition. Good identification of marks, including uneven ones, on tin, copper and gold plated, HASL, FPC and other boards of different colours.
Squeegee system	Intelligent programmable settings; two independent direct motors drive the squeegees, with a built-in precise pressure control system.
Stencil cleaning	The wiping system keeps full contact with the stencil. Dry, wet and vacuum cleaning can be selected and combined freely. Soft, wear-resistant rubber wiping plate for thorough cleaning; easy removal; wiping paper of universal length.
PCB thickness adaptation	The platform height is calibrated automatically according to the PCB thickness setting. Intelligent, fast, simple and reliable in structure.
Printing axis servo drive	The squeegee Y axis is driven by a servo motor through a screw drive, which raises the accuracy grade and operating stability and extends the service life.
2D inspection and SPC	The 2D function quickly detects printing defects such as offset, insufficient solder, missing print and bridging; inspection points can be added as needed. The SPC software analyses the machine Cpk index from the collected samples to secure print quality.

04 / OPTIONS

Process control options

OPTIONAL

Closed-loop squeegee pressure

Built-in digital pressure sensor with feedback. Displays the actual squeegee pressure and adjusts the blade depth so that the pressure stays constant during printing, for high-density and fine-pitch devices.

Paste bead inspection

Real-time detection of the solder paste remaining on the stencil, with a prompt to add paste.

Automatic paste filling

Adds solder paste at a fixed time and position, keeping the quantity and quality of paste on the stencil constant for long continuous runs.

Stencil aperture inspection

A CCD camera with compensating top light checks the stencil apertures in real time after cleaning and starts an automatic clean if apertures are blocked. Complements the 2D PCB inspection.

Temperature and humidity control

Automatic adjustment and monitoring of temperature and humidity inside the printer, keeping the printing materials stable.

Automatic dispensing

After printing, the PCB can be dispensed accurately: dots of solder or adhesive, lines and filling.

05 / OPTIONS

Handling and line integration

OPTIONAL

Magnetic squeegee
Magnetic blade mounting replaces screw positioning: quick and convenient squeegee change.

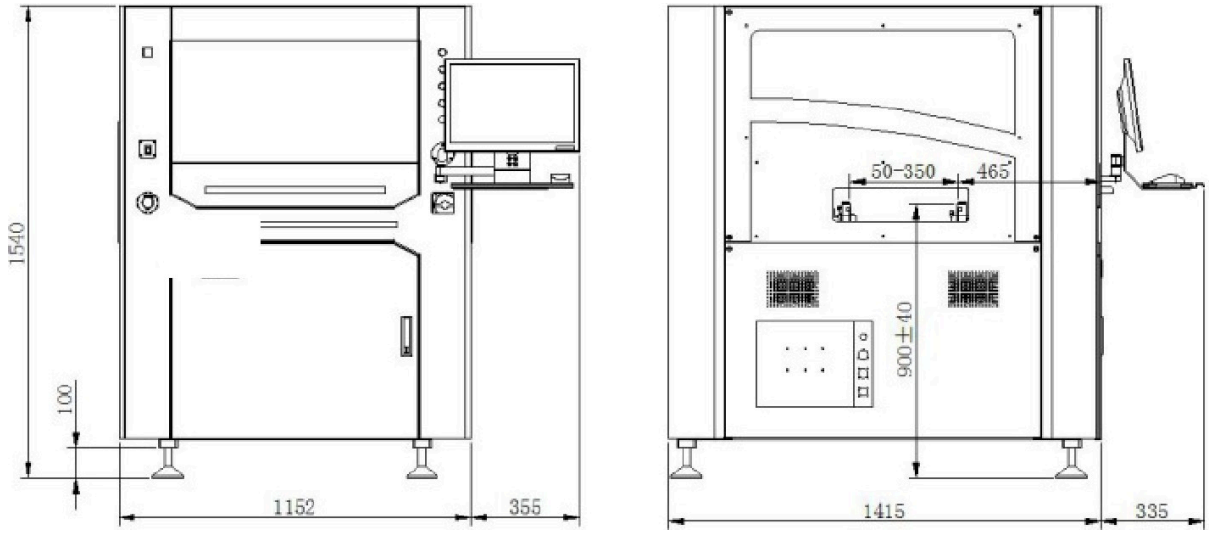
Vacuum suction plate
Clamps PCBs of different sizes and thicknesses automatically and overcomes board deformation, so paste is printed evenly.

SPI closed loop
Receives offset feedback from the SPI. The printer corrects the X/Y offset automatically within 3 boards and cleans the stencil, forming a complete print feedback system.

MES connection
Scans 1D or 2D codes on the customer's PCB and records the data for the customer's MES: traceability, material and error-proofing management.

06 / DIMENSIONS

Exterior dimensions



Front and side view, dimensions in mm. Transfer height 900 ± 40 mm.

** Cycle time excludes printing and cleaning. Specifications change with technical development without notice.*

Configuration and quotation

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■ 3-YEAR FACTORY WARRANTY ON INTEON MACHINES