Fully Automatic Screen Printer
Hipri-510Pro

1. Overview of functions:

Hipri-510Pro is a high-speed & high-precision solder paste printer with repetition accuracy of ±7μm, printing accuracy of ±15μm and production cycle of 7 seconds (Excluding solder paste printing and cleaning).Suitable for PCB from 50 X 50mm to 510 X 510mm and meet the process requirements of 0201 (metric), Pitch 0.25mmand other fine pitches.

2. Basic characteristics of products :

2.1. Size compatibility range of PCB is wide,which can support different thicknesses from 50mm X 50mm to 510mm X 510mm;

2.2. High precision printing resolution;

The positioning accuracy is high, and the repeated positioning accuracy is 7mm;

Printing accuracy ±15mm;

Support glue printing;

2.3. Automatic control can improve production efficiency,control quality and save cost:

Automatic stencil positioning;

Automatic PCB correction;

Automatic squeegee pressure closed-loop feedback system;

Automatic stencil cleaning (Dry cleaning, wet cleaning and vacuuming,3 kinds of cleaning methods can be used in any combination):

2.4. The floating print head independently developed by HCX,squeegee pressure closed-loop feedback system, accurate pressure control, can achieve the perfect solder paste molding effect.

2.5. Programmable motors control the squeegee speed and stroke of separating the scraper from the stencil, which can flexibly realize a variety of demolding methods.

2.6. Multi-function PCB fixing and positioning system, convenient, fast and accurate;

2.7. Upper and down visual positioning system;

2.8. Intelligent image processing system

2.9. Support 2D and SPI, SPC functions

2.10. Printing translation is direct driven by screw of motor

3. Solder paste printing range

3.1. Production and processing of SMT chip components such as resistors,capacitors, inductors,diodes and triodes such as 0201(metric),03015(metric),01005,0201,0402,

0603,0805,1206 andother specifications and sizes

3.2.IC: support SOP,TSOP,TSSOP,QFN and other packages ,with a minimum spacing (Pitch) 0.25mm ;

Support BGA,CSP package, minimum ball diameter (ball) 0.2mm ;

3.3. Printing size:50mm × 50mm - 510mm × 510mm ;

3.4.PCB specification：thickness 0.4mm - 6mm ;

3.5.FPC specification : thickness below 0.4mm (with jig)

4、Scope of application

Manufacturing of semiconductors, Mini LEDs, Micro LEDs, smartphones, telecommunications, LCD TVs, automotive electronics, medical and power equipment, aerospace, and general electronics.

II.Specification

The following test data is at an ambient temperature of 25 degrees Celsius and a humidity of 60%.

Items		Parameter
Repeat Position Accuracy		±7μm(@6σ Cmk≥2.0)
Printing Accuracy		±15μm(@6σ Cpk≥2.0)
Cycle Time		<7s (Exclude Printing & Cleaning)
Products Changeover		<5Min
Screen Stencil Size/Min（X×Y)		370mm × 470mm
Screen Stencil Size/Max（X×Y)		737mm × 737mm
Screen Stencil Size/Thickness		20mm - 40mm
PCB Size/Min（X×Y)		50mm × 50mm
PCB Size/Max（X×Y)		510mm × 510mm，600mm * 510mm customizable
PCB Size/Thickness		0.4 - 6mm (Fixtures below 0.4mm are required)
PCB Warpage Ratio		< 1% (The diagonal length as the base)
Bottom of Board Size		13mm，23mm（option）
Edge of Board Size		3mm
Transport High		900±20(mm)
Transport Direction		L-R;R-L;L-L;R-R
Transport Speed		100-1500(mm/sec) programmable
PCB Board Positioning	Support System	Magnetic Pin/Side Support Block
	Clamping System	Side Clamping/Z,Top Clamping,Vacuum Adsorption Function
Print head		Programmable Electronically Controlled Print Head (Standard)
Scraper Speed		10 - 200(mm/sec)

Scraper Pressure	0 -15(kg) Program control / full closed loop pressure feedback
Scraper Angle	60 °/55°/45°（option）
Scraper Type	Steel/Rubber Squeegee Blade (Other types of scrapers to be customized)
Stencil Separation Speed	0.01 - 125(mm/sec) ((Can be programmed to 3 steps control)
Cleaning Method	Dry cleaning, wet cleaning, vacuuming (programmable in any combination)
Table Adjustment Range	X: ±4mm;Y:±6mm ; θ :±2°
Image fiducial type	Standard geometry,reference point, Pad/Hole
Camera System	1.Digital camera 2.Telecentric Coaxial Vision System 3.Four Directions Independent Coaxial 4.Annular LED Lighting Source
CCD(Camera)	5 megapixels, 6.4mm × 4.8mm upper and lower dual field of view/ pixel accuracy 2.7 μm (optional field of view 10mm × 8mm)
Air Pressure	4 - 6(Kg/cm^2)
Air Consumption	Approximately 0.007m^3/min
Control Method	PC Control
Power Supply	AC:220-240V,50/60HZ 1Φ 2.5KW，13A
Machine Dimensions (L×W×H)	1250 × 1440 × 1510(mm) (Remove lighthouse height, see product peripheral dimensions drawing)
Weight	Approx :1200Kg
Operation Temperature	-20℃ - +45℃
Operation Humidity	30% - 60%

III. Configuration

1. Programmable electronic control adjusts squeegee pressure suspended squeegee printing head·

1.1. The pressure squeegee is programmable to adjust, and the pressure control is accurate

1.2. The independent adjustment function of front and rear squeegee pressure ensures that there will be no pressure imbalance due to the fatigue deformation of squeegee material, which may result in the difference during printing ;

1.3. A programmable motor control that separation speed and the stroke of the squeegee and the steel mesh, and can flexibly realize various snap-off modes ;

2. Standard stainless-steel squeegee, unique design, improve service life ;

3. Visual positioning system;

4. UVW automatic correction system

5. Stencil Y-direction positioning function

6. Digital display of temperature and humidity inside the equipment

7. PCB clamping and supporting device

7.1. Magnetic Pin;

7.2.PCB side flexible clamping device to ensure no bending deformation

7.3. With Z- direction pressing plate

7.4. Strong vacuum suction;

7.5. Auto flexible top pin(optional)

8. CNC-controlled guides to adjust the transport width and speed.

9. Programmable stencil cleaning system with any combination of dry, wet and vacuum.

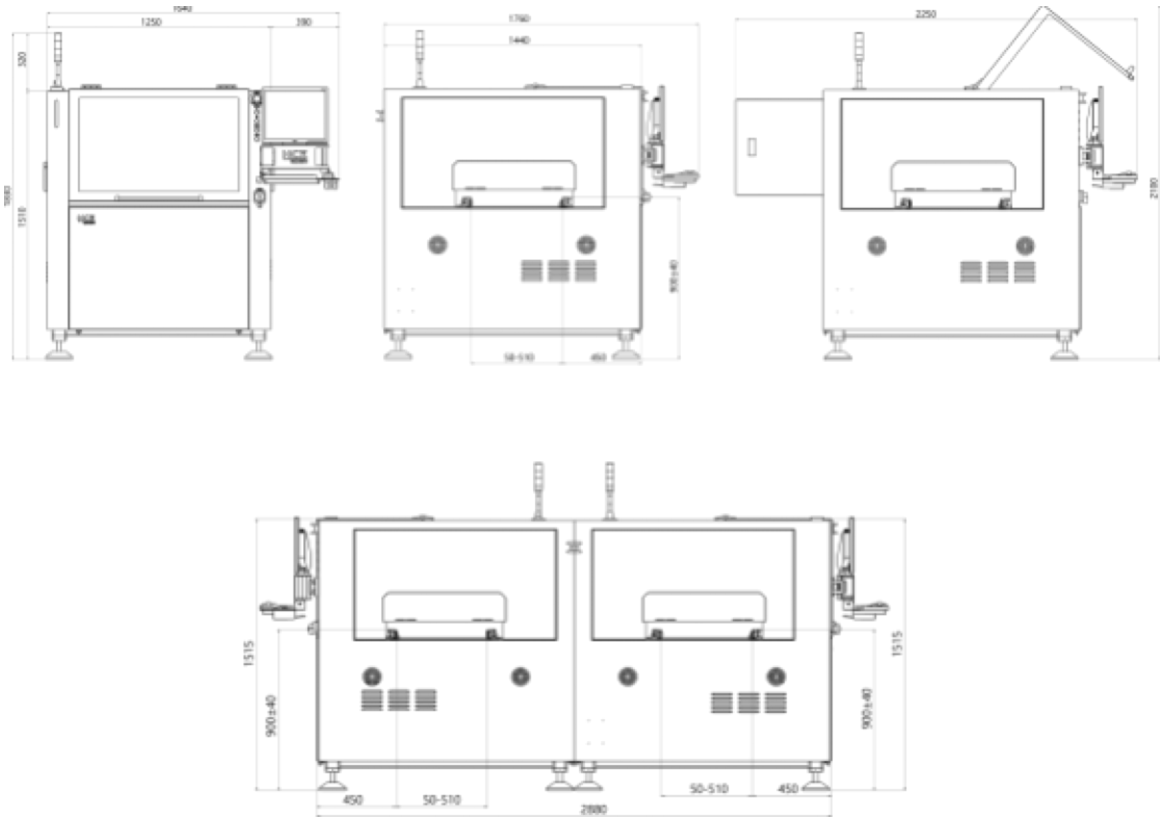
10. Industrial control computer, windows 7 operating system, Chinese/English interface.

11. Intelligent software diagnostic system .

12. Supports 2D, SPI inline, and SPC software functions.

13. Standard SMEMA connector interface.

IV. Dimension



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