

西湖未来智造  
enovate3D

# MULTIFUNCTIONAL SOLDER PASTE PRINTER EP400-SP



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## MULTIFUNCTIONAL SOLDER PASTE PRINTER

**250**  $\mu\text{m}$

Jetting diameter

**100**  $\mu\text{m}$

Stamp transfer diameter



enovate3D's EP400-SP multifunctional solder paste printer utilizes high-precision piezoelectric jetting technology combined with mechanical transfer modules, this system enables precise solder paste jetting and stamp transfer. The minimum achievable jetting diameter is 250  $\mu\text{m}$ , while stamp transfer can achieve dot diameters as small as 100  $\mu\text{m}$ . Users can implement software-driven automated solder paste deposition based on CAD data or parametric programming, replacing traditional stencil printing. The system is particularly suited for deep-cavity shell component processing, with a cavity depth capability of up to 6 mm. Equipped with SMEMA-standard conveyor tracks, it seamlessly integrates into SMT production lines.

## KEY FEATURES

- Adjustable rail module supports maximum 350 mm width carrier conveyance
- Compatible with Gerber/Dxf graphic import or parametric programming interface for software-driven automated processing
- Minimum solder paste jetting dot diameter of 250  $\mu\text{m}$  and minimum stamp transfer dot diameter of 100  $\mu\text{m}$  (Type 7)
- Supports solder paste printing in deep cavities  $\geq 6$  mm
- Adapts to SAC305, SnPb, and other solder pastes
- Maximum 3G motion acceleration ensures equipment processing efficiency

## SPECIFICATIONS

Motion System	
Equipment Frame	Granite Motion Stage
Travel Range	450(X) $\times$ 650(Y) $\times$ 20(Z1)/50(Z2) mm
Accuracy	X/Y: $\pm 10$ $\mu\text{m}$ ; Z1/Z2: $\pm 5$ $\mu\text{m}$
Max Motion Speed	X/Y: 1000 mm/s; Z1/Z2: 300 mm/s
Max Acceleration	X/Y: 3 g; Z1/Z2: 0.2 g
Printing System	
Solder Jet Module	Piezoelectric needle-type jetting valve, supporting nozzle inner diameter range of 0.07-0.4 mm
Stamp Transfer Module	Contact-type stamp transfer needle, compatible with stamping needle diameters of 0.05-0.25 mm
Substrate Handling	
Substrate Dimensions	90 $\times$ 90 mm~210 $\times$ 350 mm
Auxiliary System	
Alignment Method	5-Megapixel camera; Fiducial mark visual capture & alignment
Laser Rangefinder Sensor	Laser coaxial displacement sensor for real-time product/nozzle height tracking
Nozzle Cleaning Unit	Vacuum/dry wiping cleaning
Purification	Equipped with an FFU
Process Capacity	
Solder Diameters	250 $\mu\text{m}$ (jetting)/100 $\mu\text{m}$ (stamp transfer)
Operational Efficiency	5 pads/s (ex. 0402 component pads)
Installation	
Equipment Dimensions	W1480 $\times$ D1480 $\times$ H2000 mm
Equipment Weight	1500 kg (approx.)
Electrical Requirements	220 VAC/ 50 Hz, 5 kW
Air Supply Pressure	$\geq 0.6$ MPa(MDA)
Operating Environment	Temperature: 22 $\pm$ 2 $^{\circ}\text{C}$ ; Humidity: $\leq 65\%$

# APPLICATIONS

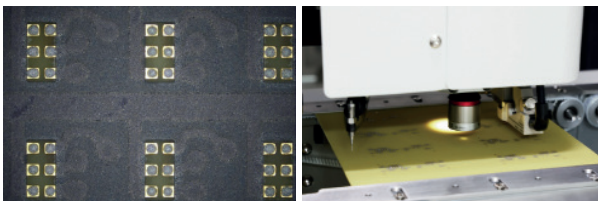
## APPLICATION SCENARIOS

Capable of adapting to PCBs and packaging components with diverse shapes and dimensions, as well as complex pad layouts, thereby enhancing the flexibility and adaptability of production lines.

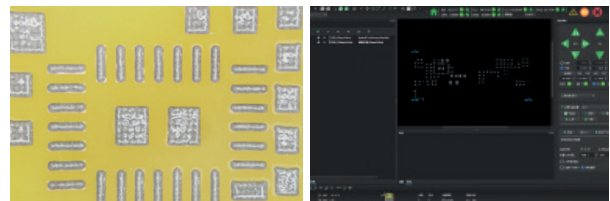
## PROCESS SOLUTIONS

The materials used are SAC305 and SnPb solder paste, with the printing methods being jet deposition or stamp transfer, enabling selective deposition of solder paste materials.

## EXAMPLES

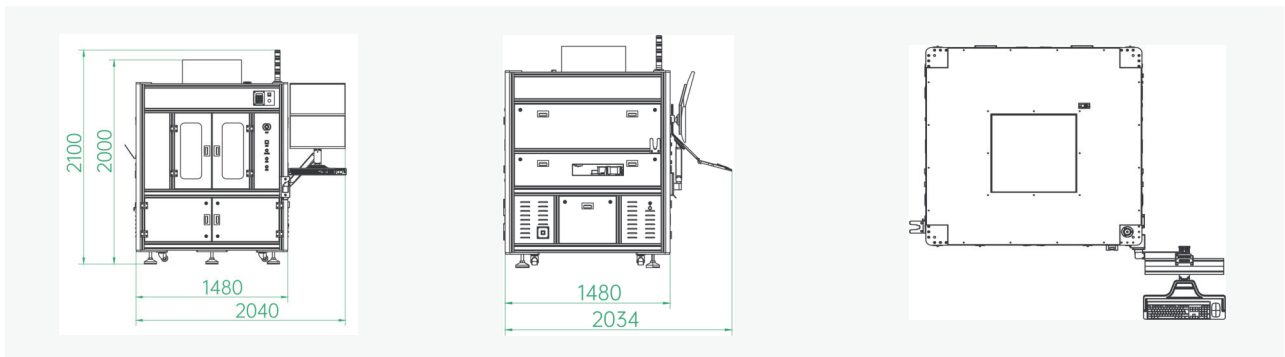


Utilizing stamp transfer technology to achieve micro-deposition of solder paste onto 120 × 120 μm pads



Utilizing high-speed jet printing to rapidly deposit solder paste onto PCB pads, enabled by software-driven automated operation

## DIMENSIONS



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