

G-SERIES

GKG | *INSIGHT INTO THE FUTURE*



GL-STAR

FULLY AUTOMATIC
SMT PRINTER

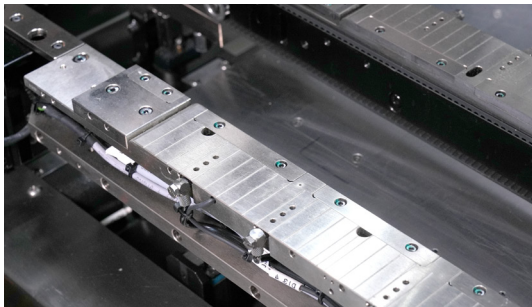
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DIGITAL CCD CAMERA

Upgraded CCD positioning camera with a 10x8mm FOV. Perfectly fit into any types of fiducial mark, enables camera-based scanning, closed-loop MES, and effectively resolves the issue of repetitive manual adjustments for input and output barcode scanning.

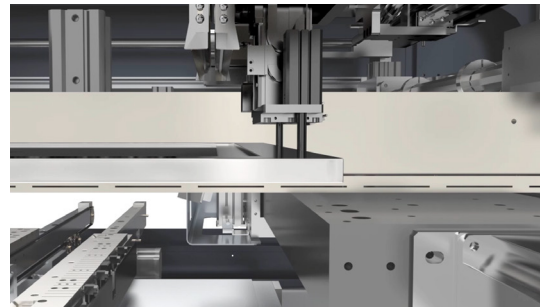
STD STANDARD FEATURES



FLEXIBLE TRANSMISSION

STD

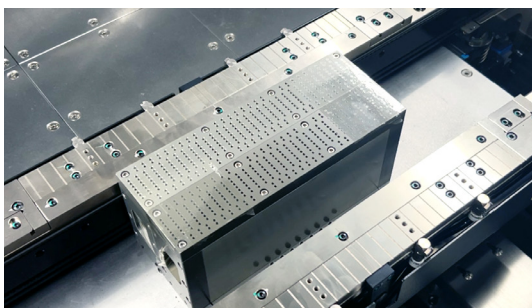
Fully-automatic flexible side and top clamping structure, adjustable by computer control to adapt warped PCB. Optional stencil lock function to effectively reducing the lamination gap between PCB and stencil, ensuring repeated accuracy and printing stability.



AUTO STENCIL POSITIONING

STD

The stencil positioning can be configured through program settings. Optionally, a barcode scanner can be used to scan and read the pre-set positions of the stencil, enabling automatic positioning.



PRINTING TABLE

STD

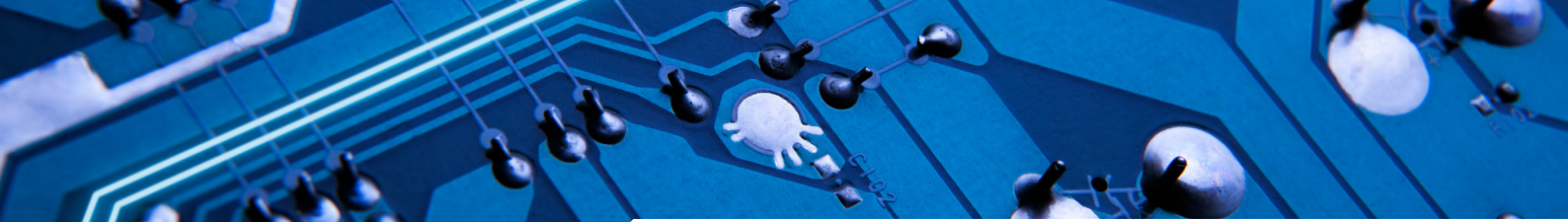
A stable and reliable printing table combined with standard vacuum suction function. Eliminates warping issue and ensures the accuracy of substrate positioning to increase printing quality.



STENCIL LOCK

STD

The stencil lock suction firmly holds the stencil on both sides of the conveyor during the printing cycle, eliminating stencil vibration by ensuring firm contact with the PCB.



OPT OPTIONAL FEATURES



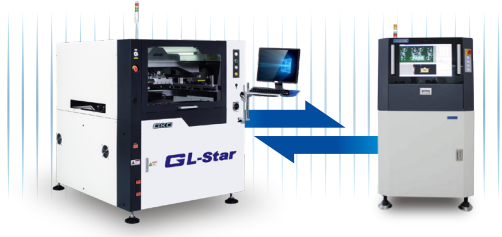
AUTO PASTE REPLENISHMENT OPT

Closed-loop with paste rolling diameter monitoring system to automatically replenish solder paste when insufficient paste is detected. This able to adopt single or dual can as well as cartridge packaging.



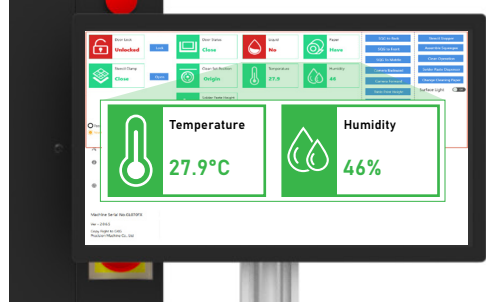
MES SYSTEM OPT

Customization for Industry 4.0. MES keeps track of all manufacturing information in real time, receiving up-to-the-minute data from robots, machines and employees.



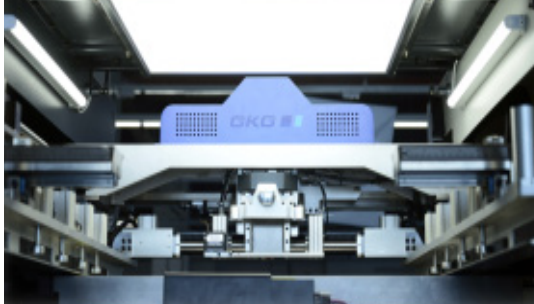
SPI CLOSE-LOOP CONNECTION OPT

With SPI close-loop system, machine will automatically adjust and correct the print deposits based on the feedback given with regards to poor printing quality. This will facilitate improved print quality and production efficiency, by forming a complete printing feedback system.



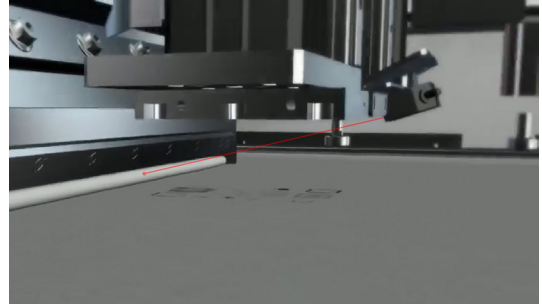
TEMPERATURE & HUMIDITY DISPLAY SYSTEM OPT

The temperature and humidity display system provides real-time monitoring of the internal temperature and humidity status of the equipment. This system is beneficial for monitoring and enhancing the lifespan of solder paste and ensuring printing quality.



STENCIL APERTURES INSPECTION SYSTEM OPT

A panel light is installed at the top, with a CCD camera positioned below to inspect stencil apertures. It automatically detects any clogging of stencil apertures, eliminating the use of poor-quality stencils and ensuring quality printing right from the start.



PASTE ROLLING DIAMETER MONITORING SYSTEM OPT

Real-time monitoring the amount of solder paste, capable of a closed-loop system with auto paste replenishment. It automatically replenishes solder paste when 'insufficient' is detected to ensure an adequate supply of solder paste.

PERFORMANCE

Machine Alignment Capability	2 Cmk @ ±12.5 μm @ 6 sigma
Process Alignment Capability	2 Cpk @ ±20 μm @ 6 sigma
Core Cycle Time (excluding printing & cleaning time)	< 8.5 secs
Product Changeover Time	< 3 mins
New Product Set-up Time	< 10 mins

BOARD HANDLING

Max. Size (L x W)	510mm x 510mm
Min. Size (L x W)	50mm x 50mm
Thickness	0.4 ~ 6mm
PCB Thickness Adjustment	Automatic
PCB Max Weight	5kg
PCB Edge Clearance	3mm
PCB Bottom Clearance	23mm
PCB Warpage	Max. 1% diagonally
Clamping Method	Auto retractable top clamp, motor controlled side clamp
Support Method	Magnetic support pins, bars, blocks, vacuum suction
Conveyor Direction	L to R, R to L, R to R, L to L (software control)
Conveyor Height	900 ± 40mm
Conveyor Speed (max.)	1,500 mm/s
Conveyor Width Adjustment	Automatic

PRINTING PARAMETERS

Stencil Frame Size (L x W)	Adjustable, 470mm x 370mm to 737mm x 737mm
Print Gap (snap-off)	0 ~ 20mm
Printing Table Adjustment Range	X: ±10mm, Y: ±10mm θ±2°
Print Speed	10~200mm/s
Squeegee Pressure	0.5~10kg (program control)
Squeegee Type	Std: Metal Squeegee 280mm, 350mm, 520mm Opt: Rubber
Squeegee Angle	Std: 60°, Option: 45°, 50°, 55°
Cleaning System	Auto wet, dry vacuum (software select)

FACILITIES REQUIREMENT

Power Supply	AC220V ± 10%, 50 / 60Hz
Power Consumption	3kW
Air Supply	4 ~ 6Kgf / cm ²
Air Consumption	5L / min
Dimension (excluding signal tower)	1,240mm (L) x 1,560mm (W) x 1,490mm (H)
Machine Weight	1,200kg

OPERATOR INTERFACE

Hardware	LCD Monitor, Mouse & Keyboard
Operating System (OS)	Windows 10
Control Method	Industrial PC controlled
I/O Interface	SMEMA Standard

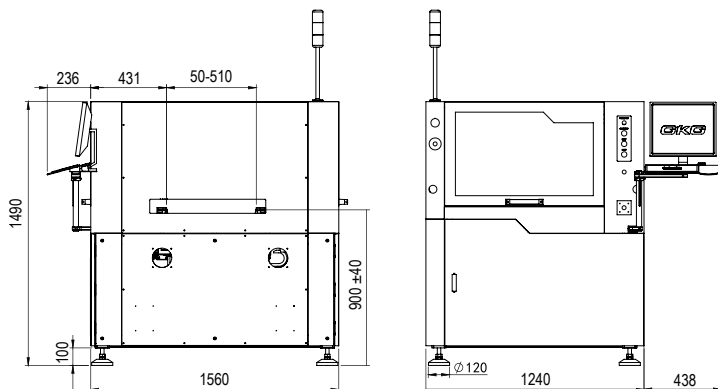
OPTICAL SYSTEM

Field-of-View (FOV)	10mm x 8mm
Fiducial Types	Circle, Triangle, Square, Diamond, Cross
Fiducial Size	0.5 ~ 4.0mm
Vision Methodology	Digital CCD camera look up & down
2D Inspection	Max. 100 windows to inspect missing & insufficient (std.)

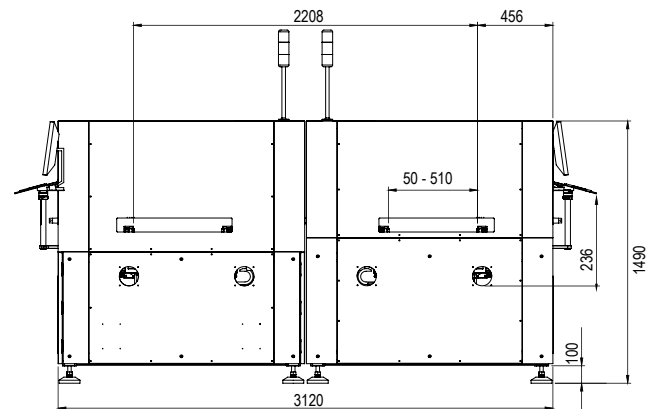
OPTIONS

SPI closed-loop
Auto glue dispensing
Temperature, humidity monitoring & display
Internal / External barcode scanner for PCB traceability
Handheld barcode scanner for stencil, solder paste, squeegee traceability
MES system integration (for Ind. 4.0)
2 machines in series for higher output
2 machines back to back for dual lane SMT line

GL-Star External Dimension(mm)



GL-Star Back to Back External Dimension(mm)



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*GKG reserves the right to make any changes concerning design or specification of the machine without any prior notice for continuous improvement. (GL-Star Version 1.0 2024.01)