PERFORMANCE

Machine Alignment Capability	2 Cmk @ ±10 microns @ 6 sigma
Process Alignment Capability	2 Cpk @ ±18 microns @ 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)	510 mm x 510 mm
Min. Size (L x W)	50 mm x 50 mm
Thickness	0.4~6 mm
PCB Thickness Adjustment	Automatic
PCB Max. Weight	5kg
PCB Edge Clearance	3 mm
PCB Bottom Clearance	23 mm
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 ± 40 mm
Conveyor Speed (max.)	1,500 mm/s
Conveyor Width Adjustment	Automatic

OPTICAL SYSTEM

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

PRINTING PARAMETERS

Stencil Frame Size (L x W)	Adjustable, 470 mm x 370 mm to 737 mm x 737 mm
Print Gap (snap-off)	0~20 mm
Printing Table Adjustment Range	X: ±10 mm, Y: ±10 mm ⊖: ± 2°
Print Speed	10~200 mm/s
Squeegee Pressure	0.5~10kg (program control)
Squeegee Type	Std.: OPC Squeegee 300 mm, 450 mm & Metal Squeegee 520mm. Option: 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/cm²
Air Consumption	5L/min
Dimension (excluding signal tower)	1,240 mm (L) x 1,560 mm (W) x 1,490 mm (H)
Machine Weight	1,200kg

OPERATOR INTERFACE

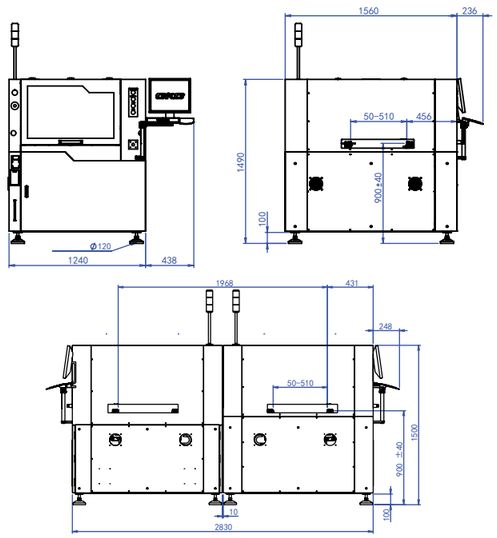
Hardware	LCD Monitor, Mouse & Keyboard
Operating System (OS)	Windows 7 or Higher
Control Method	Industrial PC controlled
I/O Interface	SMEMA Standard

STANDARD FEATURES:

- Auto paste replenishment (OPC)
- Paste rolling diameter monitoring system (OPC)
- OPC squeegee assembly (2 pairs 300mm & 450mm)
- Stencil lock (QPC)
- Stencil apertures inspection system (QPC)

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



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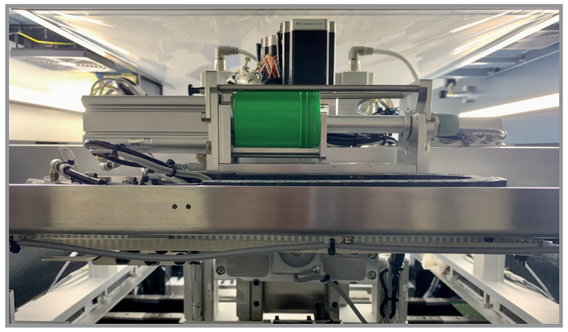
G-Titan

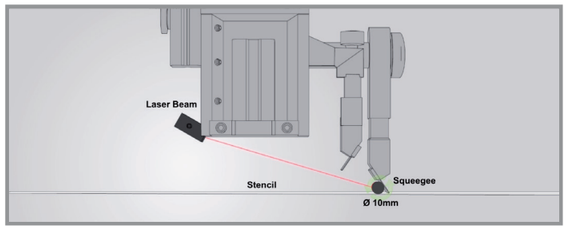
Insight into the future

STANDARD FEATURES & PERFORMANCE

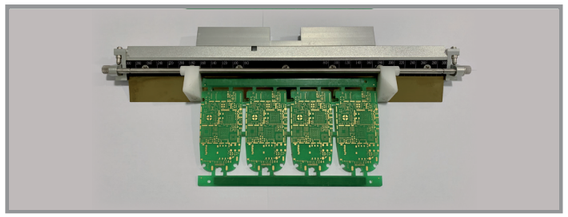
OPTI-PASTE CONTROL (OPC) - GET READY FOR LIGHTS - OUT MANUFACTURING



1. **Auto Paste Dispensing** – The paste is automatically dispensed across the entire squeegee length, maintaining at 15mm rolling diameter, adopting the common 500 grams' solder paste jar. Completely eliminates the wastage of solder paste overflowing to the sides of squeegee.

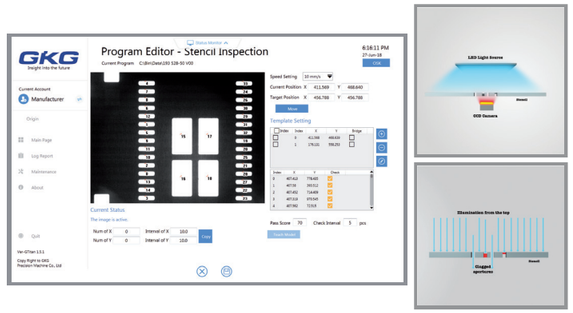


2. **Paste Rolling Diameter Monitoring System** – Tracing solder paste rolling diameter in real time and trigger the auto dispensing if it falls below 10mm. Completely eliminate insufficient solder paste on stencil and keep the paste rolling speed within optimum range to achieve best printing result.

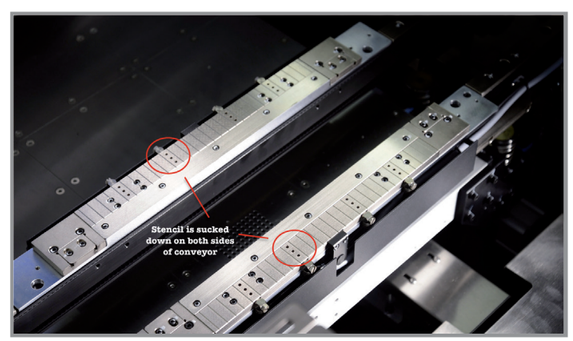


3. **OPC Squeegee** – Retainers at both sides can be adjusted to the exact length of the PCB, enabling solder paste to be retained within the PCB length to obtain a clean sweep. Possess absolute control over desired printing area, to achieve best printing quality.

QUALITY PRINT CONTROL (QPC) - NOTHING IS MORE IMPORTANT THAN A GOOD PRINT



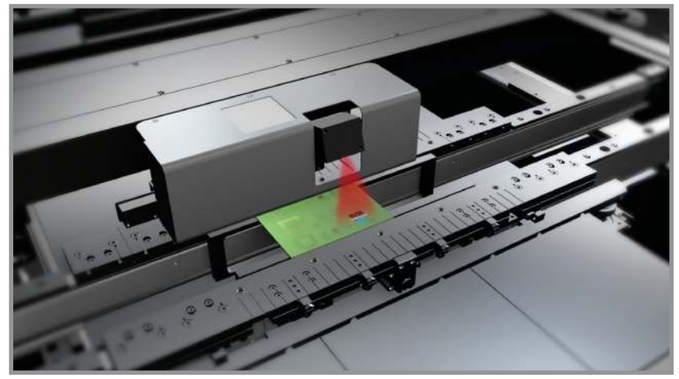
1. **Stencil Aperture Inspection System** - Using panel light installed at the top and CCD camera below to inspect stencil apertures. It automatically detects the clogging of stencil apertures to eliminate poor quality stencil being used, ensure quality printing right from the start.



2. **The Stencil Lock & PCB Clamper** – The Stencil lock sucks the stencil firmly on both sides of the conveyor during printing cycle. To eliminate stencil vibration by having firm contact with PCB. The PCB clamper is a combination of retractable top clamp and motor controlled side clamp, uniquely designed by GKG (patented). With these standard features, all of today's available and challenging substrates can be securely clamped and print to the highest quality.

OPTIONS

- **Ready for Industry 4.0** – Through machine status, parameters can be uploaded automatically. Designed to support customers' advancement towards Industry 4.0 intelligenceproduction,G-Titan provides seamless connection with users' MES system, enhancing product traceability and maintenance needs.



- **SPI Close-loop Connection** – 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.

- **Back to Back (BTB)**
  2 Machines back to back is a perfect match to all dual lane SMT lines. The machines can be operated independently of each other, running different types of product.

- **Auto Glue Dispensing** – Attached on CCD Camera XY axis, the dispenser provides basic function of glue dotting using syringe type dispensing needle after solder paste printing.