

SKYE

SKYE INSPECTION AND TRACEABILITY SYSTEM

SKYE IS A DEDICATED SMT STENCIL INSPECTION AND TRACEABILITY SYSTEM FOR EMS PROVIDERS.

The system measures and detects issues that directly impact print performance. High-precision stages and advanced image processing algorithms provide full inspection of aperture attributes, checking for presence, dimension, position and area.

At goods inwards, SKYE performs a comprehensive stencil verification, assigning inspection data to a unique stencil identifier for traceability and future comparison. Ongoing inspection and usage data can be used to monitor stencil condition, supporting proactive maintenance and replacement to reduce downtime and scrap.

As well as checking the stencil is correct relative to the manufacturing data, SKYE also checks the stencil after cleaning to ensure there is no solder paste or debris clogging the apertures.

SKYE can also measure PCBs against the original design data, identifying deviations in pad positioning to automatically adjust Gerber data, enabling the manufacture of the perfect stencil. As well as comparing to design data, SKYE can be used to generate data from PCBs where data has been lost or corrupted.

Backlighting provides clear, high-contrast imaging of aperture profiles, clearly highlighting clogs while preventing cosmetic surface defects from affecting dimensional and positional measurements. Top lighting supports inspection of stencil and PCB surface features, including fiducials, engravings and pads.

An adjustable chase provides a clean, unobstructed background through the apertures and allows for straightforward loading and positioning for stencils and PCBs of all shapes and sizes.

The fully enclosed system incorporates a high-magnification telecentric lens, Renishaw 1-micron scales and Watt Laser's proprietary inspection and measurement software. A granite base provides a stable metrology platform, while the gantry configuration and linear motors enable high-speed, high-precision movement to increase inspection throughput.



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INSPECTION, MEASUREMENT AND CALIBRATION SYSTEM

Measuring Camera Resolution	0.9µm
Stage Resolution	1µm
Scanning Camera FOV	23 x 16mm
File Input Format	Gerber (RS-274X), ODB++
Data Output	SPC (Statistical Process Control)
Inspection Area	600 x 600mm
Max Frame Sizes	736.6 x 736.6mm (29 x 29")
Power Requirement	230V/110V
Minimum Aperture Size	30µm
Repeated Positioning Accuracy	±2µm
Active Z-Axis	