XXL Size Inline High Resolution and High Speed Automated Optical Inspection System

BF-10Z

Line Scan Technology AOI for XXL-size PCBs

The new BF-10Z Automated Optical Inspection System employs Saki's unique Line Scan Technology for inspecting PCB panels up to 686 x 870 mm (27.01 in. x 34.25 in.) - a 40% increase in scanning area over Saki's previous XXL model. The BF-10Z is ideal for manufacturers building oversized products like communication base stations, server & storage assemblies and LED back panels.

XXL Inspection in a Compact Footprint

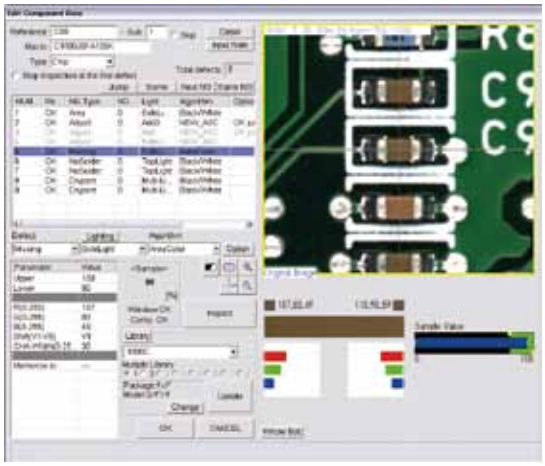
With the BF-10Z, Saki incorporates an innovative scanning method called "Multi-threading". This enables BF-10Z to inspect XXL-size panels within its compact body, requiring the smallest production floor space of any system in its class.

Saki's Innovative Coaxial TopLight - the Best Lighting for Solder Inspection

Like all Saki's 2D AOI Systems, the new BF-10Z uses Saki's powerful Coaxial TopLight concept that illuminates the PCB surface from a 90 degree, perpendicular angle. Coaxial TopLight eliminates shadowing when shorter components are located next to much taller ones. Component libraries created with Coaxial TopLight are fully transportable - from location to location, board to board, and machine to machine.

Need Traceability?

Like the rest of Saki's 2D AOI Family, the BF-10Z can be equipped with both 1D & 2D barcode (QR code and data matrix) reading capability. This option makes assembly tracking and defect monitoring more effective and efficient.



Selective Resolution System

For manufacturers building XXL assemblies with ultra-small components like 0402 (01005) or 0.38 mm (0.015 in.) pitch ICs, Saki has equipped the new BF-10Z with a powerful 10 µm resolution scanning mode for accurate inspection of the micro-sized features of these devices. When operating in 10µm resolution scanning mode, the BF-10Z can still inspect a maximum-size panel in 63 seconds. Now users can select between either resolution operating modes, choosing the one that best matches their accuracy needs with their throughput needs.

High Throughput - with High Resolution

When running in its standard 20µm resolution mode, the new BF-10Z boasts a 10% increase in scanning speed over the previous XXL model, even with its 60% increase in scanning area. The BF-10Z's tact time for a 686 x 870 mm (27.01 in. x 34.25 in.) panel is 39 seconds.

XXL-Size Flexibility

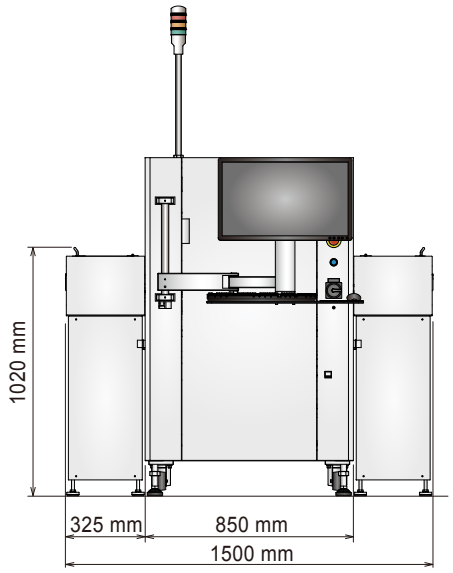
The BF-10Z features a 40 mm (1.575 in.) clearance on both the top and bottom sides, providing enough room for the largest SMT components. This means the BF-10Z can be installed anywhere in the assembly process: post-paste, post-placement, post-reflow, or after hand soldering.

Rely on the BF-10Z's Real Time Defect Management & Analysis

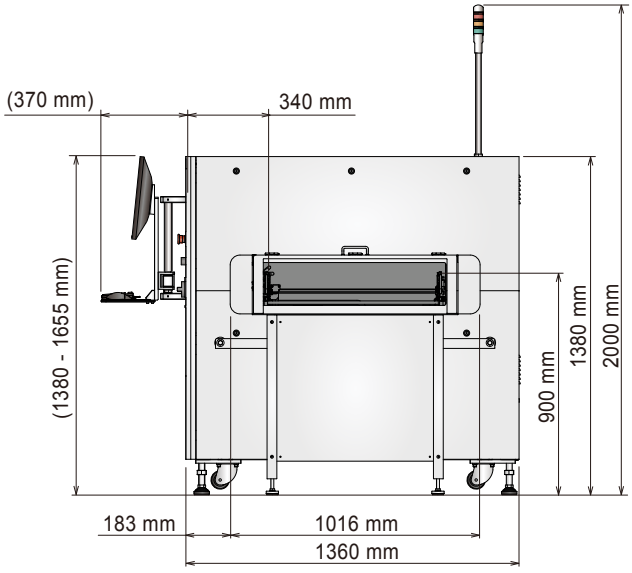
The built-in real-time SPC functionality of the BF-10Z helps you to combine exceptional quality with high productivity for your SMT process. For more efficiency, network the BF-10Z with Saki's family of optional AOI enhancements including the BF-Editor (off-line programming), the BF-RP1 (remote repair station), the BF-View (AOI process management platform) and the BF-Monitor (SPC & Quality Management Environment).

Dimensions

■ Front View



■ Side View



System Specifications

Model	BF-10Z
Resolution	10μm, 20μm (Selective Resolution System)
Board Size	50 W x 60 L - 686 W x 870 L mm (1.97 W x 2.36 L - 27 W x 34.25 L in.)
Board Thickness	0.6 - 5.0 mm (0.02 - 0.196 in.)
Board Warp	2 mm (0.078 in.) or less
PCB Clearance	Top : 40 mm (1.575 in.) Bottom : 40 mm (1.575 in.)
Inspection Categories	Presence/Absence, Misalignment, Tombstone, Reverse, Polarity, Bridge, Foreign material, Absence of solder, Insufficient solder, Lifted lead, Lifted chip, and Fillet defect. Each defect name can be arranged freely by the system function.
Tact Time	10μm : Approx. 63 sec. 20μm : Approx. 39 sec.
Image Scanning Time(*1)	10μm : Approx. 15 sec. x 3 20μm : Approx. 8 sec. x 3
Camera (Image processing)	Line color CCD camera
Lighting	LED lighting system
Transfer Conveyor Method	Flat belt transfer
Transfer Conveyor Height	880 - 920 mm (34.65 - 36.22 in.)
Transfer Conveyor Width Adjustment	Auto width adjustment
Operating System	Windows 7 Professional
Optional System	BF-Editor / BF-RP1 / BF-Monitor / BF-View
Optional	2D Barcode Recognition, Journal Printer

(*1) If a PCB size is smaller than 686 W x 870 L mm (27 W x 34.25 L in.), Image scanning time will be shorter than these values. Shading process is performed when a PCB is loaded to the machine.

Installation Specifications

Electric Power Requirement	Single phase ～100 - 120V / 200V - 240V +/- 10%, 50/60Hz, 800VA
Air Requirement	0.5 MPa, 5L/min (ANR)
Usage Environment	15℃(59F) - 30℃(86F) / 15 - 80% RH (Non-condensing)
Dimensions(*2)	1500 W x 1360 D x 1380 H mm (59.06 W x 53.54 D x 54.33 H in.)
Weight	Approx. 530 Kg (1168 lbs)

(*2) Monitor and keyboard arm is not included.

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