

Off-line Simultaneous Double-Sided Automated Optical Inspection System BF-10BT

Machine Overview

The BF-10BT has been developed for the end of line inspection, it performs a simultaneous Automatic Optical Inspection of both sides of the PCB. It fully inspects both SMD and hand placed parts including PTH. BF-10BT can detect overlooked defects from earlier processes and improve the quality of your products.

Simultaneously Inspects Both Sides of PCBs

BF-10BT is the automated optical inspection system which inspects both sides of double-sided PCBs at once. Due to this the system achieves the same inspection speed as single side inspection systems. It is equipped with two cameras for scanning per each side of a PCB using Saki's unique alternate scanning technology. It has 40 mm clearance on both sides; therefore it is suitable for the final inspection process after all component assembly.

Reducing Inspection Process

In a double-sided PCB mounting process, defects might occur on Side A during the mounting process of Side B. In order to find such defects, two inspection machines and a PCB flipper are usually needed for the final inspection process. Installation of BF-10BT, integrates all of these systems into one.

Suitable for Final Inspection Process

BF-10BT is capable of inspecting both sides simultaneously at high speed. It is a suitable solution for the final process. However it is also be a solution for acceptance inspection post SMD before back end assembly process.

Coaxial Overhead Light

Soldering condition is inspected by illuminant irradiation of coaxial overhead lighting. With the use of coaxial lighting shadows are not generated and, the inspection is not affected by the shadow of neighboring tall components. Therefore, the same library is fully usable at any location of the board.

Real-time Defection Management and Analysis

With the real-time SPC display function, BF-10BT provides the real-time production management enabling efficient productivity and quality. It can be networked with an extensive range of optional systems (BF-Editor/BF-RP1/BF-View) to provide off line programming, paperless rework and inspection history.

Selective Resolution System

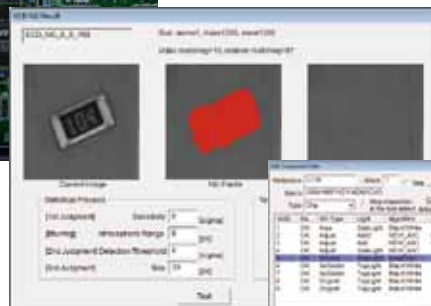
When operating in its standard 10μm resolution scanning mode, the BF-10Z can inspect a 250 x 330 mm panel in 19 seconds. When in 20μm resolution mode, 11 seconds. Now users can select between either resolution operating modes, choosing the one that best matches their accuracy needs with their throughput needs.

Advantage of Line Scan Visual Inspection

Extra components on a PCB can be detected by setting up only one inspection window for the whole board. This advantage is offered thanks to our line image acquisition technology means that any damage such as scratches, solder balls or contamination on side A resulting from side B assemble can be found.

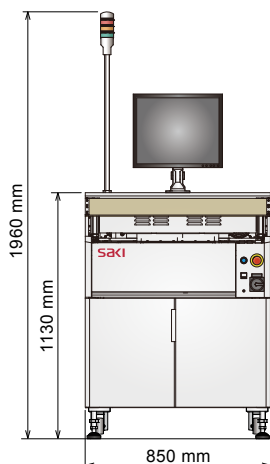
Improved Operability

In addition to "Start Button", BF-10BT is equipped with "OK/NG Button" so that the operator doesn't have to use keyboard or mouse during its automatic operation.

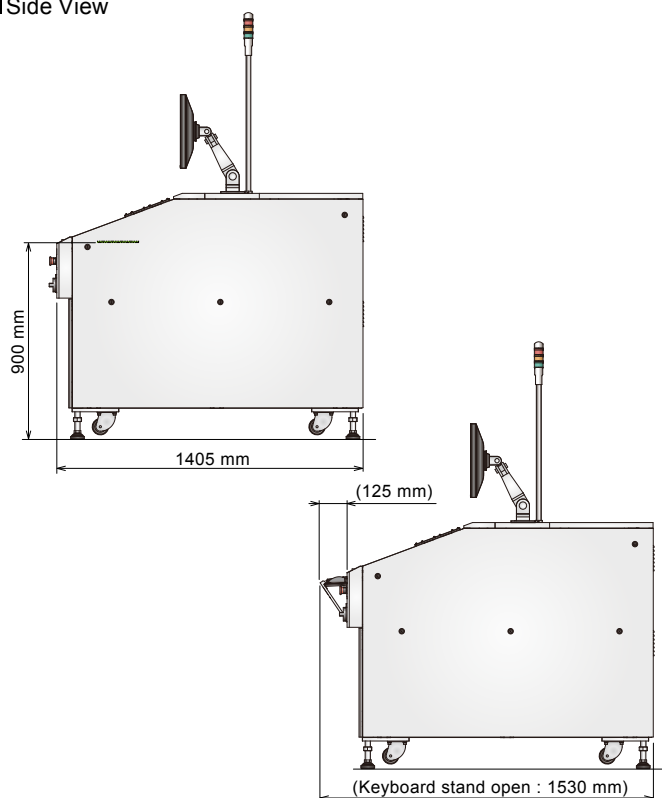


Dimensions

■ Front View



■ Side View



Sysmtem Specifications

Model	BF-10BT
Resolution	10μm, 20μm (Selective Resolution System)
Board Size	50 x 50 mm - 250 x 330 mm
Board Thickness	- 5.0mm
Board Warp	+/- 1 mm
PCB Clearance	Top : 40mm, Bottom : 40mm ^(*)
Rotated Component Support	Available for 0 to 359° rotation (unit of 1°)
Inspection Categories	Presence/Absence, Misalignment, Tombstone, Reverse, Polarity, Bridge, Foreign material, Absence of solder, Insufficient solder, Lifted lead, Lifted chip, and Fillet defect
Tact Time	10μm : Approx. 19 sec. ^(*) (250×330mm) 20μm : Approx. 11 sec. ^(*) (250×330mm)
Image Scanning Time	10μm : Approx. 16 sec. ^(*) (250×330mm) 20μm : Approx. 8 sec. ^(*) (250×330mm)
Camera (Image Processing)	Line color CCD camera
Lighting	LED lighting system
Operating System	Windows 7 Professional 64bit
Optional System	BF-Editor / BF-RP1 / BF-View
Optional	2D Barcode Recognition, Journal Printer, BlackLight (Conformal Coating Inspection) ^(*)

(*) e.g. when a PCB's thickness and warp are 1 mm, the top clearance is 38 mm and the bottom clearance is 40 mm from the PCB surface.

(*) If a PCB size is smaller than 250x330mm, image scanning time will be shorter than these values.

(*) Including image scanning time.

(*) When choosing this optional, PCB Clearance is Top : 30 mm, Bottom : 30 mm.

Installation Specifications

Electric Power Requirement	Single Phase ~100 - 120V / 200 to 240V +/-10%, 50/60Hz, 800VA
Air Requirement	0.5MPa, 5L/min (ANR), 73PSI, 0.18CFM
Usage Environment	15°C (59F) - 30°C (86F) / 15 - 80% RH (Non-condensing)
Dimensions	850(W) × 1405(D) × 1130(H)mm
Weight	Approx. 450kg

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