

BF-Tristar

PCB Automated Optical Inspection System Simultaneous High Speed Inspection for Both Sides

SMT production process for the new generation ~ both sides inspection at a time for efficient SMT production control~



The Highest Speed Throughput

Applying Saki's unique Line Scan Technology, the BF-Tristar achieves simultaneous inspection of double-sided PCB's to create a highly efficient production process. The creation of inspection recipes, scanning and inspection can be done at the highest speed by applying the newly developed "Master-Slave PC System", in which multiple cameras and PC's process the PCB image in parallel. BF-Tristar is able to inspect both sides of an M size board in less than 25sec, counted from the time when PCB is taken into the machine.

Process of Inspection

Also applicable as the final test after in-circuit test and function test prior to shipment.

* The system employs 3 types of high intensity LEDs:
Top light: red LED, Side light: white LED, and Low light: blue LED.

Easy and Friendly Operation and Program Control

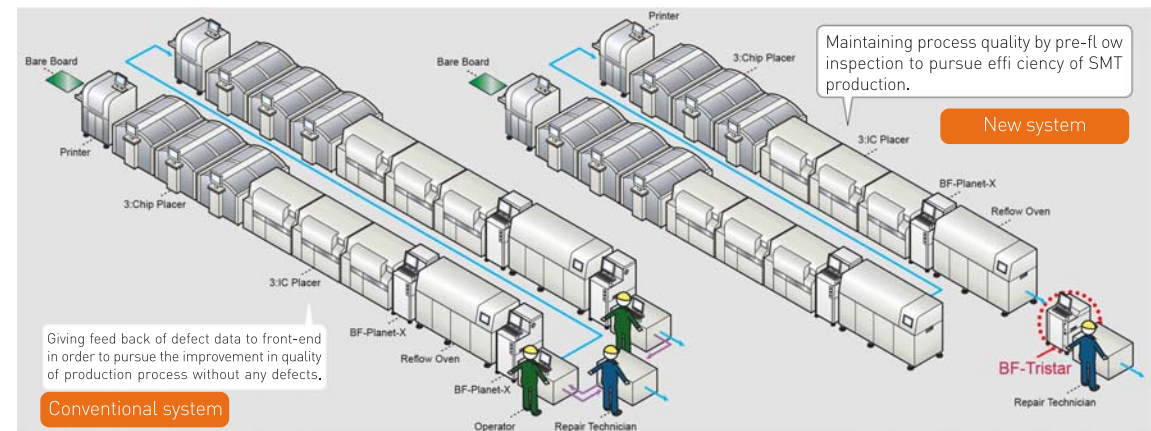
NC data extraction and program tuning of double-sided PCB's can be done with the ease of single-sided PCB's. 1 program data can be used to control 1 PCB model. Change of PCB model at production can be completed at once.

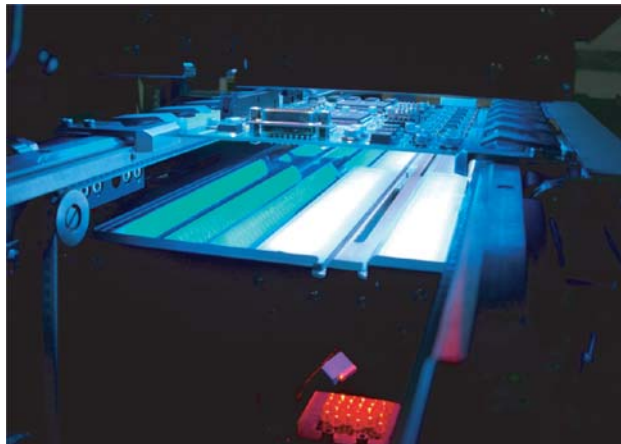
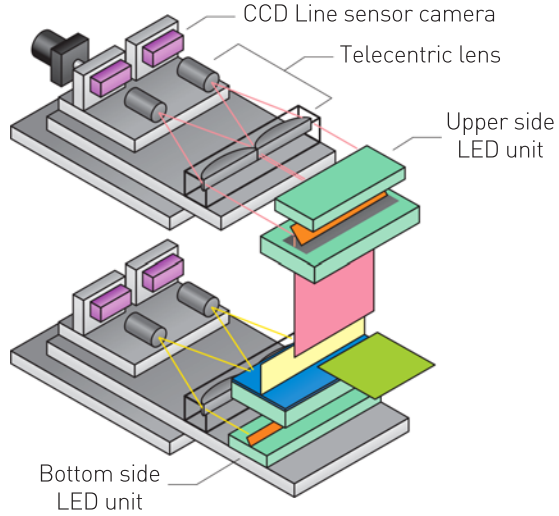
High Accuracy

10 µm high resolution imaging, matched with line color CCD sensor camera, enables inspection of high density mounted 01005 (0402) chips. Tricolor MLT Lighting (*) improves inspection accuracy of letter recognition, polarity, and solder fillets.

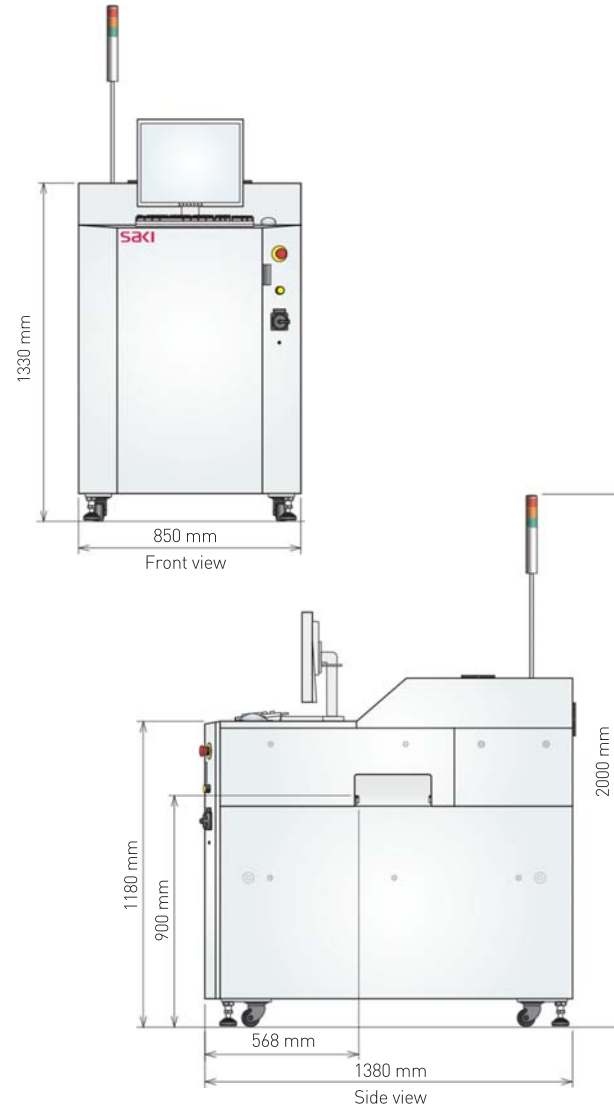
Auto Focusing Function

Auto Focusing Function provides stable environment of image scanning.





Dimensions



Specifications

Model	BF-Tristar
Resolution	10 μ m
Board size	70x50 - 330x250 mm, 2x2.8 - 10x13 in.
Board thickness	0.6 - 2.5 mm, 24 - 100 mils
Board warp	+/-1 mm, 40 mils
PCB clearance	Top: 30 mm, Bottom: 30 mm
Rotated component support	Available for 0-359° rotation (unit of 1°)
Inspection categories	Presence/Absence, Misalignment, Tombstone, Reverse, Polarity, Bridge, Foreign material, Lifted Chip, and Fillet defect. Each defect name can be changed freely by system function.
Tact time *1 *2	Approx. 25 sec. (250 x 330 mm)
Image scanning time *1	Approx. 15 sec. (250 x 330 mm)
Camera (image processing)	Line color CCD camera
Lighting	LED lighting system
Transfer conveyor method	Flat belt transfer
Transfer conveyor height	900 +/-20 mm, 36+/-0.8 in
Transfer conveyor width adjustment	Automatic
Operating system	Windows 7 English Version
Optional system	BF-Editor/BF-RP1/BF-Monitor/BF-View
Optional	2D Barcode Recognition, Journal Printer

*1 If PCB size is smaller than 250 x 330 mm, Image scanning time will be shorter than this values. *2 Including Image Scanning Time.

System Requirements

Electric power requirement	Single phase ~ 200 - 240V +/-10%, 50/60Hz, 1300VA
Air requirement	0.5MPa, 5L/min (ANR), 73PSI, 0.18CFM
Usage environment	15°C(59F) - 30°C(86F) / 15 - 80% RH (Non-condensing)
Dimensions W x D x H (Main body)	850 x 1380 x 1330 mm, 33.46 x 54.33 x 52.32 in.
Weight	Approx. 450 kg, 992 lbs