

## Inline High Resolution and High Speed Automated Optical Inspection System **BF-Planet-XII**

### High Resolution Imaging System

With a superior resolution of 10µm and scanning line color CCD camera, BF-Planet-XII provide accurate and stable inspection results. Solder fillets on components as small as the high density mounted 01005(0402) chip, as well as IC's with 0.4mm pitch lead are easily inspected and analyzed.

### High Throughput

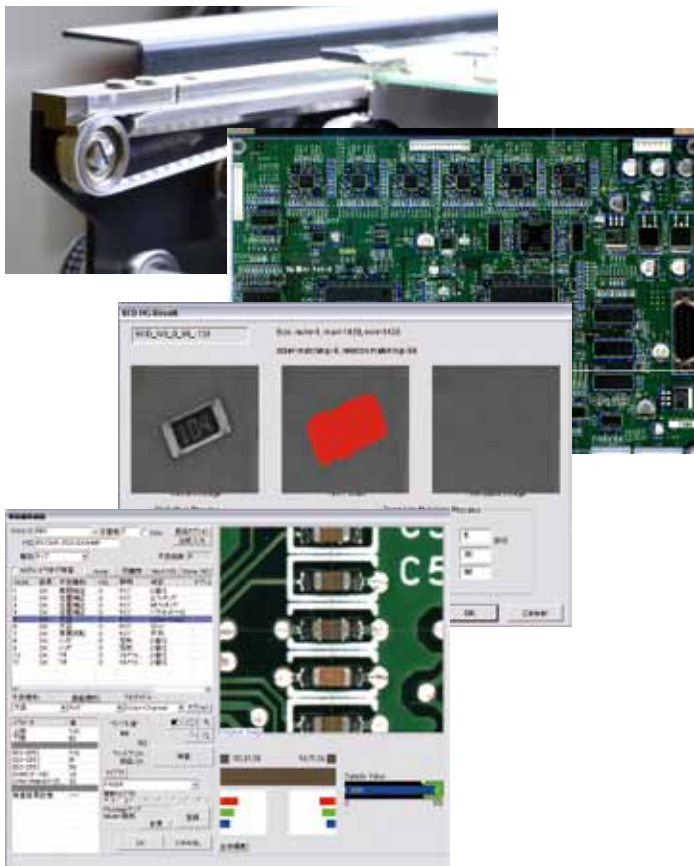
BF-Planet-XII has Saki's original alternate scanning system that captures several lighting images in one scanning. Newly developed color capturing system enable to make scanning speed twice faster than previous model. It takes only 9 seconds to capture M-size board [250x330mm]. Overall tact time including inspection also become shortened dramatically.

### Advantage of Line Scan Visual Inspection

Extra components on the board can be detected only by setting up one inspection window on the whole board. It is realized by the advantage of line scan method.

### Coaxial Overhead Light

Soldering condition is inspected by illuminant irradiation of coaxial overhead lighting. Inspection is not affected by shadowing by neighboring tall components, therefore same library is available at any location on the board.



### New Interface

Renewed user interface makes it easier to set up inspection data by using pre-installed Saki standard library. And optional new function KPK, that finds out the difference between surface of the board and the surface of component automatically, simplifies to detect missing component. This realizes time reduction for inspection data making at launching production.

### Flexibility

BF-Planet-XII has 40mm clearance at the top side of the board and 40mm at the bottom side. It enables most of the PCBs with tall components. In addition, BF-Planet-XII can be used in any stage of the PCB production process from post-print, post-mounter, and post-flow / re-flow, or manual mounting.

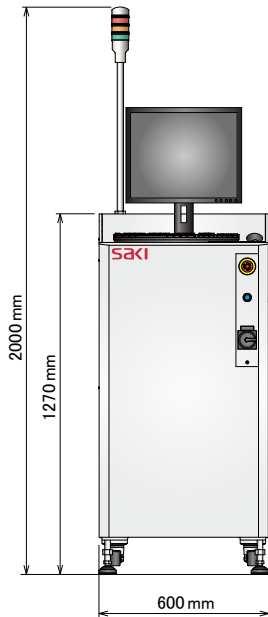
### Traceability

Optional function of BF-Planet-XII can read all types of Barcode and 2D code on the board. Inspection output is reported with code number. It enables easy SPC data handling and log data management on manufacturing lines.

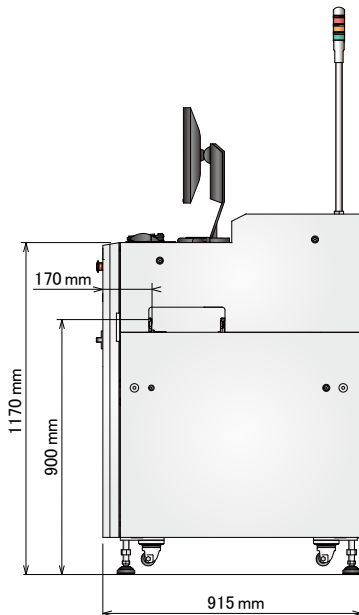


## Dimensions

### ■ Front View



### ■ Side View



## System Specifications

|   |   |
|---|---|
| Model                                   | BF-Planet-XII   |
| Resolution                              | 10 $\mu$ m  |
| Board Size                              | 50x60 - 250x330mm, 2x2.4 - 10x13in.   |
| Board Thickness                         | 0.3 - 3.2mm, 12 - 126mils   |
| Board Warp                              | +/-2mm, 79mils  |
| PCB Clearance                           | Top: 40mm, 1.57in. Bottom: 40mm, 1.57in.  |
| Rotated Component Support               | Available for 0 - 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. Each defect name can be changed freely by system function. |
| Tact Time <sup>(*)</sup> <sup>(*)</sup> | Approx. 18sec. (250x330mm)  |
| Image Scanning Time <sup>(*)</sup>      | Approx. 9sec. (250x330mm)   |
| Camera (Image Processing)               | Line color CCD camera   |
| Lighting                                | LED lighting system   |
| Transfer Conveyor Method                | Flat belt transfer  |
| Transfer Conveyor Height                | 900+/-20mm, 36+/-0.8in  |
| Transfer Conveyor Width Adjustment      | Manual  |
| Operating System                        | Windows XP English Version  |
| Optional System                         | BF-Editor / BF-RP1 / BF-Monitor / BF-View   |
| Optional                                | 2D Barcode Recognition, Journal Printer, Automatic Transfer Conveyor Width Adjustment   |

(\*) If PCB size is smaller than 250x330mm, Image scanning time will be shorter than this values.  
 (\*\*) Including Image Scanning Time.

## Installation Specifications

|                            |  |
|----------------------------|--|
| Electric Power Requirement | Single Phase ~100 - 120V / 200 - 240V +/-10%, 50/60Hz, 500VA |
| Air Requirement            | 0.5MPa, 5L/min (ANR), 73PSI, 0.18CFM                         |
| Usage Environment          | 15°C(59F) - 30°C(86F) / 15 - 80% RH (Non-condensing)         |
| Noise Level                | 57.5dB   |
| Dimensions W x D x H       | 600 x 915 x 1270mm, 24 x 36 x 50in.                          |
| Weight                     | Approx. 275kg, 607lbs  |

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