

## Benchtop High Resolution, High Speed Automated Optical Inspection System

# BF-Voyager

### Large-Sized PCB Inspection System on a Benchtop

Designed for space conservation, BF-Voyager is the definitive solution for large-sized PCB inspection system on a benchtop. With the same high resolution, high speed scanning technologies used in Saki Corporation's inline model, the BF-Voyager delivers inspection performance to the benchtop.

### High Resolution Optical System

With a superior resolution of 18 $\mu$ m and a scanning line color CCD camera, the BF-Voyager provide accurate and stable inspection results. Solder fillets on components as small as the high density mounted 0201 (0603) chip, as well as IC's with 0.4mm pitch lead are easily inspected and analyzed.

### Flexibility

The PCB clearance, 40mm at the top and 60mm at the bottom, is designed to allow inspection of PCBs with tall components. In addition, the BF-Voyager can be used in any stage of the PCB production process from post print, post pick & place, and post-flow / reflow.

### Traceability

Barcode recognition allows for easy PCB inspection data management. Optional 2D barcode capability (QR, data matrix).

### Industry-Leading High Throughput

To maximize throughput, the BF-Voyager use Saki's unique *Alternating Lighting Digital Scanning System* (1) to scan and capture images of the entire PCB in a single pass. With the scanning sequence optimized to dramatically reduce inspection tact time, Saki AOI's offer industry-leading throughput.

### High Accuracy

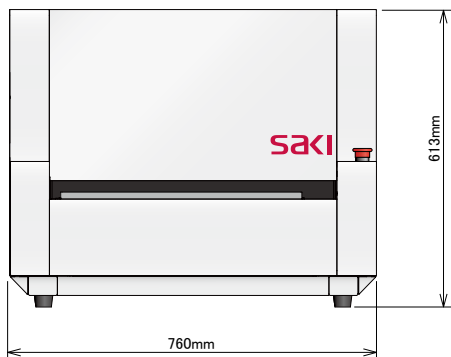
The BF-Voyager inspection system utilizes a *Telecentric Lens System* (2) and an *Automatic Digital Brightness Control System* (3) for improved repeatability and increased accuracy of the inspection result. For Character Recognition, Polarity, and Solder Fillet, both AOI systems employ *Brilliant MLT Lighting* (4), which helps capture a clearer PCB image.

1. The alternating lighting system, in conjunction with the system's line scanning capability, enables the system to capture multiple images of the entire PCB in a single scan.
2. The Telecentric lens system was designed to compensate for image distortion for more accurate detection.
3. Pixel brightness is automatically adjusted to produce a clearer image.
4. The system employs 3 types of high intensity LEDs: Top Light, Full-Color Side Light, and Low Light.

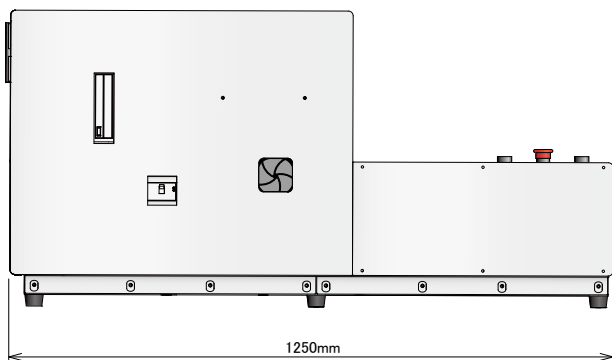


## Dimensions

Front View



Side View



## System Specifications

Model	BF-Voyager
Board size	53×60 - 460×500mm, 2×2.4 - 18×20in
Board Thickness	0.6 - 2.5mm, 24 - 200mils
Board Warp	+/-2mm, 79mils
PCB Clearance	Top: 40mm, 1.57in Bottom: 60mm, 2.36in
Rotated component Support	Available for 0 - 359°rotation (unit of 1°)
Inspection Categories	Presence/Absence, Misalignment, Tomb stone, 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.
Scanning Time	Approx. 32sec. (460×500mm)
Calculating Time	*Approx. 3 sec./10,000 inspection windows
Resolution	18μm
Camera (Image Processing)	Line color CCD camera
Lighting	LED lighting system
Operating System	Windows XP English Version
System Option	BF-RP1 / BF-Editor / BF-View
Option	2D Barcode Recognition, Journal Printer

\*Calculating time depends on inspection algorithm.

## System Requirements

Electric Power Requirement	Single Phase ~ 100 - 120V / 200 - 240V +/-10%, 50/60Hz
Power Consumption	700VA
Air Requirement	Not needed
Usage Environment	15°C(59F) - 30°C(86F) / 15 - 80%RH (Non-condensing)
Dimensions	760(W) × 1250(D) × 613(H)mm
Weight	Approx. 150kg (Excluding Monitor and PC)

## saki Saki Corporation

URL:<http://www.sakicorp.com> E-mail:[sakicorp@sakicorp.com](mailto:sakicorp@sakicorp.com)

### Headquarters

Ogawa Building, 4-14-7, Nakanobu,  
Shinagawa-ku, Tokyo, Japan, 142-0053  
TEL: +81-3-5788-6280 FAX: +81-3-5788-6295

### Saki (Shanghai) CO.,LTD

Room 809, Kerry Everbright City, No. 218 West Tian Mu Road,  
Zhabei District, Shanghai 200070, P.R.C.  
TEL: +86-21-6282-2266 FAX: +86-21-5230-5002

### Saki America, Inc.

200 Prosperity Drive Knoxville, TN 37923  
TEL: +1-865-824-1332

## Global Network

### USA office (TN)

TEL: +1-865-824-1332

### Europe office (Augsburg)

TEL: +49-821-90-89-99-0

FAX: +49-821-90-89-99-99

### China office (Shanghai)

TEL: +86-21-6282-2266

FAX: +86-21-5230-5002

### Korea office

TEL: +82-31-222-6144

FAX: +82-31-222-6744

### Taiwan office

TEL: +886-3-312-6868

FAX: +886-3-312-6767

### Asia Pacific office (Singapore)

TEL: +65-6496-7711

FAX: +65-6496-7722