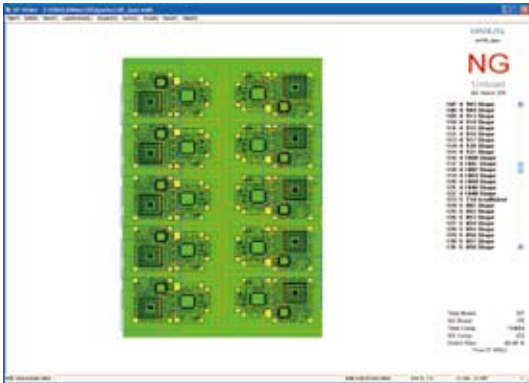


## 3D In-Line Solder Paste Inspection System

# BF-SPider

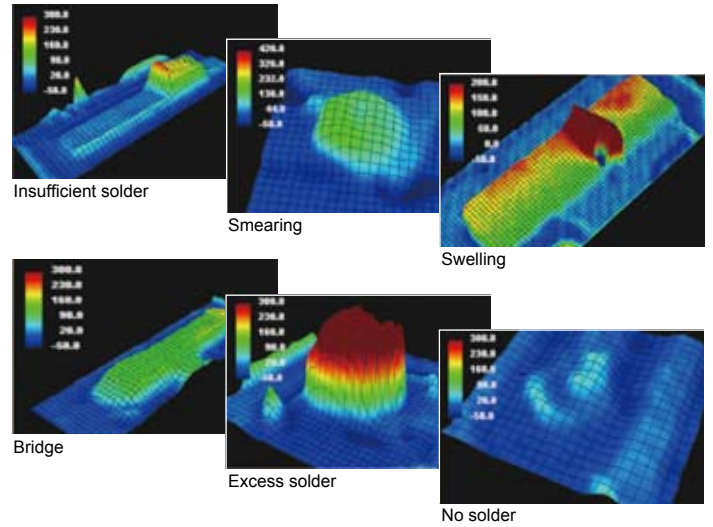
### Compatibility with Saki BF-1 AOI Systems

The user-friendly Saki BF-1 operating system allows network compatibility with all Saki BF-1 AOI series.



### 3D In-Line Solder Paste Inspection System

Advanced analysis capability is achieved by integrating original, state-of-the-art Saki 3D measurement technology. This allows the system to easily rotate, enlarge, and reduce images.



### High Speed and Precision Inspection System

The newly developed Phase Measurement Profilometer Technology ensures high inspection repeatability. The height and volume

inspection repeatability is rated at +/- 1% (3σ), with a Gauge Repeatability and Reproducibility (GR&R) of less than 10%.



BF-SPider-L



BF-SPider-M

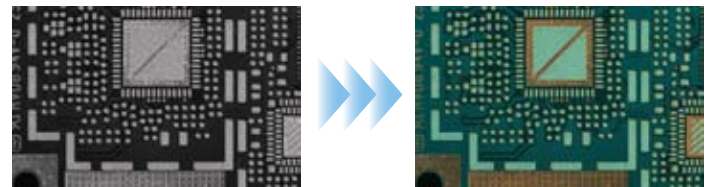


### Data Analysis

Process indices such as Process Capability (Cp, Cpk), XY Deviation, and solder deposition information can be shown in real time.

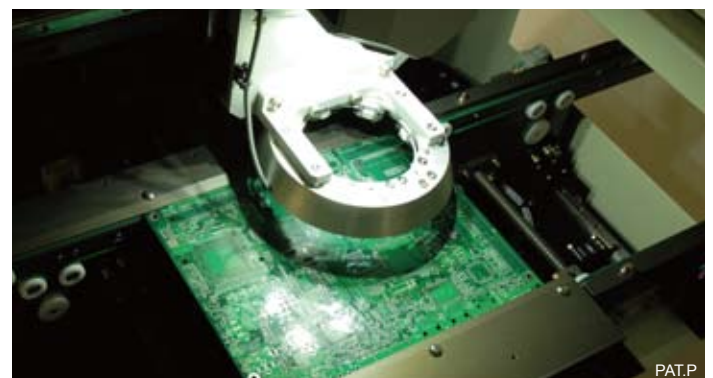
### 2D and 3D inspection

BF-SPider combines color 2D image and 3D image to obtain high precision paste measurement under varying PCB surface color, silk print, pad color conditions. The zero point is measured for each pad, allowing a wide tolerance against PCB warpage. The BF-SPider's combination 2D/3D methodology allows for accurate measurements of insufficient solder, scratches and solder splash on golden fingers.



Ordinary black & white image

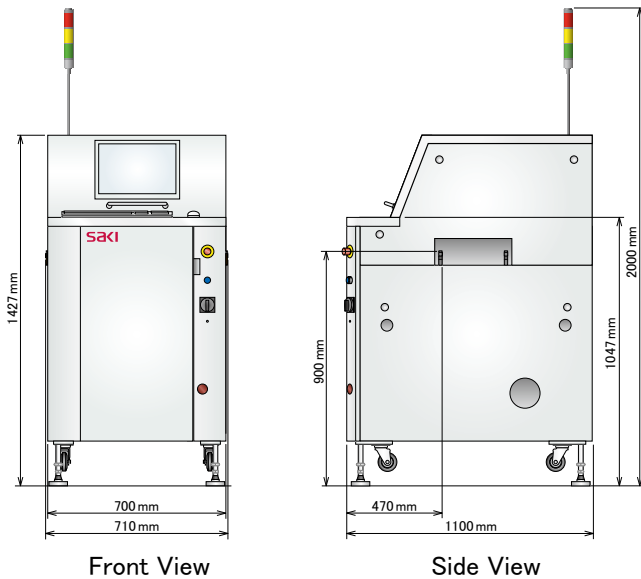
Composite color image



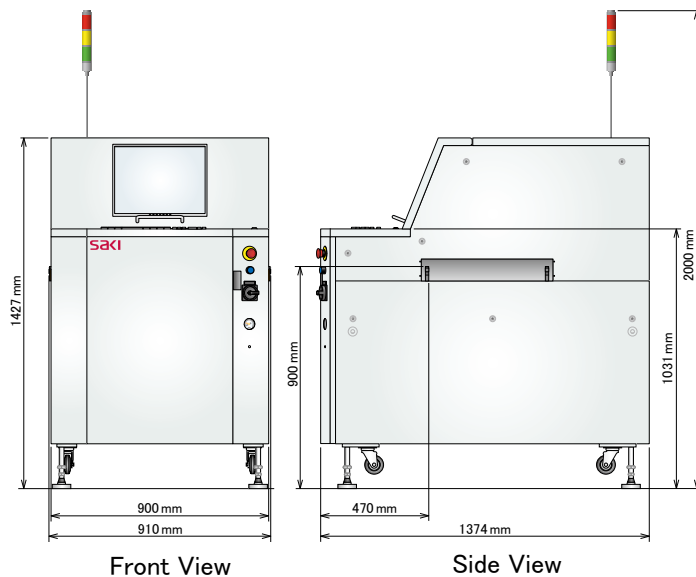
PAT.P

**Dimensions**

**BF-SPider-M**



**BF-SPider-L**



**System Specifications**

| Model   | BF-SPider-M  | BF-SPider-L                            |
|---|--|--|
| Board Size  | 50×60 - 250×330mm,<br>2×2.4 - 10×13 in                                 | 50×60 - 460×500mm,<br>2×2.4 - 18×20 in |
| Board Thickness                                   | 0.4 - 5.0 mm, 16 - 197 mils  |  |
| Board Warp  | +/-3 mm, 120mils   |  |
| PCB Clearance                                     | Top: 25 mm, Bottom: 25 mm  |  |
| Inspection Categories                             | Volume, Height, Area, Shift, Shape, Spread, Bridge                     |  |
| Image Capturing Time<br>(Image Resolution : 18µm) | 60FOV<br>Approx. 18 sec.   | 183FOV<br>Approx. 55 sec.              |
| Fiducial Mark Inspection Time                     | Approx. 3 sec.   |  |
| PCB L. /Unl. Time                                 | Approx. 3 sec.   | Approx. 5 sec.                         |
| Horizontal Resolution                             | 12µm (Standard) or<br>18µm (Option:Possible to choose before dispatch) |  |
| Height Resolution                                 | 0.4 µm   |  |
| Height Accuracy                                   | +/-2µm   |  |
| Paste Height Range                                | 0 - 450 µm   |  |
| Height Inspection Repeatability                   | +/-1% (3σ) (With 3D Calibration Jig only)                              |  |
| Volume Inspection Repeatability                   | +/-1% (3σ) (With 3D Calibration Jig only)                              |  |
| Gauge R&R   | Less than 10%  |  |
| Detection Method                                  | 2D CCD / Phase Shifting  |  |
| Lighting  | 3D: Stroboscopic Lamp, 2D: LED   |  |
| Transfer Conveyor Method                          | Round belt transfer  |  |
| Transfer Conveyor Height                          | 900+/-20 mm  |  |
| Transfer Conveyor Width Adjustment                | Auto   |  |
| Operating System                                  | Windows XP English Version   |  |
| Electrical Requirement                            | Single Phase ~200 - 230V +/-10%, 50/60Hz, 800VA                        |  |
| Air Requirement                                   | 0.5MPa, 5L/min (ANR), 73PSI, 0.18CFM                                   |  |
| Usage Environment                                 | 15 - 30°C / 15 - 80% RH (Non-condensing)                               |  |
| Dimensions W x D x H                              | 700 × 1100 × 1427mm  | 900 × 1374 × 1427mm                    |
| Weight  | Approx. 600kg  | Approx. 800kg                          |

**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