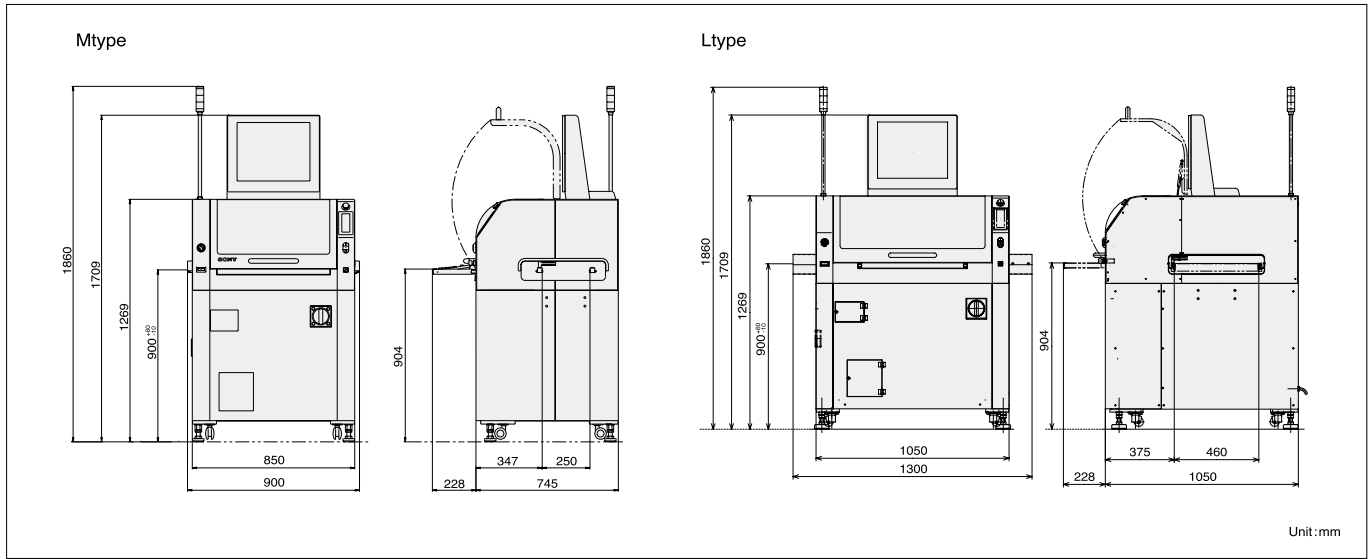


■Main Specifications

Model name	SI-C500	
	M-type	L-type
Image processing system	High resolution monochrome CCD camera system/ High-intensity LED (red)	
Resolution	19.0 μ m / pixel (Other resolution optionally available)	
Field of view	Approx. 31.0 mm x 23.0 mm / frame	
Detected defects	Insufficient, excessive, or inaccurate solder deposits, bridging, missing components, inaccurate component mounting, reversed components, incorrect polarity	
Board size	50 x 50 mm ~ 250 x 330 mm	50 x 50 mm ~ 460 x 510 mm
Board thickness	0.5 ~ 2.0 mm	
Clearance	Upper side: 20 mm / Lower side: 40 mm (15 mm with supporting base unit mounted)	
Position reference	Front-side-rail origin (Back-side rail origin available upon request)	
Flow of work	Left to right / Right to left (To be specified at factory set-up)	
Conveyor height	900 mm - 10 mm + 60 mm	
Inspection speed	0.4 sec / frame (top image, side image)	
Operating system	Windows® 2000	
Program capacity	127 models	
Power supply / consumption	AC 100 V, 50/60 Hz, Max. 1.5 kVA (Other power rating optionally available.)	
Air pressure	0.49 MPa dry air	
External dimensions	900 (W) x 745 (D) x 1709 (H) mm (Machine status light height 1860mm)	1300 (W) x 1050 (D) x 1709(H) mm (Machine status light height 1860mm)
Weight	350kg	460kg
Optional functions	LAN compatible server, off-line data generator, NG repair system, centralized confirmation control, automatic data conversion program, stencil function, automatic conveyor width adjustment, NG printer, IN/OUT extension conveyer	

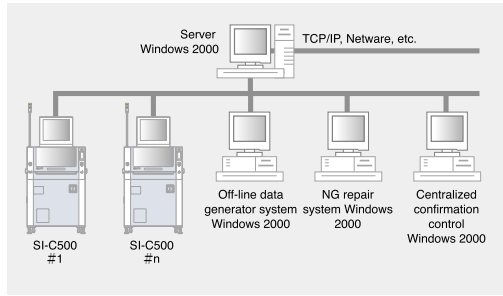
■External view



■Operating support options

LAN Support

Systems running on Windows 2000 are linked to the network via the server. All the SI-C500 data can be stored in the hard disk on the server and managed centrally within the worksite.



* Off-line data generator system and NG repair system can be used independently, without being connected to the LAN.

Off-line Data Generation System

With a stand-alone PC, data and inspection libraries can be created or modified anywhere.

OCR Function

Character recognition on the IC can be performed using the OCR function.

OCR setup screen

Centralized Confirmation Control

Under semi-automatic operation, OK/NG evaluations from more than one machine can be centrally managed with one PC.

NG Repair System

(Off-line repair system / Data collection function) Picture output of NG PWB information. Also performs repair-support operations.

Automatic Data Conversion System

Inspection data can be automatically generated from CAD data and/or mounter data.

SONY

PWB Visual Inspection Machine

SI-C500

*Flexibly fit for “After-Printer”
and “Before-Reflow” inspection*



PWB VISUAL INSPECTION MACHINE

⚠ Safety Notice: For your safety, please read the instruction manual carefully before using the product.
•Specifications and appearance are subject to change without prior notice. •Windows® is a trademark of Microsoft Corporation.

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Used material: 100% recycled paper, recyclable
Zero-VOC (Volatile Organic Compound) vegetable oil ink

016E-0510-06-01A

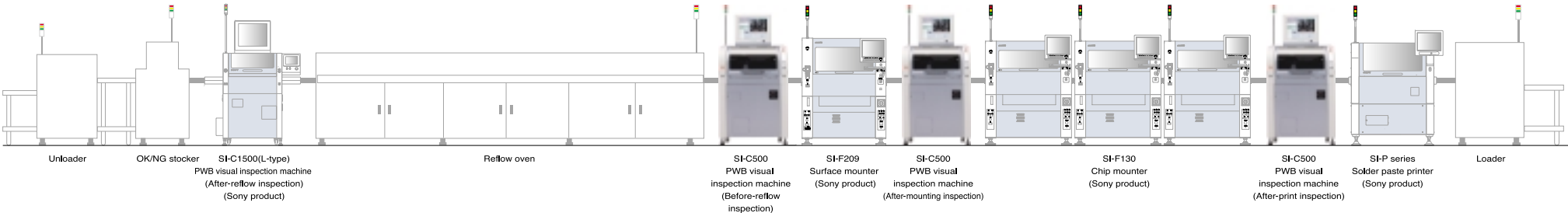


Sony Manufacturing Systems Corporation

High-precision defect detection including poor solder printing, inaccurate component mounting and irregular material.

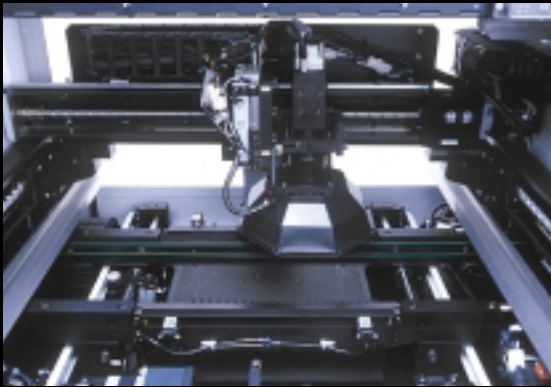
Flexibly fit for 3 positions in PWB production process.

High-speed data generation requires just 5 minutes, and high-precision detection with a 2 megapixel camera – SI-C500 offers the speed and precision demanded for the inspection of large and high-density PWBs. SI-C500 meets the requirements for use at 3 positions, i.e. “after-print”, “after-mounter” and “before-reflow” inspection process. Easy and rapid data generation on the LAN or stand-alone PC and repair support system enhances the product quality and efficiency of your PWB assembly lines.



Supporting “after-print” inspection, “after-mounting” inspection and “before-reflow” inspection.

The table-lock function enables “before-reflow” and “after-mounting” inspections.



Locked table provides no vibration to mounted components on the PWB.

“After-print” inspection example

Solder (blurring)	Bridge

“After-mounting” inspection and “before-reflow” inspection examples

Inaccurate chip mounting	Flipped chip mounting	Component insertion in BGA section

SI-C500
PWB VISUAL INSPECTION MACHINE

High precision inspection through use of the latest technology

Achieves the high precision repeatability essential to the inspections of lead-free and halogen-free PWBs

$\sigma=0.3$

$\sigma=0.03$

High reliability using a 2 megapixel camera

Correlation between actual measured solder paste volume and two-dimensional inspected area Area vs. volume correlation diagram

Measured by area

Volume (1 / 10000mm³)

Correlation coefficient = 0.67

Compact design

The compact size allows easy integration into existing production lines. The design for front-side maintenance means there is no need to leave space at the back.

Example of installation into existing lines

Simple Program Generation Function

① Automatic conversion from Gerber data

Gerber data → Layout data

② Automatic program generation from printed PWB

Solder printed PWB → Conversion condition set-up

③ Automatic program generation from stencil (option)

Stencil → Conversion condition set-up

Layout data → Pattern layout data

Conversion condition set-up → Pattern layout data (after fine position adjustment)

Pattern layout data → Inspection data

Standard library

Required time for generating program. Approx. **5 minutes**