ALD5820S Inline Pre-Reflow AOI

Beyond Innovation

LEADING THE WAY FOR INSPECTION SOLUTIONS

► Extremely low FA rate, high FPY and no escapes

► Shadow free, warpage free solution, insensitive to board colour

► Fast and accurate inspection and measurement

► Ideal for inspection of 0201 and 01005 components, 0.3 mm pitch

► Fast programming, intuitive user interface

► Effective quality verification

► Process control for defect prevention
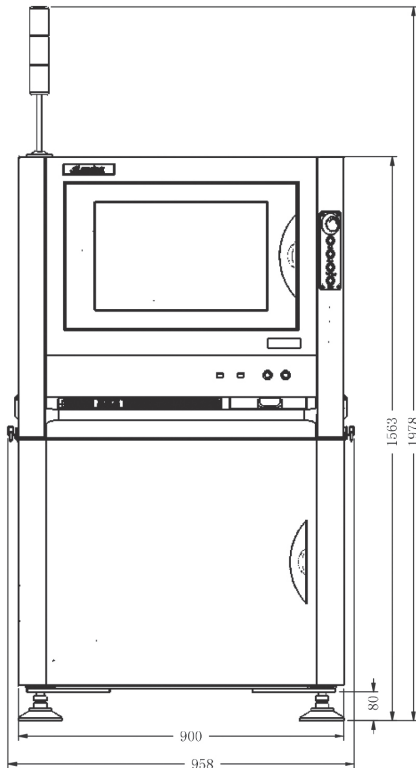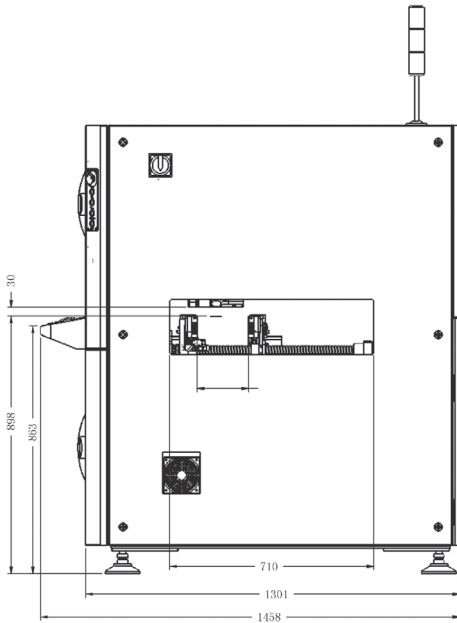
► High MTBF, low maintenance cost

ALD5820S – the Best Choice

The ALeader ALD5820S is a high performance easy to operate AOI system designed to inspect the PCB assembly pre-reflow. In a common production environment, printing and placement processes are the common contributors to end of line defect rates. The ALD5820S is built to detect those defects before the board is soldered and therefore before the repair becomes difficult and expensive.

The ALD5820S accurately measures the component's position and supplies feedback, which is vital to improve the performance of P&P systems. Supported by powerful algorithms, the ALD5820S delivers an unprecedented high speed performance leaving zero escapes and a very low false alarm rate on the most complicated and challenging of PCB assemblies. System performance is not affected by the shadows or board warpage.

Program creation is simple and straight forward. The system also offers support for offline programming, integrated barcode reading capability as well as various additional traceability options. Statistical process control is also available.
In addition, the repair station delivers a clear image of the defect and good sample allowing fast verification and prevention of operator mistakes.

Functional Specifications

Camera	4M pixel high-speed camera
Lighting system	Extra bright RGB LED - 360˚ angle and direct top light directions
Program creation	CAD file import, Gerber file import, central library, part number links, auto programming
Applications	Pre-reflow, 2D solder paste inspection
Operating system	Windows 7 Professional

Inspection Board Specifications

PCB type	All colors and all pad finishes
PCB size range	50mm x 50mm (min) ~ 510mm x 500mm (max)
PCB warpage	<5 mm, warpage-free technology
PCB thickness range	0.3mm to 5mm
Clamping clearance	Top 2mm, Bottom 2mm
PCB weight	Up to 3kg
Underside/Topside clearance	85mm/30mm
Min component size	01005, 0.3 mm pitch

Inspection Performance

Resolution/range/speed	8 μ/pixel; FOV:16 x 16 mm; Inspection speed<0.170 sec/FOV 15 μ/pixel; FOV:30 x 30 mm; Inspection speed<0.160 sec/FOV
Inspection coverage	Missing, misalignment, polarity, billboard, up-side-down, damaged, wrong component, lifted leads and more 2D paste defects: insufficient solder paste, shorts, offset...
Shadow effect	Shadow-free technology
Component color	Insensitive to component colour and transparency
OCV/OCR	Standard on each machine
Double side check	Identifies and automatically changes side

Features and Options

Special features	Supports auto-change program, multi-boards (include bad mark) and multi-program inspection modes
Barcode system	Auto read barcode with camera 1D and 2D; External reader reads back side barcode(option)
Server mode	Central server multiple machines data handling
Remote control	Remote control through TCP/IP for verification, system operation and program adjustment
Additional Options	SPC, repair station, Offline program, External barcode scanner Support applications - Site Dashboard, First Article Inspection, Package Link

Hardware

Conveyor	Automatic clamp, auto-load and unload, automatic width adjustment
Conveyor direction/time	Left to Right or Right to Left, handling time 4 sec
X/Y driver	Screw and AC servo driver, Accuracy <10μ; PCB fix, camera moves X/Y
Display	22 inch TFT LCD
Power Supply	AC230V 50/60Hz <1.5KVA
Compressed air	0.4 - 0.8 Mpa
Equipment communication	SMEMA
Operational conditions	10~35˚C, 35～80％ RH (no dew)

Dimensions and Weight

Weight	700 kg
Dimensions	1300x900x1565 (LxWxH) (not including signal light tower height)
Conveyor height	890mm to 980 mm