

A7a Pro Flying Probe Test System

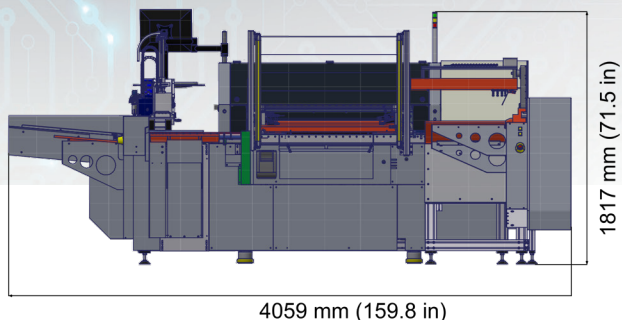
Automated Test for Rigid and Flexible Boards



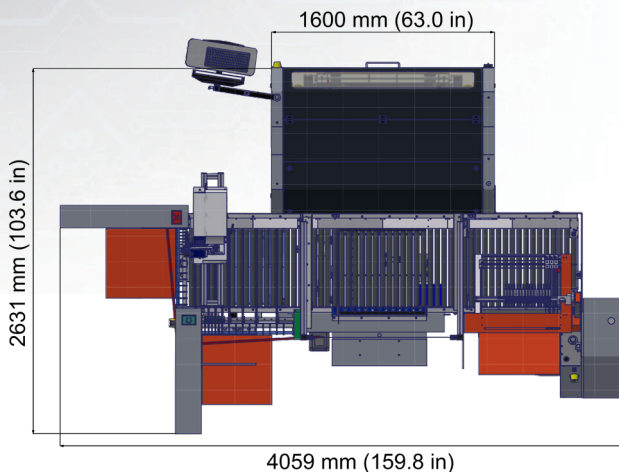
- ▲ 8 Test Heads
- ▲ High Speed Direct Linear Drives for X and Z motion
- ▲ Light weight Carbon Z-Axis
- ▲ Fully Automatic “Lights-out” Operation
- ▲ Tension Shuttle System for thin core product
- ▲ Fast 280 mA Kelvin Testing

A7a Pro Technical Specifications

Flying Probe Test System



Front View



Plan View

Mechanics

Fully automated test system for different board sizes in lights-out operation. Basic unit with 8 test probes (4 top, 4 bottom)

Board Handling

	Manual mode	Automatic mode
Max. board size (X x Y)	635 mm x 535 mm	635 mm x 535 mm
Min. board size (X x Y)	25 mm x 25 mm	100 mm x 100 mm
Test area (X x Y)	610 mm x 510 mm	610 mm x 510 mm
Board thickness	up to 7 mm	up to 5 mm
Loader capacity	390 mm 240 boards / 1.6 mm thickness	
Cycle time automation	< 20 s (clamping mode) < 24 s (tensioning mode)	

Smallest pad	50 μm / 2.0 mil
Smallest pitch	100 μm / 4.0 mil
Resolution measurement system	$\pm 0.1 \mu\text{m}$ / ± 0.004 mil
Repeatable accuracy	$\pm 4 \mu\text{m}$ / ± 0.16 mil
Soft touch probes	5 g to 10 g

Electronics

Continuity test	1 Ω to 10 k Ω
Isolation test	up to 25 M Ω (FM), up to 100 G Ω (ohmic) MicroShort Detection [®]
Test voltage	100 mV to 1000 V

Camera System

4 color cameras for fast optical scanning of top and bottom side.
Resolution 6 μm / pixel

Options

- 4-wire measurement with max. 280 mA test current
0 Ω to 1 k Ω $\pm 2\%$, min. $\pm 25 \mu\Omega$
with Kelvin probes 0.3 g to 2.5 g
Smallest pad 80 μm / 3.2 mil*
Smallest pitch 120 μm / 4.8 mil*
* special setup
- Embedded components test
R 0 Ω to 1 M Ω $\pm 1\%$, min. $\pm 0.5 \Omega$
1 M Ω to 200 M Ω $\pm 3\%$
C 0 F to 100 μF $\pm 2\%$, min. ± 30 fF
L 0 H to 10 mH $\pm 5\%$, min. $\pm 0.25 \mu\text{H}$
Diode / Varistor U_F, U_R, U_{BR} 0 V to 12.5 V
- LaTest[®] open detection
with LaTest[®] probes 1 g to 10 g
High current 1.4 A (1 kHz)
- Label printer with barcode support
- Retest of fault files from external grid test systems on inquiry
- Repair software with barcode support
- Tensioning modules for flexible boards

Data input format	IPC-D-356A
Network connection	Ethernet, TCP / IP
Power supply	3 x 400 V, 50 Hz (3 x 208 V, 60 Hz), 2500 VA
Compressed air	8 bar / 115 psi, filtered
Temperature	18 $^{\circ}\text{C}$ to 27 $^{\circ}\text{C}$
Relative humidity	40 % to 60 %
Machine weight	1500 kg

All information subject to change without notice!
January 2025