



## FINEPLACER® pico ama

Automated Flip Chip Bonder



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The FINEPLACER® pico ama is a cost effective, fully-automated bonder, offering a high level of application flexibility.

This award winning system is targeted for low volume production environments, as well as product and process development where flexibility is crucial.

### Highlights\*

- Placement accuracy 5  $\mu\text{m}$  @ 3 sigma
- Components from 0.125 mm x 0.125 mm to 40 mm x 50 mm
- Working area up to 450 mm x 117 mm
- Supports wafer/ substrate sizes up to 8"
- Supports bonding forces up to 50 N
- Closed loop force control
- Fully automatic operation and assembly process
- Precise non- wearing xy planar table
- Traceability support with open data interface structure
- Flexible, cost effective performance

## Features

- Automated pattern recognition, alignment and bonding
- Overlay vision alignment system with fixed beam splitter
- Integrated Process Management (IPM)
- Adaptive process library
- Live process observation camera
- Virtually unlimited range of advanced bonding technologies

## Benefits

- Full automatic, user independent process
- Outstanding placement accuracy and instant operation without adjustments
- Synchronized control of all process related parameters: force, temperature, time, power, process environment, light and vision
- Fast and easy process development
- Immediate visual feedback reduces process development time
- ROI savings - one machine for all applications

## Technologies

- Thermocompression bonding
- Thermosonic bonding
- Ultrasonic bonding
- Soldering (AuSn / eutectic, Indium, C4)
- Adhesive technologies
- UV curing / thermal curing
- Bump bonding
- Copper pillar bonding
- Mechanical assembly

## Applications

- Flip chip bonding (face down)
- Precise die bonding (face up)
- Laser diode, laser diode bar bonding
- Optical engines, VCSEL/ photo diode bonding
- LED bonding
- Micro optics assembly
- MEMS/ MOEMS/ sensor packaging
- 3D packaging
- Wafer level packaging (W2W, C2W)
- Chip on glass, chip on flex

## Technical Specifications

Placement accuracy:	5 µm @ 3 sigma
Field of view (min) <sup>1</sup> :	2 mm x 1.5 mm
Field of view (max) <sup>1</sup> :	14 mm x 10.5 mm
Component size (min) <sup>1</sup> :	0.125 mm x 0.125 mm
Component size (max) <sup>1</sup> :	40 mm x 25 mm
Theta fine travel:	± 6° / 1 m °
Z- travel / resolution:	10 mm / 0.8 µm
Y- travel / resolution:	155 mm / 0.64 µm
X- travel / resolution:	380 mm / 0.64 µm
Working area <sup>1</sup> :	380 mm x 117 mm
Bonding force range <sup>1*</sup> :	0.2 N - 50 N
Heating temp. (max) <sup>1,2*</sup> :	400 °C

## Modules & Options

- Bonding Force Module
- Chip Heating Module
- Die Flip Module
- Dispenser Module
- Formic Acid Module
- Optics Shifting
- Process Gas Module
- Process Video Module
- Substrate Handling Module
- Substrate Heating Module
- Ultrasonic Module
- UV Curing Module

## Notes: