FINEPLACER® pico ma
Multi-purpose Die Bonder

The FINEPLACER® pico ma, a multi-purpose bonder, offers high placement accuracy (5 micron), allowing for bonding of the smallest die with a pitch of down to 50 µm.

This versatile platform is used in a wide field of micro assembly applications – such as flip chip and die bonding.

Designed for prototyping or low-volume production, R&D and universities.

Highlights

- Placement accuracy 5 µm*
- Components from 0.125 mm x 0.125 mm to 100 mm x 100 mm*
- Working area up to 450 mm x 234 mm*
- Supports wafer/substrate sizes* up to 8” *
- Supports bonding forces up to 400 N*
- Can be configured as a hot air rework system
- Manual and semi-automatic configurations

* depending on configuration and application
**Features**

- Automated processes
- Overlay vision alignment system (VAS) with fixed beam splitter
- Integrated Process Management (IPM)
- Real time process observation camera
- Advanced system software with adaptive process library
- Process transfer from system to system
- Process flexibility due to modular concept

**Benefits**

- Hands-off die placement, user independent process operation
- Outstanding placement accuracy and instant operation without adjustments
- Synchronized control of all process related parameters: force, temperature, time, power, process environment, light and vision
- Immediate visual feedback reduces process development time
- Fast and easy process development, process recording and reporting, photo capture
- Process transfer from R&D to production saves time, guarantees reliable results
- One system handles a wide variety of applications

**Technologies**

- Thermocompression
- Thermosonic
- Ultrasonic
- Soldering (AuSn, C4, Indium, eutectic)
- Adhesive technologies
- Curing (UV, thermal)
- Mechanical assembly

**Applications**

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

**Technical Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Placement accuracy</td>
<td>5 μm</td>
</tr>
<tr>
<td>Field of view (min)¹</td>
<td>1.6 mm x 1.2 mm</td>
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<tr>
<td>Field of view (max)²</td>
<td>20 mm x 15 mm</td>
</tr>
<tr>
<td>Component size (min)¹</td>
<td>0.125 mm x 0.125 mm</td>
</tr>
<tr>
<td>Component size (max)²</td>
<td>40 mm x 40 mm</td>
</tr>
<tr>
<td>Theta fine travel</td>
<td>± 6°</td>
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<tr>
<td>Z- travel</td>
<td>10 mm</td>
</tr>
<tr>
<td>Working area¹</td>
<td>280 mm x 117 mm</td>
</tr>
<tr>
<td>Heating temp. (max)¹</td>
<td>400 °C</td>
</tr>
<tr>
<td>Bonding force (max)²</td>
<td>400 N</td>
</tr>
</tbody>
</table>

**Modules & Options**

- ACF Module
- Bonding Force Module (manual)
- Bonding Force Module (automatic)
- Chip Heating Module
- Die Flip Module
- Die Pick-up Module
- Dispenser Module
- Formic Acid Module
- Optics Shifting
- Process Gas Module
- Process Video Module
- Scrubbing Module
- Substrate Heating Module
- Ultrasonic Module
- UV Curing Module

\* depending on configurations/application, (1) standard value, other values on request, (2) optional modules

Technical information are subject to change without prior notice.

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