MULTI-MODULE ATTACH

2200 EVO
Datacon 2200 evo

Machine Highlights

• High speed multi chip module assembly
• SiP – stacked die / epoxy, spacer film and WBL (Wafer Backside Lamination)
• Thin die handling (down to below 30 µm)
• Reticle (multi-project) wafers
• Fast product change due to recipe driven tool change
• Highest performance in the high end market, up to 7,000 UPH
• Unbeaten flexibility by die attach and flip-chip capability in one machine
• Highest product flexibility by boat and substrate handling
## 2200 evo - key features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td><strong>Flexible machine:</strong></td>
<td>Flip chip and die attach process</td>
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<tr>
<td><strong>Standard:</strong></td>
<td>Multi Chip capability</td>
</tr>
<tr>
<td><strong>Accuracy:</strong></td>
<td>10 μm @ 3σ</td>
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<tr>
<td><strong>Machine performance:</strong></td>
<td>up to 7,000 uph</td>
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<tr>
<td><strong>Bond force:</strong></td>
<td>0 - 75 N (up to 100N on request)</td>
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<tr>
<td><strong>Bond temperature:</strong></td>
<td>max. 350°C</td>
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<tr>
<td><strong>Max. bond range:</strong></td>
<td>300 x 200 mm</td>
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<tr>
<td><strong>Die size:</strong></td>
<td>0.17 mm – 50 mm</td>
</tr>
<tr>
<td><strong>Component presentation:</strong></td>
<td>8&quot; - 12“ wafer (smaller sizes with adapter)</td>
</tr>
<tr>
<td><strong>Substrate presentation:</strong></td>
<td>Strips, boats, carriers, leadframes, Substrate size up to 13“ x 8“</td>
</tr>
<tr>
<td><strong>Option:</strong></td>
<td>Wafer substrate up to 12“</td>
</tr>
<tr>
<td><strong>Footprint:</strong></td>
<td>1.16 m x 1.23 m</td>
</tr>
</tbody>
</table>
Reasons for 2200 evo

- Flexibility
- Multi-Chip Capability
- Versatility
- Flip Chip
- SiP Stacked Die
- Epoxy
- Heat & Force
- Thin Dies
- Accuracy
- Small Footprint
- Speed

Proven reliable machine
Versatile Multi-Chip Bonder

Multi-Chip
- Automatic Tool Changer
- Auto Wafer Transfer
- Auto Chip Ejector Carousel

Multiple Dispensing
- Epoxy Writing
- Integrated dispense axis (ID)

Multiple Processes
- Flip Chip
- Heated Head/Substrate

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2200 evo Features

Multi Chip Module specific Features

• Wafer transfer system with up to 25 different wafers selectable
• High speed wafer changer (< 10 sec)
• Eject carousel system for 5 eject tools
• Automatic tool-changer system for up to 14 Pick & Place tools
• Multi dispense options (up to 3 materials)
• Various epoxy applications, also with integrated dispensing axis
• Automatic flip chip and flux-dipping option
2200 evo Features

Flip Chip specific Features

- Flip chip & dipping
- Heated bond head for gold stud bump
- Heated substrate chuck
- 12” wafer capability
- 10 μm @ 3s placement accuracy

‡ Solution with high flexibility
‡ **NEW:** Active Bond Head Position Control
‡ **NEW:** Temperature ramping of the bond tooling with up to 40 K/sec
2200 evo Features

SiP specific Features

• Combined epoxy & film adhesives
• Heated bond head for WBL process
• Heated substrate chuck
• 12" wafer capability
• 10 μm @ 3s placement accuracy
• Thin die handling down to 30 μm
• Fast product change with MCM capability

‡ Solution with high flexibility
‡ High volume production

‡ NEW: Temperature ramping of the bond tooling with up to 40 K/sec
2200 evo Bond Head

- New bond head with air bearing and force feedback
- Bond force 50 g – 7,000 g,
- 50 g – 2,500 g with **closed loop** control
- 2,500 g – 7,000 g with current control
- Touch-down tool integrated for positional bonding
- Optional heating up to 350° C
- **New**: temperature ramping with up to 40K/sec
- **New**: Active position control and stepping function during the bond process
2200 evo Dispensing Systems

- Three basic dispenser types available
  - Pressure/time dispenser (1)
  - Spindle dispenser (2)
  - D-style pump dispenser (3)
- Available for both the ID axis system and the main axis system
- Handles various types of epoxy
- Cartridge sizes up to 30 ccm possible
- Adapters for Luer Lock or DL dispense needles
2200 evo Cameras & Light

- New digital CMOS cameras
  ‡ faster snap shots (app. 30ms faster)

- RGB light standard for
  - Upward looking direct light
  - Wafer camera direct light
  - Substrate camera direct and side light
Multi–Adapter Handling

- Up to 25 wafers per magazine
- Mix wafers, wafer adapters, ring adapters, waffle pack adapters – just as the application demands
- Up to 12“ wafers and 15“ wafer frames capable
I/O Systems

• Input / Output Systems – Require Flexibility and Choice
  – Line integration – the system must be SMEMA compatible
  – Conveyor buffers – for manual loading and unloading
  – ML1 – Single magazine input and / or output
  – ML6 – Multiple magazine input and / or output
  – Leadframe Unstacker