



Model ID
MD-P200

Model No. NM-EFD1B

- High quality bonding (High Accuracy , Epoxy Quality etc.) contributes to valuable devices production.
- Multi small die stacking capability contributes to downsizing of valuable devices.
- Variety of Epoxy-supplying method (Writing , Stamping , Dual Epoxy etc.) contributes to flexible production.
- Flip chip and thermosonic bonding capabilities contribute to higher densification and performance for valuable devices.

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Model No.	NM-EFD1B
Productivity *1	0.56 s / IC (Under the fastest conditions) 0.75 s / IC for thermosonic bonding (Including process time of 0.2 seconds. Under the fastest conditions)
Placement accuracy *1	XY (3 σ at PFSC conditions) : $\pm 7 \mu\text{m}$ (Flip bonding), $\pm 15 \mu\text{m}$ (With pre-centering), $\pm 25 \mu\text{m}$ (Direct bonding)
Substrate dimensions	L 50 mm \times W 30 mm to L 280 mm \times W 140 mm (For thermosonic : L 200 mm \times W 150 mm)
Die dimensions	L 0.25 mm \times W 0.25 mm to L 6 mm \times W 6mm
Number of die types	Up to 12 types (For AWC) / UP to 10 types (Tray with the palette changer) / Up to 5 types (Wafer frame with the palette changer)
Die supply	Wafer frame, Pre-expanded ring, Tray
Adhesive dispenser	Air-powered writing, Stamping pin,
Bonding load	Pneumatic head : 0.5 N to 10 N (Option : 1 N to 50 N) VCM head for thermosonic process : 1 N to 50 N (Option : 2 N to 100 N)
Head heating	Constant heating, Up to 250°C for the pneumatic head, Up to 300°C for the VCM head
Substrate heating	Constant heating, Up to 300°C
Number of nozzle	Up to 24 nozzles (Pickup nozzle, Bonding nozzle, Stamping tool) (Not available for the thermosonic nozzle)
Power source *2	3-phase AC 200 V \pm 10V, 50 / 60 Hz, Up to 4 kVA (Up to 7 kVA for heating specification)
Pneumatic source	0.5 MPa, 30 L / min (A.N.R.) (Up to 150 L / min for full-featured machine including cooling air)
Dimensions	Standard specification (Up to 200 mm substrate length. Including loader/unloader) W 1 950 mm \times D 1 190 mm \times H 1 720 mm (Machine body : W 1 190 mm \times D 1 190 mm \times H 1 720 mm)
Mass	2 200 Kg (Including loader / unloader)

*1: The described productivity and placement accuracy may differ depending on the conditions of use.

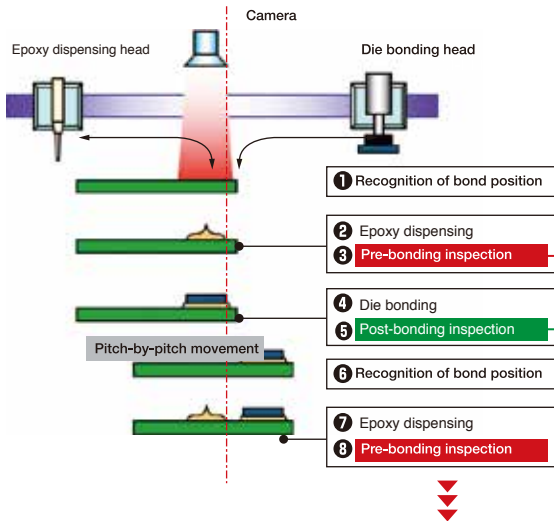
*2: Three phase 208 / 220 / 380 / 400 / 415 / 480
For more details, please refer to the specification sheet.

Unit Level Manufacturing by the Synchro-motion of Dispensing and Bonding

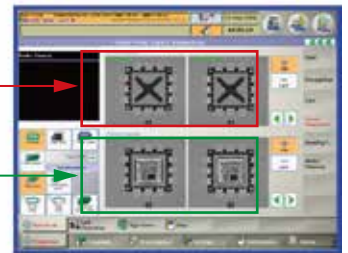
Die bonding is carried out immediately after Epoxy dispensing, thereby making it possible to finish the bonding operation before the Epoxy is deteriorated over time.

This realizes stable and high quality bonding at all bond positions on a substrate. Also, the Bonding Stage Camera enables pre-bonding inspection right after Epoxy dispensing and post-bonding inspection right after the bonding of a die (OP). This system allows you to realize manufacturing with real-time quality-inspection.

■ Process Flow Diagram



Auto Production Screen
Example display of inspection results



Friendly Operation

The large-sized touch panel and the interactive software realize an easy and reliable operating environment for all users from beginners to experts.

● **Example screens of the interactive software**

Graphics screens will guide you to the next step automatically



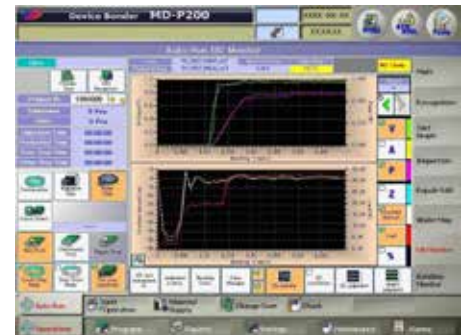
● **Recognition Teaching Examples**

Intuitive teaching is possible with friendly operation



● **Ultrasonic monitoring data sample**

Process parameters during ultrasonic bonding can be viewed in real time



⚠ Safety Cautions

● Please read the User's Manual carefully to familiarize yourself with safe and effective usage procedures.

● To ensure safety when using this equipment all work should be performed according to that as stated in the supplied Operating Instructions. Read your operating instruction manual thoroughly.

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Panasonic Group builds Environmental Management System in the factories of the world and acquires the International Environmental Standard ISO 14001.

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