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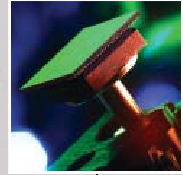
M9 Series
Flip Chip/Die Bonders



The low cost small footprint solution for ultra high precision flip chip die bonding

With the most basic system configuration, the M9 Series will allow you to perform cold compression, thermocompression, adhesive cure, and solder reflow, all without the need for hardware changes.

- **Placement accuracy of +/- 0.5 micron***
- **Forces of up to 200 Kg**
- **Temperatures of up to 500 degrees celsius**
- **Split optics system and brightfield/darkfield illumination**
- **Air bearing components**
- **Tip/tilt adjustment closed loop feedback**
- **Temperature and force maintenance**
- **Motorized stages**
- **Windows® XP**

Main Applications:

OPTOELECTRONICS: VCSELs, Edge-Emitting Lasers, Detectors, Laser Bars, MEMS, Eutectic Bonding

SEMICONDUCTOR: Focal Plane Arrays, LCD Displays, FCOB, BGA (FCIP), RF Devices, COF, MCM,COG

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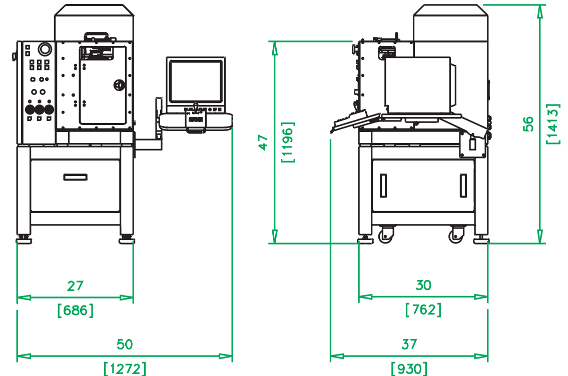
Ultra High Precision Flip Chip/Die Bonding System



Technical Specifications M9 Series

Stage Positioning	Travel	Resolution
X-Y Stage	+/- 25 mm	0.1 micron
X-Y Camera	75 x 200 mm	0.1 micron
Rotary	+/- 30 degrees	0.5 arcsec
Z (Riser)	50 mm	0.1 micron
Pitch & Roll	+/- 3 degrees	0.1 millirad

Optics

Magnification	10x Lens
17” High Resolution Flat Screen Monitor	350 x 300 microns (FOV)
Bonding Accuracy	+/- 0.5 micron*

Part Sizes

Substrate Size	Up to 100 mm x 100 mm
Die Size	0.2 mm to 50 mm (100 mm optional)

Utilities

Power Requirements	220V (50-60 Hz) 15 Amp
Vacuum	27 inches Hg
Air Regulation	85 PSI
Water (open loop)	1-2 liters/minute

Heating

Upper Chuck (Die)	400 degrees Celsius Resolution = 1 degree C
Lower Chuck (Substrate)	400 degrees Celsius Resolution = 1 degree C
Uniformity	+/- 5%
Ramp	2-4 degrees Celsius/second

Force Control	Range
M9-A	50 g to 20 Kg (50 Kg optional) Resolution = 10 grams
M9-G	200 g to 100 Kg (200 Kg optional) Resolution = 40 grams
Low Force Option	10 g to 2 Kg Resolution = 1 gram

Options

Ultrasonic/Thermosonic
Reflow with Gas Environment
Machine Vision
UV Source
Non-Contact Leveling
Dispenser

*Application Dependent

SALES OFFICES AND AGENTS

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