



FINEPLACER® sigma

Semi-automated Sub-Micron Bonder

The FINEPLACER® sigma combines sub-micron placement accuracy with a 450 x 150 mm working area and bonding forces up to 1000 N. The system is ideal for all types of precision die bonding and flip chip applications at chip and wafer level. This includes complex 2.5D and 3D IC packages, **Focal Plane Arrays** (i.e. image sensors), MEMS/MOEMS, and more.

Placing small devices on large substrates is made possible by the **FPXvision™** optical system design. With this alignment system, the smallest structures at the highest magnification can be viewed across the entire field of view. Moreover, **FPXvision™** introduces pattern recognition to a die bonder with manual alignment.

The FINEPLACER® sigma embraces all features of an assembly and development platform capable of handling an unlimited spectrum of applications and prepared for future technologies.

Highlights*

- Sub micron placement accuracy
- Supports 300 mm wafers
- Bonding forces up to 1000 N
- FPXvision™** - high resolution for all magnifications
- Software guided alignment verification
- Touch screen GUI
- Modular design for flexible configurations



Die bonder FINEPLACER® sigma

Features

- Alignment position verification via digital pattern recognition
- Sub micron placement accuracy for substrate sizes up to 450 x 300 mm²
- Easy process module integration allows individual machine configurations
- Software based process management with touch screen operation
- Integrated Bonding Force Module up to 1000 N*

Benefits

- Operator independent alignment process and automatic process run
- High precision chip assembly to wafer
- Virtually unlimited spectrum of bonding technologies
- Comprehensive, easy to use parameter optimization
- Latest bonding technologies, such as sintering, Cu/Cu and many more

Technologies

Thermocompression bonding

Thermo- / ultrasonic bonding

Soldering (**AuSn** / eutectic, Indium, C4)

Adhesive technologies

ACF/ ACP bonding

UV / thermal curing

Cu / Cu bonding, copper pillar bonding

Precision vacuum die bonding

Sintering

Micro mechanical assembly

Applications

Wafer level packaging (FOWLP, W2W, C2W)

2.5D and 3D IC packaging (TSV)

Multi chip packaging (MCM, MCP)

Flip chip bonding (face down)

Precision die bonding (face up)

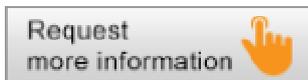
μLED and μLED array bonding

Optical package assembly

MEMS/MOEMS packaging

Sensor assembly

Glass-on-glass, chip-on-glass, chip-on-flex



* depending on configuration/application

1 other values on request and depending on configuration

2 optional module