

## HFB-System Configuration Opto



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Semi-automatic Die Bonder-System in rigid granite arrangement with a low bond force capability, second Z - axis and with a high resolution beam splitter optics for accurate alignment.

- Bond force 5 – 500cN
- Second Z - axis
- HMTPA (high magnified two point alignment)
- Network ready (RDS)
- Cycle time <5s

### Application area

The HFB-System in Configuration Opto is designed for micro assembly applications like bonding of optical components such as Vcsel, Pin diodes, Lenses, Single Emitter and Laser bars. With the integrated dual imaging optics in combination with the programmable Z-axis this system is well suited for reproducible bonding of electronic and opto-electronic components. A physically generated overlay live image allows the operator in combination with frame generated structures and the movable optics a direct alignment of components using their functional features. A second Z-axis can be used for load or unload of single or bonded devices, dispensing, dipping or stamping without tool exchange. This arrangement guarantees a maximum of process stability as well as a maximum working range using minimal footprint. Available options such as different heating plates, heated pick up tools, ultrasonic module or dispenser further extend the usability of the system. The HFB-system supports all topical and future connecting technologies and applications in the area of micro systems technology.

### Applications

- CoS (Chip on Submount)
- assembly of optical components (Vcsel, Pin diodes)
- assembly of lenses and lens array's
- Single emitter and Laser bar bonding
- MEMS / MOEMS assembly
- sensor assembly
- assembly of mechanical components
- sorting of components
- assembly of medical parts

### Technologies

- thermo-compression bonding (eutectic bonding, Au/Au bonding, Au/Sn bonding)
- ultrasonic - or thermosonic bonding
- adhesive bonding
- dispensing
- dipping
- stamping
- UV-curing

### Options

- different light sources
- ultrasonic module
- dispensing / stamping
- UV-curing
- heated pick-up tools
- heating plates with and w/o vacuum structure
- Coplanarity tools
- process gas chamber
- process gas suction
- support plate with vacuum
- input-/output station with or without vacuum
- HD inspection camera
- motorized stage X, Y

### Technical specifications

- rigid granite arrangement
- beam splitter optics
- HMTPA (high magnified two point alignment)
- frame generator
- fully programmable bond process
- air cushion table with micrometer screws for x- and y-axis
- levelable and height adjustable bond stage
- HD camera with optical zoom
- bond force: 5 – 500cN
- positioning accuracy: 2 micron
- maximum component size 25mm x 25mm
- maximum substrate size 175mm x 175mm
- working area: 175mm x 150mm
- open frame for process gas suction

### Data sheet

<b>Voltage:</b>	230 V, 50 Hz, 2 A
<b>Weight:</b>	190 kg
<b>Connections:</b>	Power cable IEC-60320 C13 Compressed air (6 mm pipe); <b>Pressure: 4.5 bar – 5.0 bar</b> <ul style="list-style-type: none"> <li>• ISO 8573-1:2000[1:4:2]</li> </ul> N <sub>2</sub> (6 mm pipe); <b>Pressure: 4,5 bar – 5,0 bar</b> Vacuum (6mm pipe); <b>Pressure: -0.6 bar – -0,8 bar</b> HDMI Type A (adjustment camera& inspection camera) 2x Option 9-pin D-Sub Ethernet RJ45 Cat.6 (touch panel & data storage)
<b>Travel range Z:</b>	60mm
<b>Travel range micro meter screw X:</b>	10mm
<b>Travel range micro meter screw Y:</b>	10mm
<b>Travel range Phi (X, Y stage)</b>	+/-10°
<b>Tool specifications</b>	Shaft diameter (mm): Ø3 h6 Shaft length (mm): 12 Overall length (mm): 20 (focusable including component)

