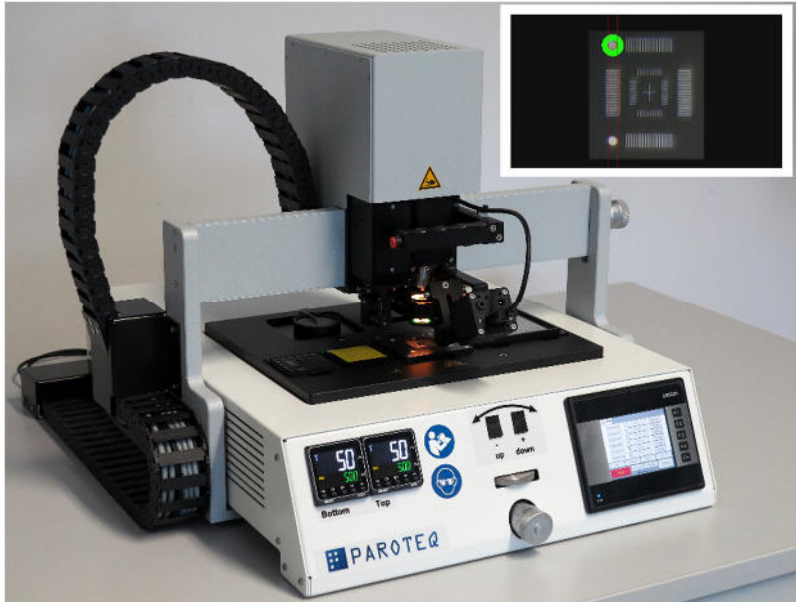
PAROTEQ
Machines and tools for micro assembly

H-System - Die Bonder Platform



H-System

Semi-automatic Die Bonder-System in overhead gantry arrangement with integrated beam splitter optics for accurate alignment.

- Beam splitter optics
- Second Z - axis
- HMTPA (high magnified two point alignment)
- Free programmable automated bond process
- Compact design
- Cycle time <5s

Application area

The H-system is a versatile pick-and-place system in overhead gantry arrangement with integrated beam splitter optics. This arrangement ensures a maximum working range by minimal footprint as a desktop device. The integrated beam splitter optics for real time-image overlays allows the operator an intuitive and accurate alignment of component and substrate by means of micrometer screws. The programming of the Z-axis for different bond altitudes guarantees a reproducible connecting process. A second Z-axis can be used for load or unload of single or bonded devices, dispensing, dipping or stamping without tool exchange. Integrated heating plates, heated pick up tools or dispenser support the respective bond process. The H-system supports all topical and future connecting technologies and applications in the area of micro systems technology.

Applications

- Die bonding
- Flip Chip Bonding
- CoS (Chip on Submount)
- MEMS / MOEMS assembly
- sensor assembly
- assembly of optical components (photo diodes, laser diodes)
- assembly of lenses and lens array’s
- Laser bar bonding
- assembly of mechanical components
- sorting of components
- assembly of medical parts

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Technologies

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

Options

- HMTPA (high magnified two point alignment)
- different light sources
- 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

Technical specifications

- Overhead gantry arrangement
- beam splitter optics
- HD camera with optical zoom
- fully programmable bond process
- micrometer screws for x- and y-axis
- height adjustable bond stage
- bond force: 10-500cN
- positioning accuracy: 5 micron
- maximum component size 25mm x 25mm
- maximum substrate size 300mm x 300mm
- working area: 300mm x 240mm

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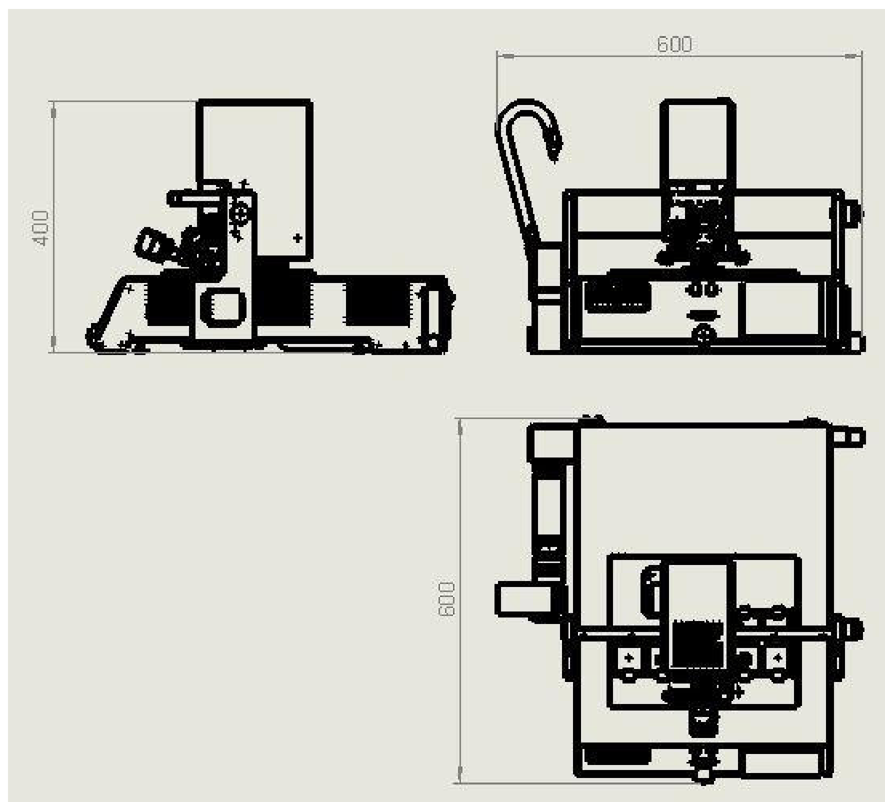
Data sheet

Voltage:	230 V, 50 Hz, 1,5 A
Weight:	60 kg
Connections:	Power cable IEC-60320 C13 Compressed air (6 mm pipe); **Pressure: 4.5 bar – 5.0 bar** • ISO 8573-1:2000[1:4:2] N_2 (6 mm pipe); **Pressure: 4,5 bar – 5,0 bar** Vacuum (6mm pipe); **Pressure: -0.6 bar – -0,8 bar** HDMI Type A (adjustment camera& inspection camera) 2x Option 9-pole D-sub
Travel range Z:	60mm
Travel range micro meter screw X:	10mm
Travel range micro meter screw Y:	10mm
Travel range Phi (Z stage)	360° (incl. heated pick up tool)
Tool specifications	Shaft diameter (mm): ∅3 h6 Shaft length (mm): 12 Overall length (mm): 20 (focusable including component)



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