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 for dispensing
- Free programmable automated bond process
- Compact design
- Adaptable to a wide range of joining processes

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. 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

- Different light sources
- Dispensing / stamping with adhesive pot
- UV-curing
- Heated pick-up tools
- Heating plates with and w/o vacuum structure in sizes 35mm x 35mm or 14mm x 14mm
- Coplanarity pick up tools
- Process gas chamber
- Process gas suction
- Support plate with vacuum
- Input-/output station with or without vacuum
- Inspection camera

Technical specifications

- Overhead gantry arrangement
- Beam splitter optics
- Fully programmable bond process
- 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
- Foot print: 600mm x 580mm x 420mm

Data sheet

Voltage:	230 V, 50 Hz, 1,5 A (depends on options)
Weight:	60 kg (depends on options)
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**

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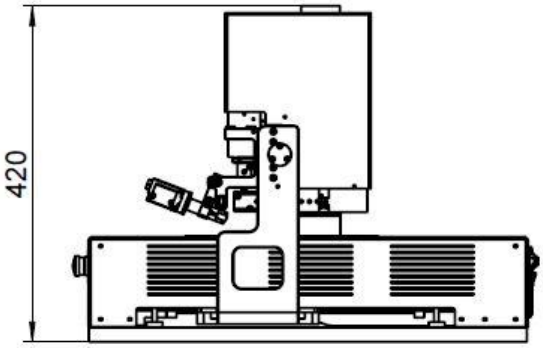
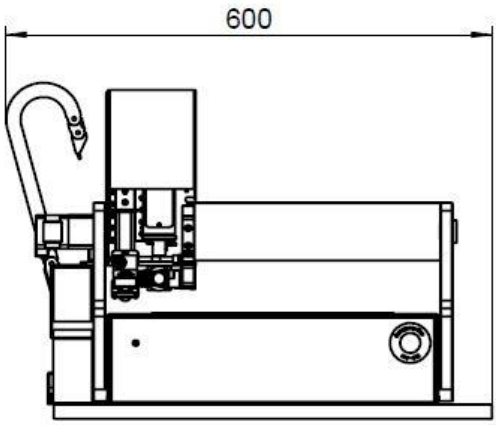
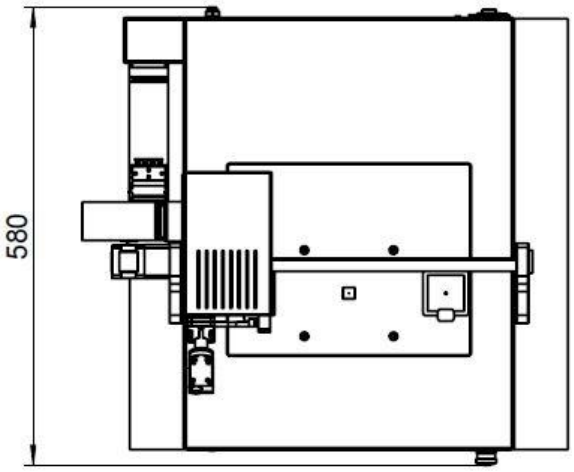
Data sheet

Camera:	1440 x 1080 Pixel	
Optics:	Single magnification: FoV: ~ 5,6mm x 4,2mm Resolution: ~3,89µm/Pixel Depth of field: 500 µm	Fourfold magnification: FoV: ~ 1,7mm x 1,4mm Resolution: ~1,35 µm/Pixel Depth of field: 100 µm
Travel range Z1:	60mm	
Travel range Z2:	60mm	
Travel range Stage:	10mm	
Working Area XYZ:	300mm x 240mm x 20mm	
Travel range X:	300mm	
Travel range Y:	240mm	
Travel range Phi (Z stage):	360° (incl. heated pick up tool)	
Tool specifications:	Diameter: ∅3mm Shaft length: 12mm Overall length: 17mm Maximum length: 20mm (Tool including component)	







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