

DIE & FLIP CHIP BONDING

# H-System CTA

Die bonder on a granite base plate — reproducible precision from prototyping to serial production.



**1  $\mu$ m**

Placement accuracy

**200 × 155**

Working area, mm

**1200 × 800**

Footprint, mm

**Granite**

Base plate stability

## 01 System overview

The H-System CTA is a versatile die bonder in a cross-table arrangement on a granite base plate — the foundation for reproducible bonding of electronic and opto-electronic components down to 1 µm. Integrated beam-splitter optics overlay component and substrate in real time, making alignment intuitive and accurate. A force-controlled Z-axis guarantees a reproducible bond at every bond altitude, while a second Z-axis takes over loading, unloading, dispensing, dipping or stamping — with no tool exchange.

Integrated heating plates, heated pick-up tools and dispensers support the respective bond process. Built for micro-systems technology, the H-System CTA adapts to all topical — and future — joining processes.

## 02 Applications

|                           |                                    |
|---------------------------|------------------------------------|
| Die bonding / die attach  | Assembly of optical components     |
| Flip chip bonding         | Assembly of lenses and lens arrays |
| CoS — chip on submount    | Laser bar bonding                  |
| MEMS / MOEMS assembly     | Assembly of mechanical components  |
| Sensor assembly           | Sorting of components              |
| Assembly of medical parts |                                    |

## 03 Technologies

|                                               |                  |            |
|-----------------------------------------------|------------------|------------|
| Thermo-compression (eutectic · Au/Au · Au/Sn) | Adhesive bonding | Dispensing |
| Dipping                                       | Stamping         | UV-curing  |

## 04 Key specifications & options

**1  $\mu\text{m}$**

Placement accuracy

**10–500 cN**

Bond force range

**120  $\mu\text{m}$ –25 mm**

Component size

**0.1  $\mu\text{m}$**

Axis resolution XYZ · Theta  
0.01°

**152 × 152 × 60**

Working area XYZ, mm

**Manual + PR**

Manual mode / pattern  
recognition



## 05 Options

Different light sources

Dispensing / stamping with adhesive pot

UV-curing

Heated pick-up tools

Heating plates

Coplanarity pick-up tools

Process gas chamber

Support plate with vacuum

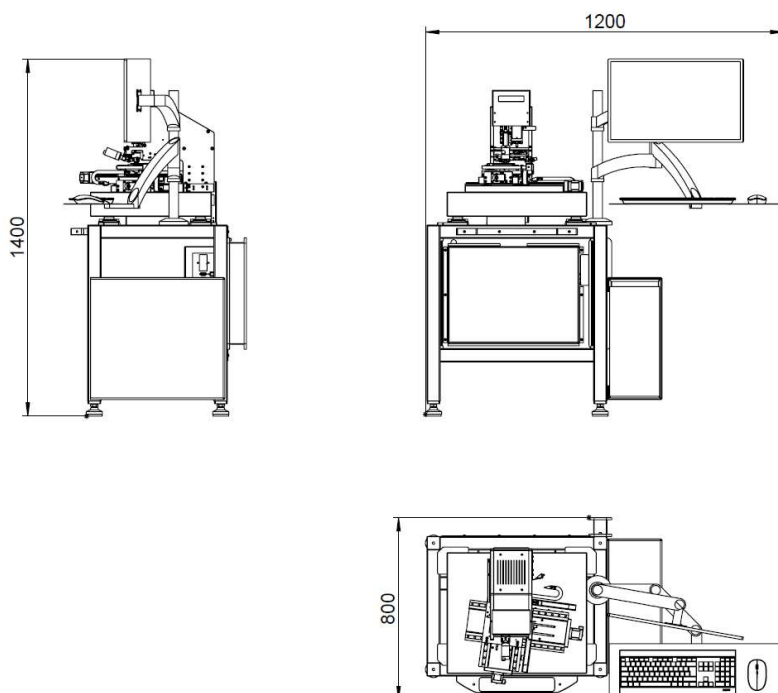
Input / output station, with or without vacuum

Inspection camera

**Not sure the process fits? We bond your samples first —  
risk-free validation on your dies and substrates.**

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|                                        |                                                                                                                                                                                          |                                   |                                                                                                            |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Voltage</b>                         | 230 V, 50 Hz, 2 A (depends on options)                                                                                                                                                   | <b>Travel range Z1 / Z2</b>       | 60 mm / 60 mm                                                                                              |
| <b>Weight</b>                          | 200 kg                                                                                                                                                                                   | <b>Travel range stage</b>         | ±2 mm                                                                                                      |
| <b>Connections</b>                     | Power cable · Compressed air (6 mm pipe), 4.5–5.0 bar, ISO 8573-1:2000 [1:4:2] · N <sub>2</sub> (6 mm pipe), 4.5–5.0 bar · Vacuum (6 mm pipe), -0.4 to -0.8 bar · 2× option 9-pole D-Sub | <b>Working area XYZ</b>           | 152 × 152 × 60 mm                                                                                          |
| <b>Camera</b>                          | 1440 × 1080 pixel                                                                                                                                                                        | <b>Travel range X / Y</b>         | 198 mm / 155 mm                                                                                            |
| <b>Optics — single magnification</b>   | FoV ~5.6 × 4.2 mm · Resolution ~3.89 µm/pixel · Depth of field 500 µm                                                                                                                    | <b>Travel range Phi (Z stage)</b> | ±10°                                                                                                       |
| <b>Optics — fourfold magnification</b> | FoV ~1.7 × 1.4 mm · Resolution ~1.35 µm/pixel · Depth of field 100 µm                                                                                                                    | <b>Tool specifications</b>        | Diameter 3 -0.01 mm · Shaft length 12 mm · Overall length 17 mm · Max. length 20 mm (tool incl. component) |

**1200**

Width, mm

**800**

Depth, mm

**1400**

Height, mm