

**INFOTECH**  
automation



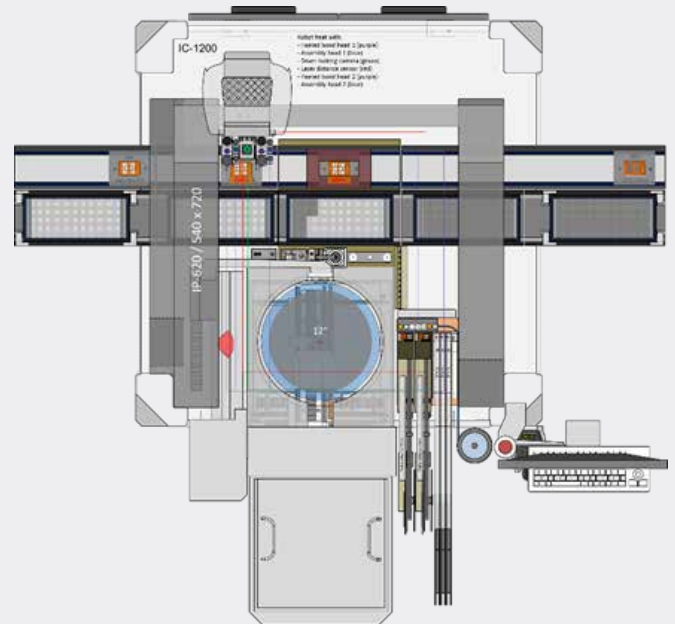
## **SINTER BONDER**

Exceeding standard die bonder capabilities

## SINTER BONDER

The sinter bonder fulfills die attach requirements for power electronics exceeding standard die bonder capabilities. It is a highly flexible die bonder used for various production demands from laboratory (batch processing) up to series production as fully automated inline system.

Out of Infotech's component matrix the system is equipped with sintering process specific components, i.e. heated bond head with high force capabilities, substrate pre-heater and heater station with integrated force measurement, DTF feeder and more. For larger die sizes, the sinter bonder pre-sinters (tacks) the die onto the DBC (substrate) where a sinter press performs the final sinter process. For smaller dies e.g. LED's the sinter bonder can completely sinter the LED onto the substrate. Sintering is the process of compacting and forming a solid mass of material by heat and pressure without melting it to the point of liquefaction and is used for void free joints between the DBC and the die for power electronic applications.



## Process steps SINTER BONDER

### Sinter paste or DTF processing

- Load and pre-heat substrate
- Die recognition on wafer / waffle pack (ink dot, alignment) using vision
- Pickup Die from wafer / waffle pack
- Transfer film onto lower side of Die with force feedback (DTF process)
- Die alignment and quality check of sinter material on Die using lower vision
- Tack Die onto heated substrate using active force control bond process

### System features

- Two heated bond heads (optional three)
- Process heat profiles up to 300 °C (optional 400 °C)
- Bond force capabilities up to 300 N (optional 500 N)
- Two standard assembly heads with interposer to transfer Die from cold to heated bond head
- Heated substrate centering station with manual tilt adjustment and integrated force sensing table
- Heated substrate centering station up to 250 °C with integrated pre-heat station (optional 300 °C)
- Supports DTF process (Die Transfer Film- Alpha Assembly Solutions) from 4x4" waffle pack carrier size, Jedec carrier size or direct from wafer frames

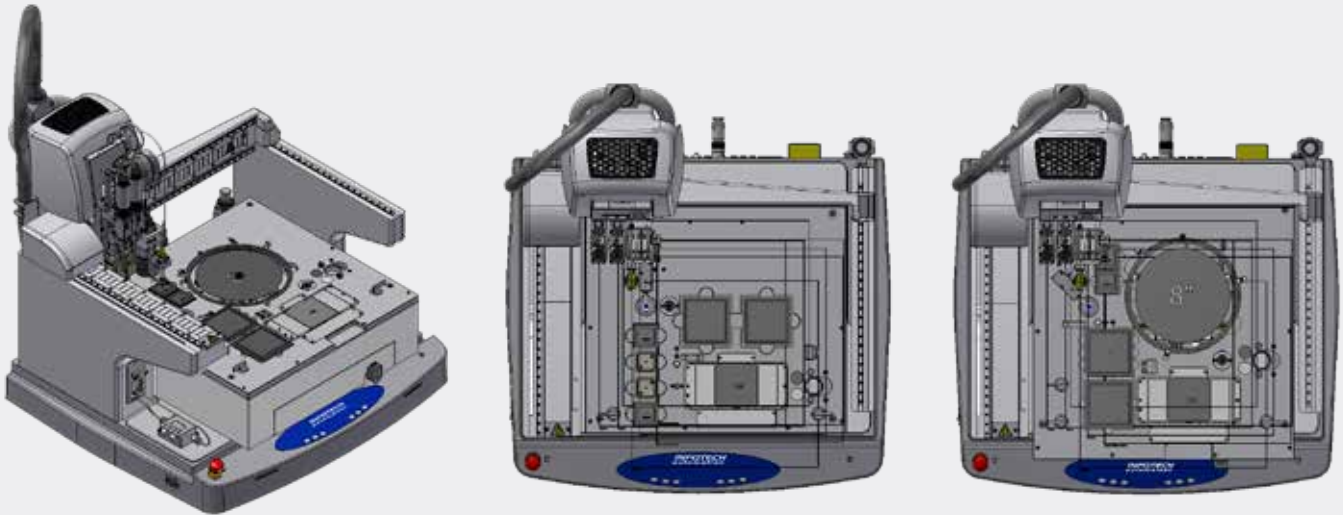
### Infotech Die Attach Sinter Bonder advantages for large thin dies

- The wafer foil can be stretched, which allows to have the wafer and dies always at the same plane
- There is no physical stress to the single dies during the lift up process from the blue foil
- Supporting thinned wafers (Tayko-Wafer) allows large thin die processing
- Includes a wafer rotation table aligning the dies parallel to the eject needles
- 8" or 12" Wafer configuration (8", 6", 5", 4") including eject head changer (3 eject heads)

## DESKTOP SINTER BONDER

The desktop sinter bonder dedicated for presinter- and sinter applications with wide open application range for manual, semi automated or fully automated operations.

The Lab solution to develop pre-sinter processes with production equivalent process peripherals – for initial series production where the process parameters can be merged into the final production line solution.



## Process steps **DESKTOP SINTER**

### System Features

- Based on the field proven IP-500 platform with more than 780 installations worldwide
- X-, Y-system with linear motors and linear encoders
- Distributed and synchronized closed loop motion system with GigE guided vision control system
- PC user interface with graphical dispensing pattern editor (optionally CAD-import and import based on Gerber-files)
- Vision support for teach operations, for fiducial reading, to calibrate needle positions or to verify dispensing results
- Two heated bond heads
- Process heat profiles up to 300 °C (optional 400 °C)
- Bond force capabilities up to 300 N
- Heated substrate holder plate with manual tilt adjustment and integrated force sensing table
- Heated substrate holder surface 90 x 90 mm with temperature up to 250 °C
- Supports DTF process (Die Transfer Film – Alpha Assembly Solutions) from 4x4" waffle pack carrier size
- Optional Time/pressure- or micro screw dispensing system
- Optional 8" pre-stretched wafer support

# Exceeding your expectations

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