9800 TC *next*

Next-gen die attach for chiplet, interposer & CPO packages

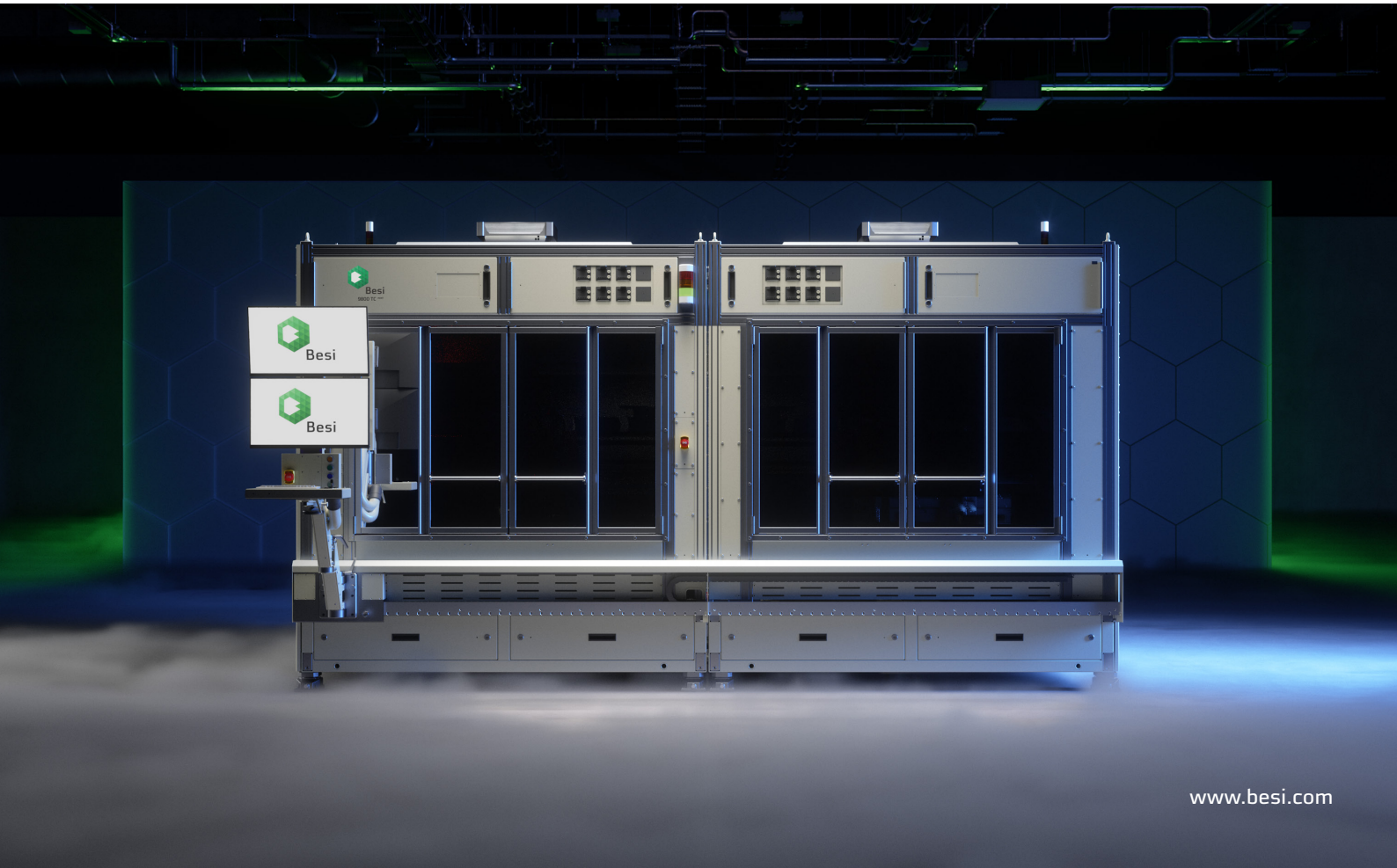
The 9800 TC *next* is the latest innovation in thermo compression bonding, designed to meet the evolving trends and stringent requirements of advanced packaging. Engineered for excellence, this system features significantly enhanced key performance indicators, ensuring superior results in every application.

Future Proof Equipment

Key Highlights

- **Advanced Micro-Inert Chamber**: Optimized for minimal gas consumption, this critical assembly ensures efficient operation and cost savings.
- **Unmatched Accuracy and Stability**: Achieve precise bonding with long-term stability, perfect for advancing bump pitch scaling plans.
- **Powerful Bonding Capabilities**: The 9800 TC *next* delivers bonding forces up to 500 N, with an optional upgrade to 1 kN, accommodating a variety of bonding needs.
- **High-Resolution Vision Systems**: Ensures precise alignment and inspection, crucial for maintaining high quality standards.
- **Thin Die Capability**: Expertly handles thin dies, expanding your application possibilities.
- **Superior Process Control**: Advanced monitoring functions provide unparalleled control over the bonding process.
- **Configurable Material Feeding System**: Offers incredible flexibility, allowing for customized material handling to suit diverse requirements.
- **Modular Design for R&D and High Volume**: Available as a dual-module machine for high-volume production or as a single-module system tailored for R&D purposes. The system is upgradeable, adapting seamlessly to evolving use cases.

The 9800 TC *next* supports a wide range of applications, providing the versatility and performance you need to stay ahead in the rapidly evolving landscape of advanced packaging. Discover the future of thermo compression bonding now, with the 9800 TC *next*.



Material handling	
Substrate wafer (through EFEM)	Up to 12" wafer from FOUP (3 FOUP ports) & quarter panel (318 x 318 mm)
Substrate wafer thickness	0.5 mm to 2.0 mm

Component supply	
Tray (Jedec) handling	Automatic Tray handling via FOUP
T&R cart (roadmap)	8 mm up to 56 mm feeder
T&R cart capacity (roadmap)	Max. 60 x 8 mm feeder (30 pcs. per side)
Wafer handling (roadmap)	P&P from taped wafer, waffle pack, gel pack, etc. (up to 15" frames) via FOUP
Die transfer	Non flip & flip
Die size	0.3 x 0.3 mm up to 120 x 120 mm
Die thickness	<25 µm up to 1.1 mm

Thermal capabilities @35 mm heater size (120 mm heater size roadmap)	
Substrate wafer temperature	250ºC ± 5ºC @ 3s over 300 mm
Bond head temperature	450ºC (500ºC roadmap)
Bond head heating rate	>400ºC/sec from 100ºC to 400ºC
Bond head cooling rate	>75ºC/sec from 350ºC to 150ºC
Bond head thermal control & uniformity	static thermal control: ± 1ºC dynamic thermal variation: <5ºC static thermal uniformity: ± 2.5ºC

P&P capability @35 mm heater size (120 mm heater size roadmap)	
Accuracy X & Y [GoG @150ºC]	0.5 µm @3s
Accuracy theta [GoG @150ºC]	1 mdeg @3s
WCC (worst case corner) [GoG @150ºC]	0.8 µm @3s
Bond head Z control & accuracy	± 1 µm @3s
Bond force	-15 N up to 500 N (1kN on request) ± 5% of set force @3s (forces > 2 N) ± 5% of set force @3s (forces -15 N to -2 N) ± 0.1 N of set force @3s (forces -2 N to 2 N)
Tilt control	< 1 µm
UPH (bond time 1 sec)	up to 3,000 (product/process dependent)


single module configuration

Other	
Footprint	6.08 m² (configuration dependent)
Weight	Approx. 7.8 tons (configuration dependent)
Inert environment	N_2 micro chamber (< 25 ppm O_2 programmable) / hot pick capability / flux exhaust (optional & on request)
Cleanroom class	ISO 5* / Class 100 (FS 209E)

** to be proven in production environment*

Software & Automation		
Bond traces and trace viewer	Bin code matched bonding	Easy machine calibration via SW assistants
Inline process monitoring and control	Main supply surveillance	Easy product setup via SW assistants
Parameter provider via SECS/Gem	E142 map handling	Full factory automation for Industry 4.0