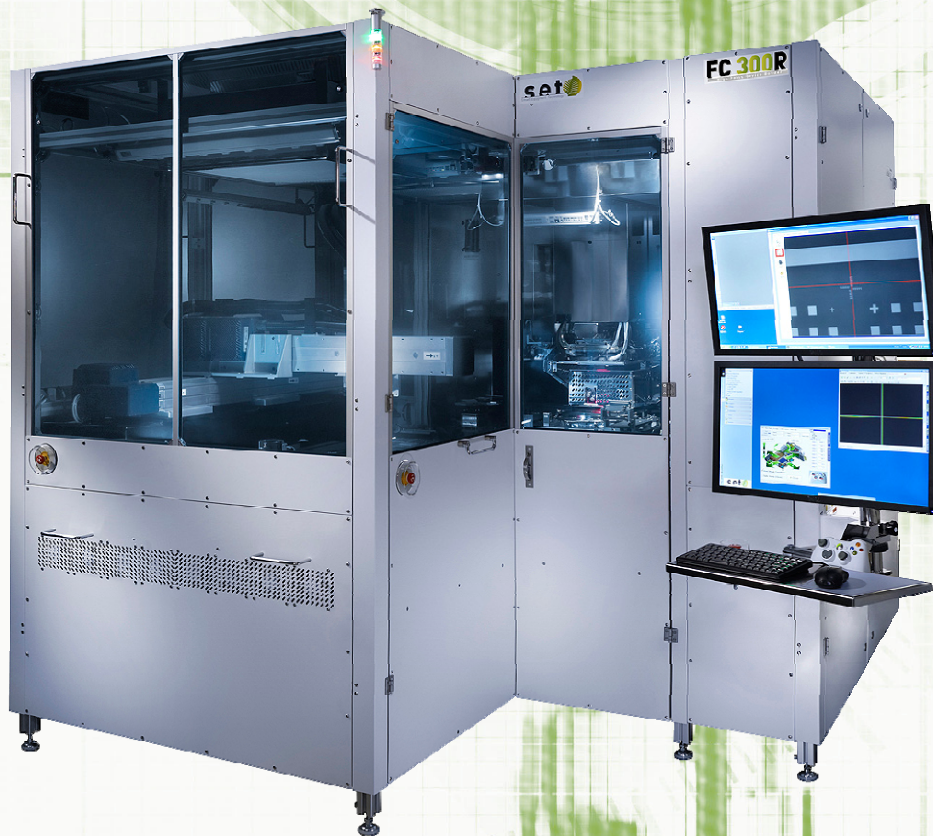


PRESS KIT

FC 300R
High Force Device Bonder

High Accuracy Device Bonder with Robotics



SET Introduces FC300R High Accuracy Device Bonder with Robotics

FC300R: an Easy-to-Use Production Platform Ideal for High Accuracy C2W Bonding, Die Attach, Flip-Chip and 3D Integration with TSV.

SAINT JEORE - France, July 8 – Today SET - Smart Equipment Technology - launched the FC300R, which combines robotic handling with the company's proven FC300 platform to address the needs of the pre-production market for high accuracy bonding.

The FC300R offers hands-free placement capabilities for Chip-to-Substrate or Chip-to-Wafer assembly as well as Chip-to-Chip stacking. With an unmatched submicron post-bonding accuracy at bonding forces ranging from 0.4N to 4000N, the FC300R is the ideal tool for 3D-IC applications using high density TSV's. This enhanced bonder accommodates components from 150 x 150 µm to 100 x 100 mm and substrates up to 200 x 200 mm or 300 mm wafers to serve a wide range of applications.

The addition of a loading robot to the base FC300 enables the handling of a wide range of components as well as increased machine autonomy by storing a large number of wafer packs or GELPAK™. It is optionally equipped with a direct die feeder from diced wafer on frame capable of handling thin die. A tape and reel feeder is also available for device loading.

The loading robot operates in parallel with the bonding process module contributing to a significant reduction in the dry cycle time. When required, the FC300R makes use of up to three pre-alignment and inspection optics subsystems in the robotic feeding area to ensure proper pick up of tiny components like laser diodes. Image processing is available for a wide variety of recognition functions such as pattern search, synthetic pattern generation, calipers, edge detection. It also provides contrast enhancement.

“As the FC300R has recently been ordered by a major global semiconductor company, for 3D bonding applications, SET is proud of confirming its technological leadership by providing cutting-edge bonding solutions to the semiconductor industry. By working closely with our customers, SET has raised process development, automation and flexibility of its high accuracy bonders to the highest level,” said Gilbert Lecarpentier, Director of Marketing & Business Development.

The FC300R can be equipped with an optional ultrasonic bonding head. A high force bonding head equipped with a confinement chamber which reduces oxide on bumps and bonding pads can also be installed. This configuration is especially interesting for Cu-Cu bonding applicable in 3D-IC integration.

Thanks to its unrivalled flexibility, the FC300R is able to support various applications on the same platform with a quick process-head reconfiguration:

- High Force Bonding Head -> adapted to the thermo-compression bonding process,
- Low Force Bonding Head -> for reflow bonding of all types of components including RF, Next generation of optoelectronics devices assembly,
- UV-Curing Head -> adhesive bonding, UV-NIL process, etc.

The SET FC300R excels in demanding applications and accommodates a wide variety of processes and materials including extremely fragile crystals such as GaAs and HgCdTe. This easy-to-use platform adapts to all bonding techniques: fluxless reflow, adhesive joining, thermosonic, thermo-compression and direct metallic bonding. The unrivalled process flexibility, precision and repeatability of the FC300R, based on SET's decades of bonding experience set new benchmarks for Chip-to-Chip and Chip-to-Wafer bonding.

About SET

SET, Smart Equipment Technology is a world leading supplier of High Accuracy Die-to-Die, Die-to-Wafer Bonding and Nanoimprint Lithography solutions. With more than 300 Device Bonders installed worldwide, SET is globally renowned for the unsurpassed placement accuracy and the high flexibility of its Flip Chip bonders. From the automated FC150 and FC300 to the pre-production FC300R, SET offers a continuous process path from research to production. SET bonders cover most bonding technologies and offer the unique ability to handle and bond both fragile and small components onto wafers up to 300 mm. Further information on the FC300R is available on www.set-sas.fr.

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Corporate Backgrounder

COMPANY

SET, Smart Equipment Technology, based in Saint-Jeoire, France, is a world leading supplier of High Accuracy Die-to-Die and Die-to-Wafer Bonders and versatile Nanoimprint Lithography (NIL) solutions.

In the early 1980s, SET has pioneered in the development of flip chip bonders for infrared sensors and optoelectronics applications, by delivering the first commercially available Flip Chip Bonder on the market and introducing a superimposing which established SET as the industry leader for high accuracy placement. Supplier of semiconductor equipment dedicated to high-end applications for over 30 years and with more than 300 Device Bonders installed worldwide, SET is globally renowned for the unsurpassed accuracy and the flexibility of its flip chip bonders.

SET offers a comprehensive product portfolio of die/flip chip bonders for fast growing markets and serving clients through a global network of representatives and in-depth customer trainings.

HISTORY

The company name is derived from Sulzer Electro-Technique (also S.E.T.), founded in 1975. Beginning in 1979, Micro-Contrôle gradually bought the company. It then split the company in two parts and sold its micro-stage and optical bench business, together with the name, in 1991. Sulzer Electro Technique was renamed Nanomaster and focused on semiconductor equipment. In 1993, Karl SUSS acquired Sulzer Electro Technique. Karl SUSS became public in 1998 as SUSS MicroTec.

In 2007, the President of SUSS MicroTec France, Gaël Schmidt, bought the Device Bonder division to the German group through a MBO (Management Buy Out) and named the new company SET, in reference to the original company founded by his father. SET joined Replisaurus Technologies in 2008, as the ECPR (Electro Chemical Pattern Replication) equipment source.

PRODUCT LINES & TECHNOLOGIES

Device Bonding

SET, which currently employs 57 persons, has a long history in the development and production of high-precision device bonders, including chip-to-wafer tools for 3D integration and versatile nanoimprint lithography (NIL) solutions. It continues to develop and produce device bonders while manufacturing tools for Replisaurus's ECPR technology.

SET manufactures specific equipments for future assembly challenges and applications which require high density integration (mobile phones, GPS, PDA etc.). While SET primarily targets low-volume and R&D applications, the industry is poised to move much 3D packaging technology from labs to production. Ranging from manual loading version to fully automated operation, SET's systems cover a wide range of bonding applications and offer the unique ability to handle and bond fragile and small components onto substrate up to 200 mm or wafer up to 300 mm.

With the submicron placement and bonding capability of the FC300, the process flexibility of the FC150, and the pre-production capability of the FC300R, SET offers a continuous process path from research to production and confirms its leadership position within the industry.

Nano Imprinting

Thanks to several decades of high accuracy placement expertise, SET brings to the market cutting-edge nanoimprint solutions which offer proven sub-micron alignment capabilities also combined with superior flexibility. This imprinting lithography method consists of transferring the pattern of the stamp into a thermoplastic embossing material by controlling heat and pressure. This innovative technology is a very promising solution for replacing standard UV-lithography systems. Applications include integrated optical devices, smart devices for microelectronics, sensors for temperature, light, molecules, life science as well as 3-dimensional replication.

SET addresses the nanotechnologies market by developing a Nano imPrinting Stepper, the NPS300, a cutting-edge lithography solution that combines advantages of E-Beam resolution with high throughput and low cost of ownership. The NPS300 is the first ever tool to offer hot embossing and UV-NIL capabilities on the same platform.

EXECUTIVE MANAGEMENT

Dr. Guido Groet, PDG SET - CFO/COO Replisaurus

Prior to joining Replisaurus/SET Guido spent 10 years with ASML, the world's 2nd largest semiconductor equipment company and world leader in microlithography. Held a variety of positions including Managing Director for the relationship with key partner Zeiss, Finance Director for the US operations and VP of strategy and business development for ASML-track division. During his time at ASML also CFO for eLith, the joint venture between ASML and Applied Materials focused on developing new generation lithography. Before he was Business manager for the dealer network for Citroen Netherlands.

Gilbert Lecarpentier, Director of Marketing and Business Development

After studying electronics in Caen, Calvados (France), Gilbert worked at Philips for 4 years designing special equipment for use in semiconductor production lines. In 1977, he joined Sulzer Electro Technique (S.E.T.) for developing equipment for semiconductor processing, such as Mask Aligner, Spinner, Prober, Laser Marker, Laser Scriber and Flip Chip Bonder. When SUSS MicroTec acquired SET in 1993, Gilbert took the product management responsibility of the device bonder product line. After the Management Buy Out of the SUSS MicroTec Device Bonder Division in July 2007, he continued to assume the role of business manager for this product line and the newly developed Nano imPrinting Stepper within the new company named SET (Smart Equipment Technology).

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