

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.

Press contacts:

Gilbert Lecarpentier

Director of Marketing and Business Development

Phone: +33 (0) 686 28 1224

glecarpentier@set-sas.fr

Emmanuelle Grenèche

Marketing Communication Manager

Phone: +33 (0) 450 35 3809

egreneche@set-sas.fr