

EVG introduces next-generation version of EVG150 automated resist processing system for wafers up to 200 mm – December 1, 2022

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Austria-based EV Group (EVG) has introduced the next-generation version of its EVG150 automated resist processing system for wafers up to 200 mm (EVG150 200 mm system), thus strengthening its optical lithography solutions portfolio.

The next-generation EVG150 200 mm system has an almost 50 percent smaller tool footprint and affords up to 80 percent greater throughput. It reliably delivers highly uniform coats, catering for thick to sub-micron resist layer requirements. The ability to customise the EVG150 200 mm system's process module configurations for spin coating, spray coating, developing, baking, chilling and vapour priming means that it is suitable for a variety of applications, including advanced packaging, microelectromechanical systems (MEMS), radio frequency (RF) devices, 3D sensors, power electronics and photonics. Moreover, the high throughput, flexibility and repeatability of the system enable it to support high-volume production and industrial development needs.

The next-generation system retains many of its predecessor's features and capabilities, such as: the aforementioned customisable process module configurations; EVG's OmniSpray ultrasonic atomisation technology for conformal spray coating of extreme topographies; dual-end effectors for sophisticated robotic handling, ensuring continuous high throughput; and handling of wafer edges, bowed wafers, warped wafers and thin wafers.



► The next generation EVG150 automated resist processing system for wafers up to 200 mm. ►

New features of the EVG150 200 mm system include:

- an ultra-compact design with less than 3 m² tool footprint;
- up to four wet processing module spaces and up to 20 bake/chill units, enabling the processing of many more wafers simultaneously;
- singulated coating chambers, providing complete isolation of modules and virtual elimination of cross-contamination between modules;
- redesigned modules to enable easy access to individual chambers from outside of the tool, minimising downtime and allowing for continued tool operation when conducting chamber maintenance;
- chambers repositioned inside the system to enable easy access to the robotic handling unit to facilitate maintenance;
- an image-based pre-aligner to enable on-the-fly wafer centring for faster processing;
- resist and chemistry lines integrated inside the system, reducing external cabinet space for chemistry storage and reducing tool footprint; and
- the user interface integrated inside the system, further reducing tool footprint.

Silicon Austria Labs, a research centre for electronic-based systems (EBS), has been the first customer to receive the next-generation EVG150 200 mm system.

"The high flexibility of EVG's next-generation EVG150 resist processing system helps pave the way for high-volume implementation of new processes and products with our development customers that fuel EBS innovation."

Dr Mohssen Moridi, head of the Microsystems Research Division at Silicon Austria Labs, commented: "Through our cooperative research with leading manufacturers, we develop key technologies that build the foundation for Industry 4.0, IoT, autonomous driving, cyber-physical systems, AI, smart cities, smart energy and smart health long before they reach the market. The high flexibility of EVG's next-generation EVG150 resist processing system helps pave the way for high-volume implementation of new processes

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Dr Thomas Glinsner, corporate technology director at EVG, added: "Resist processing and patterning are the most repeated process steps in semiconductor manufacturing. EVG has built up many years of experience with these processes, including optical lithography and spin and spray coating, to address the needs of the most demanding customer requirements. We've incorporated these learnings into our next-generation EVG150 system, which has been redesigned from the ground up to provide breakthrough throughput and unsurpassed flexibility to meet the widest variety of resist processing needs." ●

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