



HEXAGON

Your advantage in
Advanced Packaging

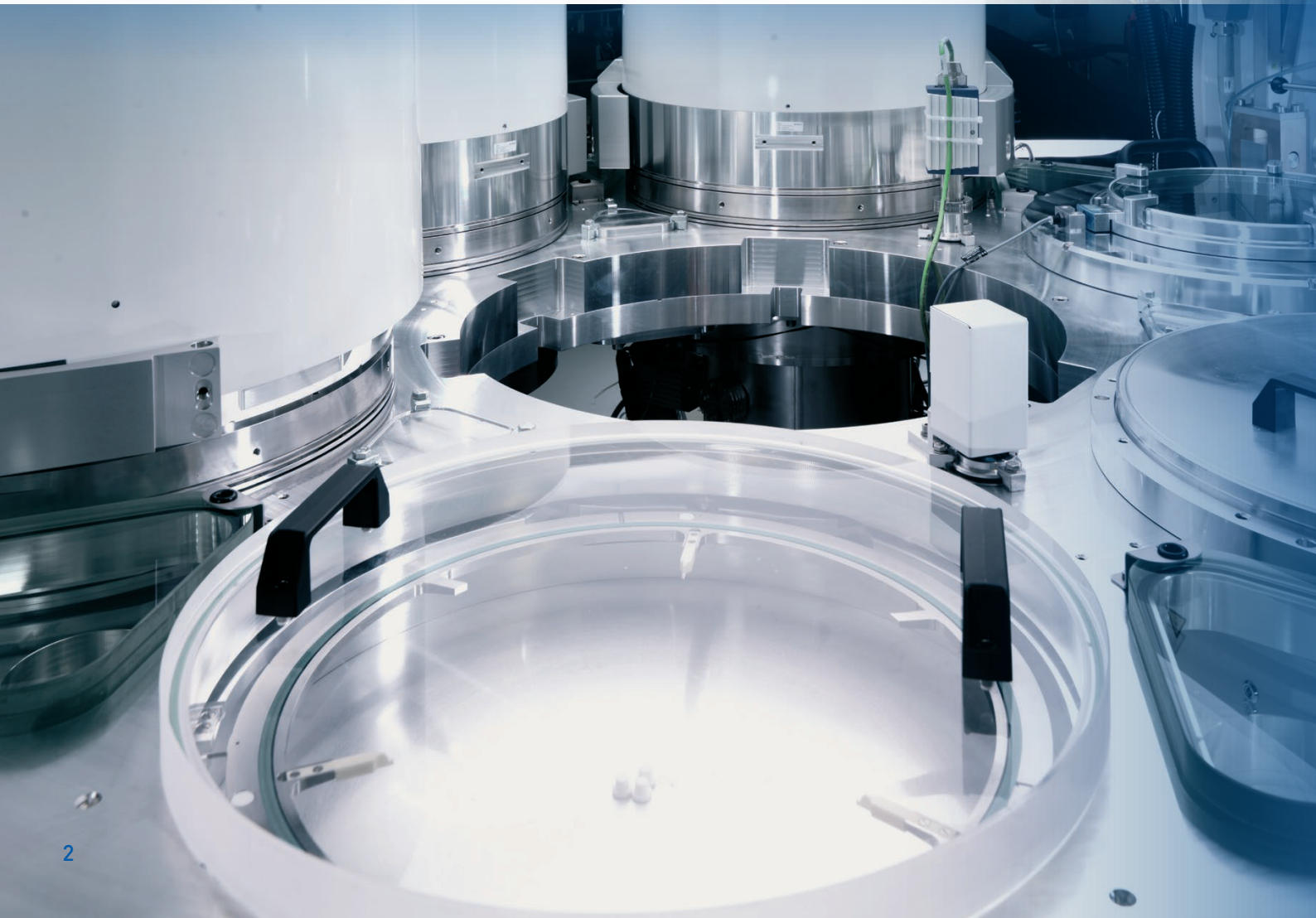
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WLP, Fanout and BSM - Driving down production costs

From UBM, RDL and Fanout to BSM, Evatec's HEXAGON platform is designed for volume production at the lowest cost of ownership. Process 300mm or 200mm organic passivated wafers at throughputs of up to 55Wph without downstream contamination and enjoy strict process chamber and wafer temperature control for repeatable high performance deposition processes.

MAIN FEATURES

- Achieve new levels of throughput in WLP and BSM
- High speed degas, etch and metals deposition
- Processing of organic passivated substrates
- Reduced clean room costs with the smallest footprint





PLATFORM DESIGN

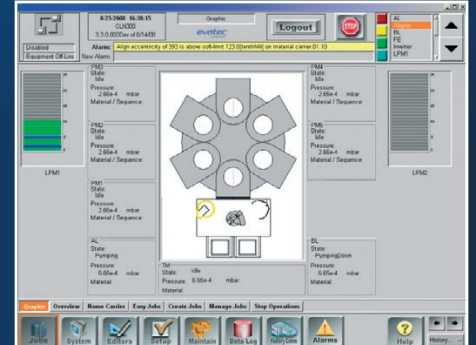
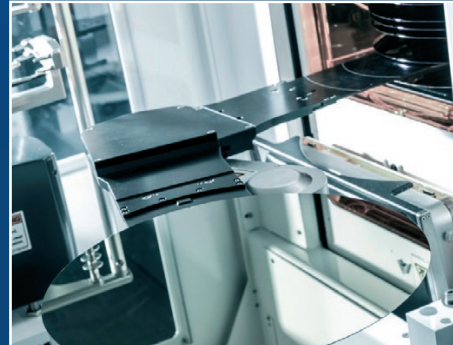
Its all about factory throughput

Parallel wafer transfer by synchronous indexer enables high speed wafer processing. Wafer carriers enable full face etch or deposition processes with in chamber wafer sensing for accurate, repeatable positioning time after time in 24/7 production. Reducing maintenance time is at the heart of HEXAGON's design with simple carrier designs and powered source handling for rapid, easy access by a single operator.

- Install up to five process modules for degas, etch, cool or dep
- Bridge capability with simple configuration for either 200mm or 300mm
- Footprint of <10m² (not including Services Area) for reduced clean room usage and costs

Take a look at HEXAGON's range of process module capabilities

- Dedicated degasser options for all WLP processes (chuck-, high pressure- and batch- degasser)
- ICP soft etch module- SiO₂ removal 0,6 – 0,8 nm/s
- Chilled ICP reactor dome down to -30°C
- ARQ310 DC or pulsed DC sputter source with uniformity compensation over target life
- Arctic Cooling Module for active process temperature control
- Chuck RF Bias with auto matching option
- Controlled chuck temperature from -30 to 300°C
- Metal or ceramic chuck with mechanical clamping, ESC or clampless chuck with shadow mask
- Clamped chuck configuration with gas conduction back side heater/cooler for precise temperature control
- Drop-in shield kits for rapid exchange



PROCESS MODULES / COMPONENTS

Delivering perfect processing of organic substrates

HEXAGON's process modules are optimized for processing organic substrates with full process chamber isolation. Evatec's "Arctic chuck technology" and ARQ 310 cathodes deliver high speed full face etch and deposition processes. An optimised combination of wafer cooling, pumping configuration and shield kit design enables stable contact resistance (Rc) at low level and extended lifetimes of 10'000 wafers between shield change.

ATMOSPHERIC FRONT END

Fast, convenient & flexible

HEXAGON uses atmospheric front end handling with a high performance dual end-effector SCARA robot for the shortest wafer swap times. An integrated buffer station with 12 wafer capacity stores blank or conditioning wafers via Hexagon's automated software. An additional atmospheric module can also be installed for heavily outgassing substrates like fan-out or other wafers with high organic content. The higher 44 wafer capacity allows extended degas times without compromise on overall system throughput.

CONTROL SYSTEM

Everything at your fingertips

HEXAGON uses ControlWorks® Software with high speed Ethernet backbone and standardized, distributed I/O system. Real time process flow, sequence and step editors, with a choice of sequential and parallel wafer routing functions bring flexibility in carrier scheduling. An Automated Maintenance Services (AMS) feature allows full automated schedule functions like aluminum pasting of the ICP modules based on wafer counts, deposition counter or time.

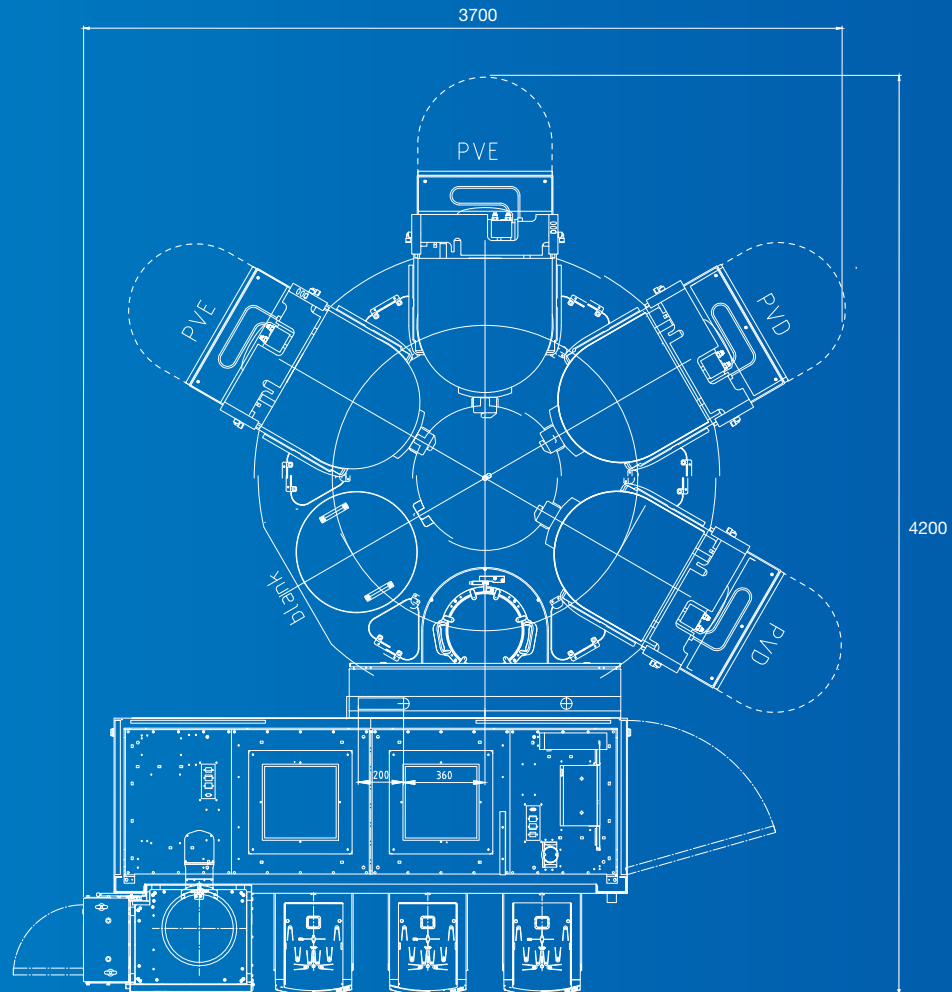
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HEXAGON is the ideal solution for processing of the latest generation ICs, organic passivated- or reconstituted (mold) wafers. Evatec is the market leader in UBM & RDL metallization.

Platform summary

- Highest throughput
- Smallest footprint
- High availability and easy maintenance

LAYOUT FOR FANOUT CONFIGURATION



ABOUT EVATEC

Evatec offers complete solutions for thin film deposition and etch in the Advanced Packaging, Power Devices, MEMS, Wireless Communication, Optoelectronics and Photonics markets.

Our technology portfolio includes a range of advanced sputter technologies, plasma deposition & etch as well as standard and enhanced evaporation.

Our team is ready to offer process advice, sampling services and custom engineering to meet our customers individual needs in platforms from R&D to prototyping and true mass production.

We provide sales and service through our global network of local offices. For more information visit us at www.evatecnet.com or contact our head office.



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