PICOSUN®
PicoOS™

PicoOS™ is Picosun's own, proprietary full stack operating system and process control software, designed to enable unified control of PICOSUN® ALD cluster systems via one common human-machine interface.

PicoOS™ operating system and process control software is specifically developed by Picosun's own in-house software team for the company's fully automated production ALD equipment Morpher and Sprinter, and it will be implemented in all future PICOSUN® ALD tool platforms.

PicoOS™ combines individual ALD module, wafer handling and transfer system, and instrumentation control under one common graphical HMI (human-machine interface). This ensures easy, intuitive and user-friendly operation, maintenance, and configuration of the whole PICOSUN® ALD cluster. PicoOS™ enables full factory integration via SECS-II/GEM protocol.

PicoOS™ is built around data. It provides process data logging down to 20 ms rate and all available information is stored in real-time in an easily accessible database, from where it can be exported for further analysis. Maintenance procedures are sped up by specific clean-up and maintenance sequences inbuilt in the software.

PicoOS™ has freely configurable and scalable editor for creation and storage of ALD process recipes and processing jobs, and recipes can be edited or new ones created any time during the ALD system operation. Configurable user levels and safety logic, instrumentation and interlocks guarantee safe use in day-to-day operations, and allow full access for tool management in maintenance situations.

Unified control of the whole ALD cluster via one user interface.

Please feel free to contact us for more information or a quotation!

Technical Features

- Integrated common HMI for the scheduler, process modules, wafer handling system and instrumentation

- Graphical interface for intuitive operation, maintenance and configuration

- Freely configurable and scalable editor for ALD process recipes and processing jobs

- Recipes can be edited/created any time during tool operation

- Automatic substrate handling and processing

- Wafer mapping

- Equipment control and substrate transfer interface for module integrations

- Process data logging down to 20 ms rate; trend data can be exported

- Full alarm and event logging with one common event log for the whole platform

- Clean-up and maintenance sequences to speed up maintenance

- Safety logic, safety instrumentation and interlocks for safe operation

- SECS-II/GEM support

- EtherCAT based communication for MFCs and MFMs

- Wide array of host connections e.g. OPC-UA (not limited to SECS-GEM)

- Designed keeping in mind future advancements: AI, IoT, Industry 4.0

- Access rights for different user levels

- Enhanced recovery features

picosun
AGILE ALD

THE PRINCIPLE OF ALD

Introduction of molecules containing element A.

Adsorption of the molecules on the surface.

Introduction of molecules containing element B and reaction with element A on the surface.

Completion of one monolayer of compound AB.

Repeat cycle till desired film thickness is reached.

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AGILE ALD

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