

PERFECT WAFER COATING

For your wafer and substrate coating processes we offer optimal, well-thought-out technical solutions that will help to meet your requirements and to reach best process results as far as homogeneity, layer thickness and edge bead removal are concerned. Our single wafer tools and processing modules support the use of a great variety of resists even such of very high viscosity.

Coating processes

- // Positive- & negative-coating
- // SU8 coating
- // PMMA coating
- // Spray coating
- // Puddle coating
- // Thick-resist coating

Technical highlights



Innovative single nozzle gripper

- The positioning arm only carries 1 nozzle at the time which holds two decisive advantages:
- no particle build-up due to friction of materials, for only one tube is being moved
 - all nozzles not needed at the moment remain in the nozzle storage with rinse and dripping pan which prevents the nozzle tips from going dry and avoids any undesired dripping onto the substrate



Linear, triaxial positioning arm

- All desired positions of the dispense nozzle above the substrate are freely programmable on the X, Y or Z axes with the help of our integrated servo control:
- absolutely accurate nozzle positioning
 - dispensing in a spiral or meandering movement
 - no need for calibrations or test-runs
 - uniformity and resists savings increase enormously



Smart chuck identification

- The system will always recognize which chuck is being used at the moment and will so exactly adjust maximum rotation speed and eventual acceleration:
- user security is being increased drastically
 - high processing flexibility for a great variety of substrates on different chucks



EBRsquare for square substrates

- With the help of our special and singular EBR system, edge bead removal for square substrates or wafer flats may be started directly within the coater bowl!
- no need for wafer removal or repositioning
 - EBR programming using absolute distance values



Air barrier cup

- An optional air barrier cup forestalls the formation of edge beads on angular substrates:
- better processing of high-viscosity resists
 - easier application of thick coating layers
 - noticeable improvement of homogeneity of the coating layer
 - optimized process results
 - minimized rejects



Puddle- und spray coating in one bowl

- Because all the dispense arms of our equipment are being linearly moved, puddle and spray coating are possible within the same bowl:
- separate spray coating station not necessary
 - this saves machine space and time and increases flexibility of applications
 - energy savings due to the omission of the pneumatic system

Other important standard features for coating processes



- // All axles are linearly driven motor axles. In contrast to pneumatic axles, those can be positioned more precisely and programmed via software. (1)
- // The process bowl instead of the chuck rises and lowers when handling substrates in or out. This helps to stabilize the chuck drive considerably and it also enables highly dynamic functions. (1)
- // Due to our linearly driven motors up to 6 resists, EBR and pre-wet nozzle are possible within the same bowl. (1)
- // Our elaborate bowl design helps to avoid cotton candy when processing high viscosity resists and so guarantees optimum process results. (1)
- // Programmable rinse of wafer backside as well as coater bowl. (2)

Selectable options

- // Contact-free wafer centering „on-the-fly“, centering for square substrates or fully automated pre-alignment. (3)
- // A variety of resist pumps: **amcoss** can offer our economic and innovative dispense systems such as motor driven dispense pump, syringe and traptank, but also every other resist pump that is available in the market. (4)
- // EBR is also possible on a separate arm instead of on the dispense arm. This improves flexibility as well as the results of the coating process. (5)
- // Mini environment: the whole equipment or just parts of it can be temperature controlled by comprehensive temperature and humidity control. (5)
- // Media temperature control through hose-hose temperature control.

Coating processes in **amcoss amc** and **amr** equipment:

| amc | amc | amc | amc | amc | amr | amr |
|-----|------|------|------|------|-----|-----|
| 500 | 1000 | 2000 | 2500 | 3000 | 200 | 300 |
| • | • | • | • | • | • | • |

ams PILOT process control software

With our own process control software **ams PILOT**, coating processes can be controlled meticulously. All coating recipes can be easily written and selected, all functions and features can be simply adjusted or set. Moreover, the user will be supported with manifold, special service functions for the whole coater module, including all nozzles, axles, pumps, etc., which makes service and maintenance very comfortable.



User-friendly, ergonomic, self-explanatory user interface: complying with Semi-Standard E95-1101.

Easy recipe writing and rewriting: without any software programming knowledge.

Integrated scheduling: helps optimizing process flow and throughput due to process and sequence control.

Log-function for informative reporting: generates extensive machine reports for all production lots and allows a number of settings.

Energy save mode: reduces the power and media consumption and thus also energy costs.

Comfortable service and maintenance functions: help finding and maintaining any defective parts and components easily.

Optional SECS/GEM interface: supports 200mm and 300mm standard SECS communication.

Process development: with recipe slot control the correct process parameters can easily be found.

Multi-client capability: the logged user will only see information relevant to him.