# COMPACT WET PROCESSING

Our extremely compact and fully automatic amcoss amc500 spinner is optimized for flexible single wafer wet processes and thus, perfectly complements our amc series of single-wafer-process tools. With its substrate size range between 2" and 300 mm (9" square), amc500 offers very flexible application possibilities in cleaning, lift-off and etching of wafers and masks. Our new, unique solutions for precise media temperature control and recycling, and therefore saving of etchants, support our customers by enabling precise processes and, at the same time, reducing costs as well as the impact on the environment.

**amc 500 - minimum foot-print makes the most of your cleanroom space**


## Beneficial highlights

**New chemicals–temperature control:** eliminates the need for pre-dispense before etching. Inadvertent mixing of chemicals almost becomes impossible.

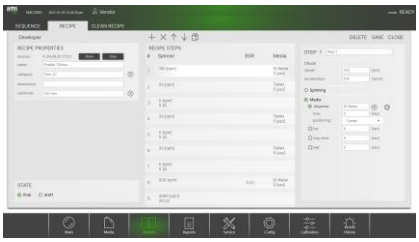
**Proven amc key features:** amc500 stands out among all other amc models due to all proven technical features and its modern, user-friendly machine design. Through-the-wall installation is possible, as well as flexible machine adjustments and easy maintenance.

**Safe:** the equipment is designed in accordance with the newest safety regulations. A separate enclosure of the process area made of resistant material extends the safety features.

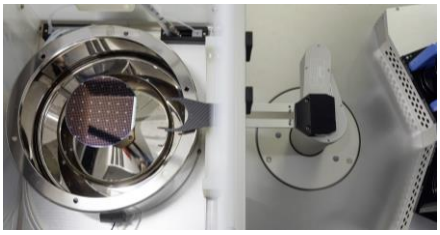
**Space saving:** amc500 stands out due to its minimal outer dimensions of only 740 x 1600 mm. Even so, up to 3 vessels of chemicals can be stored, tempered and reused within the system-housing at the same time.

**Full process control:** each selected process is managed by the relevant module of our comfortable amcoss amsPILOT software complying with Semi-Standard E95-1101.

amc 500



Wafer handler with wafer flipper



Pick and place robot with slot scanner for wafer handling

## Technical details

// Wafer diameters: 2" up to 300 mm or up to 9" x 9"
// Up to 2 I/O stations for 2" to 200 mm open cassettes or 300 mm FOUP
// Max. 3 integrated individual chemical supply systems (more possible in external media unit)
// 1 two-link robot handler with single end effector for low contact handling
// Optional wafer flip module
// Outer dimensions W x L 740 x 1600 mm

## Wet-process modules with multiple options

### amc etching module

// Etching of a multitude of round and square wafers and masks
// Various etching processes as standard solutions available
// Precise media tempering solution and control

### amc cleaning module

// Cleaning of wafer frontside, backside and edge bevel
// Various cleaning methods as standard solutions available
// Large area megasonic or megasonic nozzle

### amc lift-off module

// High-pressure lift-off
// Unique lift-off process with megasonic
// High- or medium-pressure cleaning with DIW or solvents
// Special reclaim solution for minimal media consumption
// Easy recycling of lifted metals
// Programmable wafer backside, topside and bowl rinse

### amc media unit

// External unit for the storage of additional media vessels (supplementary to storage of 3 vessels inside the tool housing)
// Reclaim, tempering and mixing is possible
// Ready for bulk filling via fab supply

### Optional configurations

// Media reclaim
// Concentration monitoring
// Filter fan unit with antistatic discharge system
// Optical endpoint detection

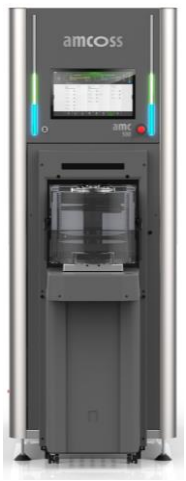
Cleaning module (mask cleaning)

Lift-off module for a large variety of lift-off techniques

Large area megasonic

## amc 500 – new dimensions in chrome etching

One possible application of amc 500 is the etching of a chrome layer on a glass substrate, which is a standard process step, e.g. in the fabrication of photomasks. In this process, the substrate is sprayed or rinsed with a suitable etching chemical. After a brief contact with the chrome layer, the etchant - typically an expensive mixture containing valuable components such as the rare earth metal cerium - is drained off. As a result, only a small fraction of the etchant is used,




amc 500 with I/O port for FOUP loading

amcoss GmbH and FIMA-Chem GmbH have jointly developed a turnkey solution for chrome etching. While FIMA-Chem supplies the spiking chemicals, amcoss has developed the corresponding hardware and integrated it into the amc 500. This is a perfect collaboration between two innovative companies supporting our concept of sustainability, environmental protection and cost reduction.

A novel technique allows us to recycle the etchant on the tool, which can then be directly reused to process another substrate. Highly concentrated additives are employed to replenish the used etchant and prepare it for the next run. This allows the etchant to be used at maximum efficiency, resulting in significant savings on etchant costs.

**Benefits**

// Significant reduction in process costs
// Significant reduction in environmental impact due to reduced chemical usage and waste

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