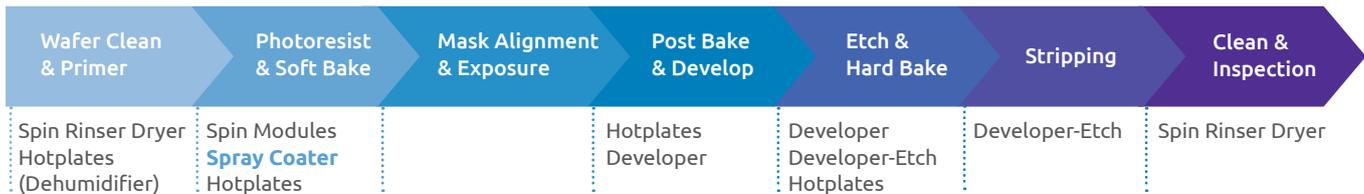




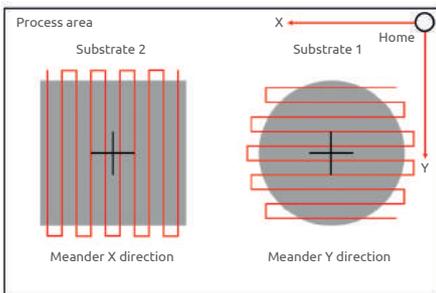
Spray Coater iSPRAY-300
Uniform coating of
3D microstructures



For substrates with a highly structured wafer topography, deep MEMS structures or a non-planar surface texture, the **iSPRAY-300** by SAWATEC ensures that the coating is as homogeneous as possible. It is a high-precision spray coater for manual spray coating or spray development processes and it is used specifically in research and development laboratories, for pilot productions and small production units in MEMS fabrication.

In conjunction with low-viscosity photoresists (e.g. Shipley 1813, AZ 4999, AZ 9260, SU8 etc.) that are particularly suited for spray coating, the process-optimised spray nozzle generates extremely fine droplets. Spray coating takes place by means of a loop-shaped spray pattern in a closed process chamber, thus ensuring uniform coating across the entire substrate surface and a high level of repeatability. Both round and square substrates, up to 4 wafers at a time, can be coated.

The iSPRAY-300 spray coater is designed for wafers with a maximum diameter of 300mm or for 12x12 inch substrates.



FEATURES (BASIC CONFIGURATION)

- ▶ Up to 50 programmes with 24 segments each can be programmed
- ▶ Quick start function for repeat processes
- ▶ User-friendly process configuration with touch screen panel
- ▶ Process parameters: spray pattern, spray arm speed, spray time, spray beam cone
- ▶ Electrically operated spray arm with selectable speed in the direction of the x-axis and the y-axis
- ▶ Adjustable spray nozzle with constant nozzle pressure and automatic cleaning function
- ▶ Control elements for dispensing compressed air and vacuum
- ▶ Manual loading and unloading of the substrates
- ▶ Acoustic signal when the process has finished

PERFORMANCE DATA

- ▶ Spray volume: 50 cl in buffer cartridge, supply pump with level control
- ▶ Viscosity of the spray medium: 0.3 to 25 cSt (μPa s)
- ▶ Spray nozzle: droplet size < 7 micron, type Micro 3
- ▶ Speed and position accuracy of the spray arm: max. 0.4 m/s; $\pm 0.1\text{mm}$
- ▶ Spray time per segment: max. 9999 seconds with 0.1 second increments
- ▶ Number of spray cycles: max. 20 meanders
- ▶ Ambient temperature: $+4^{\circ}\text{C}$ to $+60^{\circ}\text{C}$

ADDITIONAL FUNCTIONS (OPTIONS)

- ▶ Hotplate up to 150°C, usable heating surface Ø300mm
- ▶ Spin chuck with up to 6,000rpm +/-1rpm ¹⁾
- ▶ Heatable spin chuck with up to 1,500rpm and a maximum of 150°C
- ▶ Z-lift-axis for spray nozzle
- ▶ Two spray nozzles with separate photoresist feeds to prevent contamination

1) Depending on the substrate size

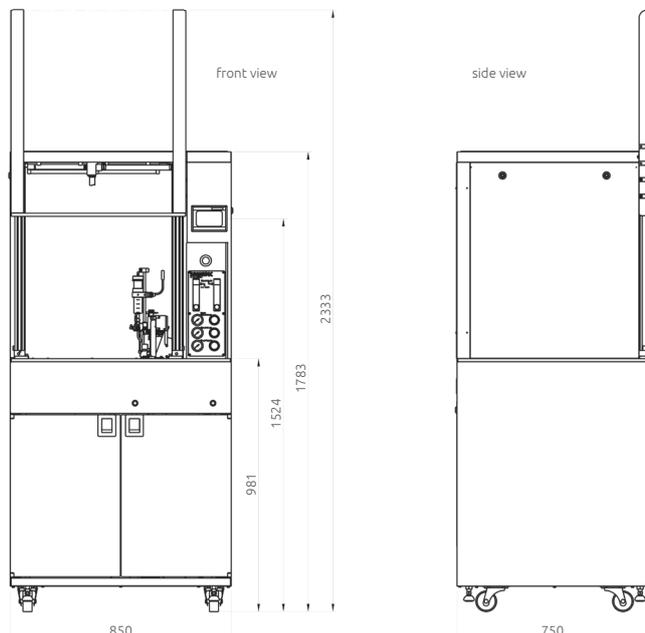
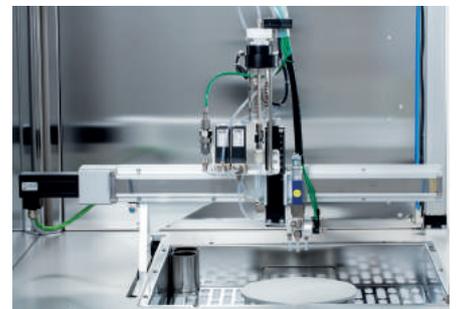
ACCESSORIES

The standard spray coating method in the direction of X and Y can additionally be combined with a rotating spin chuck (with or without heating), which improves the distribution of the photoresist for certain topographies and increases the diversity of the coating.

Furthermore, the iSPRAY-300 can be equipped with a hotplate. With this, even photoresists with a higher viscosity can be processed with little accumulation in cavities and reliable coating of the edges.

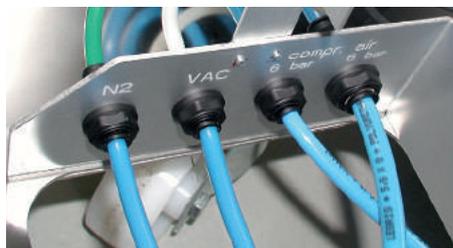
DESIGN AND DIMENSIONS

- ▶ Mobile cabinet made of electropolished stainless steel
- ▶ Process bowl made of stainless steel
- ▶ Glass front door to observe the process
- ▶ Colour display touch screen panel
- ▶ High-precision AC servomotors for positioning the spray nozzle
- ▶ Dimensions: 850 x 750 x 2333mm (L x W x H)
- ▶ Weight: approx. 220kg



REQUIRED MEDIA

- ▶ 230 VAC 50/60Hz 10A
- ▶ Technical vacuum, tube Ø6/4mm (-0.8bar)
- ▶ Compressed air or N2 tube Ø6/4mm (3bar)
- ▶ Exhaust connector Ø125mm (260m³/h)



If you would like a personal consultation or have a specific request, please do not hesitate to call us. Our technical experts will be pleased to help you.

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