



Remote Plasma System GIGAfab ASYNTIS M

- Chip Side Healing (CSH)
- Damage-free 3D-TSV Recess Etching
- Wafer Back-Side Stress Relief
- Final Wafer or Chip Thinning
- Dry and Damage-free Wafer Dicing by Advanced Etch Separation (AES)

Plasma Systems



Dry Plasma Etching System for Ultra-Thin Wafers and Chips

The **GIGAfab ASYNTIS M** is a unique dry plasma etching system designed for processing ultra-thin wafers and chips. It is equipped with chamber downstream configuration and remote plasma generation. In this plasma system the dry etch plasma effect is entirely based on chemical reactions of reactive plasma particles. Moreover, GIGAfab ASYNTIS M is featuring the unsurpassed capability of processing framed wafers mounted on the tape. The mild, chemical remote plasma assures that the substrate temperature remains below critical values. The plasma system GIGAfab ASYNTIS M can handle substrate sizes up to 12" framed wafers.

The very particular design of the tool is ideally suited for applications such as die strength improvement (Chip Side Healing), wafer stress relief as well as final wafer thinning. PVA TePla's unique Advanced Etch Separation (AES) technology offers all 3 processes in 1 step. In 3D-TSV manufacturing, GIGAfab ASYNTIS M is the perfect tool for recess etching to expose TSVs to any required height. Silicon descum processes are highly uniform and can be well-controlled for small etch profiles ($d < 10 \mu\text{m}$). The GIGAfab ASYNTIS series is available as a stand alone tool for manual loading ("M") as well as for automated loading ("A") from wafer cassettes.

Technical Data

Process Chamber

Material	Aluminum
Width	550 mm
Height	160 mm
Depth	550 mm
Capacity	max. 12" framed wafers
Chamber Loading	Horizontal front loading drawer type
Gas Channels	3 standard channels, each with MFC and solenoid valve
Evacuation	on chamber bottom

Plasma Generation

High Density Remote Plasma Source

Supplies

Electricity	230/400 V, 3 phases, N, PE, 3 x 15 A installed power approx. 12 kW
Process Gas	1/4" VCR female, input pressure 2 bar
CDA	6mm, input pressure 4-6 bar
Cooling Water	20°C, 3-9l/min, min. pressure 4 bar

System Control

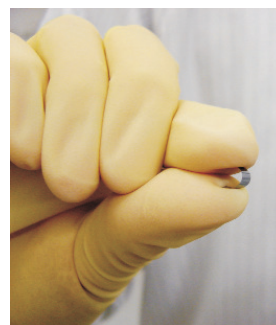
Controller	Industrial PC Controller 17" TFT touch screen operation
Interface	USB, Ethernet and RS232
Software	Manual and automatic operation, graphical user interface (compliant to SEMI E95), process status with all parameters, QNX real time operation system, multiple recipe storage, plain text error messages and warnings, software safety interlocks, etc.

Dimensions

W/H/D	Approx. 850 x 2000 x 1300 mm
Weight	550 kg (system only, excluding pump)

Options

Additional Gas Channels
Customized Chucks
Vacuum Pump
Dry Bed Absorber



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