



# SAARA-PECVD

Plasma Enhanced Chemical Vapour Deposition System

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HHV's SAARA platform is made of single block Aluminium chamber to deposit electronic and optical coatings of the highest quality. The SAARA platform comes with a load-lock chamber, automated substrate transfer mechanism and a touch-screen PC for complete process automation. Optimized recipes for deposition of Silicon based films such as a-Si:H, Oxides and Nitrides are built into the system's process library. The small footprint, low cost, ease of use and superior performance makes the SAARA PECVD ideal for a wide range of applications for R&D, prototyping, pilot line and low volume production.

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## CHAMBER CONFIGURATIONS



Overall System view



Feeding gas manifold located close to the chamber by integrating to rear side of console thereby also ensuring reduced system foot-print.



Top opening process and load-lock chambers. Matching network mounted on to the lid of the process chamber for better efficiency and compact design.

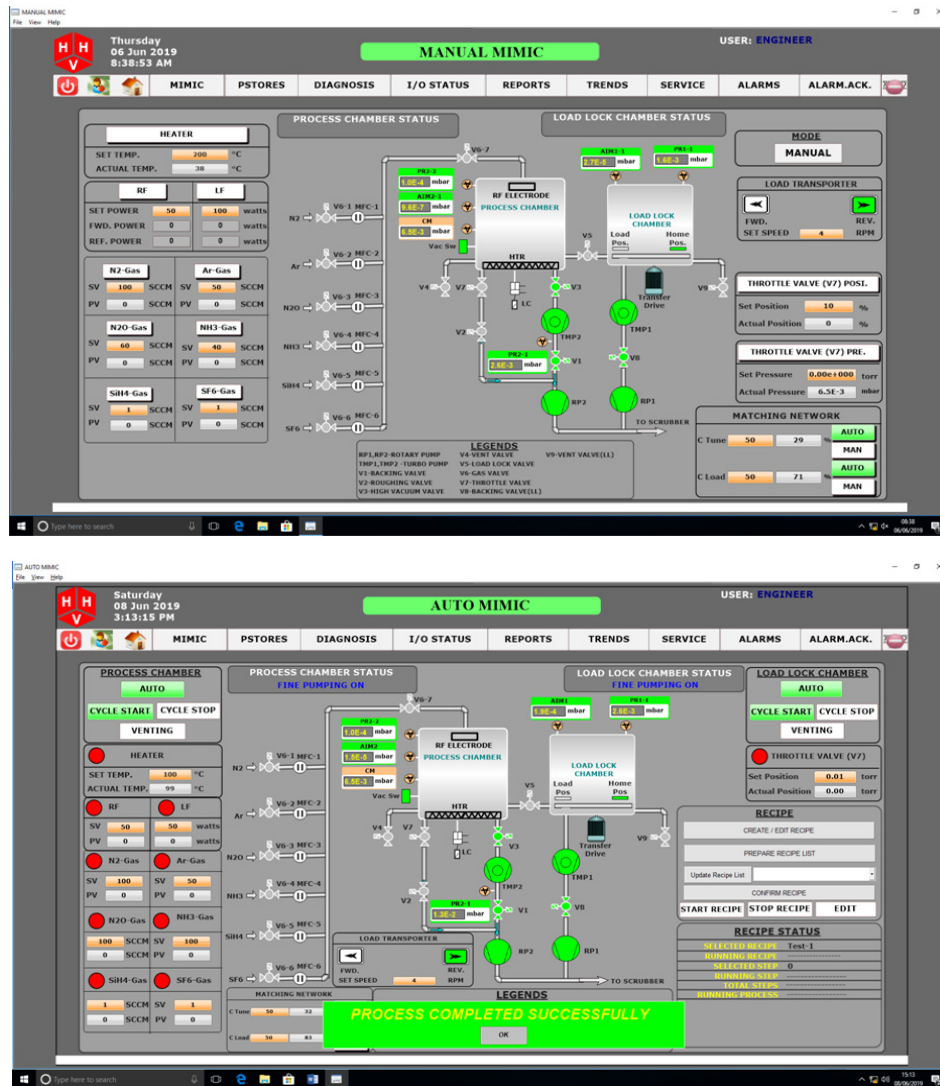


Telescopic arm for transfer of substrates between load-lock and process chambers.

## SPECIFICATIONS

CHAMBER SIZE	Single block Aluminium ingot 400 mm $\Phi$ x 200 mm (H)
SUBSTRATE SIZE	8" diameter circular wafer or 156 mm x 156 mm square substrates
SUBSTRATE TEMPERATURE	600 °C as standard. Higher temperature options available on request
POWER SUPPLY	RF – 13.56 MHz for plasma generation LF 100 - 350 kHz for plasma generation or biasing
PUMPING	Dry Scroll and Turbo Molecular Pump Dedicated pumping sets for process and load-lock chambers.
ADDITIONAL OPTIONS	Wet / Dry Scrubber and process gas lines from gas bank to chamber

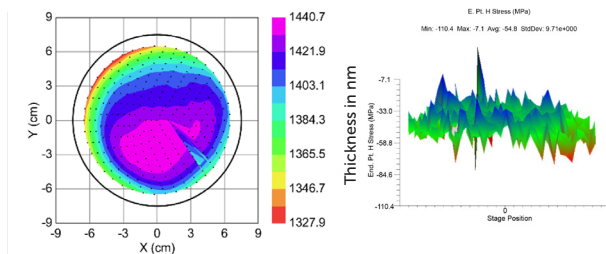
# CONTROL OPTIONS



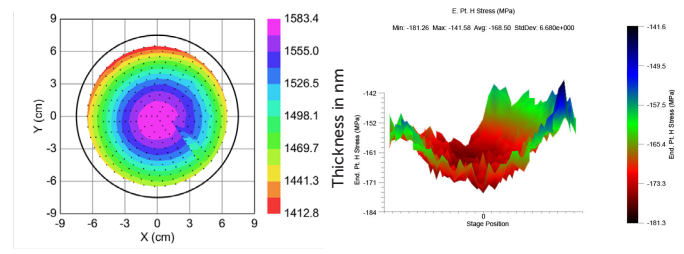
Touch Screen PC based control with Auto, Manual and Service mode

# RESULTS

Recipes available: Silicon Oxide, Silicon Nitride and Hydrogenated Amorphous Silicon



Silicon Nitride Data



Silicon Oxide Data

Thickness variation of under  $\pm 3\%$  on 6" Silicon Wafer (with edge exclusion).  
Stress levels of under 200 MPa for 1  $\mu\text{m}$  thick films.

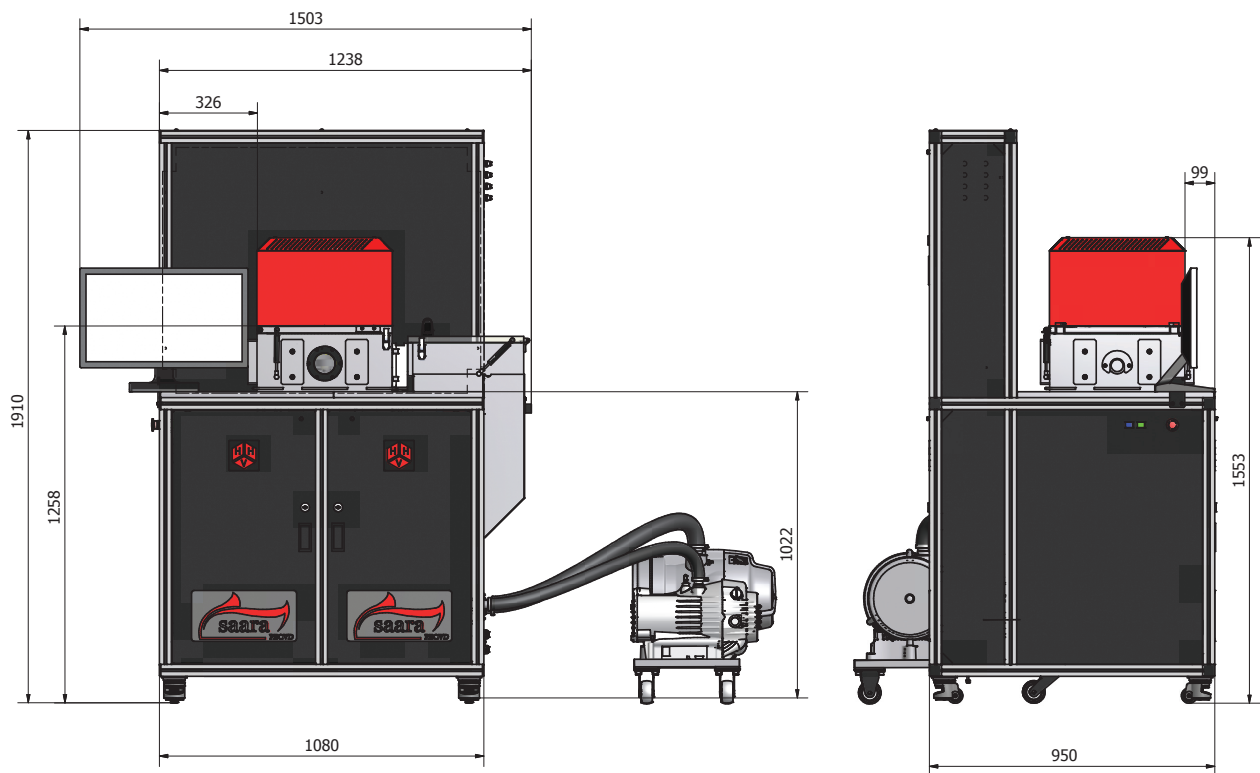
## FEATURES

- Dual frequency power supplies for film stress control
- Complete process automation
- In-situ cleaning for process chamber
- Compact design offering minimized footprint
- Built in process library
- Fully interlocked for operator safety

## APPLICATIONS

- Semiconductor devices
- MEMS and NEMS
- Photovoltaics
- Anti-reflection coatings
- Multi-layer coatings for optics and photonics

## LAYOUT



All dimensions in mm



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