

산학연 & 공동 실험 장비

Reactive Ion Etching (RIE)



System feature

- Company : Plasma tech.
- Model : RIE-80
- pump : Edwards E2M40F
Edwards EH250
- generator : 1kW, 13.56MHz
- gas : O₂, CCl₂F₂, Ar SF₆, CHF₃

• RIE is a dry etching process in which a substrate is etched by a combination of chemical and physical interactions between the etching gas and the substrate.

Furnace



System feature

- Furnace tube : 1-tube.
- Wafer : 4, 6 and 8 inch
- Heater : vertical 3 zone
- Temperature : 1250°C
- Min vacuum : 5E-3 torr
- Loading wafer : 50~100 sub.

• Furnace used in semiconductor device manufacturing to process wafers at high temp. in the ambient of strictly controlled composition; uses heavy heating coils does not allow rapid changes of wafer temp.

Sputter



System feature

- Company : Plasma tech.
- Model : RIE-80
- pump : Edwards E2M40F
Edwards EH250
- generator : 1kW, 13.56MHz
- gas : O₂, CCl₂F₂, Ar SF₆, CHF₃

• Sputter used in a matter to bombardment of solid (target) by high energy chemically inert ions (e.g. Ar⁺) extracted from plasma; causes ejection of atoms from the target.

Rapid Thermal Annealing (RTA)



System feature

- Company : Korea vacu. tech.
- Model : KVRTP-020
- Temperature range :
below 500 °C : 2 min
below 1000°C : 1min
- gas : N₂, Ar, H₂

• RTA; annealing process carried out for a very short time; typically performed for the purpose of improving properties of materials and/or device structures.

Aligner



System feature

- Model : MDA-400M
- UV Exposure Light source with 350 Watt
- 365nm Output Beam
Intensity : 25 mW/cm² (Max)
- Alignment accu.: 2.0 micron

• Aligner is tool allowing adequate positioning of the mask (or reticle) in lithographic processes relative to a wafer prior to exposure of the resist.

Nano Spec



System feature

- Company : Nanometrics
- Model : Nanospec AFT/200
- Available measurement
range : 25 nm ~ 35 um
- Data : statistical analysis,
histograms and export data.

• The NanoSpec is film thickness measurement system that utilizes a modern small spot spectroscopic reflectometer that is built on a simple-to-use tabletop platform.