

ECR Ion Beam Etching/Sputtering System EIS-220P

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Etching and Deposition System with ECR Ion Beam

Equipped with two ion guns, a variety of processes can be consistently performed in a vacuum.



Features

PC Control

Automatic control of the process by PC is possible. The program function also contributes to improved reproducibility. Utilizing ion beam ON/OFF programs, etc., etching can be performed using resist masks and with minimal thermal damage even for heat-sensitive materials.

Graded Etching of Samples Is Possible

By tilting the stage, oblique sample etching can be performed by controlling the angle of ion beam irradiation to the sample.

Equipped with Two Ion Guns

Utilizing two ion guns, various processes can be consistently performed in a vacuum.

Inert/Active Gases Can Be Used

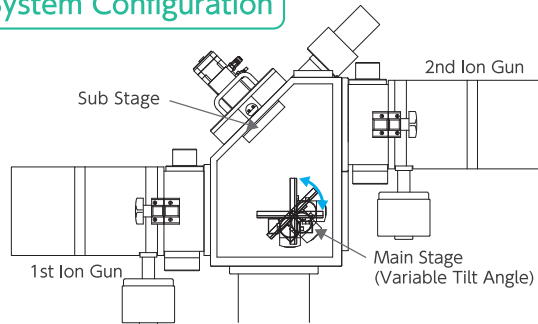
In addition to inert gases such as Ar, Xe, etc., since it is a non-filament type ion gun, O₂, CF₄, and other active gases can also be applied.

Specification

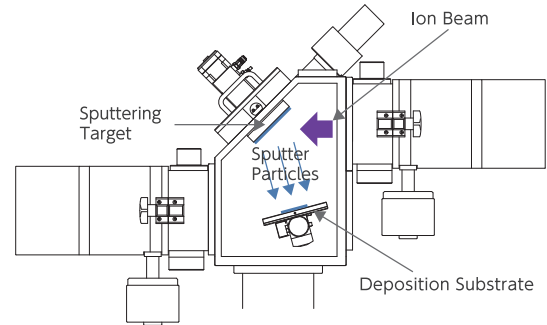
Ion Gun	ECR Type Ion Gun
Ionized Gas	Ar, N ₂ , O ₂ , CF ₄ , etc. ※Consultation required for CF-based gases.
Acceleration Voltage	20V~3000V
Ion Beam Density	Ar : 1.5 mA/cm ² or more (at 2kV Vacc)
Beam Effective Diameter	φ 20 mm (FWHM 35 mm) ※At max.
Max. Sample Size	Main Stage : φ 4 inch Wafer Sub Stage : φ 3 inch Wafer
Sample Stage	Main Stage : One-axis Rotation and Tilt Stage (With water-cooling mechanism) Sub Stage : Rotation Stage (With water-cooling mechanism)
Ultimate Vacuum	4×10 ⁻⁴ Pa or less
Operating Vacuum	6×10 ⁻³ ~ 2×10 ⁻² Pa
Evacuation System	Turbo Molecular Pump Dry Pump
Recommended Installation Space	W3000×D2000×H1500(mm)

Examples of System Usage

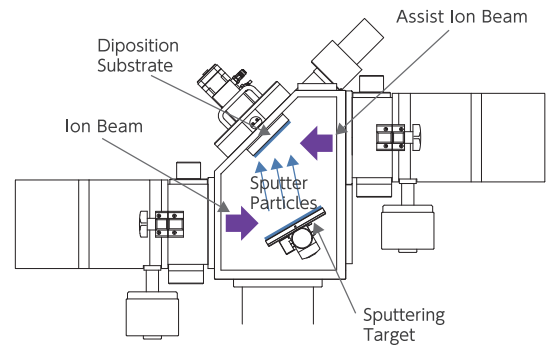
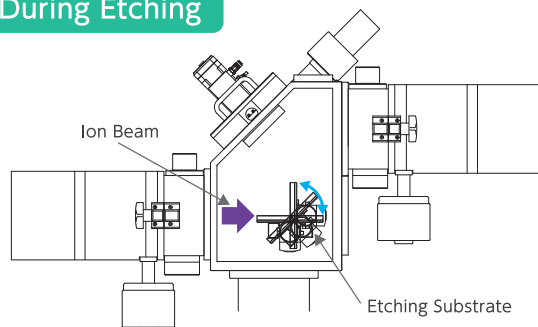
System Configuration



During Deposition

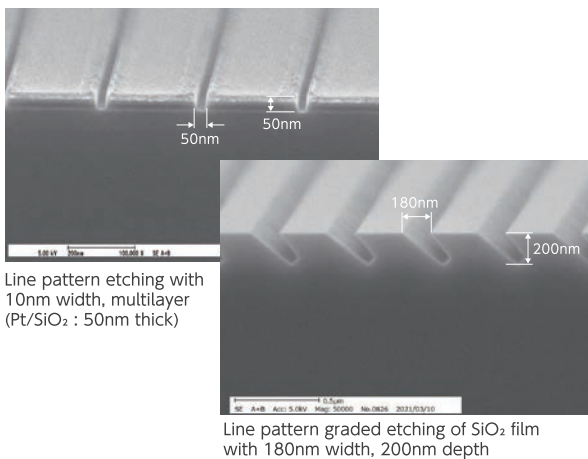


During Etching



Application Examples

Etching



High Aspect Ratio Lift-off

