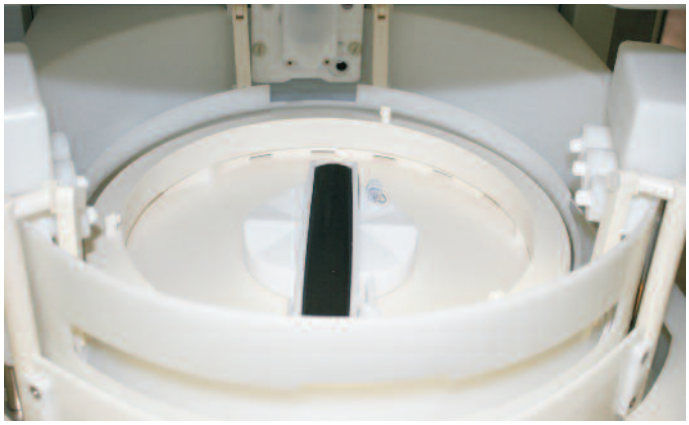
Single-Wafer Goldfinger® Velocity for Prelithography Defect Removal

NAURA Akrion Technology



Patent pending backside megasonics provide high efficiency simultaneous frontside and backside particle removal

Typical process recipe complete in 75 seconds

Industry Need

Advanced sub-50nm process requires ArF/ Immersion lithography. New process schemes require CVD material which results in an unstable particle level, particularly on the wafer backside. Backside treatment is required.

Key Benefits

- Reduce lithography rework by removing backside particles which cause depth of field misprints
- Remove frontside and backside particles simultaneously
- Perform post deposition (ARL CVD) and pre-photo cleans in a single step, reducing capital cost as compared to single sided clean

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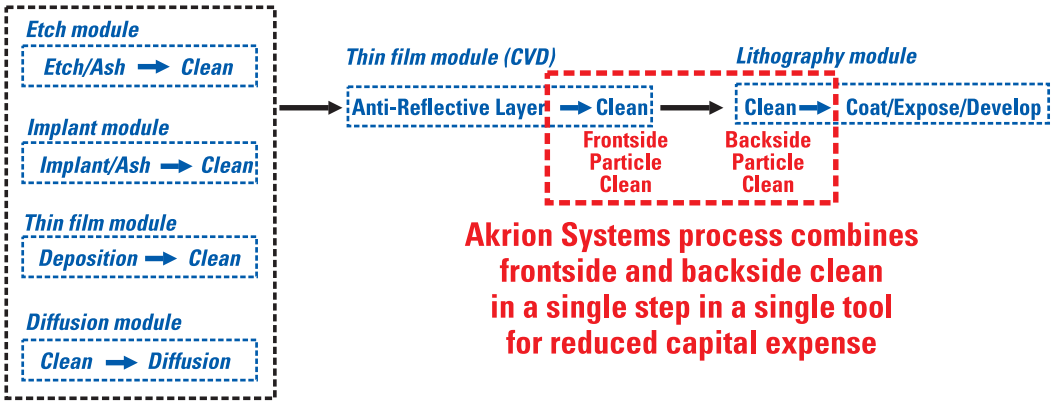
Prelithography Clean with Backside Megasonics

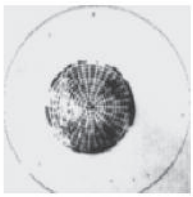
Combined Post Deposition and Prelithography Clean



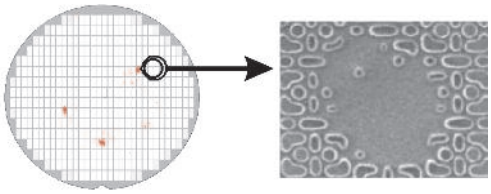
Akrion Systems process combines frontside and backside clean in a single step in a single tool for reduced capital expense

CVD Process Results in Pattern Misprints

Particles on Wafer Backside

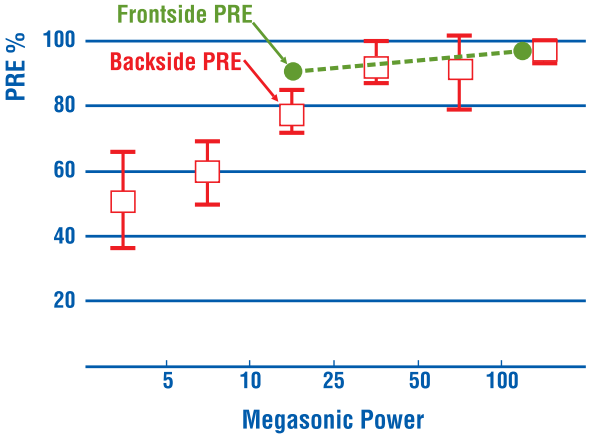


Backside Particles from CVD chuck



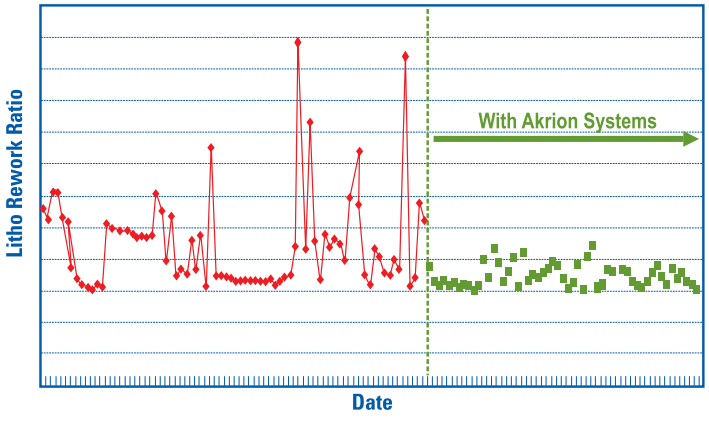
Defect inspection and SEM review shows pattern misprint

Efficient Backside and Frontside Particle Removal



Si_3N_4 contamination on Si, 100:1:1 SC1 at 60C for 30s, >100nm particle size measured

Lithography Rework Reduction



Rework ratio SPC chart, before and after inserting Akrion Systems megasonics process

Single-Wafer and Batch-Immersion Cleaning

NAURA Akrion also has a complete line of batch immersion products for a variety of cleaning, etching and stripping applications. Our batch immersion and single wafer systems are found in leading edge fabs worldwide.

NAURA Akrion 6330 Hedgewood Drive, Suite 150, Allentown, Pa., USA 18106