

# EUV TECH PRODUCTS

- Products
  - EUV Reflectometer
  - EUV Pellicle Transmission Tool
  - EUV Contrast Curve Tool for Resist Suppliers
  - Photon Induced Defect Test Stand
  - Pellicle Test Suite
  - *EUV Mask Imaging Tool*
  - *Pellicle Handling Tools – Pellicle Mount/Demount, Stud Fixation/Removal*
  - *EUV Scatterometer*
- Service Capability
  - Mask Reflectivity & Pellicle Transmission Measurement
  - Resist Outgassing Measurement (193 & EUV)

# EUV PELLICLE TRANSMISSION TOOL

- Design specifications of EUV Tech's EUV Pellicle Inspection tool, Model No. EUV-PTT-150
  - Wavelength precision at 13.50nm,  $3\sigma$ : 0.01 nm
  - EUV transmission repeatability at 13.50nm,  $3\sigma$ : 0.1% (abs)
  - EUV transmission repeatability in 13 to 14 nm band pass,  $3\sigma$ : 0.08% (abs)
  - Spot Size: 1mm x 1mm
  - Max pressure change for during pump down and venting < 350 Pa/s.



EUV Pellicle Transmission Tool

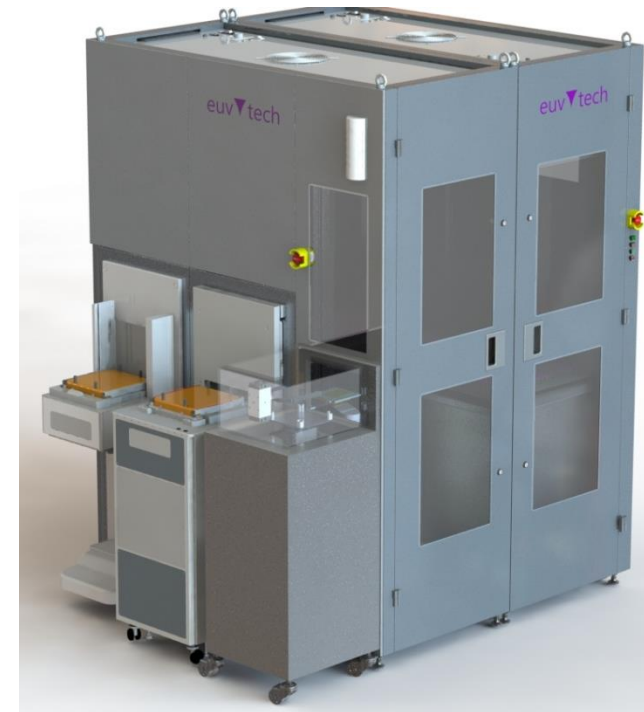
# PHOTON INDUCED DEFECT TEST STATION

- The EUV Photon Induced Defect (PID) Exposure Tool, is designed to do accelerated EUV exposure testing on a EUV photomask
- A novel optical system to provide in-band spectrum of illumination by integrating the Energetiq EQ-10HP source
- Maximum power density of 150 mW/cm<sup>2</sup> in a 1mm x 1mm square spot which translates to an EUV dose of 700 J/cm<sup>2</sup> in 1 hour of exposure time
- Fully safety interlocked Hydrogen flow rates will be configurable achieve 1x10<sup>-3</sup> to 1x10<sup>-6</sup> mbar in the process chamber
- EUV Tech's ultra clean transfer system to automatically transfer a mask from and RSP-200 SMIF Pod to the process chamber
- Customers: Mask Shops



# EUV PELLICLE IMPLEMENTATION TOOL

- Addresses industry requirements for NXE pellicle implementation in an automated mask shop and/or EUV fab environment
- Leverages EUV Tech's experience handling EUV masks and recent developments with our HVM EUV Reflectometer ultra-clean sample transfer system
- Automated tool integrates ASML SFT, MDR, and SRT with industry-leading front end openers, robotics, and ultra clean air handling systems
- User-friendly software built upon the common EUV Tech user experience
- Economical fab footprint, simple facilities connections



EUV Pellicle Implementation  
Tool

# EUV SCATTEROMETER – CD MEASUREMENT

- Scatterometry is a versatile metrology for characterizing periodic structures, regarding critical dimension (CD), and other profile properties
- CD measurements were performed at Berkeley Lab ALS CXRO to determine feasibility of at EUV wavelength CD measurements
- Currently data is being analyzed and a robust model is being developed
- Standalone tool will be developed after data and data modelling is complete (based on customer need)
- Customers: Mask Shops