

## EUV RADIATION

<b>At 3 kHz:</b>	<b>Broad band</b>	
Power [W]	3.3	
Maximum intensity [W/mm <sup>2</sup> ]	2.0	
Maximum dose per Mp [kJ/mm <sup>2</sup> ]	0.6	

	<b>Minimum</b>	<b>Maximum</b>
EUV spot diameter [mm]	1	30
Pulse repetition rate [Hz]	2,000	3,000

- Broad band: 10 nm to 20 nm
- Spectral Purity Filter optional
- Dose Control: <20%
- Unattended exposure time: up to 100h

## GAS ENVIRONMENT

- Ultra clean vacuum chamber
- Background pressure: < 5E-8 mbar
- Process gasses: H<sub>2</sub>, He, Ar
- Max pressure at full pump speed 0.7 mbar Hydrogen
- Contamination gasses: H<sub>2</sub>O, XCDA, O<sub>2</sub>, N<sub>2</sub>, Hydrocarbons
- Differentially pumped RGA

## STAGE

- Positioning accuracy: <250 µm
- Reproducibility: <100 µm
- Flexible exposure spot size: 1 mm to 30 mm
- Temperature (backside sample): -20 to 120°C
- Electrical contacts on sample holder for additional sensor readout
- Integrated photodiodes
- Positioning with markers and imaging ellipsometer

## INSPECTION & METROLOGY

In-situ imaging ellipsometer:

- Field of view: 15 mm x 15 mm
- Imaging resolution: 0.1 mm
- Sensitivity: 0.3 nm of carbon

In vacuum analysis:

- XPS system (152x152 mm<sup>2</sup> sample capability)
- Every position addressable on sample
- Monochromated Al-Kα source
- Energy resolution 0.1 eV
- Standard spot size 0.7 mm x 0.3 mm
- Smaller spot sizes possible

Other facilities at TNO lab:

- Variable Angle Spectroscopic Ellipsometer
- Optical particle inspection
- 3D backside inspection
- XRD
- SEM/EDX
- AFM
- Outgassing setup

## SAMPLE SIZE

- Loading via Dual Pod interface
- Accepts SEMI P37 compliant masks
- Accepts EUV masks with pellicle
- Maintains NXE compatibility for backside particles cleanliness
- Max sample size: 152x152x20 mm<sup>3</sup> incl. sample holder
- Automated sample handling

## WAY OF WORKING

- Offering based on customer test protocol
- Exposure costs based on total applied pulses plus hours used of EBL2 excl. surface analysis (XPS), cleaning costs and sample preparation.

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This datasheet is an indication of functionality and performance which TNO is aiming at with EBL2. TNO solely warrants functionality and performance of EBL2 to the specifications agreed at the time of sale.

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## CONTACT

- Wilbert Staring
- wilbert.staring@tno.nl
- <http://www.tno.nl/EBL2/>