For highest demands SUSS MicroTec offers the SUSS MicroOptics MO Exposure Optics system for all SUSS Mask Aligners. It provides outstanding light uniformity and allows customized illumination and source mask optimization in a mask aligner. The illumination system decouples the light from the lamp source. Small misalignments of the lamp do not affect the light uniformity anymore. MO Exposure Optics significantly saves setup and maintenance time and guarantees optimal light exposure conditions over the full life-time of the lamp.

The illumination system comprises two Köhler integrators based on fused silica microlens arrays. The patented concept of two subsequent Köhler integrators allows to homogenize both the light intensity and the angular spectrum of the mask illumination. MO Exposure Optics provides telecentric illumination and thus improves the run-out for large gap illumination. Exchangeable Illumination Filter Plates (IFP) allow for a quick and easy changeover between different angular settings thereby enabling highest process flexibility. The MO Exposure Optics includes the functionality of both classical SUSS optics, HR and LGO. A changeover between both is possible in less than five minutes.

**HIGHLIGHTS**

- Highest possible uniformity of ±2.5% or lower
- Perfect illumination over full exposure field
- Exposure light is decoupled from light source
- No regular re-adjustment of lamp position required
- Saves setup and maintenance time

Additionally the SUSS MO Exposure Optics, in combination with the GeniSys mask aligner lithography simulation software, LAB, can enhance the flexibility of the MO Exposure Optics for process window optimization and best pattern fidelity.

*In cooperation with GeniSys GmbH*
SUSS MO Exposure Optics®

TECHNICAL DATA

ALL IN ONE LITHOGRAPHY SIMULATION SOFTWARE

LAB provides all the required simulation functions for design and process development, verification and optimization:

+ Models any proximity lithography equipment (mask aligner, FPD exposure tool)
+ Dedicated for all SUSS mask aligner optics including special settings for SUSS MO Exposure Optics
+ Enables to optimize illumination filter plate (IFP) design for MO Exposure Optics
+ Broadband spectrum, collimation angle and complex source shapes, large gaps, arbitrary mask layouts (including gray tone and phase shift), any substrate material, coatings, thick resist
+ Fast and accurate calculation of aerial image, bulk image in the resist, PAC concentrations, resist profiles based on threshold or 3D Mack development model
+ Fast and flexible 1D, 2D and 3D visualization, metrology and matrix viewing

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Mask layout optimization to improve process window for proximity gap and dose.

Data, design and specification depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously. Illustrations, photos and specifications in this brochure are not legally binding. SUSS MicroTec reserves the right to change machine specifications without prior notice.