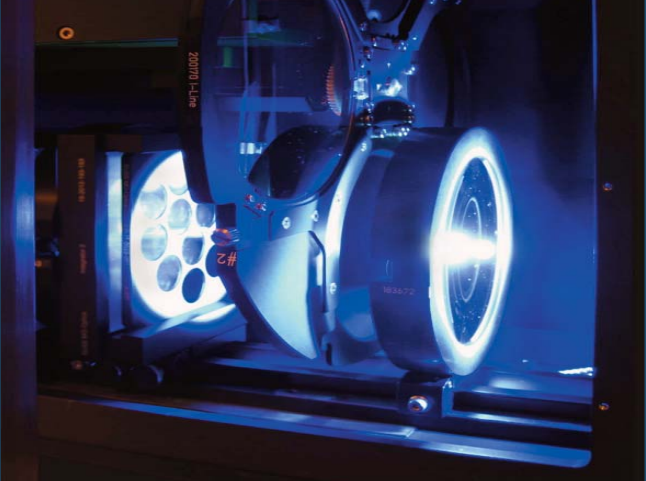


MO Exposure Optics

THE REVOLUTIONARY ILLUMINATION SYSTEM FOR SUSS MASK ALIGNERS



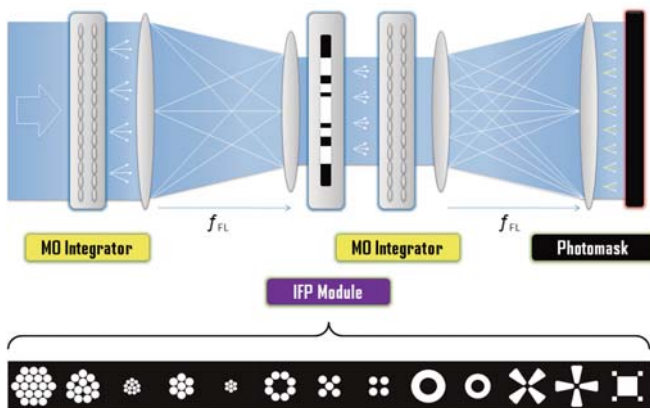
	Your Needs	MO Exposure Optics Solutions
	Excellent Light Uniformity	<ul style="list-style-type: none"> • Microlens-based Köhler integrators (fused silica) • Highest possible uniformity, typically $\pm 2\%$ • Perfect illumination over full exposure field
	Stable Light Source	<ul style="list-style-type: none"> • Exposure light is decoupled from light source • No re-adjustment of lamp position required • Saves setup and maintenance time in production
	Improved CD Uniformity	<ul style="list-style-type: none"> • Telecentric illumination improves CD uniformity and overlay accuracy over full wafer area • Larger process window and yield improvement
	High Flexibility	<ul style="list-style-type: none"> • Flexible IFP-System provides customized illumination • Optics change from HR (high resolution optics) to LGO (large gap optics) in less than a minute • Customized illumination allows to optimize critical lithography processes to the very limit



Process Window Optimization and Yield Improvement

For highest demands SUSS MicroOptics offers MO Exposure Optics illumination system for all SUSS MicroTec Mask Aligners. MO Exposure Optics provides outstanding light uniformity and allows customized illumination and optical proximity correction (OPC) in a mask aligner. MO Exposure Optics decouples the exposure light from the lamp source. A misalignment of the lamp does not affect the light uniformity anymore. MO Exposure Optics significantly saves setup and maintenance time and guarantees perfect light exposure conditions over the full life-time of the lamp.

MO Exposure Optics 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 light. MO Exposure Optics provides telecentric illumination and thus improves the run-out for large gap illumination significantly.



Exchangeable Illumination Filter Plates (IFP) allow for a quick and easy changeover between different angular settings thereby enabling highest process flexibility. Switch in less than a minute from standard SUSS optics like HR (high resolution) or LGO (large gap optics) to quadrupole or Maltese-illumination. Stabilize critical lithography steps and enlarge your process window.

MO Exposure Optics is «DUV Ready». Fused silica micro-optics allow operation at full wavelength range (240nm - 450nm).

Special down-sizing-kits are available for light compression to smaller wafer sizes. For example using 3" wafers in 6" mask aligner MA150 the light intensity gain is more than 5 times.

MO Exposure Optics for All SUSS Mask Aligners

TECHNICAL DATA

GENERAL FEATURES

Light Uniformity	Typically 2% over full mask field
Light Source Stability	No alignment of lamp necessary in operation
	Excellent uniformity over full life-time of lamp
	No lamp alignment after lamp exchange
Light Intensity	Depending on Illumination Filter Plate (IFP)
	Up to 25% more light possible
Customized Illumination	IFP change typically in less than 1 minute
	Library of IFPs included (see below)TMask
Mask Aligner Types	All SUSS Mask Aligners

MO EXPOSURE OPTICS SYSTEM

MicroLens Arrays	Highly transparent fused silica (DUV Quality)
	Anti-reflection coating
	Manufactured by SUSS MicroOptics
Mechanical Holders	Fit to standard SUSS Mask Aligners

WAVELENGTH RANGE

Wavelength Range	MO Exposure Optics is «DUV Ready»
	Broadband (240nm - 450nm)

LIBRARY OF ILLUMINATION FILTER PLATES (IFP)

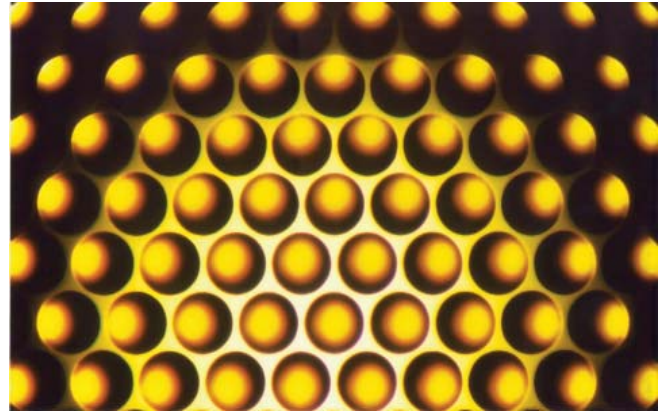
Standard SUSS Optics	IFP-HR-, IFP-LGO-, IFP-D-Optics (included)
IFP for Lines	Quadrupole, Maltese (0°, 45°)
IFP for Holes, Posts	IFP-Ring 22, 30
IFP for Squares, Rectangles	IFP-Square
Customized IFPs	Available on request

SPECIALS, CUSTOMIZED SOLUTIONS

Source-Mask Optimization*	Customized lithography solutions
Down-Sizing Kits	Reduction of exposure area
	MA150 to 4", 3"

* See also datasheet «Source-Mask Optimization»

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 reserves the right to change machine specifications without prior notice.



High-Quality Microlens Lens Array from SUSS MicroOptics.

The possibility to upgrade the installed base with the new MO Exposure Optics helps to protect your investment in the well-proven SUSS Mask Aligner technology. It allows to immediately save cost in this challenging economical environment.

MO Exposure Optics is a major step forward in yield improvements providing high resolution at even large proximity gaps for all SUSS Mask Aligners.

Visit www.suss.com/locations for your nearest representative or call:

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