HEIDELBERG
INSTRUMENTS

Maskless Aligner DLA

Heidelberg Instruments and EPFL/CMi are collaborating closely in order to test and evaluate the DLA in a multi-user environment. We encourage all students to test the new tool. Your valuable feedback in form of suggestions, criticism and compliments is appreciated and helps us to improve the overall performance of the DLA. Please give your feedback to the CMi staff or send directly to dla@himt.de.
The usage of the DLA is free upon completion of the questionnaire, which will be sent automatically after testing the tool.

The essential goal for fast prototyping of microstructures is a short turn-around time. Conventional methods up to now consist of creating designs with a CAD software, then fabricating or purchasing a photomask and finally using a mask aligner to transfer the pattern to the photoresist. With the new Maskless Aligner it is possible to expose the pattern directly without fabricating a mask, which results in a significantly shorter prototyping cycle.
The DLA is a high performance Maskless Aligner especially designed for the needs of universities and R&D labs. It can be used for first layer exposures but also for alignment in multilayer applications.
An intuitive user interface combined with a new operating concept makes it very easy to setup and run the DLA.

With a few mouse clicks you can load and expose your pattern. The system is equipped with a special overview camera, which allows you to locate the alignment marks very quickly. There is no manual adjustment required. This helps to accelerate and simplify the entire alignment process. The alignment accuracy can be as good as 250 nm under optimized conditions.
Since there is no contact between mask and substrate, there is also no need for time-consuming procedures. Your substrate will not be compromised by contact to a mask.
You can use the tool for a wide range of substrates and photoresists. There are no special substrate holders just one chuck, which fixes the substrates by vacuum. The vacuum layout is designed for standard wafer sizes but can also be used for pieces down to 5mm x 5mm.
The DLA is the first real alternative for mask-based UV lithography. Participate in this revolutionary technology by testing the tool and providing us your feedback.

Key Features and Options

- High Speed Maskless Wafer Exposure
- Intuitive Software and System Concept
- Precision Alignment
- Real-time Autofocus
- 10 W Laser at 405 nm
- High Resolution
- Intuitive Layout Treatment

Specifications

Min Feature Size	1 µm
Alignment Accuracy	< 1 µm
Uniformity	< 100 nm
Exposure Time for 1" Wafer	~ 2 min
Exposure Time for 2" Wafer	~ 4 min
Exposure Time for 100 mm Wafer	~ 13 min
Max Substrate Size	6"