



HERCULES® NIL

Fully Integrated SmartNIL® UV-NIL System Up to 200 mm



Introduction

A fully integrated nanoimprint lithography solution for high-volume manufacturing, featuring EVG's proprietary SmartNIL® imprinting technology

The HERCULES NIL, a fully integrated UV nanoimprint lithography track solution for wafers up to 200 mm, is the latest addition to EVG's NIL product portfolio. Based on a modular platform, the HERCULES NIL combines EVG's proprietary SmartNIL imprinting technology with cleaning, resist coating and baking pre-processing steps. This turns the HERCULES NIL into a "one stop shop", where bare wafers are loaded into the tool and fully processed nanostructured wafers are returned.

To optimize the process chain, fabrication of multiple-use soft stamps – which are a cornerstone for high-volume production – is included in the HERCULES NIL without requiring additional imprint stamp manufacturing equipment. As a special feature, the tool can be upgraded with a ISO 3** capable mini-environment to guarantee the lowest defect rates and highest-quality master replication.

By providing a complete NIL solution for high-volume manufacturing, the HERCULES NIL strengthens EVG's leadership position in full-area NIL equipment solutions.

** according to ISO 14644

Technical Data

Wafer diameter (substrate size)	100 up to 200 mm
Resolution	≤ 40* nm
Supported Process	SmartNIL®
Exposure source	High-power LED (i-line) > 400 mW/cm ²
Alignment	≤ ± 3 μm
Automated separation	Supported
Pre-processing	All pre-processing modules available
Mini environment and climate control	Optional
Working stamp fabrication	Supported

Features

- Volume manufacturing of structures down to 40* nm and smaller
- Combines pre-processing (clean / coat / bake / chill) and SmartNIL®
- Volume-proven imprinting technology with superior replication fidelity
- Fully automated imprinting and controlled low-force detachment for maximum working stamp reusability
- Includes working stamp manufacturing capability
- Fastest curing times due to high-power light source
- Optimized modular platform for high throughput

*resolution dependent on process and template

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