



HERCULES® NIL

Fully Modular and Integrated SmartNIL® UV-NIL System

Up to 300 mm



Introduction

A fully modular platform incorporating EVG's SmartNIL® technology to support AR/VR, 3D sensor, photonic and biotechnology production applications

EVG's HERCULES NIL 300 mm is a fully integrated track system that combines cleaning, resist coating and baking pre-processing steps with EVG's proprietary SmartNIL large-area nanoimprint lithography (NIL) process in a single platform for wafers up to 300 mm in diameter. It is the first NIL system based on EVG's fully modular equipment platforms with swappable modules to give customers maximum freedom to configure their systems to best meet their production needs, including bridge capabilities for 200 mm and 300 mm wafers.

The HERCULES NIL 300 mm provides the most advanced nanoimprint capabilities on the market with low force and conformal imprinting, fast high-power exposure and smooth stamp detachment. The system supports the production of a variety of devices and applications, including optical devices for augmented/virtual reality (AR/VR) headsets, 3D sensors, bio-medical devices, nanophotonics and plasmonics.

Technical Data

Wafer diameter (substrate size)	200 and 300 mm
Resolution	≤ 40* nm
Supported Process	SmartNIL®
Exposure source	High-power LED (i-line) > 400 mW/cm ²
Alignment	≤ ± 3 μm
Stamp separation	Fully automated
Pre-processing	All pre-processing modules available
Mini environment and climate control	Optional
Working stamp fabrication	Automated working stamp fabrication inside HERCULES system

Features

- Fully automated UV-NIL imprinting and low-force detachment
- Up to 300 mm substrates
- Fully modular platform with up to eight swappable process modules (imprinting and pre-processing)
- 200 mm / 300 mm bridge-tool capability
- Full-area imprint coverage
- Volume manufacturing of structures down to 40* nm and smaller
- Supports a wide range of structure sizes and shapes, including 3D
- Applicable on high-topography (rough) surfaces

*resolution dependent on process and template

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