Nanoimprint Solutions from

THE Pioneer & Leading Provider of NIL solutions

Nanonex Corporation

www.Nanonex.com

August, 2012

Nanonex NIL Products

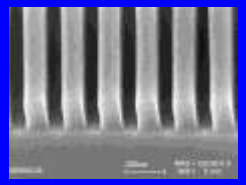
Nanonex

Complete Nanoimprint Solutions

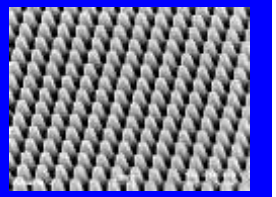
Machines



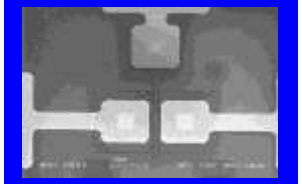
Resists



Masks



Processes



- **Machines.** 4 tools lines for full wafer, step-&-repeat, uv-curable, thermal NIL
- **Materials.** 6 resist lines: uv-curable, thermal, underlayer, etc
- **Mask.** Provide special masks and partner with mask suppliers
- **Processes.** Various processes for different applications

NX-M200B: Nanoimprint Lithography (NIL) System for Mold Duplication with Fully Automatic Operation

Nanonex

Key Features

- Patented Air Cushion Press (ACP) Technology
  - Superior Uniformity
  - High Throughput
  - Imprint pressure programmable up to 1 Mpa
- UV Nanoimprint
- UV intensity greater than 10 mw/cm^2
- Sub 20 nm Resolution
- Sub 20 nm Overlay Alignment
- Magnification Control
- Residual layer thickness - less than 20 nm
- Residual layer thickness uniformity – less than 10 nm 3-sigma
- Throughput 20 substrates per hour
- 26 mm x 33 mm Field Size
- Substrate - 6 “x6”x0.25” Quartz
- Mold – 6”x6”x0.25” Quartz or 8” Silicon
- Fully Automated Substrate Handling with Reticle SMIF pods (RSP-200)
- Imprint operation within Class 1 mini-environment

NX-2000: Full-Wafer Versatile Nanoimprintor for All Forms of Imprinting

Nanonex

Key Features

- **All Forms of Nanoimprint**
  - Thermoplastic and curable
  - Photocurable
  - Embossing
- **Air Cushion Press (ACP)**
  - Patented Technology
  - Excellent Uniformity
  - High Throughput
- **Sub 5 nm Resolution**
- **Smart Sample Holders (SSH)**
  - Arbitrary shape & size of samples up max. size
  - Arbitrary shape and size of samples up max. size
  - Max. Size: 4” Standard (6” or 8” optional)
- **NX-2500 offers sub-1 μm overlay alignment**

NX-2500: Full-Wafer Versatile Nanoimprintor for All Forms of Imprinting

Nanonex

Key Features

- **All Forms of Nanoimprint**
  - Thermoplastic and curable
  - Photocurable/UV
  - Embossing
  - Simultaneous UV + Thermal
- **Air Cushion Press (ACP)**
  - Patented Technology
  - Excellent Uniformity
  - High Throughput
- **Sub 5 nm Resolution**
- **Smart Sample Holders (SSH)**
  - Arbitrary shape & size of samples up max. size
  - Arbitrary shape and size of samples up max. size
  - Max. Size: 4” Standard (6” or 8” optional)
- **Sub-1 μm overlay alignment**

NX-2600: Full-Wafer Versatile Nanoimprintor for All Forms of Imprinting with alignment and Photolithography

Nanonex

Key Features

- **All Forms of Nanoimprint**
  - Thermoplastic and curable
  - Photocurable/UV
  - Embossing
  - Simultaneous UV + Thermal
- **Air Cushion Press (ACP)**
  - Patented Technology
  - Excellent Uniformity
  - High Throughput
- **Sub 5 nm Resolution**
- **Smart Sample Holders (SSH)**
  - Arbitrary shape & size of samples up max. size
  - Arbitrary shape and size of samples up max. size
  - Max. Size: 4” Standard (6” or 8” optional)
- **Sub-1 μm overlay alignment standard, Sub-200 nm optional**
- **Optional Back Side Alignment**

NX-B200: Compact, Cost-Effective, Full-Wafer Versatile Nanoimprintor for All Forms of Imprinting

Nanonex

Key Features

- **All Forms of Nanoimprint**
  - Thermoplastic and curable
  - Photocurable/UV
  - Embossing
- **Air Cushion Press (ACP)**
  - Patented Technology
  - Excellent Uniformity
  - High Throughput
- **Sub 10 nm Resolution**
- **Smart Sample Holders (SSH)**
  - Arbitrary shape & size of samples up max. size
  - Arbitrary shape and size of samples up max. size
  - Max. Size: 3” Diameter Circle Sample
- **Automatic Imprint Operation**

Advantages of Nanonex Imprint Tools

Nanonex

- One machine performs all forms of imprinting including *Photo-curable, Thermoplastic and Embossing*
- Simultaneously *or* alternatively (in arbitrary order) operation of Thermal-NIL and UV-NIL
- Innovative machine design allows *sub-60 sec* processing time
- *Air-Cushion-Press* (ACP) gives wafer-size uniformity, high yield, minimum relative shifts and gentle handling of fragile substrate and valuable mask.
- System handles all shape/size of substrate and mask with a single holder.
- *Conformable imprinting* gives high yield and less-requirements on the flatness of the wafer and the mold
- *Non-contact Lamp Heating* yields small thermal mass; hence rapid heating and cooling for fast process cycle
- *Largest installed base* of sub-10 nm NIL tools in the world, with excellent *customer satisfaction*
- *System versatility, low cost of operation,* and *ease of use* make the tool an ideal choice for open research and multi-user facilities
- Machine designed, built, tested and supported by a company with an experienced engineering team that pioneered NIL, and with strong standing in IP positions.

Delivering Complete Nanoimprint (NIL) Solutions

Today