

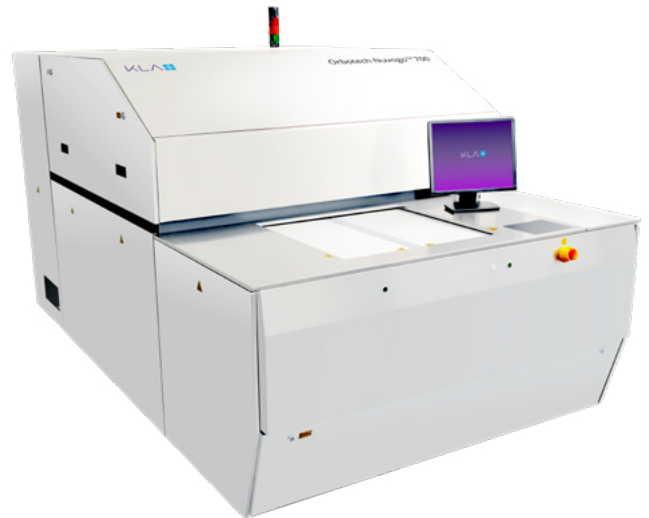
Orbotech Nuvogo™ 700/700XL

Mass Production Direct Imaging (DI)



Orbotech Nuvogo 700/700XL

Orbotech Nuvogo 700/700XL is a mass production Direct Imaging (DI) solution. Utilizing KLA's field-proven Large ScanOptics (LSO)™ technology, this solution provides high imaging quality and high throughput (up to 7,000 panels per day per line). It is powered by 405nm laser with an optimized optic path, offering the best match for 405nm resists and maintaining optimal quality.



Benefits

Mass Production Digital Imaging

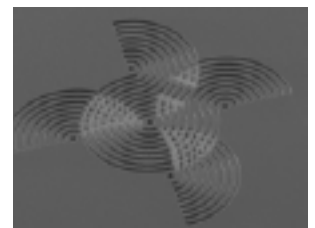
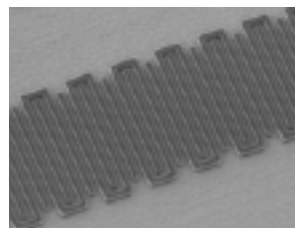
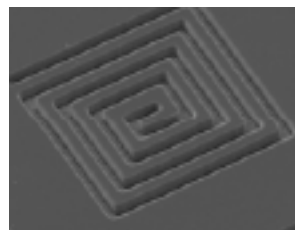
- Up to 7,000 panels per day per line using automated in-line solution
- Fast and easy setup; operator friendly
- Dual table transport mechanism for optimal imaging time

Advanced Laser Technology with 405nm Laser

- Best fit for 405nm resists
- High quality of the line uniformity structure
- Optimized optic path alignment and calibration

High Imaging Quality with LSO Technology

- High depth-of-focus
- Advanced scaling modes for optimal registration
- Superior registration accuracy of $\pm 10\mu\text{m}$



Fine lines and spaces of 18 μm

Technologies



Mass Production Digital Imaging

Orbotech Nuvogo 700/700XL is a direct imaging (DI) system for mass production. Equipped with advanced optics and electronics, it is designed to achieve high speeds. This solution delivers high throughput of up to 300 panels/hour per in-line solution (automated set of two systems). Its proven dual table transport mechanism allows the system to achieve maximum use of system time for panel imaging. Smooth job changes are facilitated by the system's fast setup capabilities and automatic acquisition of targets. Orbotech Nuvogo 700/700XL operates in a clean, hands-free environment, ensuring no handling damage.

Advanced Laser Technology with 405nm Laser

Orbotech Nuvogo 700/700XL, with optimized optics, offers the best match for 405nm resists. This solution works in sync with KLA's field-proven LSO™ technology to achieve an enhanced depth-of-focus for superior results on panel topography changes (thin layers, Flex and Rigid-Flex). It supports optimal capacity utilization helping to reduce overall operational costs and ensure a faster return on investment.

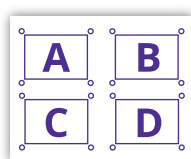
High Imaging Quality with LSO Technology

Registration Accuracy

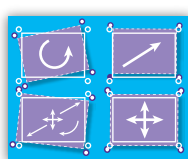
Featuring registration accuracy of $\pm 10\mu\text{m}$, annular rings with microvias can be stacked with greater precision.

Innovative Scaling Modes

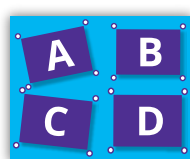
- Wise Scaling - best scaling mode for mass production, achieving highest panel unification in the batch
- Auto Scaling/Fixed Scaling/Group Scaling
- Partial Scaling - sub-area registration for thin core layers



CAM Data



Panel



Imaging

Depth-of-Focus (DOF)

- High DOF for overcoming the most challenging surface topography changes and/or any distortion or abnormalities with the most advanced image quality
- Single scan for Rigid-Flex allows uniform imaging of the entire panel

Resolution and Line Uniformity

Best line uniformity achieved using LSO technology

Ease-of-Use

- Operator-friendly, intuitive graphical user interface
- Seamless connectivity to CAM ensures fast and easy set-up
- Recognizes a wide array of different target types to meet any production demands

Traceability

Enables panel tracking by marking: serial number stamp; sub-panel and PCB; date and time stamp; scaling stamp and machine ID by alphanumeric stamping or 1-D barcode/2-D barcode (Data Matrix Code).

Lower Total Cost of Ownership (TCO)

Orbotech Nuvogo 700/700XL ensures reduced total cost of ownership, while being able to meet the industry's increasing demands for high-end mass production. This solution provides efficient power consumption while providing sophisticated optical and electronic systems.

Specifications

	Orbotech Nuvogo 700	Orbotech Nuvogo 700XL
Maximum Throughput*	300 prints/h Imaging Size 24"x18"	290 prints/h Imaging Size 25"x18"
Minimum Feature Size*	18µm	
Imaging Energy Range	10 - 2,200mj/cm ²	
Address Resolution	2.0µm	
Registration Accuracy (FtG)**	±10µm	
Side-to-Side Registration (FtB)**	20µm	
Maximum Substrate Size	635mm x 660mm	660mm x 812mm
Maximum Exposure Area	609.6mm x 660mm	635mm x 812mm
Substrate Thickness	0.025mm - 8mm	

* Depends on resolution and photoresist properties

** All values are 3σ, full format

The above specifications are subject to change without notification.

KLA SUPPORT

Maintaining system productivity is an integral part of KLA's yield optimization solution. Efforts in this area include system maintenance, global supply chain management, cost reduction and obsolescence mitigation, system relocation, performance and productivity enhancements, and certified tool resale.

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