

Orbotech Nuvogo™ 800/800XL

Mass Production Direct Imaging (DI)



Orbotech Nuvogo 800/800XL

Orbotech Nuvogo 800/800XL is a mass production Direct Imaging (DI) solution, optimized for HDI and Rigid-Flex PCB makers. Utilizing KLA's field-proven Large Scan Optics (LSO)™ technology and the MultiWave Laser™ technology, this solution provides high imaging quality while maintaining maximum flexibility on a wide range of resists and processes. In addition, it is designed for high throughput of up to 7,000 panels per day per line, helping to decrease total cost of ownership (TCO) while maintaining optimal quality at high speeds.



Benefits

Mass Production Digital Imaging

- Up to 7000 panels/day/line (300 panels per hour, per line)
- Fast and easy setup, operator friendly, industry unmatched fast target acquisition
- Optimized imaging time with dual table transport mechanism
- Clean, handling-free environment

MultiWave Laser Technology for Maximum Resist Flexibility

- Compatible with any resist for maximum flexibility
- High uniformity of line-structure quality

High Imaging Quality with LSO Technology

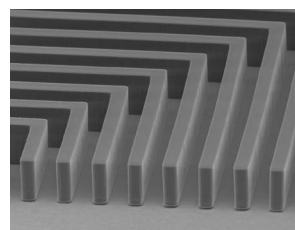
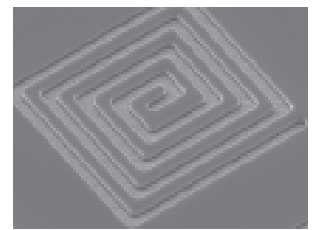
- Unique optics design for optimal line structure down to 18µm L/S for HDI production
- High depth-of-focus for unmatched quality on varying surface topographies
- Advanced scaling modes for optimal registration of $\pm 10\mu\text{m}$

Lower Total Cost of Ownership (TCO)

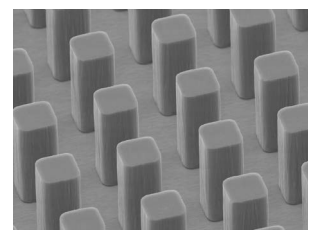
- Increased overall efficiency for significant long-term savings
- Suitable for a wide variety of resist types, offering the option to use lower-cost materials



Fine lines / spaces of 18µm



Double lamination resist achieved with MultiWave Laser Technology



Technologies



LSO™ Technology



MultiWave Laser™ Technology

Mass Production Digital Imaging

Equipped with advanced optics and electronics, Orbotech Nuvogo 800/800XL is designed to achieve fine-line structures at high speeds of up to 300 panels/hour per in-line solution (automated set of two systems). Orbotech Nuvogo 800/800XL operates in a clean, hands-free environment, ensuring no handling damage. Its dual table transport mechanism achieves maximum use of system time for panel imaging. The system's fast set-up capabilities and automatic acquisition of targets facilitate smooth job changes.

MultiWave Laser Technology for Maximum Resist Flexibility

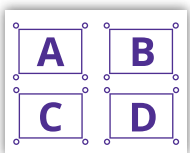
Powered by KLA's MultiWave Laser technology, Orbotech Nuvogo 800/800XL offers maximal flexibility by matching any resist to fit all practices. Adaptable multi-wavelength laser offers unrivaled power and precision for superior uniformity of in-line structure quality.

High Imaging Quality with LSO Technology

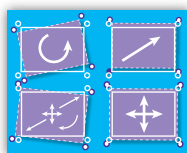
Orbotech Nuvogo 800/800XL incorporates KLA's field-proven Large Scan Optics (LSO) technology to deliver high depth-of-focus for superior results on panels with varied topographies (thin layers, Flex and Rigid-Flex). Single scan for Rigid-Flex allows uniform imaging of the entire panel without throughput loss for focus compensation mechanism.

Various Scaling Modes

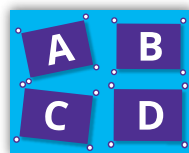
- Wise Scaling - best scaling mode for mass production, achieving highest panel unification in the batch
- Auto Scaling/Fixed Scaling/Group Scaling
- Partial Scaling - sub-area registration for thin core layers
- Extremely fast target acquisition enables minimum throughput loss



CAM data



Panel



Imaging

Registration Accuracy

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

Ease-of-Use

- Operator-friendly, intuitive graphical user interface
- Seamless connectivity to CAM for fast and easy set-up
- Recognizes many 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/2-D barcode (Data Matrix Code).

Lower Total Cost of Ownership (TCO)

Orbotech Nuvogo™ DI series enables a reduced total cost of ownership while meeting the industry's increasing demands for high-end mass production. In addition to its reliable light source and efficient power consumption, Orbotech 800/800XL offers PCB manufacturers greater flexibility and lower operational costs by using a wide variety of resists. Orbotech Nuvogo 800/800XL delivers a high capacity, high quality and highly efficient production process.

Specifications

	Orbotech Nuvogo 800	Orbotech Nuvogo 800XL
Maximum Throughput*	300 prints/h Imaging Size 24" x 18"	290 prints/h Imaging Size 25" x 18"
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 25" X 26"	660mm x 812mm 26" X 32"
Maximum Exposure Area	609.6mm x 660mm 24" X 26"	635mm x 812mm 25" X 32"
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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