

NUVOGO™ 750/750XL

The New Way of Imaging



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Nuvogo™ 750 and the large format Nuvogo™ 750XL are members of the Orbotech Nuvogo™ family of industry-leading Direct Imaging (DI) solutions. The Nuvogo™ 750/750XL package of features is optimized for MLB and HDI PCB makers that use 405nm resist, further reducing the Total Cost of Ownership (TCO) and ensuring lowest cost-per-print. Incorporating Orbotech's field-proven Large Scan Optics (LSO) Technology™, the Nuvogo™ 750/750XL maintains high Depth-of-Focus that is unmatched in the industry. The utilization of a high power laser enables the unprecedented throughput of up to 7000 panels per day per line, also for many of the conventional resists.

Benefits

Leading Mass Production Digital Imaging

- In-line solution and fully-integrated automation for seamless production
- High power laser – for highest throughput
- Optimized imaging time with dual table transport mechanism
- Clean, handling-free production environment

Advanced Laser Technology with 405nm Laser

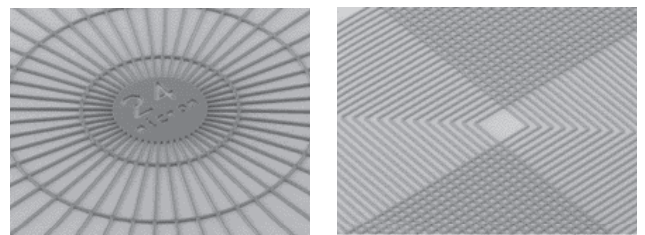
- Best fit for 405nm resists
- Unmatched image quality and line uniformity with an optimized optic path

Highest Imaging Quality with LSO Technology™

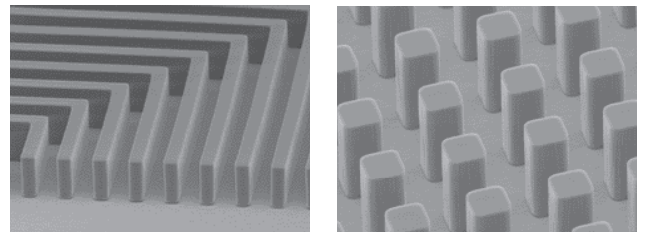
- High Depth-of-Focus of $\pm 300\mu\text{m}$ and greater, for unmatched quality on varying surface topographies
- Unique optics design for optimal line structure
- Optimal scaling modes for superior registration accuracy down to $\pm 12\mu\text{m}$

Lower Total Cost of Ownership (TCO)

- Hardware and features designed to focus on the specific demands of MLB and HDI PCB makers, greatly reducing cost-per-print
- Optimized light path with a 405nm laser for further cost-per-print optimization
- Increased overall efficiency for significant long-term savings



Fine lines/spaces of $24\mu\text{m}$ for the most advanced applications



Double lamination resist achieved with MultiWave Laser Technology™



Nuvogo™ 750/750XL for State-of-the-Art Mass Production Digital Imaging

Nuvogo™ 750/750XL utilizes Orbotech's high power 405nm laser with its 405nm optimized light path. Equipped with the industry's most advanced optics and electronics, Nuvogo™ 750/750XL is designed to achieve fine structures at unmatched speeds. Its dual table transport mechanism achieves maximum use of system time for panel imaging. Furthermore, the system's fast setup capabilities and automatic acquisition of targets facilitate smooth job changes. Nuvogo™ 750/750XL also operates in a clean, hands-free environment, to ensure that there is no handling damage.

Highest Imaging Quality with Orbotech LSO Technology™

Nuvogo™ 750/750XL incorporates Orbotech's field-proven Large Scan Optics (LSO) Technology™ to deliver unmatched Depth-of-Focus (of $\pm 300\mu\text{m}$ and greater) for superior results on panels with varied topographies. Single scan for Rigid-Flex allows uniform imaging of the entire panel.

Lower Total Cost of Ownership (TCO)

The Nuvogo™ family of DI solutions ensures reduced total cost of ownership while meeting the industry's increasing demands for high-end mass production. With lower service cost per print, the system offers manufacturers a significantly lower TCO to quickly achieve maximum ROI. Specifically, Nuvogo™ 750/750XL incorporates a 405nm laser with optimized optics, offering the best match for 405nm resists while reducing the machine cost. Furthermore, this optimized machine and its package of features, ensures the best possible cost-per-print.

Innovative Scaling Modes

- Auto Scaling / Fixed Scaling / Group Scaling / Wise Scaling

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)

Registration Accuracy

- Registration accuracy down to $\pm 12\mu\text{m}$

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

Specifications

Nuvogo™ 750

Nuvogo™ 750XL

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|------------------------------------|---|--------------------------------------|
| Throughput* @35 mJ/cm ² | 300 prints/h Imaging Size 24"x18" | 290 prints/h Imaging Size 25"x18" |
| Min. Feature Size* | 24µm | |
| Imaging Energy Range | 25 - 2,200 mJ/cm ² | |
| Address Resolution | 2.0µm | |
| Registration Accuracy FtG** | ±12µm | |
| Side-to-Side Registration FtB** | 24µm | |
| Max. Substrate Size | 635mm x 660mm | 660mm x 812mm |
| Max. Exposure Area | 609.6mm x 660mm | 635mm x 812mm |
| Substrate Thickness | 0.025mm - 8mm | |
| Depth-of-Focus* | ±300µm and greater | |
| Applications | MLB (Multi-Layer Boards) HDI applications Inner layers and outer layers (including high energy resists) Sequential build-up layers | |
| System Options | Hole-free inner layer registration Stamping (serialization, scale factor, date / time) Advanced stamping and serialization options 2D barcode stamp Wise Scaling Group Scaling and stamping Additional vacuum customization plate Automation options: <ul style="list-style-type: none">• DLU - DI Loading Unit• Flipper• Loader & unloader | |

* Depends on photoresist properties

** All values are 3σ, full format

- Specifications are subject to change without notice.