

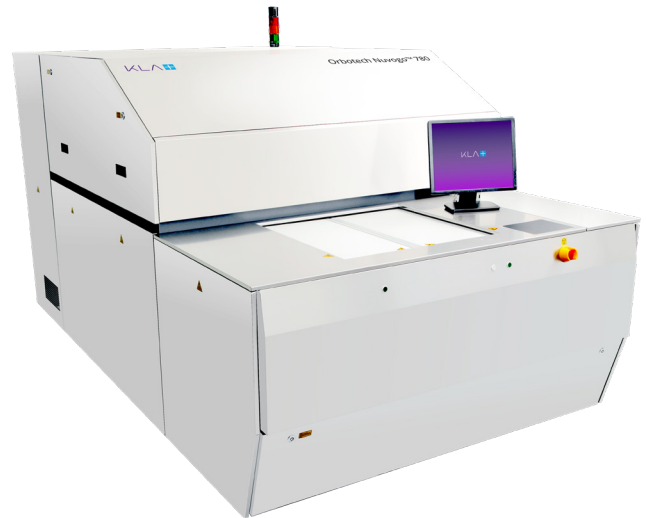
# Orbotech Nuvogo™ 780/780XL

Mass Production Direct Imaging (DI)



## Orbotech Nuvogo 780/780XL

Orbotech Nuvogo 780/780XL is a mass production Direct Imaging (DI) solution, optimized for MLB and HDI PCB makers. Utilizing KLA's field-proven Large Scan Optics (LSO)™ technology and MultiWave Laser™ technology, this solution provides high imaging quality while maintaining maximum flexibility on a wide range of resists and processes, reducing Total Cost of Ownership (TCO).



## Benefits

### Mass Production Digital Imaging

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

### MultiWave Laser Technology for Maximum Resist Flexibility

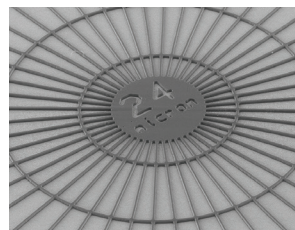
- Ensures flexibility to address a wide range of resists with the highest throughput
- MultiWave Laser technology brings unmatched quality and uniformity of line structure

### High Imaging Quality with LSO Technology

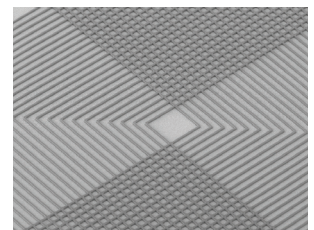
- High depth-of-focus for high quality on varying surface topographies
- Unique optics design for optimal line structure
- Optimal scaling modes for superior registration accuracy of  $\pm 12\mu\text{m}$

### Lower Total Cost of Ownership (TCO)

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



Fine lines/spaces of  $24\mu\text{m}$



Double lamination resist achieved with MultiWave Laser technology

## Technologies



LSO™ Technology



MultiWave Laser™ Technology

## Mass Production Digital Imaging

Orbotech Nuvogo 780/780XL utilizes KLA's high power MultiWave Laser technology. Equipped with advanced optics and electronics, it is designed to achieve fine structures at high 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. Orbotech Nuvogo 780/780XL also operates in a clean, hands-free environment, to ensure that there is no handling damage.

## High Power MultiWave Laser for Maximum Resist Flexibility

Orbotech Nuvogo 780/780XL is powered by KLA's high power MultiWave Laser which delivers unparalleled structure quality on a wide variety of resists matching MLB and HDI resist type requirements.

## High Imaging Quality with KLA's LSO Technology

Orbotech Nuvogo 780/780XL incorporates KLA's field-proven Large Scan Optics (LSO) technology to deliver high depth-of-focus for superior results on panels with varied topographies. Furthermore, the single scan allows uniform imaging of the entire panel.

### Various 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 of  $\pm 12\mu\text{m}$

### 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

## 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 Nuvogo 780/780XL offers PCB manufacturers greater flexibility and lower operational costs by using a wide variety of resists. Orbotech Nuvogo 780/780XL delivers a high capacity, high quality and highly efficient production process.

## Specifications

|                                   | Orbotech Nuvogo 780                    | Orbotech Nuvogo 780XL                  |
|-----------------------------------|--|--|
| Maximum Throughput*               | 300 prints/h<br>Imaging Size 24" x 18" | 290 prints/h<br>Imaging Size 25" x 18" |
| Minimum Feature Size*             | 24µm                                   |  |
| Address Resolution                | 2.0µm                                  |  |
| Registration Accuracy (FtG)**     | ±12µm                                  |  |
| Side-to-Side Registration (FtB)** | 24µm                                   |  |
| Maximum Substrate Size            | 635mm x 660mm                          | 660mm x 812mm                          |
| Maximum Exposure Area             | 609.6mm x 660mm                        | 635mm x 812mm                          |
| Substrate Thickness               | 0.025mm - 8mm                          |  |
| Imaging Energy Range              | 25 - 2,200mJ/cm <sup>2</sup>           |  |

\*Depends on resolution and photoresist properties

\*\* All values are 3σ, any panel size, 4 targets

The above specifications are subject to change without notification.

### KLA SERVICES

From tool installation and system optimization to productivity enhancements and global supply chain management, KLA Services is a trusted partner to customers around the world — delivering an unrivaled experience focused on maximizing tool performance and availability.

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