

# Orbotech Diamond™ 10W

Solder Mask at its Best



## Orbotech Diamond 10W

Orbotech Diamond 10W is an advanced high-capacity digital imaging (DI) solution exclusively designed for the unique challenges of white solder mask PCB applications (e.g. miniLED backlight units).

The field-proven Orbotech Diamond 10W is a dedicated system for white solder mask that delivers high-quality imaging and high throughput for the most complex designs and applications.

Powered by KLA's proprietary SolderFast™ technology, Orbotech Diamond 10W raises the DI bar for white solder mask applications, enhancing imaging accuracy and quality, while decreasing total cost of ownership (TCO).



## Benefits

### High Quality Imaging

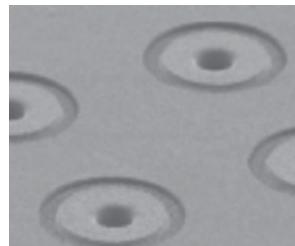
- High quality imaging of white solder masks
- Multi-wavelength spectrum for high-quality sidewalls and excellent surface quality
- Significantly reduced undercuts for white solder masks
- High depth-of-focus (DoF) for challenging topographies

### High Capacity, High Throughput

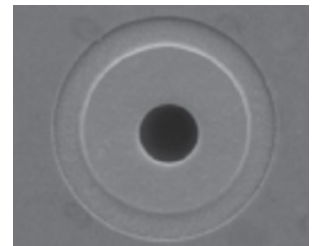
- Patented, high power illumination source
- One-Pass Exposure for uniform imaging of the full panel area in a single scan
- Dual-table transport mechanism for optimal imaging time
- On-the-fly target recognition and acquisition capabilities

### Outstanding Imaging Accuracy

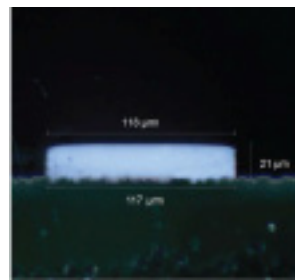
- Registration accuracy as fine as  $\pm 10\mu\text{m}$
- Advanced scaling modes for challenging panel distortions



High-quality SM imaging



High registration accuracy



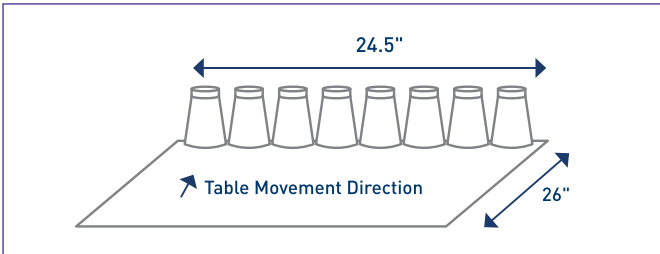
**Orbotech Diamond 10W**  
White SM Dam with minimal undercut



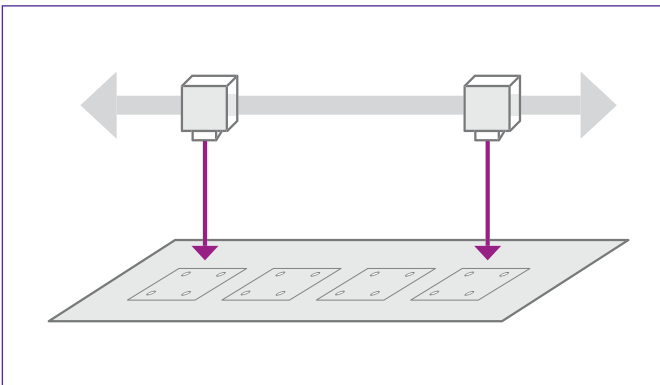
**Other SM DI solution**  
White SM Dam with severe undercut



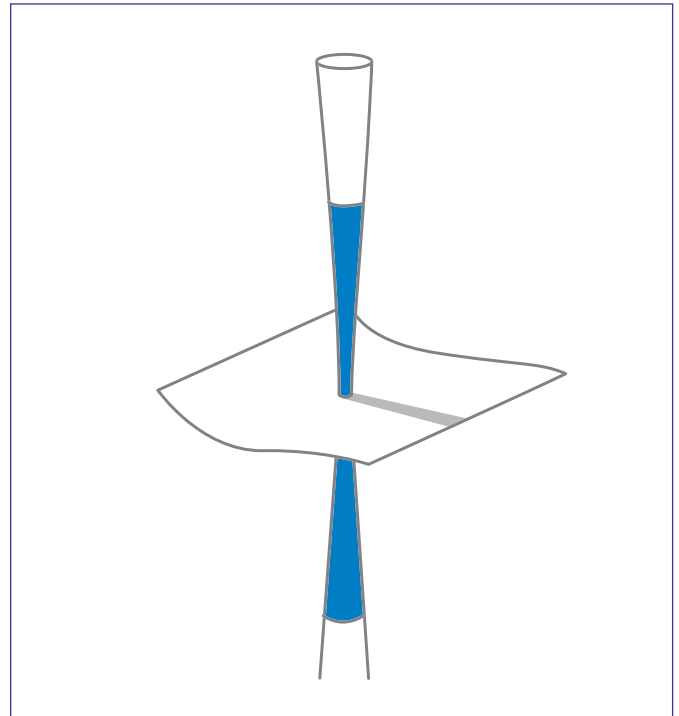
## High-Quality Imaging and High Throughput



One-pass printing for high throughput, high uniformity and no stitching

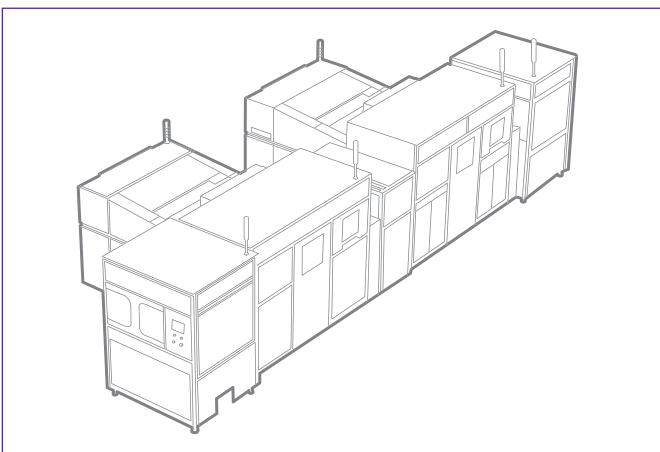


On-the-fly target recognition and acquisition



High depth-of-focus (DoF) for challenging topographies

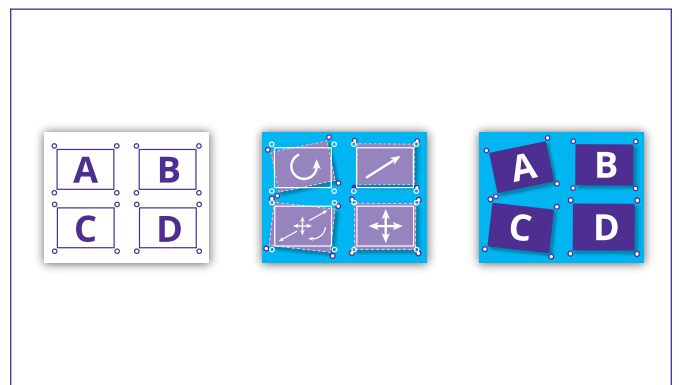
## High-Capacity Mass Production Solution



Automation-ready solution

## Outstanding Imaging Accuracy

Advanced scaling modes and algorithms for challenging panel distortions include auto scaling, partial scaling and non-linear scaling



CAM data

Panel

Imaging

## Specifications

Minimum SRO*	100µm
Minimum Dam Size*	75µm
Registration Accuracy**	±10µm
Maximum Panel Area (X/Y)	25" x 26" (635mm x 660mm)
Maximum Exposure Area (X/Y)	24.5" x 26" (622mm x 660mm)
Exposure Energy Range	50-2,200mJ/cm <sup>2</sup>
Dimensions	Height: 1,960mm Depth: 3,226mm Width: 1,900mm
Weight	5,000Kg
Application	White solder mask exposure

\*Dependent on solder resist type and process

\*\* All values are 3σ

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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Rev 4.1\_4-11-2022