Orbotech Diamond™ 10M/10MXL

Solder Mask at its Best

Orbotech Diamond 10M/10MXL

Orbotech Diamond 10M/10MXL is an advanced high-capacity digital imaging (DI) solution for a wide variety of solder mask (SM) applications. Designed for white and other colors of solder masks, the field-proven Orbotech Diamond 10M/10MXL is a high-end mass production solution that delivers high-quality imaging and high throughput for the most complex designs. Powered by KLA's proprietary SolderFast™ technology, Orbotech Diamond 10M/10MXL raises the DI bar for solder mask applications, enhancing imaging accuracy while decreasing total cost of ownership (TCO).

Benefits

High-Quality Imaging

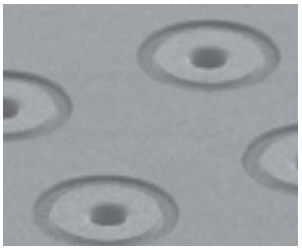
- High-quality imaging of white and other colors of solder mask
- Multi-wavelength spectrum for high-quality sidewalls and excellent surface quality
- Significantly reduced undercuts for white solder masks
- High depth-of-focus (DOF) for challenging topographies

High Capacity, High Throughput

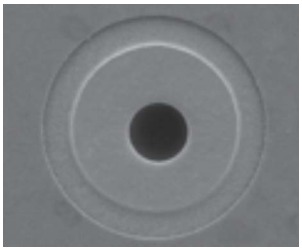
- Patented, high power illumination source
- One-pass exposure for uniform imaging of the full panel area in a single scan
- Dual-table transport mechanism for optimal imaging time
- On-the-fly target recognition and acquisition capabilities

Outstanding Imaging Accuracy

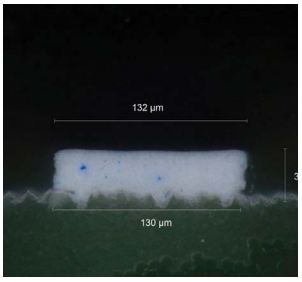
- Registration accuracy as fine as ±10µm
- Advanced scaling modes for challenging panel distortions



High-qualty SM imaging, no residue on vias

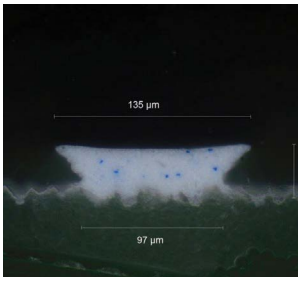


High registration accuracy



Orbotech Diamond 10M

White SM Dam with minimal undercut



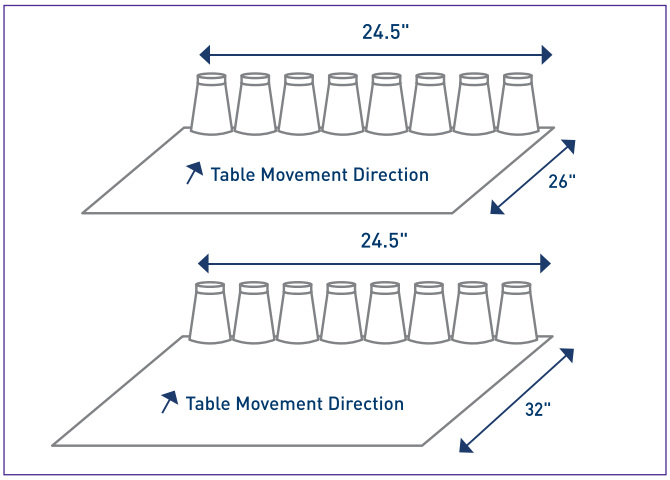
Other SM DI solution

White SM Dam with severe undercut

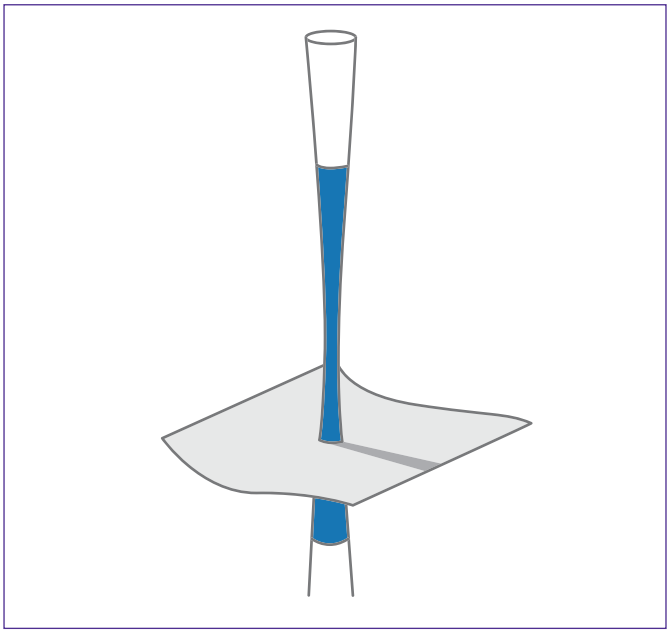
Technologies

SolderFast™ Technology

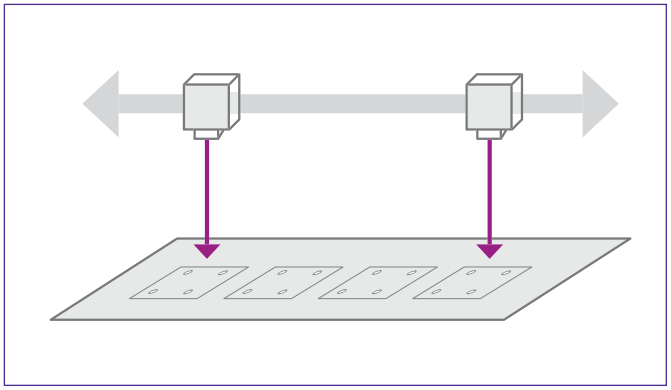
High-Quality Imaging and High Throughput



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

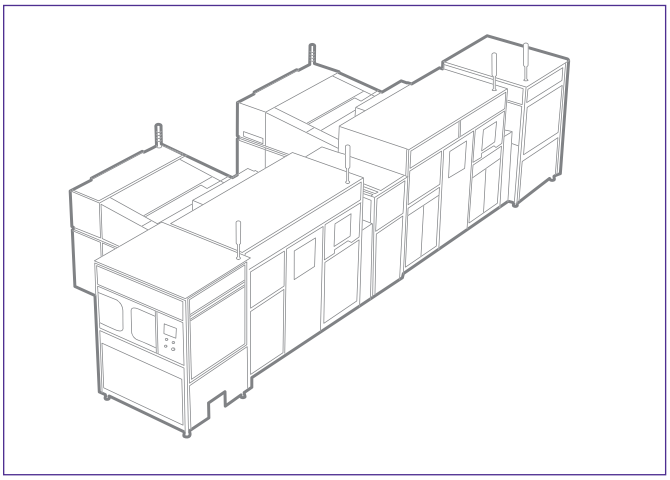


High depth-of-focus (DOF) for challenging topographies

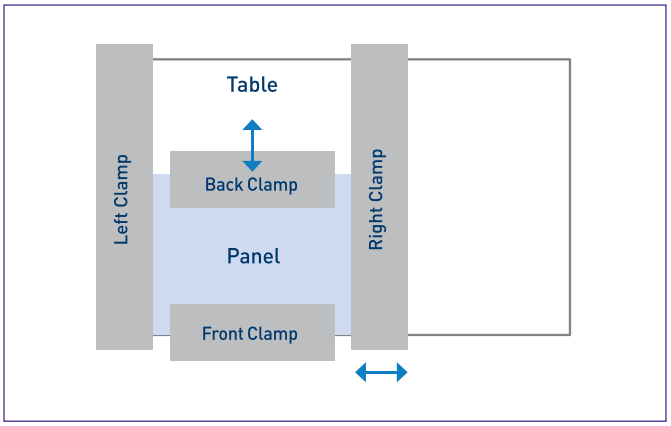


On-the-fly target recognition and acquisition

High-Capacity Mass Production Solution



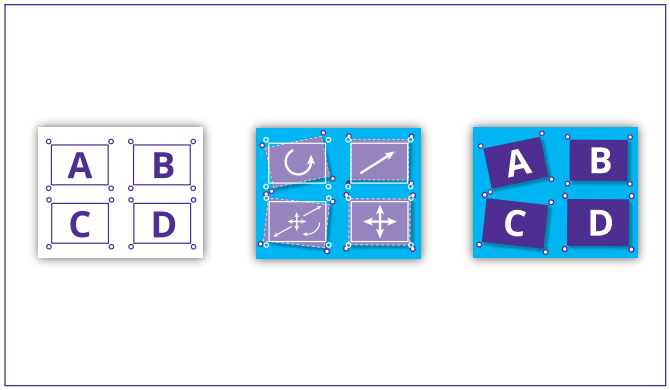
Automation-ready solution



Clamping

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

	Orbotech Diamond 10M	Orbotech Diamond 10MXL
Minimum SRO*	White SM - 100µm, Non-white SM - 75µm	
Minimum Dam Size*	White SM - 75µm, Non-white SM - 50µm	
Registration Accuracy**	±10µm	
Maximum Panel Area (X/Y)	25" x 26" (635mm x 660mm)	25" x 32" (635mm x 812mm)
Maximum Panel Area (X/Y) with Clamping	24.5" x 23" (622mm x 584mm)	24.5" x 30" (622mm x 762mm)***
Maximum Exposure Area (X/Y)	24.5" x 26" (622mm x 660mm)	24.5" x 32" (622mm x 812mm)
Maximum Exposure Area (X/Y) with Clamping (4 clamps)	24" x 22.5" (609mm x 571mm)	24" x 29.5" (609mm x 749mm)
Exposure Energy Range	50-2,200mJ/cm^2	
Dimensions	Height: 1,960mm Depth: 3,226mm Width: 1,900mm	Height: 1,960mm Depth: 3,315mm Width: 1,900mm
Weight	5,000Kg	
Clamping	Optional	
Application	Solder mask exposure	

*Dependent on solder resist type and process
** All values are 3σ
*** 24.5" x 32" (622mm x 812mm) with 3 clamps (instead of 4)
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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