

# Orbotech Neos™ Series

Solder Mask Additive Printing Solution



## Innovative Inkjet Solution for Solder Mask

Orbotech Neos is an additive printing solution for solder mask (SM) layer printing. Powered by KLA's Structural Printing™ and DotStream Pro™ technologies, the eco-friendly Orbotech Neos simplifies SM printing, drastically reducing time to market. Orbotech Neos intelligent inkjet solution ensures consistent quality and reliability of the SM layer, while reducing total cost of ownership (TCO).



## Benefits

### Short, Simple Production Process

- Streamlined printing process
- Accelerated time to market

### Consistent High Quality and Reliability

- Accurate printing for SM features supporting adjustable thickness
- High depth-of-focus (DOF) for precise printing on challenging surface topographies

### Eco-friendly Solution

- Short, resource-saving process (less labor, power consumption, consumables and floor space)
- Eliminates the need for waste treatment processes

### Lower Total Cost of Ownership (TCO)

- Significantly lower operational costs
- Intelligent self-maintenance

## Structural Printing Technology

KLA's Structural Printing technology is revolutionizing SM layer printing comprising

- Special algorithms for 3D-like quality printing
- Automatic calibration processes
- Consistent drop volume control
- Optimized feature sharpness

## Dual Ink Option

Orbotech Neos can handle more than one ink type simultaneously, making it possible to use the same machine to print two different SM colors or combine SM and legend ink.



**DotStream Pro™** Technology



**Structural Printing™** Technology



**MultiPrinting™** Technology

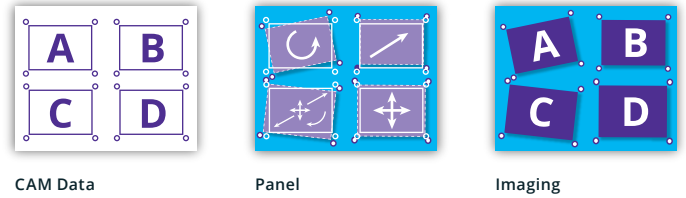
## Field-Proven DotStream Pro Technology

KLA's DotStream Pro technology delivers consistent top print quality at high throughput. Powering KLA's extensive install base of inkjet solutions, the technology features customized long life print heads for high performance, multiple LED-based UV curing for perfect, on-the-fly ink drop pinning and patented mechanisms for self-maintenance. DotStream Pro technology ensures cost-effective, high-quality industrial inkjet printing for the most advanced designs.

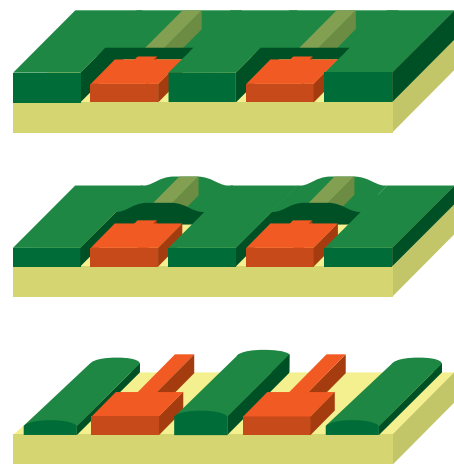
## Leveraging an Intelligent Platform

Bringing together KLA's field-proven inkjet technologies and groundbreaking SM printing technology, Orbotech Neos enables high density designs and advanced PCB printing. Simplifying and accelerating the process by printing thin and thick SM, this solution ensures 2D and 3D-like quality and reliability.

### Advanced Scaling Mode

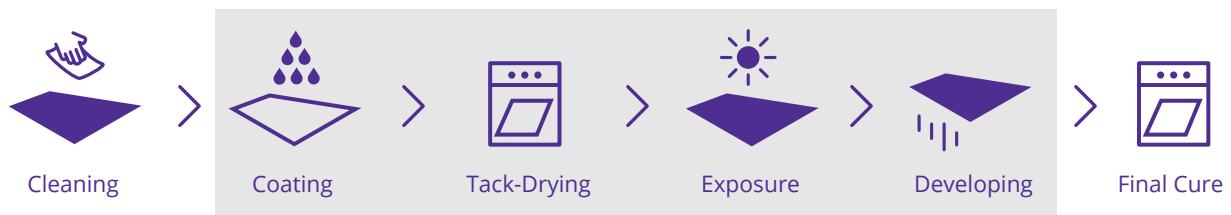


### Selective and Adjustable Solder Mask Thickness



## Simpler, Faster, More Efficient Process

### Solder Mask - Conventional Process



### Solder Mask - Inkjet Process with Orbotech Neos



- Shorter, faster, simpler
- Eco-friendly
- Consistent high quality
- Low operational costs

## Specifications

	Neos 800	Neos 1600
Throughput (24" x 18", 35µm Cu)	up to 35 prints/h	up to 60 prints/h
Minimum Dam Size	75µm (3mil) <sup>1</sup>	
Minimum Clearance	45µm (1.8mil) <sup>1</sup>	
Minimum SRO	200µm (8mil) <sup>1</sup>	
Total Accuracy	±40µm (±1.6mil) <sup>1</sup>	
Number of Cameras	1	2
Minimum-Maximum Panel Thickness	0.1-8.0mm (4-315mil) <sup>2</sup>	
Maximum Panel Size	813mm x 660 mm (32" x 26") - auto adjustment to panel size	
Ink	Multiple inks from leading suppliers	
Dimensions: W x D x H	1950mm x 2490mm x 2076mm (76.8" x 98.0" x 81.7")	1947mm x 2471mm x 2079mm (76.6" x 97.3" x 81.8")
Weight	2850Kg (6283lbs)	3200Kg (7055lbs)
Optional	Dual Ink upgrade	

Machine performance depends on surface conditions

1 On up to 35µm (1.4mil -1oz) copper thickness, flat panel (warpage <500µm) and optimal registration. For higher copper thickness, the minimum clearance might vary.

2 Only for rigid panels. For thin panels it might be necessary to disable clamping and use vacuum only.

The above specifications are subject to change without notification.

Orbotech Neos is a class-1 laser product. Laser specifications: IEC 60825-1 compliant.

### 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.

KLA Corporation  
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