

Orbotech Sprint™ 300/300 Flex Inkjet Printers

Best-in-Class Inkjet for PCB Serialization and Legend Marking



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Orbotech Sprint 300 and Orbotech Sprint 300 Flex are the latest high-speed, high-resolution additions to KLA's series of cutting-edge PCB legend and serialization inkjet printers. Delivering cost-effective, advanced industrial inkjet printing for consistently accurate, high-volume production of the most detailed legend and serialization designs, Orbotech Sprint 300 and Orbotech Sprint 300 Flex can replace laser marking systems, providing superior quality and throughput with the market's lowest cost per print (CPP).



Benefits

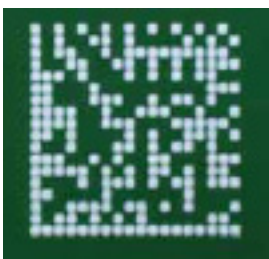
High Quality, Durable and Consistent Printing with DotStream Pro™ Technology

- Customized print heads for high performance and long life span
- Innovative high-frequency jetting and drop volume control
- Optimized visual quality algorithms for fine text and filled areas

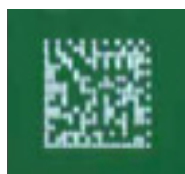
Multi-Level Serialization with MultiPrinting™ Technology

- Multi-panel support for maximum throughput
- Multi-level serialization (i.e. panel, sub-panel, unit IDs)
- Advanced traceability features and 2D barcode printing

Replacing laser marking with high-resolution 2D barcode and fine text printing



5mm x 5mm



2.5mm x 2.5mm



1.5mm x 1.5mm



High Volume and High Accuracy for Mass Production

- Superior one-pass for outstanding volume production
- Uniform printing on challenging surfaces/topographies
- High accuracy with the market's highest depth of focus (DOF)

Cost-Effective, Field-Proven Industrial Inkjet Printing

- Leading 24/7 production tool for high throughput and printing quality
- Lowest cost of operation (COO) and cost per print (CPP)
- Field-proven technology with largest global installed base

Industry 4.0 Support

- Advanced serialization/traceability support
- Automatic barcode reading and inspection
- Automation and MES interfacing capabilities

Easy, Flexible, Eco-Friendly Operation

- Printing on rigid, rigid-flex and flex PCB
- Fully automated or manual operation with intuitive UI
- Green one-pass printing with less ink and UV consumption

Powered by KLA's DotStream Pro technology, Orbotech Sprint 300/300 Flex deliver consistent, top print quality with significantly extended print head life and 40%-60% higher throughput than previous systems.

Advanced Serialization Features

Driven by KLA's MultiPrinting technology, Orbotech Sprint 300 and Orbotech Sprint 300 Flex can handle multiple panels and enable serialization for up to three levels. Orbotech Sprint 300 enables partial scaling and best-in-class 2D barcode printing, reading and inspection, while supporting advanced traceability. Faster, more flexible and more cost-effective than laser marking systems, Orbotech Sprint 300 printers are ideally positioned to meet the growing demand for unit serialization and traceability.

Improved Production with High Quality and Accuracy

Leveraging KLA's innovative approach to print head cycle and real-time drop modulation control, Orbotech Sprint 300 and Orbotech Sprint 300 Flex enable high-speed printing of fine features as small as 60µm 2D barcode cell sizes, 65µm lines and 0.25 mm text. Featuring the market's best depth of focus (DOF) at 1.5mm, the printers offer unparalleled quality compared to other inkjet printers, as well as advanced alignment and scaling features to ensure optimal registration accuracy.

Cost-Effective, Field-Proven Printing

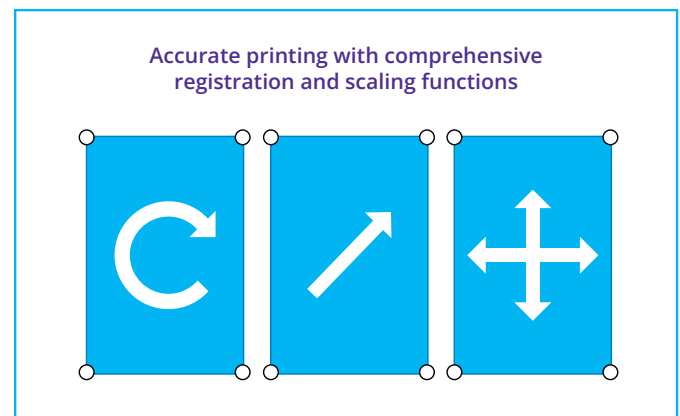
Orbotech Sprint 300 and Orbotech Sprint 300 Flex raise the bar for KLA's field-proven Sprint printers – the company's best-selling line of legend inkjet printers with hundreds of systems in production. By accelerating throughput by 40%-60% without increasing the number of consumables (i.e. print heads), Orbotech Sprint 300 printers eliminate the need to compromise between throughput, print quality and operating cost. Equipped with print heads that last far longer than competitive offerings and thanks to superior one-pass printing, Orbotech Sprint 300 and Orbotech Sprint 300 Flex also consume less ink and UV to deliver a lower CPP while enhancing yield quality.

Industry 4.0 Support

Orbotech Sprint 300 and Orbotech Sprint 300 Flex are efficient serialization and legend printing solutions. Equipped with an optional barcode reader that reads existing barcodes and inspects barcodes immediately after printing, the printers support advanced traceability and enable high resolution 2D barcode printing (down to 1.5 x 1.5mm). Interfacing with a factory's MES and Orbotech Smart Factory, Orbotech Sprint 300 printers maintain a software module for driving automated processing as well as a single UI.

Flexible and Eco-friendly Operation

Orbotech Sprint 300 can be fully automated, and in the event of manual operation, is easy to run and requires no prior training thanks to an intuitive user interface. Leveraging KLA's unique system design, Orbotech Sprint 300 printers enable high printing performance on rigid, rigid-flex and flex PCBs. With advanced recycling capabilities and superior one-pass printing for enhanced ink and UV usage efficiency, Orbotech Sprint 300 and Orbotech Sprint 300 Flex are eco-friendly solutions that waste no resources and save money.



Specifications

	Orbotech Sprint 300	Orbotech Sprint 300 Flex
Maximum T/P	Up to 130 prints/hour*	Up to 280 prints/hour**
Maximum Panel Size	30.9" x 24.4" (785mm x 620mm)	Up to three panels 10.2" x 19.6" (260mm x 500 mm)
Minimum/Maximum Panel Thickness	4/295mils (0.1/7.5mm)	4/98mils (0.1/2.5mm)
Minimum Line***	2.6mils (65µm)	
Minimum Text Height***	10mils (0.25mm)	
Minimum 2D Barcode Cell***	2.4mils (60µm)	
Accuracy (FTG)	±1.4mil (±35µm)	
Depth of Focus	60 mil (1.5mm)	
Alignment	User selectable up to 4 points per panel; on-the-fly alignment	
Print Mode	Side A-A or side A-B	
UV	LED type	
Ink	Multiple inks from leading suppliers; standards & Certifications: UL 94V-0, MIL-55110, MIL-31032, ASTM E 595, IPC-650, IPC-4781, AA-56032D Type II, RoHS, REACH, Halogen Free	
Dimensions W x D x H	63.8" x 72.8" x 63" (1,620mm x 1,850mm x 1,600mm)	
Weight	3,307lbs (1,500Kg)	

* 24" x 18" (657mm x 610mm) panel size with 1" margin, printed with one pass mode, 3 alignment targets, 5 sec load/unload, optimal solder mask (semi-cured) surface tension and cleanliness, optimized printing and print head cleaning recipes. In other conditions (but keeping the same load/unload time) the throughput may decrease by 10-15%. Note: patterns with filled areas may require two or more printing passes.

** 10.2" x 17.7" (260mm x 450mm) panel size with 0.2" margin, loading 3 at a time, printed with one pass mode, 4 alignment targets, 5 sec load/unload, optimal panel surface tension and cleanliness, optimized printing and print head cleaning recipes. In other conditions (but keeping the same load/unload time) the throughput may decrease by 10-15%. Note: patterns with filled areas may require two or more printing passes.

*** It requires well controlled solder mask surface tension.

The above specifications are subject to change without notification.

Orbotech Sprint inkjet printers are a class-1 laser product. Laser specifications: IEC 60825-1 compliant.

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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