

Orbotech Apeiron™ 800SBS

UV Laser Drilling for Flex Printed Circuit Sheets

Drill More.

Orbotech Apeiron 800SBS provides best-in-class, high speed UV laser drilling for sheet-by-sheet (SBS) panel manufacturing of IC substrates, ceramic, PCB and flexible printed circuits.

Leveraging KLA's Continuous Beam Uniformity (CBU)[™] and field proven Multi-Path[™] technologies, Orbotech Apeiron 800SBS enables manufacturers to achieve continuously high quality, high accuracy drilling of the smallest vias with maximum throughput.

Orbotech Apeiron 800SBS model is designed for a wide variety of drilling applications, including blind vias (BV), through hole vias (THV) and routing.



Benefits

High Throughput

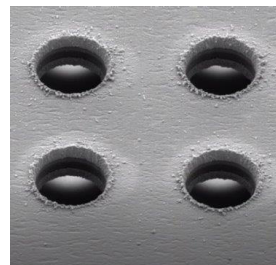
- High speed drilling powered by KLA's field-proven Multi-Path[™] technology
- ~100% laser pulse utilization with up to four drilling channels
- 65mm x 65mm laser scan field per head

Superior Drilling Quality and Accuracy

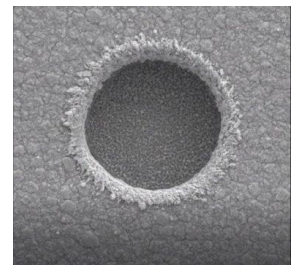
- Built-in beam quality validation for size, roundness, and energy distribution with KLA's CBU[™] technology
- Built-in automated tool for $\pm 10\mu\text{m}$ registration accuracy
- Multiple beam shapes for high quality, high throughput drilling

Sheet-by-Sheet (SBS) Panel Model

- Up to 2 x 260 x 635mm sheets drilled side by side
- Efficiently utilizes four heads drilling in parallel
- Sliding door for simplified automated or manual panel handling



High quality through hole via.



High quality blind via drilling.



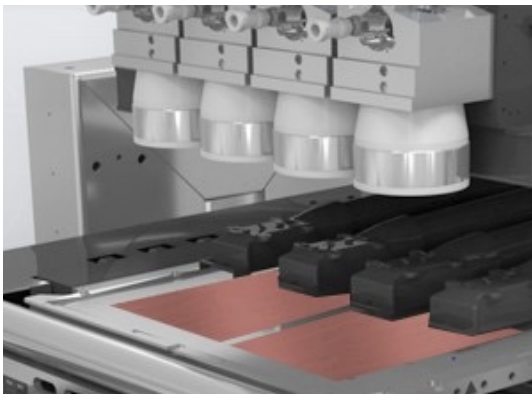
Multi-Path[™] Technology



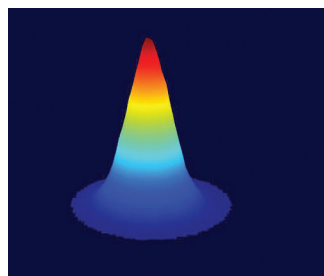
CBU[™] Technology

High Throughput

With ~100% laser pulse utilization and up to four drilling channels, Orbotech Apeiron 800SBS maximizes throughput.

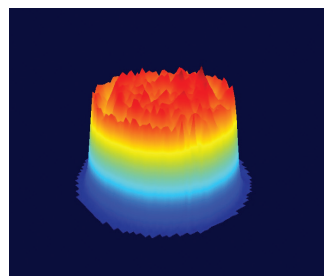


Orbotech Apeiron 800SBS with four heads for efficient simultaneous, side by side drilling of two panels.



Gaussian Beam Profile

- 15µm beam size
- Opens copper in trepan mode

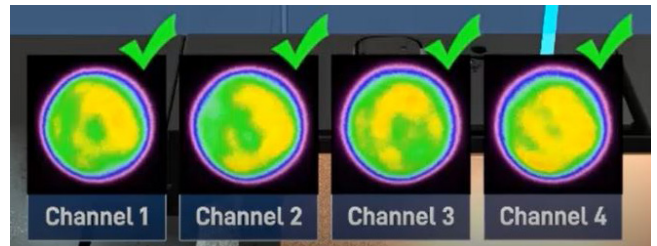


Top Hat Beam Profile

- Fast drilling in punch mode
- High quality LCP drilling
- No landing pads penetration

Superior Quality Drilling

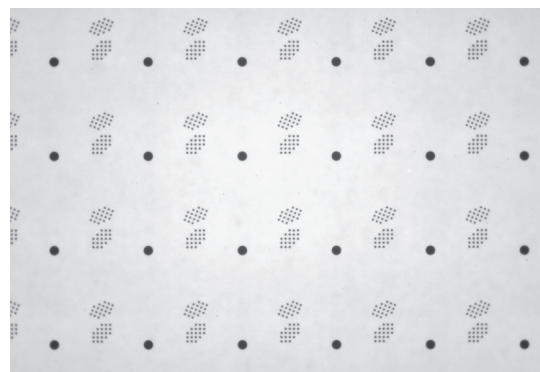
Optimized beam quality throughout the panel area with built-in beam validation tools for size, uniformity, roundness and energy distribution.



The beam shape of all four channels is imaged by a built-in camera to validate its quality.

Outstanding Drilling Accuracy Down to ±10µm

Built-in accuracy tools enable online calibration of laser beam positioning. Via patterns are marked on an erasable plate and their position is measured in reference to the fixed black spots.



Position accuracy is controlled using laser marking respective to fixed black dots on an erasable target.

Designed for Efficient Drilling of Flex Sheets

Orbotech Apeiron 800SBS delivers high throughput by drilling two sheets of 260mm simultaneously. Moreover, the purpose built sliding door simplifies both manual and automated panel handling.



Orbotech Apeiron 800SBS with sliding door for efficient manual or automated panel handling.

Specifications

Orbotech Apeiron 800SBS

Technology	Continuous Beam Uniformity (CBU)™ and Multi-Path™
Drilling Channels	4
Accuracy (3σ)	±10μm
Laser Scan Field	65mm x 65mm
Maximal Sheet Panel Size	1 x 530mm x 635mm 2 x 260mm x 635mm
Dimensions	Height: 1,700mm* Depth: 2,200mm Width: 2,330mm
Weight	4,500Kg
Materials	Suitable for polyimide, liquid crystal polymer (LCP), adhesive-less copper-clad polyimide laminate, copper-clad polyimide laminate with adhesive, cover-layer

*Height with open hood 2,200mm

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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Rev 5.2_11-15-2023