# 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 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

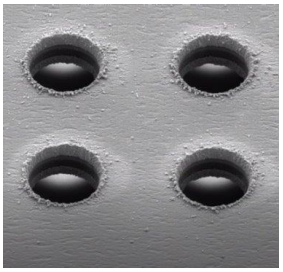
- High speed drilling powered by KLA's field-proven Multi-Path™ technology
- ~100% laser pulse utilization with up to four drilling channels
- 65mm x 65mm laser scan field per head

### Superior Drilling Quality and Accuracy

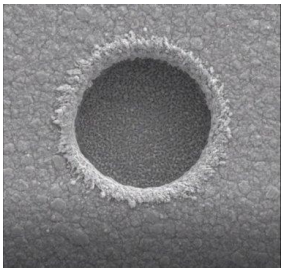
- Built-in beam quality validation for size, roundness, and energy distribution with KLA's CBU™ technology
- Built-in automated tool for ±10µm registration accuracy
- Multiple beam shapes for high quality, high throughput drilling

### 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.**

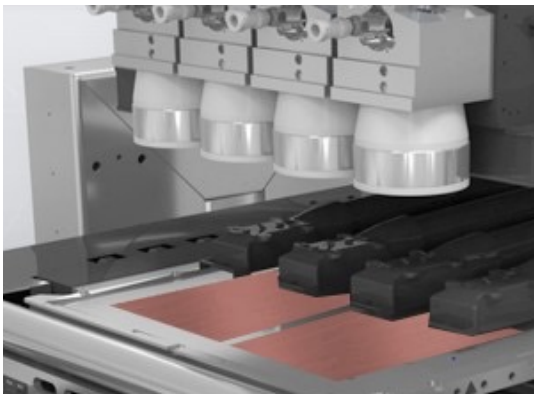


**High quality blind via drilling.**

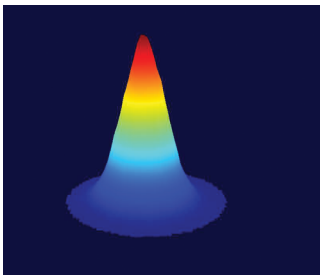
**Multi-Path™ Technology** **CBU™ Technology**

## High Throughput

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

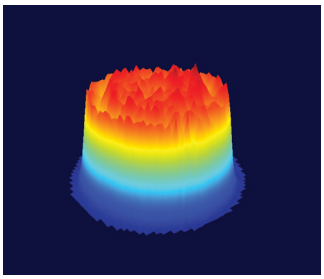


**Orbotech Apeiron 800SBS with four heads for efficient simultaneous, side by side drilling of two panels.**



**Gaussian Beam Profile**

- 15µm beam size
- Opens copper in trepan mode

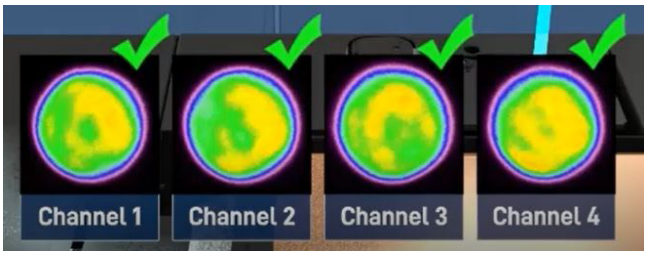


**Top Hat Beam Profile**

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

## Superior Quality Drilling

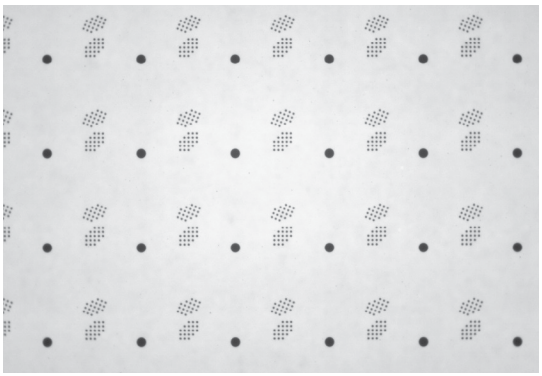
Optimized beam quality throughout the panel area with built-in beam validation tools for size, uniformity, roundness and energy distribution.




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

## Outstanding Drilling Accuracy Down to ±10µm

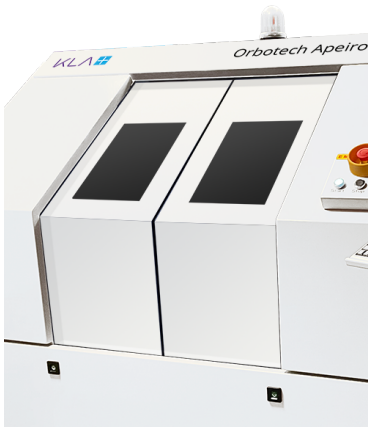
Built-in accuracy tools enable online calibration of laser beam positioning. Via patterns are marked on an erasable plate and their position is measured in reference to the fixed black spots.



**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<br>2 x 260mm x 635mm |
| Dimensions | Height: 1,700mm*<br>Depth: 2,200mm<br>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 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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