HexScan 3100 SRE

ANVIK

Lithography on Flexible Materials

High-Throughput, High-Resolution, Roll-to-Roll Patterning System for Electronic Circuits and Displays

The Anvik HexScan™ 3100 SRE patterning system for flexible substrates represents a revolutionary advance in large-area lithography systems. It offers the unique combination of high-resolution *projection* imaging and roll-to-roll substrate handling, making it the ideal patterning tool for high-volume, low-cost production of flexible circuits, multichip modules, and displays on flexible materials. With its high-power excimer laser illumination source, the system serves both as a high-throughput lithography tool for photoresist materials, and as a high-speed, batch via generation system for dielectric layers.

Roll-to-Roll Substrate Handling

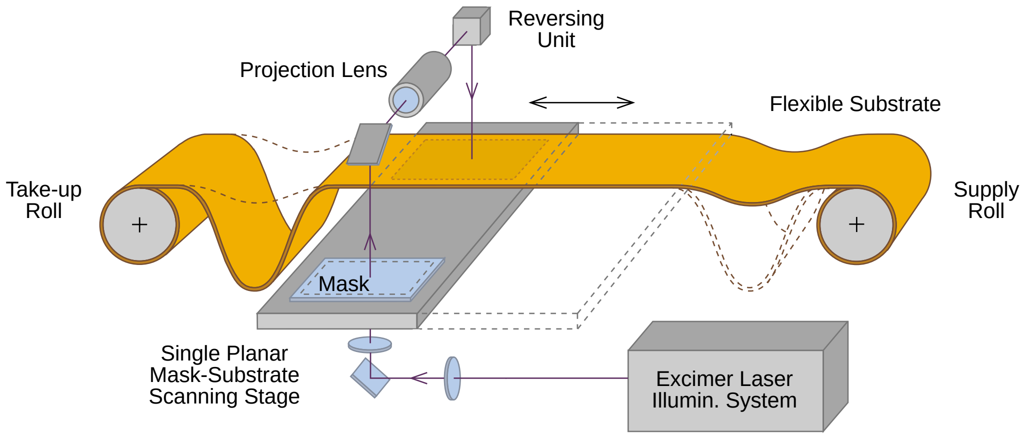
- **Designed for projection patterning of flexible, roll-fed substrates of various materials**
- **Capable of handling rolls of widths 35 - 610 mm (1.4 - 24 inches) and various thicknesses**
- **Fully automated feed and alignment of print area minimizes overhead time**

High Resolution

- **Doubly-telecentric projection lens provides diffraction-limited resolution of 10 µm (0.4 mil)**
- **Patented seamless scanning technology delivers lens resolution over entire panel**
- **High resolution enables excellent line-edge definition and via profiles**

Very High Exposure Throughput

- **Exposure throughputs as high as 6 sq. ft. / min, made possible by:**
  - **Seamless scanning with hexagonal illumination**
  - **High-power excimer laser illumination system**
  - **High-speed, high-precision scanning stage**



Versatility

- Delivers very high patterning throughput in common resists
- Capable of high-speed, laser via generation in polyimide and other dielectrics
- High fluence levels allow use of wide range of resists and dielectrics

Modularity and Upgradability

- Modular design enables user to define ideal system configuration
- User may specify minimum feature resolution, exposure wavelength, and substrate size parameters
- Upgradability of key subsystems extends system life over multiple product generations

HexScan™ 3100 SRE Specifications

Imaging Technique	Seamless scanning projection
Resolution	10 microns (0.4 mil)
Projection System	1:1 magnification refractive lens
Depth of Focus	560 microns (22 mils)
Width of Substrate Roll	13.4 inches (other sizes optional)
Panel Exposure Area	12 x 12 inches (other sizes optional)
Illumination Source	XeF excimer laser (other sources optional)
Exposure Wavelength	351 nm (other wavelengths optional)
Overlay Precision	2.5 microns
Alignment System	Automatic
Panel and Mask Handling	Automatic
Exposure Throughput	> 4 sq. ft./min. [240 panels (12 x 12 inch) / hr]