

XENOS ST 100HR (EBL)

The **XENOS ST 100 HR** is a 100 kV electron beam lithography system optimized for research and applications requiring both ultrahigh spatial resolution and very fast writing speed on wafers with diameters up to 6".

The system consists of EB gun and column, precise work stage with laser interferometer, magnetic shielded high vacuum work chamber, high to ultra high vacuum evacuation system, wafer loadlock chamber and column control system. The system employs a high brightness zirconiated tungsten thermal field emitter (Zr/O/W), and a special gun electrode configuration for 100kV vacuum insulation.

It provides a very stable and large current in a very small probe diameter. The system includes a 50 MHz high speed pattern generator for high output applications as well as user friendly software for nano and optoelectronic patterns. Options include a retarding mode for low voltage lithography and a multiwafer autoloader.

KEY SPECIFICATIONS :

Beam Energy (keV)	Probe diameter (nm)	Probe current (pA)	Field size(μm)
25	30	1000	1000
25	16	50	1000
50	15	2000	500
50	5	100	500
100	8	4000	250
100	3	100	250

- **Overlay:** 40 nm (2 Sigma)
- **Stitching:** 40 nm (2 Sigma)
- **Scan Modes:** scanning electron microscope, pattern writing
- **Pattern Generator Writing Speed:** 10 kHz, 50 MHz, 1 kHz linear increments
- **Implemented Shapes:** rectangles, single pixel lines, dots, triangles, trapezoidals, parallelograms, polynomial lines, polynomially bordered shapes, arrays
- **Full Bandwidth Digital Field Correction:** shift, size, rotation, orthogonality
- **Software:** CAD and exposure control software (ECP)

Positional Resolution: 18 (20 opt.) Bit mainfield, 14 Bit subfield