SIMAX AT®

PICOMASTER XF ATE-200

Performance

Minimum line width (CD) process-related	600 nm
Minimum grating periodicity	1200 nm
Line width uniformity (CDU) @ 600 nm resolution	75 nm
Edge roughness @ 600 nm resolution	40 nm
Writing modes	Raster
Spot sizes	0.6 µm
Maximum write speed in raster mode may affect edge roughness exposure field-related	280 mm²/min
Exposure time for 150x150 mm for XF	60 min @ 0.6 µm

Optics

Light source	GaN laser diode
Wavelength	405 nm
Source lifetime	10000 h
Grayscale level	256
Autofocus type	Proprietary real-time optical autofocus capable of exposure right up to the edge of the substrate, including transparent materials
Autofocus range	400 µm

Alignment

Top side alignment accuracy	250 nm
Back side alignment accuracy	2000 nm

Mechanics

Maximum exposable area	200 x 200 mm²
Repeatability (RMS)	20 nm
Axis encoder resolution	2 nm

Substrate

Minimum substrate size	5 x 5 mm²
Maximum substrate size	250 x 250 mm²
Maximum substrate thickness	14 mm

Software

Supported file types (offline conversion required)	GDSII, BMP, TIFF, STL, DXF , CIF

Dimensions

Dimensions (WxDxH)	1470 mm x 1420 mm x 2080 mm
Weight	1250 kg

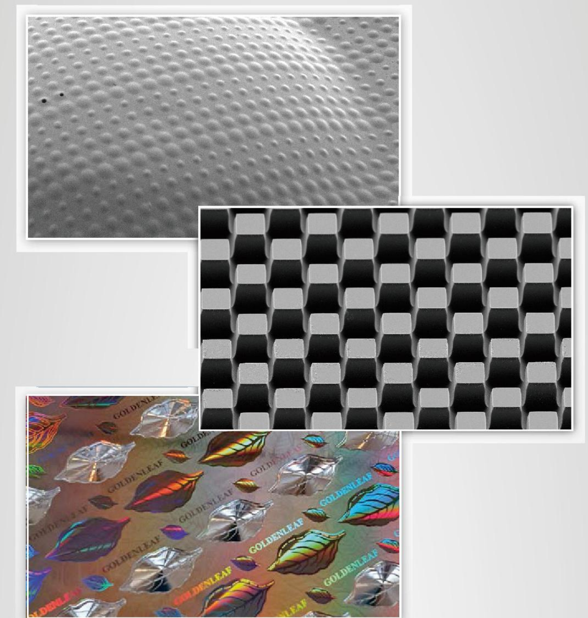
Disclaimer: Resolution is guaranteed on specific types of resists and thicknesses. Write speed specified for maximum exposable ar

RAITH NANOFABRICATION

Applications

The high speed of the PICOMASTER XF enables it to be used as a research tool in a lab as well as a powerful production node for

- Semiconductors
- Electronics
- Photonics
- Mask-making
- 3D lithography
- Diffractive optical elements
- Microfluidics
- RF devices
- LED
- Flat panels
- AR/VR devices



PICOMASTER XF

PICOMASTER XF is a low-maintenance, versatile, high-throughput multibeam maskless laser writer which offers submicron resolution and full grayscale capabilities at highest speed.

PICOMASTER XF is a FASTER tool for your lab:

Flexibility
Can be flexibly built to meet requirements of the most challenging applications by adding autoloading system, large-size substrate writing capabilities (up to meters), full process integrated workbench

Accuracy
Offering high accuracy in laser power control to ensure precise doses, autofocus accuracy even on challenging samples and close to sample edges, and alignment accuracy down to 0.25 µm

Speed
Offering multibeam exposure technology, PICOMASTER XF is over 100 times faster compared to single beam machines, achieving writing of a full 6" wafer in 1 hour

Throughput
The PICOMASTER XF's multibeam exposure technology, fast and precise stage mechanics, and software buffer-ing system ensure stable high throughput

Ease of use
Inhouse-designed aligning tools for simple sample handling and a powerful user interface for convenience in working with most common file formats

Reduced maintenance cost
Smooth, quick, and cost-efficient service with main-tenance-free motion platform and long-life optical module (10,000 hours), which is easy to replace without engineer on-site

About

Raith is a leading provider and manufacturer of systems for nanofabrication, electron beam lithography, focused ion beam nanofabrication, nanoengineering, and reverse engineering. 4PICO Litho was a market leader in the holographic and security origination market and the Maskless laser writer system supplier of choice for sub-micron projects in the R&D market.

In July 2021 Raith acquired 4PICO Litho, expanding its nanofabrication portfolio to take in maskless laser lithography.

Simax Asia Pacific Limited, based in Hong Kong, China, having operations in Shanghai, Beijing, Shenzhen and Wuhan, is an established and highly reputable photolitho graphy technology service provider in the IC, FPD, advanced packaging, holographic packaging markets in the great China region. Founded by a team of photolitho graphy experts in 2009, Simax Asia continuously focus on providing professional services in photolithography systems sales and market development, as well as system installation, warranty, training, product demos and applications development. For more information please visit www. simaxat.cn.

Get in touch

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PICOMASTER XF

When ultimate speed matters

PICOMASTER XF Series
- Parallel multi beam writing strategy
- Write speed up to 280 mm²/min
- Edge to edge exposure
- 0.6 µm resolution

MASKLESS LASER BEAM LITHOGRAPHY

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