DIRECT LASER WRITERS

POLOS® PM-100 START

The POLOS® PM–100 Start is a versatile UV laser writer with high precision components specifically designed to give the user the highest degree of freedom to create microstructures in photosensitive layers. The POLOS® PM–100 Start includes a 405 nm optical module capable of writing structures as small as 0.8 µm.

This user-friendly tool supports up to 4095 levels of grayscale or pure binary mode and allows for 2.5D optical structures, surface structures as well as mask projects. Real-time laser-controlled autofocus and laser intensity control ensure high-quality imaging during the entire exposure process. The control electronics are all mounted within the frame, except for the control PC. This Microsoft Windows-based desktop PC and all required software is included in the package.

CONFIGURATION	
Max. writeable size	4" x 4"
Stroke scan & step	Max. 115 mm
Repeatability	< 50 nm RMS
Encoder resolution	2.5 nm
Scan speed	Max. 200 mm/s
Straightness axis	< 1 µm over 100 mm
Wafer thickness	0 - 10 mm
Max. substrate size	Min. 5 x 5 mm, max. 125 x 125 mm
Exposable area	Max. 110 x 110 mm (speed dependent)
Dimensions (mm)	580 (w) x 708 (h) x 600 mm (d) (excluding optional air duct
Weight (kg)	260
Compressed air:	5 - 7 Bar, Air quality according ISO8573-1:2010 class 3 or better.

KEY BENEFITS

- High quality, cost-efficient maskless lithography tool
- Writing resolution down to 0.8 µm
- 375 nm laser source available for i-Line resists
- Compact optical module: use a spare optical unit for revolutionary machine downtime reduction
- User-friendly operation

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POLOS® powered by SPS
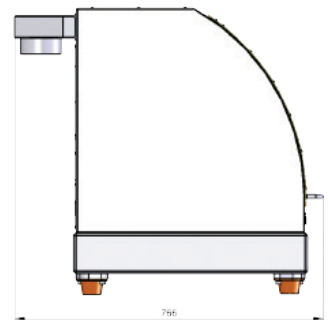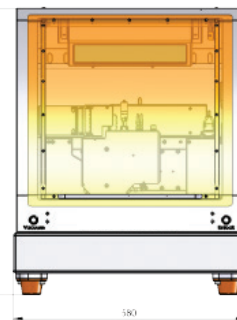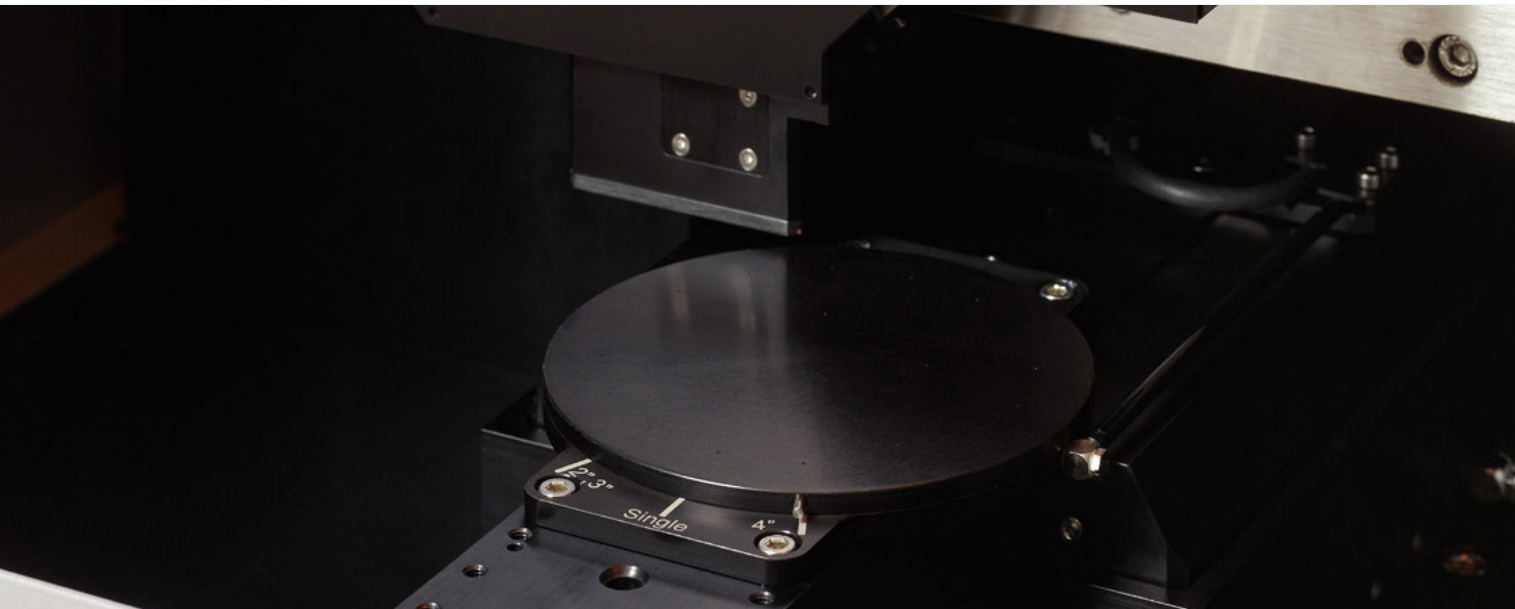
OPTICAL PROPERTIES

Laser source	Standard 405 nm, GaN laser diode. 375 nm optional
Lifetime	>10.000 hours
Write modes	0.8 µm, optional 1.5 µm and 2.5 µm FWHM
Working distance	0.9 mm
Intensity	Max. 3 mW in the spot. Software controllable
Grayscale control	4095 levels
Autofocus	800 Hz bandwidth, 650 nm red laser controlled +/-0.3 mm height variation with auto height tracking Fast voice coil actuator for accurate real time Z correction
Focus offset	Adjustable by software control

POLOS
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www.sps-international.com
sales@sps-international.com

www.sps-polos.com
www.spincoating.com

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