Dilase 650

Multifunction maskless lithography equipment

*Dilase 650 is a **high-performance laser processing tool**, offering access to the flexibility of a **maskless technology**, mainly suitable to speed up development and optimization times required when dealing with new products range or prototyping.*

Thanks to several optical treatments, the Dilase technology guarantee a **very large depth of focus**, unique in the market of photolithography with or without masks. Thanks to this, there is **no need to use autofocus systems.**

Technological breakthroughs

High aspect ratio: 1x20 standard
(high aspect ratio head optional: 1x50)

The **high depth of focus** resulting from the specific optical treatment line designed by Kloe, allows to write into thick films as easily than into thin films with the same edge verticality and **very low roughness**.

One-pass laser processing

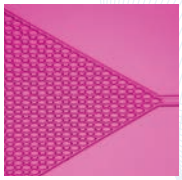
No roughness induced by vertical stitching, **no need to adjust the focusing point.**

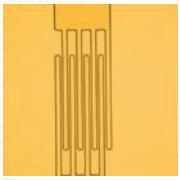
Writing modes: vector, scanning or a combination of both

Vectorial writing mode ensures a **perfect rendering of edges** without stitching nor roughness.

The combination of both modes by fast filling in scanning mode and the finalizing contours in vector mode provides perfectly square pattern edges with **no roughness.**

Related applications

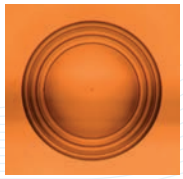

Microfluidics


Microelectronics


Micromechanics


Surface functionalization


Photonics


Greyscale, microlens and gratings

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Performances

Linear writing speed	> 500mm.s^{-1}
Address grid	100nm standard 40nm optional
Repeatability	100nm
Multilevel alignment accuracy	Down to 250nm
Absolute positioning precision	3µm / 100mm
Orthogonality	<1mRad
Operating temperature	22°C +/- 2°C
Aspect Ratio	1x20 standard, 1x50 optional

Working & Writing surfaces

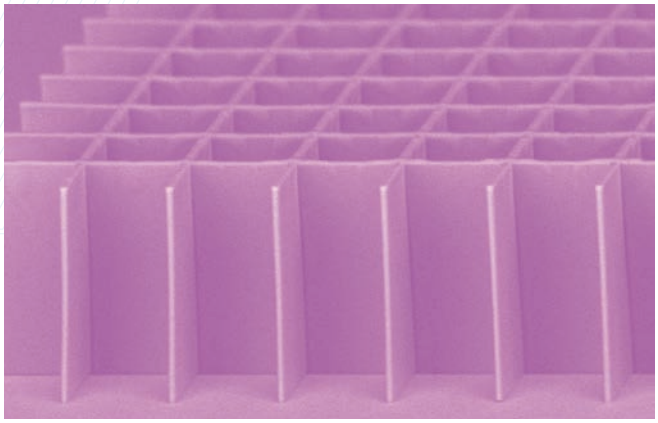
Accepted sample size	From 3 x 3mm² to 4" or 3 x 3mm² to 6" 5" or 7" for square substrates
Working surface	100 x 100mm² or 150 x 150mm²
Accepted substrate thickness	From 250µm to 10mm
Compatible photoresist	SU8, Shipley, AZ Resists, K-CL resist (developed by Kloe)

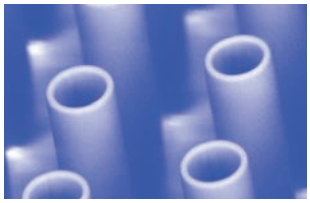
Laser source

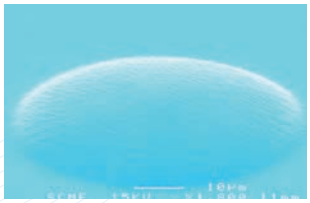
Wavelength	375nm or 405nm
Beam size available	1 or 2
Laser beam width (1 or 2)	From 1µm to 50µm 0,5µm optional
Laser diode lifetime	Over 10 000 hours

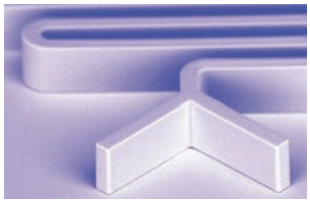
Other features

- Size: 935(L) x 1300(W) x 1620(H)mm
- Weight: 800kg / 1763lbs
- Writing modes: vectorial, scanning or a combination of both
- Power supply: 100V/240V - 50Hz/60Hz
- Adjustable laser power: from 10% to 100%
- Accepted files format: LWI (KloeDesign format), DXF and GDSII
- Integrated design software: KloeDesign, DFL Creator, DilaseSoft
- Video Realignment System
- Motorized focal stage
- Automated focus setting





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