

# Dilase 750

Customisable direct laser writer

*The Dilase 750 is a **high-end and fully customizable high-resolution laser lithography equipment**. This complete direct laser processing system is totally custom-made, to fit the specific prototyping or manufacturing needs of customers.*

You may select from a wide range of options such as **simple or backside alignment**, high-resolution writing line, line with a **very large depth of focus**, circular or square shaped spot, standard or tilted writing line.



## 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**

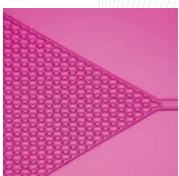
No roughness induced by vertical stitching,  
**no need to adjust the focusing point.**

**Writing modes: vector, scanning**  
or a combination of both

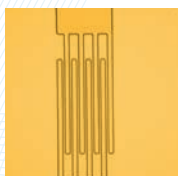
Vectorial writing mode ensures a **perfect rendering of edges** without stitching nor roughness.

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



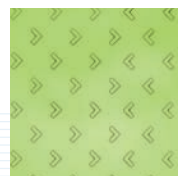
Microfluidics



Microelectronics



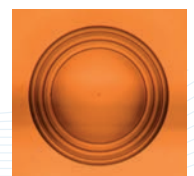
Micromechanics



Surface  
functionalization



Photonics



Greyscale, microlens  
and gratings

# Dilase 750

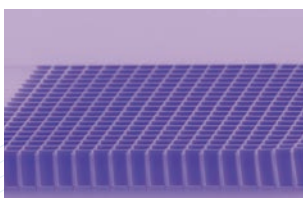
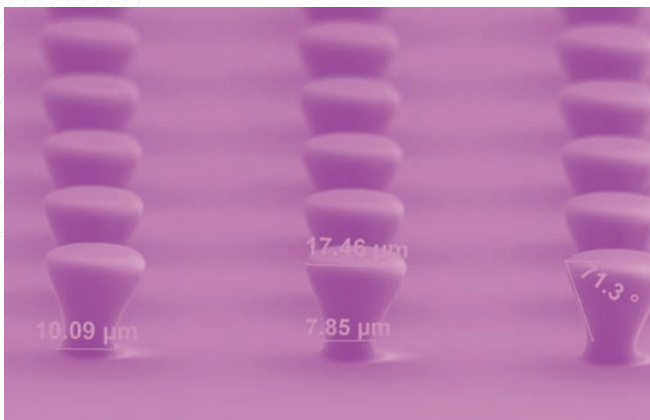
Customisable direct laser writer

## Performances

Linear writing speed	≥ 350mm.s <sup>-1</sup>
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
Standard maximum trajectory deviation	100nm

## Laser source

Wavelength	325nm, 375nm or 405nm
Beam size available	1, 2 or 3
Laser beam width (1, 2 or 3)	From 0,5µm to 50µm
Laser diode lifetime	Over 10 000 hours



## Working & Writing surfaces

Accepted sample size	From 3 x 3mm <sup>2</sup> to 4", 6", 8" or 12"
Working surface	From 100 x 100mm <sup>2</sup> to 150 x 150mm <sup>2</sup> , 200 x 200mm <sup>2</sup> , 300 x 300mm <sup>2</sup> or 400 x 400mm <sup>2</sup>
Accepted substrate thickness	From 250µm to 10mm
Compatible photoresist	SU8, Shipley, AZ Resists, K-CL resist (developed by Kloe)

## Other features

- Size: 1920(L) x 1600(W) x 1800(H)mm
- Weight: until 2500kg / until 5511lbs
- 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

