TERA-Fab® Elite

A Maskless Photolithography Tool

MOTORS / STAGES

Linear translation stages (xy)
· Travel Range: 110 mm
· Unidirectional Accuracy: 1 µm
· Repeatability: < 0.08 µm
· Travel Speed: 0-1,200 mm/s

Vertical translation stages (z)
· Travel Range: 60 mm
· Unidirectional Accuracy: 1 µm
· Repeatability: < 0.08 µm
· Travel Speed: 0-1,200 mm/s

OPTICS

DLP (2nd Generation)
· DMD chipset: 1920 px x 1080 px
· Pixel size: 5 µm x 5 µm
· Projection Area: 9.6 mm x 5.4 mm
· Dual LED options:
  · 365 nm + 460 nm
  · 405 nm + 532 nm
· Light intensity (5x mag.):
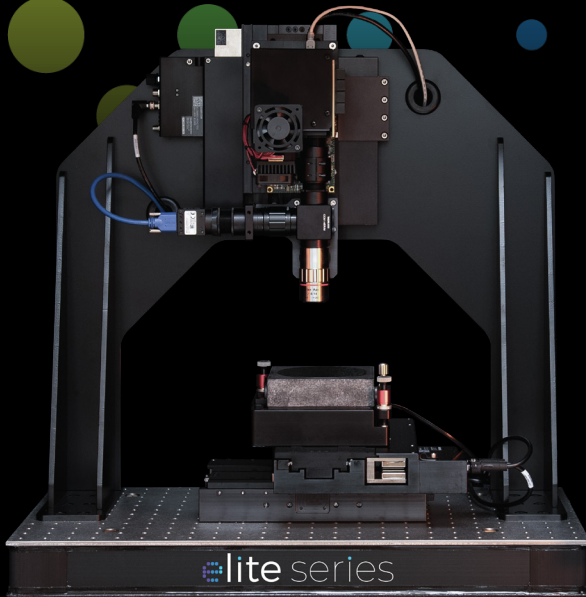 · > 35 mW/cm² (365 nm)
  · > 300 mW/cm² (405 nm)

SOFTWARE + ADDITIONAL FEATURES

· Digital photomask platform allowing arbitrary surface patterning
· Auto-focusing feature allows seamless large area patterning
· Custom 4 inch Si wafer chuck and microscope slide attachment
· Vacuum sample holder

elite series

Microfabricate On-Demand

TERA-Fab Elite series

- Access a wide spectrum of chemistries with multi-wavelength illumination (365nm - 532nm)

- Pattern structures and devices on samples up to 4-inch wafer in size

- Upload custom digital masks and prototype on the fly

- Pattern high-resolution features down to ~ 1 μm
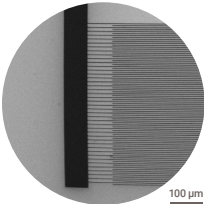
elite series

Enabled Applications
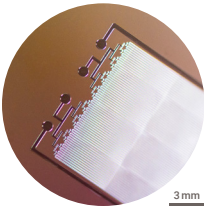
Microfluidic Devices
Pattern with standard photoresists (e.g., SU-8) and build testable devices in hours.
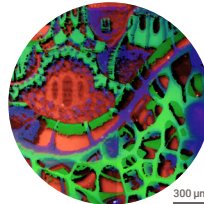
3 mm
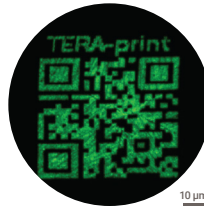
Soft Materials
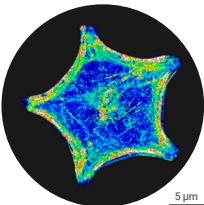From hydrogels for tissue engineering to stimuli responsive materials for soft microrobotics.

10 µm

Electronics + Biosensors
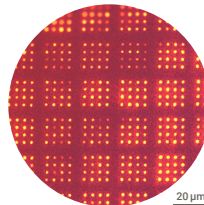Fabricate microelectronic devices and state-of-the-art sensors for sensing applications.

100 µm

Multiplexed Printing
Pattern unique chemistries layer-by-layer or in-registry with existing structures.

300 µm

Bioprinting
Explore the biomaterials space and develop custom inks for various applications, including cell surface studies.

5 µm

And More...
Explore a variety of different photochemistries compatible with our TERA-Fab Elite.

20 µm