



nanoOne

# Precision and economic efficiency

NanoOne® is the fastest high-resolution 3D printing system on the market. It is based on multiphoton lithography and combines the precision of 2-photon polymerization with unmatched throughput. The patented process enables the batch production of microparts with highest resolution and complexity.



## small

High-resolution desktop printing system with sub-micron resolution.



## fast

Up to a 100 times higher throughput for short production cycles.



## powerful

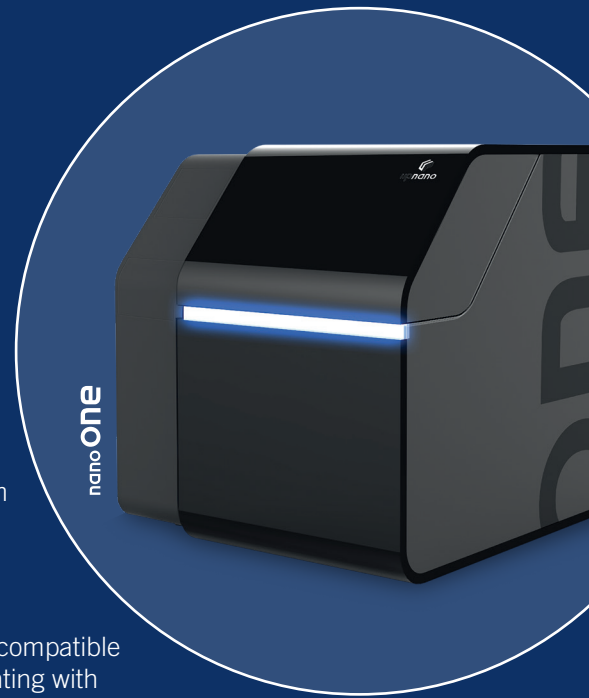
High power laser for mesoscale fabrication and biological applications.

Polymeric components from micro to mesoscale

Highest resolution in the 100 nm range

Biocompatible printing with embedded cells

Patented scanning procedure up to a 100 times faster



## 16 good reasons

**1. Large structuring field:** 50% larger field of view without stitching compared to other systems **2. Large travel range:** stage with 120x80 mm horizontal and 50 mm vertical travel range **3. High power laser:** energy for high scanning velocities and a wide range of resins **4. Laser power stability:** highly stable laser power output for large-scale printing **5. Ultra-high writing speed:** optimized scanning path for galvanometer scanner **6. Adaptive resolution:** high resolution where needed, high throughput everywhere **7. Various sample holders:** exchangeable microscope inserts with 160x110 mm **8. Compatible with cell-culture plates:** glass bottom well plates with 384, 96, 48 etc. wells **9. Large structure with highest resolution:** vat mode for printing of large structures without adhesion to the vat **10. Bottom-up approach:** fabrication of thin objects on the substrate surface **11. Optimized resin formulations:** highly reactive resins for high throughput **12. Biocompatible formulations:** photo-polymerizable hydrogel resins compatible with living cells **13. Modular incubation system:** native temperature, humidity and CO<sub>2</sub> conditions for bioprinting **14. Robust and compact:** fastest high-resolution desktop system on the market **15. Advanced logging feature:** keep track of printed parts and reuse previous settings **16. HEPA filter:** filtered air stream over the building platform prevents particle contamination

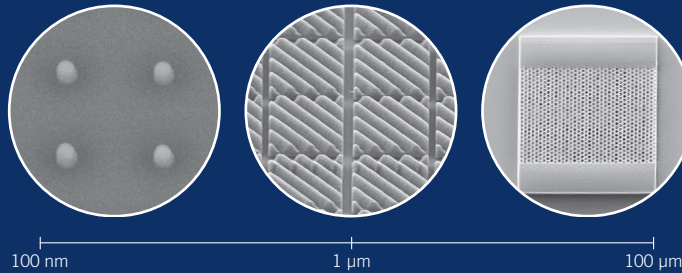
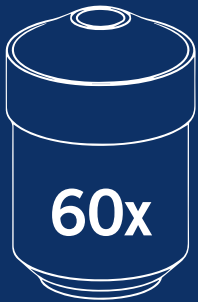
speaking for UpNano

# Vat mode

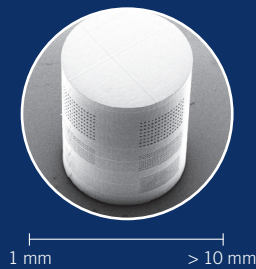
NanoOne® features a unique vat mode which allows the fabrication of large objects with a height of up to 50 mm. During printing, a vat with a precision glass window is placed above the objective, thus preventing contact of the resin with the objective and preserving the focusing power of the objectives. In addition, the NanoOne® printing system offers several other printing modes for specialized applications such as bioprinting.



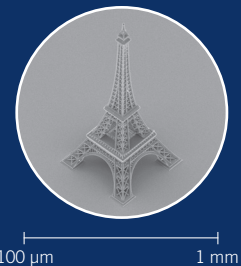
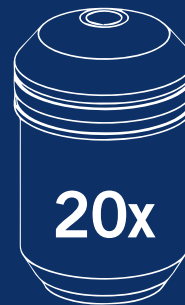
## Objectives



- Oil immersion for highest NA (1.42)
- Ultra-high resolution for finest details with a feature size of less than 200 nm
- Suitable for small and complex parts



- Immersion free objective NA (0.4)
- Large field of view
- Suitable for structuring objects in vat mode



- Water immersion objective
- Intermediate NA (0.7) for high-resolution 3D printing
- Refractive index matched for hydrogel-based materials in bioprinting

## Technical specifications

System type	Multiphoton laser lithography
Printing process	Layer by layer 2-photon polymerization
Smallest feature size	≤ 200 nm
Maximum object height	50 mm
Maximum print volume	> 1,000 mm <sup>3</sup>
Scanning speed	up to 600 mm/s



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