



LUXBEAM® RAPID SYSTEM – µSLA SERIES

High volume micro 3D print subsystem

Visitech's state-of-the-art direct imaging micro-SLA subsystems empower the micro 3D print manufacturing of tomorrow. Tailor-made for machine builders and tool makers, our subsystems enable high-yield manufacturing at high speed without compromising flexibility or increasing the cost of ownership.



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A SUBSYSTEM WITH VALUABLE BENEFITS

The LRS-μSLA System is for incorporation into direct imaging additive manufacturing machines. For micro 3D printed mechanical components, lab-on-a-chip systems, and others, the subsystem essentially provides a wide range of valuable benefits that maximize throughput without compromising accuracy, line/width tolerances, cost of ownership, or manufacturing flexibility. Tailor-made to master the highest reproducibility of precision, maximum resolution, and perfect surface finish on a micron scale, the LRS-μSLA is the ultimate subsystem.

MAXIMIZING FLEXIBILITY AND REDUCING COST

Scaling up the build field and batch size significantly reduces the manufacturing cost of micro 3D-printed components. At the same time, the precision of these components is determined by the pixel pitch of the manufacturing equipment.

Traditional systems are limited by image size, with build areas typically measured in square millimeters. However, by configuring the light engine within an x-y motion system, the build area can be scaled up. This larger build area allows for a more economically viable batch size while maintaining flexibility without sacrificing precision or accuracy.

Visitech's subsystem further enhances the process by enabling real-time warping and positioning of the artwork. The combination of advanced software and hardware ensures a powerful and reliable system, maximizing yield and efficiency.

HIGH-YIELD MANUFACTURING

At Visitech, we prioritize high throughput, system stability, and continuous innovation to keep our customers ahead. Our fully integrated system enhances the additive manufacturing process, maximizing yield and efficiency.

Superior resolution modules, perfect for high precision micro 3D printing

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Resolution

- From 5.4 μm native pixel pitch

LED wavelengths

- LED 365 - 420 nm

Track width /length

- 10.4 mm / up to 700 mm

Line edge roughness

- +/- 500 nm

Autofocus

- 1 μm accuracy by fast linear motor concept

Stackability

- Multihead configurations with build field size > 80 mm

Cooling

- Fanless liquid cooling



Micro 3D print

Critical parameters such as stitching, edge roughness, and Critical Dimension uniformity over the building field is handled on the nanometer scale. In addition, the LAMA PRO software package enables integration with a motion system (x-y and z), multiple light engines, and control of advanced features such as sub-pixelation, edge blending, data streaming, and others.

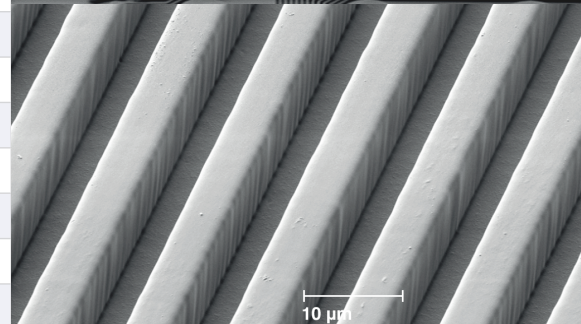
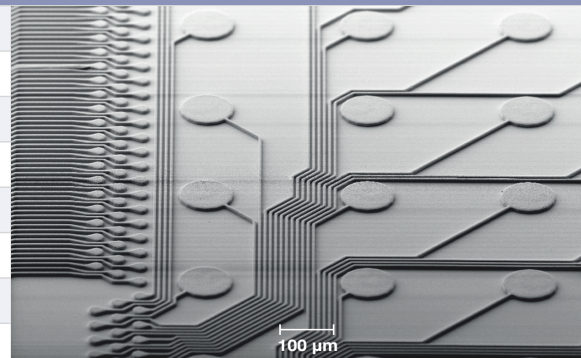
Throughput and speed

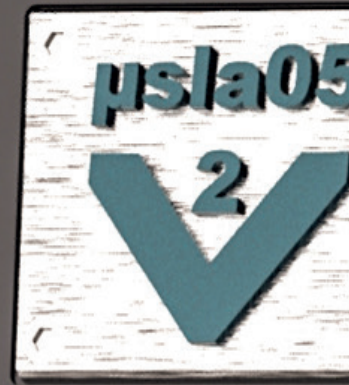
High power, speed, and throughput with industry-proven reliability are what machine builders can expect from the LRS-μSLA subsystem, which provides state-of-the-art specifications for micro 3D print fabrication.

Multi-LED light source

For unprecedented power output or sophisticated multi-spectral process options, the light engines are equipped with multiple high-power LEDs, offering configurations with selected LEDs – just as needed for the materials or the process. As a result, swapping between multiple and configurable wavelength sources is easy.

Properties	LUXBEAM® RAPID SYSTEM – μSLA 05
DMD type	DLP9500 (UV) 1920 x 1080 pixels
Native image size	10.4 x 5.4 mm ²
Resolution	5.4 micron
Line edge roughness	< 500 nm
Light source	Multiple LEDs, 365 nm - 420 nm
Exposure speed	10 to 780 mm/sec (depending on configuration settings)
Dimensions	478 x 80 x 422 mm ³
Total weight w/o PSU	9 kg
Power consumption	Max 1200 W
Power uniformity	> 99% (PPC corrected)
Cooling concept	Liquid Cooling
Maximum panel size	Unlimited
Software	LAMA Pro (license fee applies)
Maximum build area	Unlimited
Data format	BMP





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