



 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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## LUXBEAM® RAPID SYSTEM – $\mu$ SLA SERIES

### A SUBSYSTEM WITH VALUABLE BENEFITS

The LRS- $\mu$ SLA 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- $\mu$ SLA is the ultimate subsystem.

### MAXIMIZING FLEXIBILITY AND REDUCING COST

The manufacturing cost of micro 3D printed components decreases substantially when scaling up the building field and batch size. At the same time, the printed components' precision scales with the pixel pitch of the manufacturing equipment. Traditional systems have image size limits, where the build area measures in square millimeters. However, the build area can scale up by configuring the light engine in an x-y motion system. The larger build area size yields a far more economically feasible batch size while keeping manufacturing flexibility options intact – with no compromise in precision and accuracy. In addition, Visitech's subsystem enables real-time warping and positioning of the artwork. The subsystem's software and hardware combination composes a powerful yet reliable system that maximizes yield.

### HIGH-YIELD MANUFACTURING

We are passionate about meeting our customers' requirements: High throughput, paired with system stability and continuous innovation, keep our customers at the cutting edge. Visitech's system fully integrates into the additive manufacturing process – to maximize yield and efficiency.

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

#### LUXBEAM® RAPID SYSTEM – $\mu$ SLA SERIES

**Resolution**

- From 5.4  $\mu$ m 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  $\mu$ m 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.

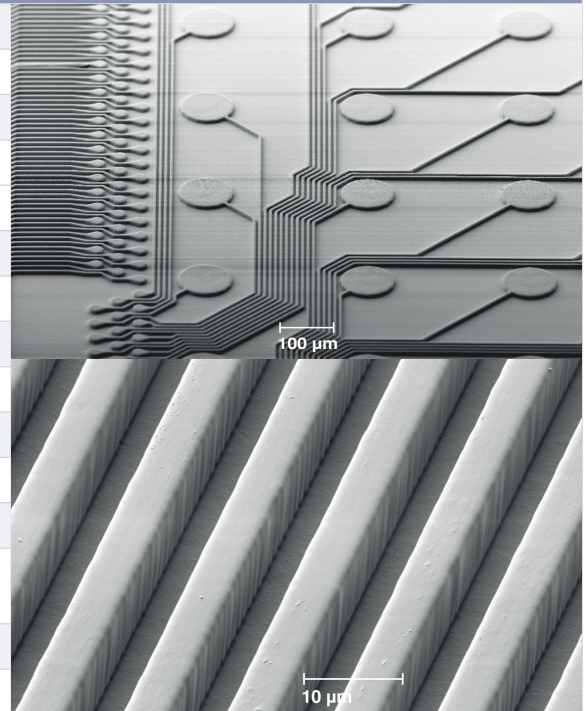
## Throughput and speed

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

## Multi-LED light source

For unprecedented power output or sophisticated multispectral 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 – $\mu$ SLA 05
DMD type	DLP9500 (UV) 1920 x 1080 pixels
Native image size	10.4 x 5.4 mm <sup>2</sup>
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 <sup>3</sup>
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	Complete API (Windows, Linux), platform independent WI Advanced Control SW package (optional)
Maximum build area	Unlimited
Data format	BMP





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