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LUXBEAM® RAPID SYSTEM - LRS

The LUXBEAM® RAPID SYSTEM LRS* is a DLP® based stereo lithography sub-system designed for additive manufacturing of high resolution parts in combination with flexible build area and high building speed. The LRS uses the advantage of a moving scrolling projector to create a flexible (large or small) build area and enables smart functions like Sub-pixelation (SPX) for resolution enhancement, and Pixel Power Control (PPC) ensuring equal amount of energy to each pixel in the resin.

The system includes an UV LED light source which in combination with the robust and reliable DLP® technology provides a system with long life time and low maintenance cost. The LRS is configurable and is available in single or multi head configuration to fit the needs for throughput and build area in the machine. The already proven and reliable LRS is a plug and play system/module that will enable customers to design, build and brand a Rapid Manufacturing machine with a very short time to market and with low technical risk.

The LRS will provide a system capable of 25µm in XYZ resolution in combination with 10 - 20 cm width of build area and a customer defined length in the motion direction, - typical 15 – 100 cm. Other configurations with higher or lower resolution can be configured via dedicated lens design. Our reference Lithography machine is available for demonstration and test manufacturing of samples for evaluation of single layer 3D perfomance and throughput.

Samples can be ordered through: contact@visitech.no

(*) Patented and patents pending.

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Electrical connections	Signal	Connectors
Power supply	12V DC	Neutrik 3 pin XLR Male
Gigabit Ethernet	1000BASE-T (IEEE 802.3)	Würth RJ45 (8p8c)
Electrical sync (In and Out)	RS 485	FCI RJ9 (4p4c)
Optical sync (In and Out)	820 nm multimode	AVAGO SC optical fibre connector

Luxbeam Rapid System - LRS	LRS standard	LRS custom lens
Resolution	15 – 50 µm	10 – 100 µm
Build area	96 mm X (54 – 1000) mm	**Option 1:** 20,7 mm X (11,7 - 1000) mm **Option 2:** 192 mm X (108 – 1000) mm
UV Wavelength	388 nm (377 nm, 405 nm optional)	388nm (377 nm, 405 nm - optional)
UV power @ exposed media	4W 83 mW/ cm^2	4W **Option 1:** 2,0W / cm^2 - **Option 2:** 20 mW / cm^2
Image distortion	Less than 10% of pixel	Less than 10% of pixel
Power uniformity in image, PPC	>99%	>99%
Data load bandwidth UDP	800Mbps – 3,4 Gbps	800Mbps – 3,4 Gbps
Memory	4 Gbyte	4 Gbyte
SW interface	Proprietary protocol over Ethernet / UDP	Proprietary protocol over Ethernet / UDP
Internal stand-alone mode SW control	WEB server	WEB server

Physical properties	
Size (l x w x h)	245 mm X 247,5 mm X 128 mm (245 mm w/lens)
Total Weight	4 kg
Power consumption	200 W
Projection distance std. lens	171mm from lens
Minimum travel in scroll direction	Build area in scrolling direction + 2 x image height + 2 cm (acc / dec)

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