

LightBench

Flexible and smart
excimer system



Optec's LightBench is a cost-effective laser beam delivery unit, a simple approach to quality UV micromachining. The LightBench delivers the laser beam from source to target, adding μm -level resolution along the way. With unsurpassed rigidity, the LightBench is the ideal vehicle to support key beam delivery devices such as energy controllers, beam shapers, illumination optics field lenses, mask units and vision systems, configured to suit the application.

KEY FEATURES

- Motorized X,Y,Z axes
- 200x200mm XY travel range
- 1 μm machining resolution
- Adjustable demagnification 5-15X
- Motorized motif selection
- >10J/cm² on the part
- Tabletop excimer laser (248 or 193nm)
- TTL vision (WYSIWYG)
- ProcessPower and OptecCAD

OPTIONS

- MRA module
- Smooth Groove module
- Theta stages
- Automatic alignment for production
- Homogenizer module

APPLICATIONS

- Laser Lift off
- Selective thin film removal
- Milling/drilling of a wide range of polymers, glass, ceramics ...
- Micro hole drilling/grooving
- Micro-fluidic prototyping
- 3D structuring generation
- Deep drilling in medical components
- Trimming of electronics/sensors



Beam Delivery Unit

Wavelength	193 or 248nm	
Maximum e.d.	From 0.05 to 10J/cm ²	trade-off adjustment between energy density & DMG ratio
Rep rate	200 Hz	500Hz & 1kHz options available
Feature size	From 5µm to 2mm	Depends on selected DMG ratio, laser and optics
Machining resolution	1.5µm	UVFS/CAF2 optics NA 0,1
Focus Range	50mm	Motorized
DMG ratio	from 5 to 15	Manual
Attenuation range	from 5 to 95%	Depends on wavelength

Part Positioning

Travel range	200x200mm
Resolution	1µm
Repeatability	2µm
Absolutely accuracy	<2µm with DMC calibration

Machine vision

Color cameras	
TTL vision	150-500X related to DMG

