UV Laser Systems

LineBeam

Large Format Polysilicon Annealing

Demand is rising for high definition and power efficient low temperature polysilicon (LTPS) display backplanes to be the foremost differentiator for mobile devices such as smartphones and tablets. LineBeam systems from Coherent are the enabling technology for mass manufacturing LTPS backplanes on large substrate panels with highest yield.

Low Temperature Polisilicon (LTPS) provides is the standard for “state-of-the-Art” for high-resolution displays in mobile application e.g. smartphones and tablets.The unmached electron mobiliy enables energy saving display technologies such as LTPO which is the standard for all premium mobile phones now.

FEATURES

- NEW Solid-State Laser Annealing at 355 nm wavelength
  - keep the process of record
  - impove the quality
  - Reduce the CoO´s significantly
- Choice between 355 nm or 308 nm wavelength OLED and LCD polysilicon annealing
- System configurations designed for GEN 6 and “new” GEN 8 substrates
- Superior pulse stability and high depth of field to ensure a large process window
- Short and long axis beam homogeneity for maximum throughput and beam utilization
- Active control and observation modules for reproducible annealing results

APPLICATIONS

- Laser Annealing of polysilicon backplanes for OLED and LCD

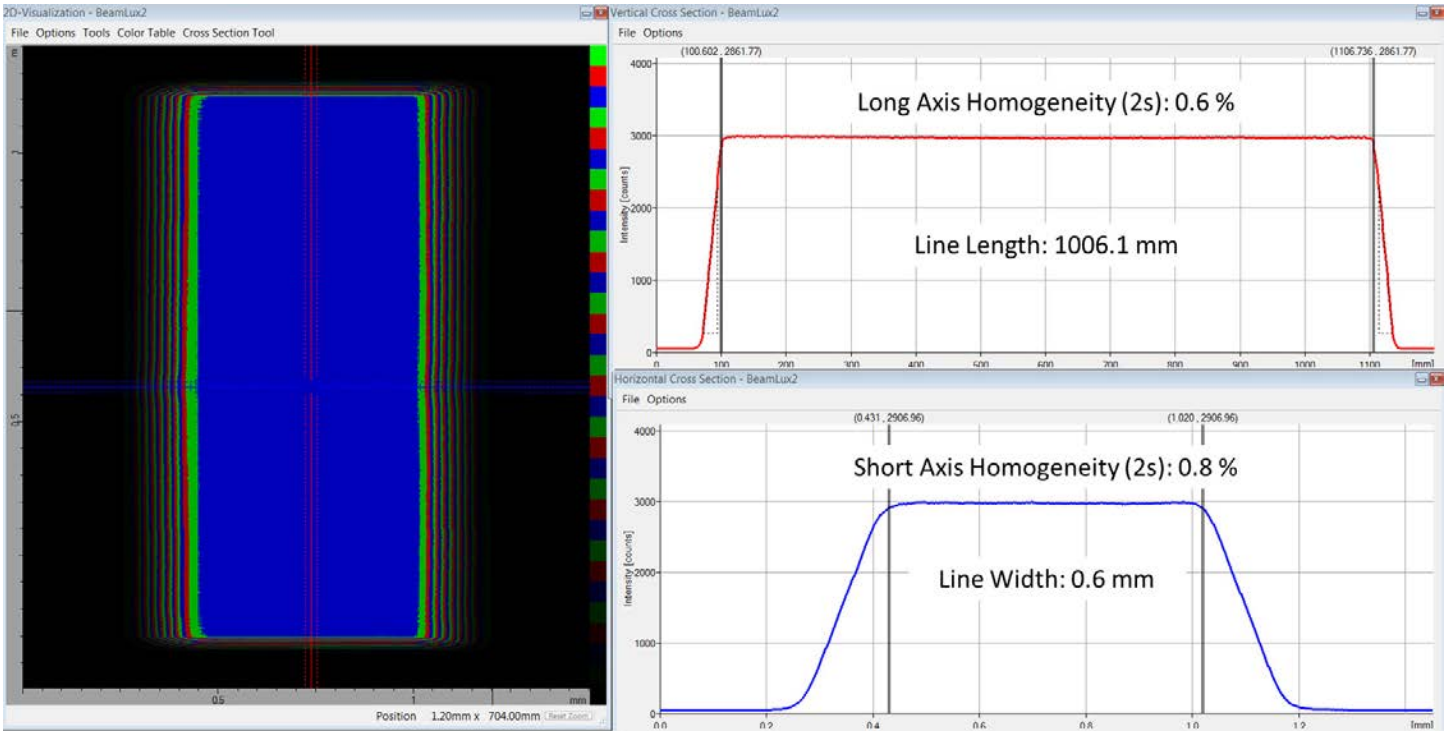
COHERENT

Specifications	Mass Production LineBeam Systems[1]			
Wavelength (nm)	308/355			
Line Length (mm)	750	1000	1300/1335	1500
Beam Profile Type	Top-hat beam along both axes			
Depth of Focus (µm)	±150	±120	±120	±120

Notes:
1. R&D-LineBeam systems with smaller format available on request.

LineBeam Performance

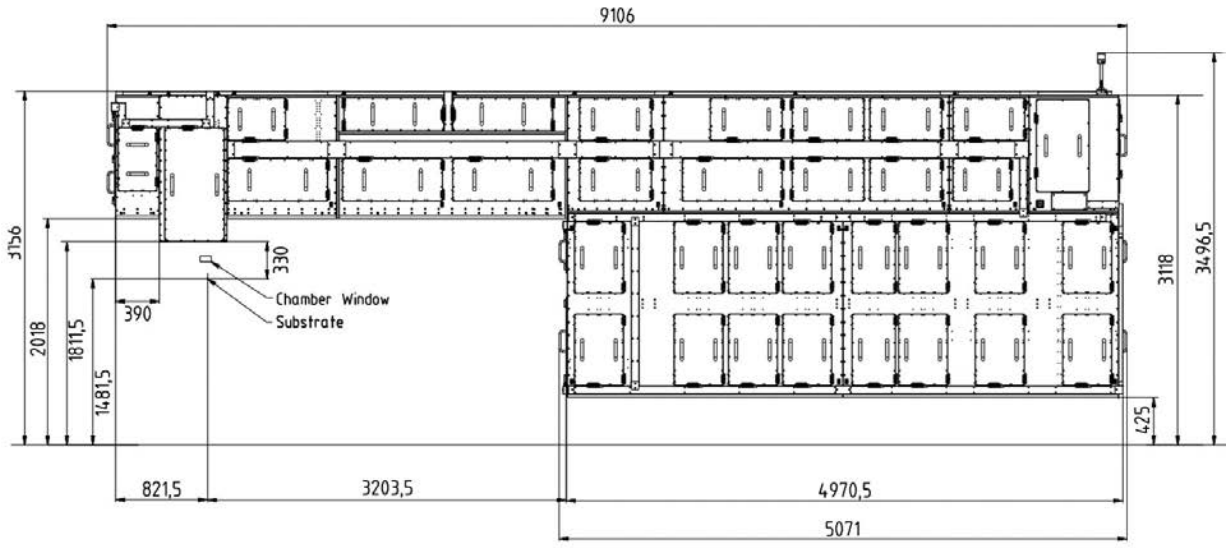
Example of LB1000 2D-beam profile, short and long axis cross sec tions in the substrate plane.



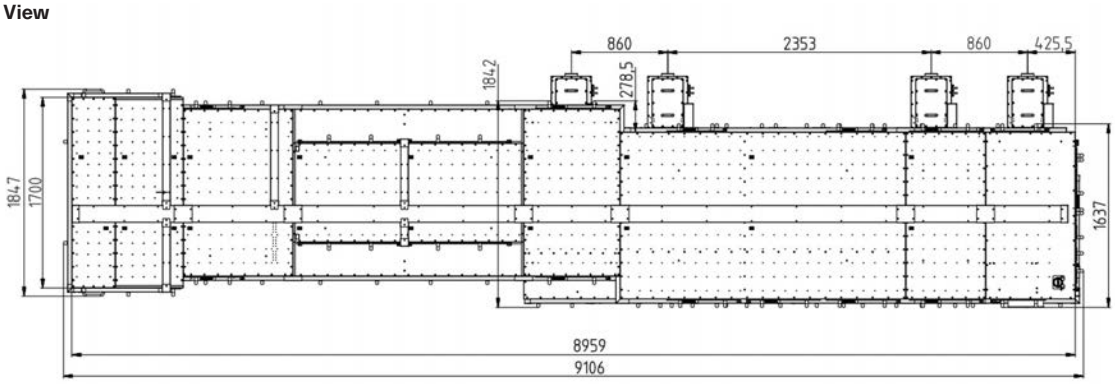
Mechanical Specifications

Large LineBeam System Example
(Up to Gen 10.5)

Front View



Top View



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