



UVtransfer

Future Proven MicroLED Laser Processing – 3-in-1 System

The UVtransfer is a laser system for MicroLED Laser Lift-Off (LLO), Laser Induced Forward Transfer (LIFT), and Repair/Trimming processes. The 3-in-1 system is designed for R&D and pilot processing. Built on a high precision granite motion module and powered by a direct UV 248 nm high-energy laser. The system offers an all-in-one solution including dedicated processes out of the box - ready to use and easy to operate. It comes with a powerful operating software for quick setup.

FEATURES & BENEFITS

- 3-in-1 system provides relevant laser processes for MicroLED display manufacturing
- Mask imaging system enables highest optical resolution for smallest die sizes
- Powered by reliable direct UV Excimer laser
- Class 1 laser housing meets highest ergonomic standards
- Compatible with state-of-the-art materials and sizes
- Easy-to-use and intuitive software
- Automatic alignment of substrates
- Automatic change of field size from 8 x 1 mm² to 16 x 2 mm² (optional)

APPLICATIONS

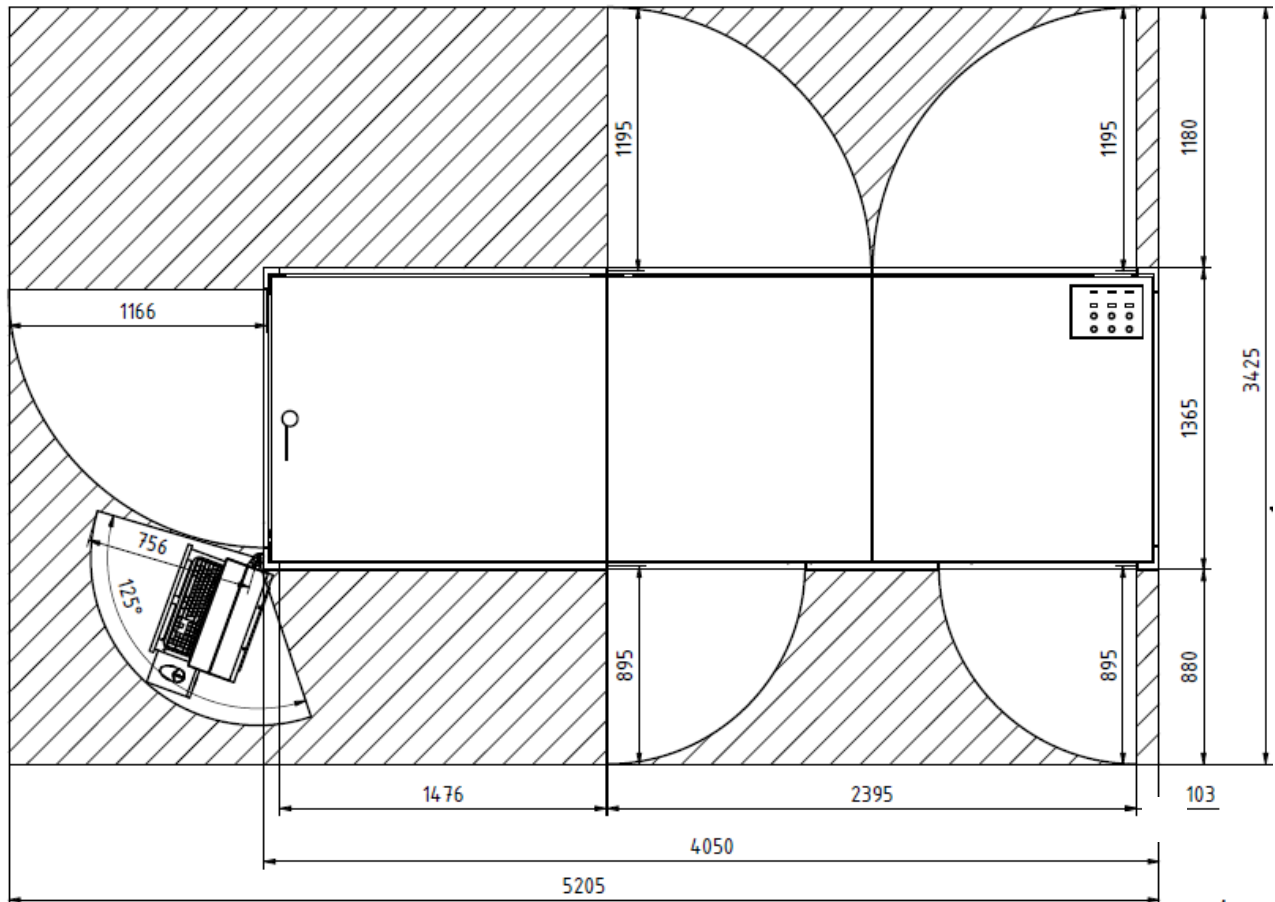
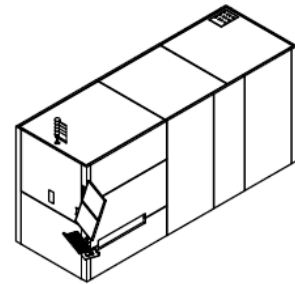
- UVtransfer 3-in-1 MicroLED Processing
 - Laser Lift-Off (LLO)
 - Transfer (LIFT)
 - Repair/Trimming



SPECIFICATIONS		UVtransfer
3-in-1 System		Housing with integrated laser, optics, mask imaging, stages, and vision
Dimensions (W x L x H)		Approx. 1.365 x 4.05 x 2.05 m ³
Laser		Coherent UV 248 nm Laser System
LASER LIFT-OFF		
Material		Sapphire EPI Wafer (GaN) with MicroLED´s (DSP, PSS-BSP on request)
Dimension		Min. 4" to max. 6" round wafer
Handling System		Fixation by vacuum chuck to cover 4" or 6" wafer
x-y stage		Cover full wafer area
x-y stage accuracy (µm)		±2.5
x-y stage repeatability (bidirectional) (µm)		±0.5
x-y stage velocity (mm/sec)		≤50
Wafer Loading		Manual, with pre-alignment
MicroLED		Size down to 5 µm, street width down to 5 µm
Optical Field Size on Wafer (mm ²)		8 x 1
Energy Density on Substrate (mJ/cm ²)		up to 1200
UVtransfer		
Donor		
Material		Quartz or Sapphire Wafer
Dimension		Min. 4" to max. 6" round or square wafer
Handling System		Fixation by vacuum to cover 4" or 6" wafer with active area
x-y stage		Cover active area of wafer
x-y stage accuracy (µm)		±2.5
x-y stage repeatability (bidirectional) (µm)		±0.5
x-y stage velocity (mm/sec)		≤50
Wafer Loading		Manual, with pre-alignment
MicroLED		Size down to 5 µm, street width down to 5 µm
Optical Field Size on Wafer (mm ²)		8 x 1 mm ² ; (optional 16 x 2 mm ²)
Energy Density on Substrate (mJ/cm ²)		up to 1200 (optional 300 at 16 x 2 mm ²)
Substrate		
Material		Technical Glass, Backplane
Dimension		Up to 370 x 470 mm ² (GEN 2 Substrate)
Handling System		Vacuum Chuck
x-y stage		Cover full area of substrate
x-y stage accuracy (µm)		±2.5
x-y stage repeatability (bidirectional) (µm)		±0.5
x-y stage velocity (mm/sec)		≤50
Distance control between substrate and temporary carrier		Variable distance adjustable by machine SW
INSTALLATION CONDITIONS		
Laser Protection Class (according to EN60825-1:2015)		Laser Protection Class 1
Description		Precise axis module on a granite base Substrate/Wafer x-y stage, Donor wafer x-y stage Mask x-y-φ stage
		Tool Control Software
		Automatic Wafer and Substrate Alignment

MECHANICAL SPECIFICATIONS

UVtransfer



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all UVtransfer Laser Systems. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-007-21-0M0621 Copyright ©2021 Coherent, Inc.