

# UV-LED Mask Aligner

## **UV-KUB 3**

4" and 6" versions



**“Divergence angle less than 2°  
makes collimation & patterning quality greater!”**

**Min. 1µm feature size**

**Multilayer alignment accuracy 1µm**

**Up to 4" or 6" exposure area**

**365nm UV-LED source, +/- 5nm**

**10.000 hours of LEDs lifetime**

**2 exposure modes:** continuous or flashing

**Compatible with all UV photoresists**

sensitive to 365nm

### ***Benefits***

*Removable photomask holder*  
*No warm-up nor cold down required*  
*Equipment fully closed*  
*Touch-screen & joypad*  
*No need to operate in cleanroom*

**KLDE**

Fully operated by a **15.6" touchscreen** & a **joypad** for exposure & alignment operations, **UV-KUB 3** features **two HD CMOS cameras** for visualization & alignment process.

## High quality collimation

**Divergence angle below 2°** offers the possibility to work in masking mode on thick resist layers without altering the rendering of edges of the patterns.

High-quality collimation allows to reach resolution down to the micrometre scale **without needing vacuum contact mode**.

## Led technology

Perfectly **monochromatic** exposure light source.

**Cold UV source**, prevents undesirable thermal effects.

Operate in **continuous or flashing mode**.

**Benefits of UV-LED source:** low power consumption, very long lifetime.

## Resolution & alignment precision

This new generation of mask aligner enables to realize microstructures **below 1µm** over the entire 4" or 6" work surface with **an alignment precision of less than 1µm**.

### PERFORMANCES

Minimum feature size	1µm
Multilayer alignment accuracy	1µm
Divergence half-angle	< 2°
Number of programmable cycles	100
Exposure cycles (continuous or cyclic)	From 1s to 1h59min
Contact modes	Hard (physical) or Soft (proximity) contact
Visualization system resolution	1.5µm
θ subst. displacement resolution	5.10-4°
XYZ substage displacement resolution	0.4µm

### EXPOSURE AREA

	4"	6"
Maximum exposure area		
Maximum substrate size	Ø 4" - 100 x 100mm <sup>2</sup>	Ø 6" - 150 x 150mm <sup>2</sup>
Maximum mask size	Ø 5" *	Ø 7" *
Mask/substrate measuring distance resolution	0.5µm	
Substrate warm-up during exp.	< 1°C	
Compatible film photomask	Chrome and flexible film photomasks	
Compatible photoresists	Compatible with all UV photoresists sensitive to 365nm	

\*Optional adaptaters available on request

### UV-LED SOURCE

Available wavelengths	365nm +/- 5nm
Power density (RMS)	Min. 40mW/cm <sup>2</sup> +/- 5%
Exposure homogeneity	+/- 5%
LEDs lifetime	> 10.000 hours

### USAGE FEATURES

Color touchscreen	15.6"
Exposure modes	Continuous or Flashing
Included functionalities	UV exposure area fully closed - CMOS cameras - Joypad Automatic prealignment - Removable photomask holder
Cleanroom type environment	Not required, due to its dust-proof protective cover

### GENERAL SPECIFICATIONS

Size (L x W x Ht)	475 x 480 x 515mm
Weight	55kg / 121lbs
Power supply	100-110V / 220-240V - 50Hz
Power consumption	200W
Operating temperature	From 15° to 30°C / Stability +/- 1°C

