

UVA/BLUE LIGHT EXPOSURE UNIT

The purpose of this unit is to copy the image from a mask or film on a substrate with a positive photoresist coating. The UV/Blue wavelength range has been chosen to match the spectrum of highest sensitivity for most commercial positive photoresists.

The unit uses quality optics producing a flat field and a highly collimated beam.

The flat intensity field allows accurate reproduction of images from films which are not perfectly dense or where the edge of a feature has some intensity gradient.

The good beam collimation allows copying film images with high accuracy.

Even when the film is not flat and there is some space between the film and substrate, even when the film is reversed, the image can still be copied with high consistency.

As a result, there is no need to apply excessive pressure on the substrate or film. Generally the substrate can be placed on the film or mask without the need for any additional pressure.

This method of soft contact copying reduces the defects in the image significantly.

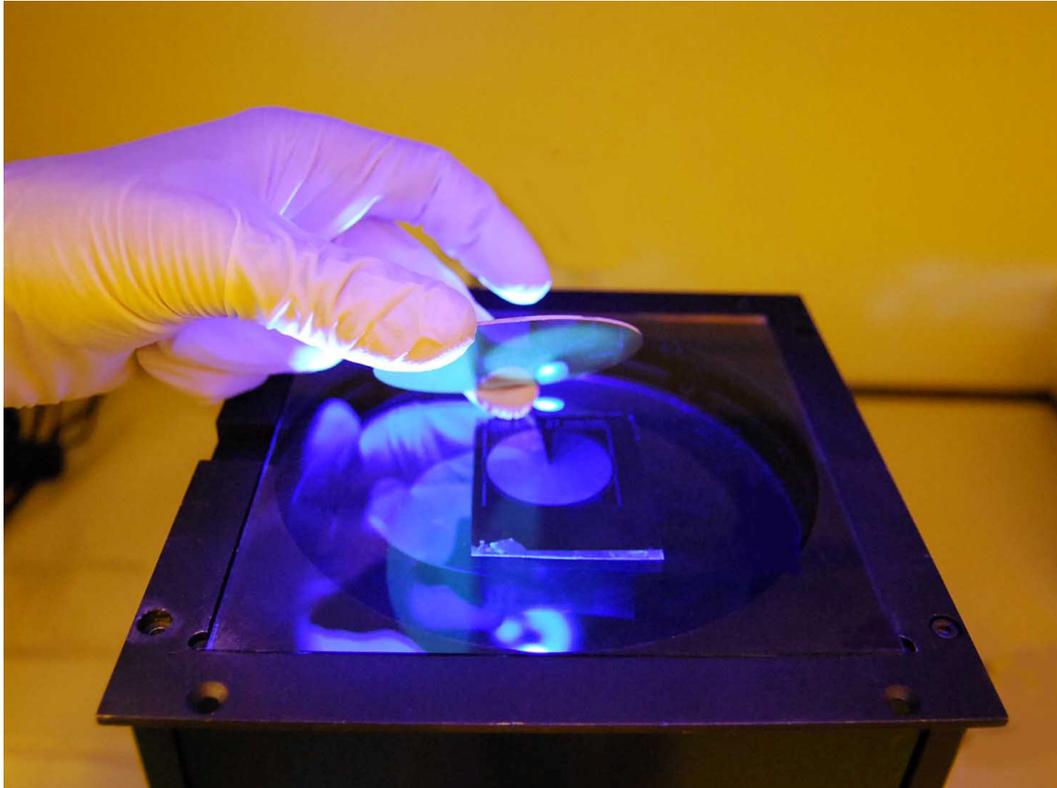


Applications:

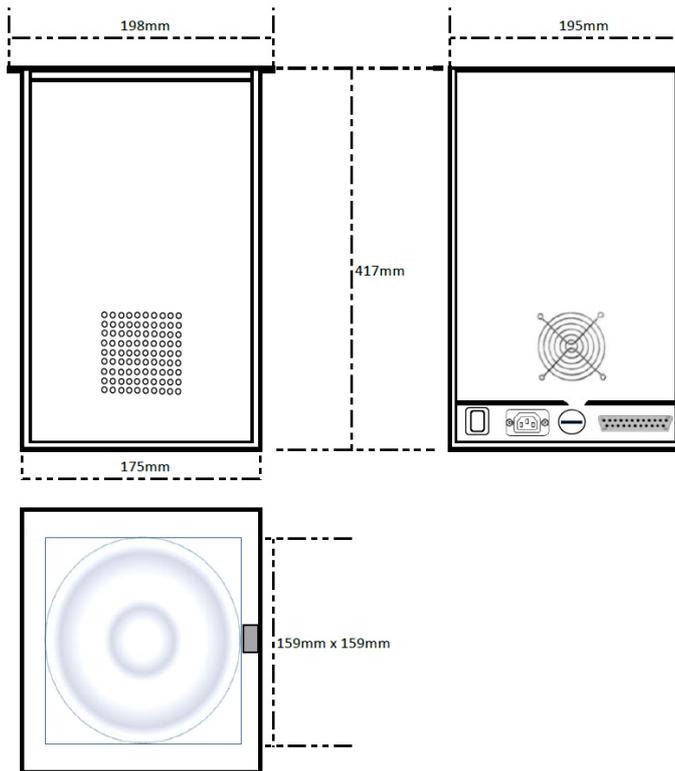
- Silicon wafers 100/125/150mm, unaligned.
- Thick and thin film hybrid circuits, up to 105x105mm
- High density printed circuit boards
- Gobo's with a diameter up to 150mm

Benefits and features:

- Spectrum matches photoresist sensitivity range
- Flat field
- Collimated beam
- Integrated light energy monitoring: automatic correction of lamp intensity
- Presets for various exposure dose levels
- Very low power consumption
- Uses low cost 35Watt Xenon lamps
- Affordable: the beam quality is comparable with units costing 4x as much.



Dimensions:



Specifications:

Input voltage:	200-240VAC
Input frequency:	50Hz/60Hz
Power consumption:	50W / 100VA
Wavelength range:	350 to 460nm
Beam collimation:	10°
Beam diameter:	148mm
Beam uniformity:	+/-10% over the 148mm beam diameter
Glass plate:	158x158mm
Dose accuracy:	+/-1% run to run.
Dose measurement:	0,01 to 650,00 mJ/cm ²
Time measurement:	1 to 999 seconds
Beam power:	0.6-0.8mW/cm ² typical (with a standard OEM 35W Xenon lamp). 0.7-0.9mW cm ² typical (with a Philips 35W Xenon lamp). 1.4-1.8mW/cm ² typical (with a Philips DUV-35W lamp).

Typical exposure times with the standard OEM 35W Xenon lamp:

- Silicon wafer patterning: typical energy = 80mJ/cm² : 100s
- Gobo with a rastered image: typical energy = 120mJ/cm² : 150s
- Gobo with a vector image: typical energy = 200mJ/cm² : 250s (deliberate overexposure)

Please note that the beam power may vary from lamp to lamp and from unit to unit. The beam power decreases as the lamp ages. Typical xenon lamp lifetime is around 2000hrs.

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