

# VOLCANO® 100UV Laser Optics

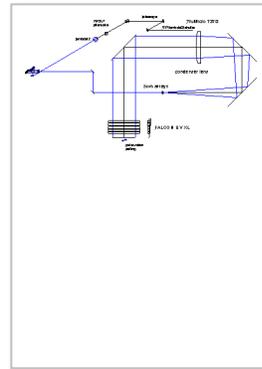
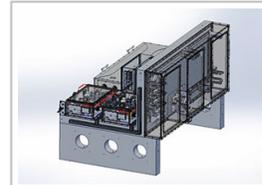
Systems > Laser-Lift-Off

## Laser Optics for a Laser Line of 100mm Length using Pulsed Solid State UV Lasers

The VOLCANO® 100UV Laser Optics is built into a solid granite structure. The beam is homogenized into a 100mm long line beam with a typical width of 20 - 30 $\mu$ m. The FALCON 100UV projection lens assures a uniform line width and the large depth of focus which trouble-free production requires. A single TruMicro 8320 laser (200W, 10 kHz, 15-20ns) provides 20mJ pulse energy and gives an energy density of more than 400mJ/cm<sup>2</sup> in a 30 $\mu$ m FWHM line width, respectively the width can be expanded to 80 $\mu$ m for 150mJ/cm<sup>2</sup>. Using a typical scan pitch of 50% of the FWHM the scan speed goes up to 400mm/s. Alternative laser sources operated at 355nm can be applied as well. However, the longer pulse duration of 50-70ns requires increased process energy density.

### Scope of Application

Laser-Lift-Off processes are in use in the electronics industry for the production of flexible OLED displays for TV products, smartphones, smartwatches and tablet computers. The OLED display is manufactured on a flexible polymer foil on a glass substrate. The final polymer foil with the OLED display is lifted off the glass using the UV laser line.



VOLCANO 100UV laser optics for the TruMicro 7370 UV DPSSL

**Technical Data VOLCANO® 100UV-1**

<b>Wavelength:</b>	343 nm
<b>Line length:</b>	100mm (top-hat-profile)
<b>Line width:</b>	20-30µm FWHM (Gaussian profile)
<b>Homogeneity:</b>	p2p ≤ 6% best focus
<b>Energy density:</b>	≥ 630mJ/cm <sup>2</sup> @ 20µm FWHM; ≥ 4
<b>Pulse duration:</b>	15-20ns FWHM
<b>Repetition rate:</b>	10kHz
<b>Laser:</b>	TruMicro 8320 (Trumpf Lasertechni
<b>Diagnostics:</b>	laser power meter, substrate power

Other line sizes and other configurations on request.

