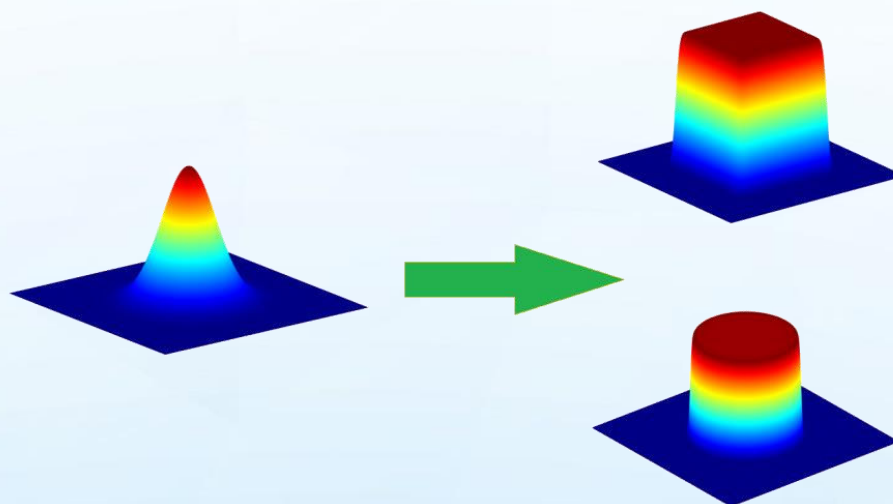


Top Hat Beam Shapers



Holo/Or's Beam Shapers are diffractive optical elements (DOE) used to transform a Gaussian laser beam into a unique 2D shaped intensity profile, with sharp edges in a specific work plane.

Features:	Applications:
<ul style="list-style-type: none"> • Round/Square/Line/Rectangular output profile. Other shapes possible. • Flat top output intensity profile • High efficiency • High power threshold • Wavelengths from UV to IR • Optional AR/AR coating 	<ul style="list-style-type: none"> • Laser materials processing: <ul style="list-style-type: none"> ○ Ablation ○ Cutting ○ Scribing • Illumination: <ul style="list-style-type: none"> ○ Wafer inspection ○ Lithography

Beam Shaping a Gaussian beam into a flat profile provides higher quality of the process & enables more flexibility in the system configuration. For example, it allows our users to increase laser pulse energy without increasing the processed spot area or line width.

All Our Beam shapers are made of UV grade fused silica or MIR high quality Zinc Selenide and are suitable for high power applications

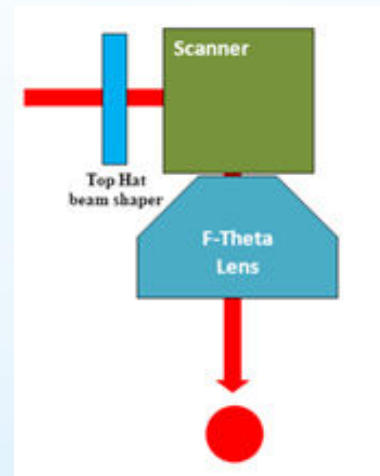
Specifications:

Materials:	Fused Silica, ZnSe
Wavelength range:	193nm to 10.6um
Full angle:	Large range of full angles
DOE design:	2-level (binary) to 16-level
Diffraction efficiency:	86% - 96%
Element size:	Few mm to 100mm
Coating (optional):	AR/AR Coating
Custom Design:	Almost any size and intensity profile

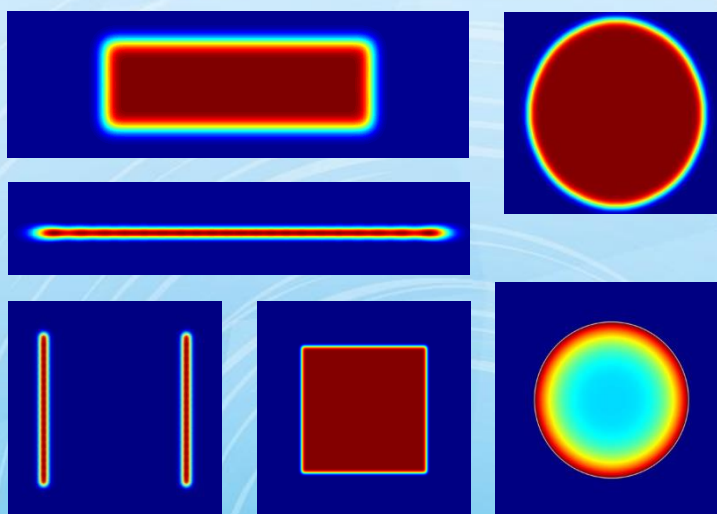
Use In scanners

1. To use a flat top beam shaper in a scanning setup, the optical designer needs to pay attention the following points:

- 1.1. Use a collimated laser beam with DOE.
- 1.2. Place the DOE before the scanning head
- 1.3. Use a scanner lens (i.e. F-Theta lens) in order to achieve a well-focused spot at a certain distance, for all scanning angles, as shown in Fig.2.
- 1.4. Make sure Scanner and F-theta aperture are at least 2.2 times beam diameter.
- 1.5. Make sure the F-theta gives diffraction limited performance over the entire scan range.



2. Energy distribution can be designed for any non-uniform distribution required by the application. Here are some examples (at the focal plane):



Visit Our Diffractive Top-Hat product page to get a quote today:

<https://www.holor.co.il/product/beam-shaper/>

