

Q2-2015 Newsletter

What's New

Focusing Module optimized for Beam Shapers

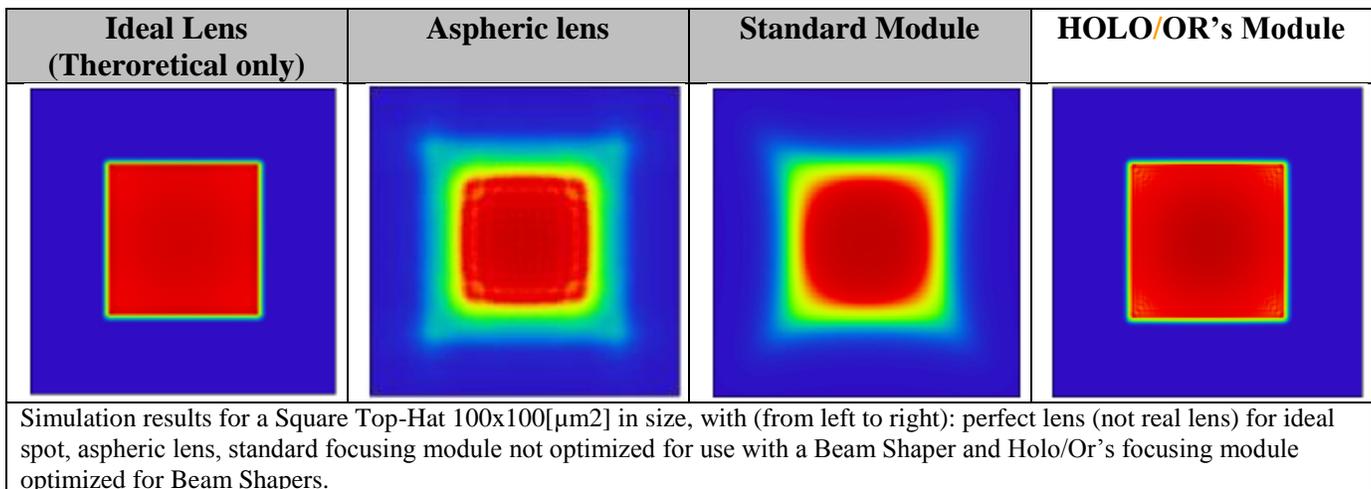
For applications requiring an aberration-free image in the focal plane, with high precision, HOLO/OR developed a new optimized focusing module to be used with our Beam Shapers.

A standard focusing lens (or objective) is normally optimized for focusing a Gaussian beam, thus, its use with Beam-Shapers often causes aberrations of the Top-Hat image and requires special design of a focusing lens or module. These aberrations will normally occur at small focal lengths, short wavelength, large input beam and large image. To solve this problem, HOLO/OR designed a focusing module (with focal length 50 [mm]) adapted to our Beam Shaper working at 355 [nm]. We also offer customization for other wavelengths and focal length.



Figure - Focusing module optimized for beam shaper

Comparison between Square Top-Hats result at image plane obtained by different focusing objectives:



http://www.holor.co.il/Diffractive_optics_Solutions/Beam_Shaping_Focuser.php

Industry news

Next exhibition – LASER 2015 – Munich, Germany:

HOLO/OR will exhibit in [Hall B3 Booth 303](#) on the



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Applications

Diffractive Beam Sampler for PID

Laser Beam samplers are used for on-line monitoring of high power lasers, by allowing the main high power beam (zero order) to propagate undisturbed along the optical axis, simultaneously producing two side beams with low energy. These sample beams are located around the main beam (-1 and +1 diffractive orders), and are characterized by a sampled power ratio and a given separation angle between them. HOLO/OR can easily customize the sampling ratio and separation angle. Other beam samplers have a few disadvantages as deflecting the beam from the original path, polarization dependence, energy loss up to 8%, and some require special incident angle.

http://www.holor.co.il/Diffractive_Optics_Products/Diffractive_Beam_Sampler/BeamSampler.php

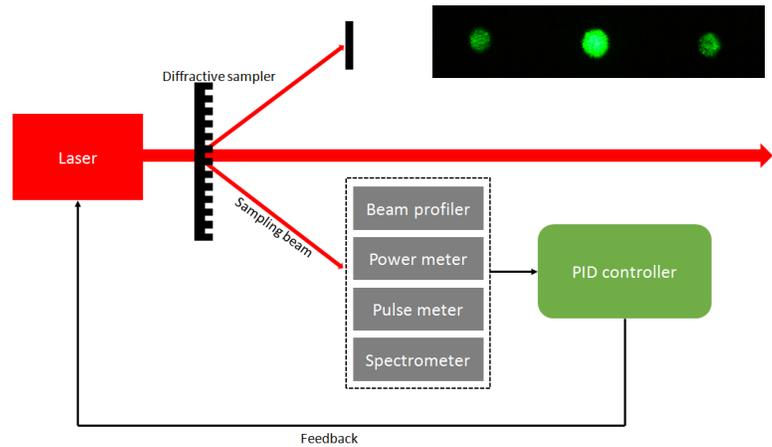


Figure - Diffractive Sampler Application - Laser

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Technical tips

Top-Hat beam shaper installation manual

Top-Hat beam shapers are mainly used in high uniformity and precision applications, this requires careful alignment in the system. To make the installation easy as possible we generated a comprehensive manual.

http://www.holor.co.il/Diffractive_optics_Applications/TH_installationManual_Final.pdf

Tutorials

Laser damage threshold (LDT)

With ever-increasing laser power, many system integrators and users are concerned, that their optical element may not withstand the high power incident on it. Read more in the link below on our LDT testing results.

http://www.holor.co.il/Diffractive_Optics_Publications/Laser_Damage_Threshold.pdf

FAQ

HM application note

Holo/Or's optical diffuser DOE is mainly used when uniform exposure is needed, with accurately defined sharp edges, while enabling high efficiency. How does it work? What are the benefits? Read more in the app note.

http://www.holor.co.il/Diffractive_optics_Applications/Application-Notes-Diffuser.htm