NEWSLETTER - Q2 2019

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Announcements

Laser World of Photonics is coming up!

LASER World of PHOTONICS

JUNE 24–27 2019 | MESSE MÜNCHEN

24th World's Leading Trade Fair with Congress for Photonics Components, Systems and Applications

The largest photonics exhibition in Europe is less than 3 weeks away and we invite you to **come and meet** our excellent application engineers who will be presenting there.

When and Where?

Monday June 24th to Thursday June 27th

Messe München Fairground, **Hall B3 Booth #106,** Munich Germany

Pre-register to schedule a meeting with our team.

Holo/Or will also be giving 2 free workshops during the exhibition with our esteemed partners in Germany – Laser Components GmbH.

The workshops will discuss some of the topics covered in this newsletter in a more depth way, as well as cover other topics not mentioned here.

Register for FREE to guarantee your spot, and have the chance to get the best answers to all your questions from our experts.

Workshop 1:

Industry beam shaping bottlenecks in application fields:

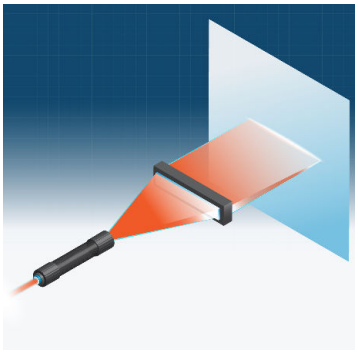
June 24, 13:30-14:30, Hall B3, Booth #303:

In our upcoming Workshop during Laser World of Photonics Exhibition, Mr. Jeffrey Fantl will talk about beam shaping needs for industrial applications. The talk will focus on three popular laser applications where beam shaping is a major bottleneck:

- Laser **lift off** for flexible and flat display

processing
- Laser **glass cutting**
- Parallel laser **line scribing**

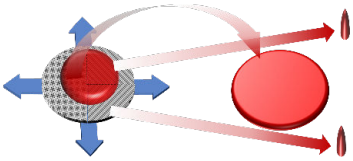
Read more here.



Workshop 2:

Adjustable function beam shaping methods:

June 24, 15:00-16:00, Hall B3, Booth #303:



In this Workshop during the Laser World of Photonics Exhibition, Mr. Natan Kaplan will talk about adjustable function beam shaping methods, for laser welding and brazing applications.
Read more here.

What's new?

PROMETHEUS Project

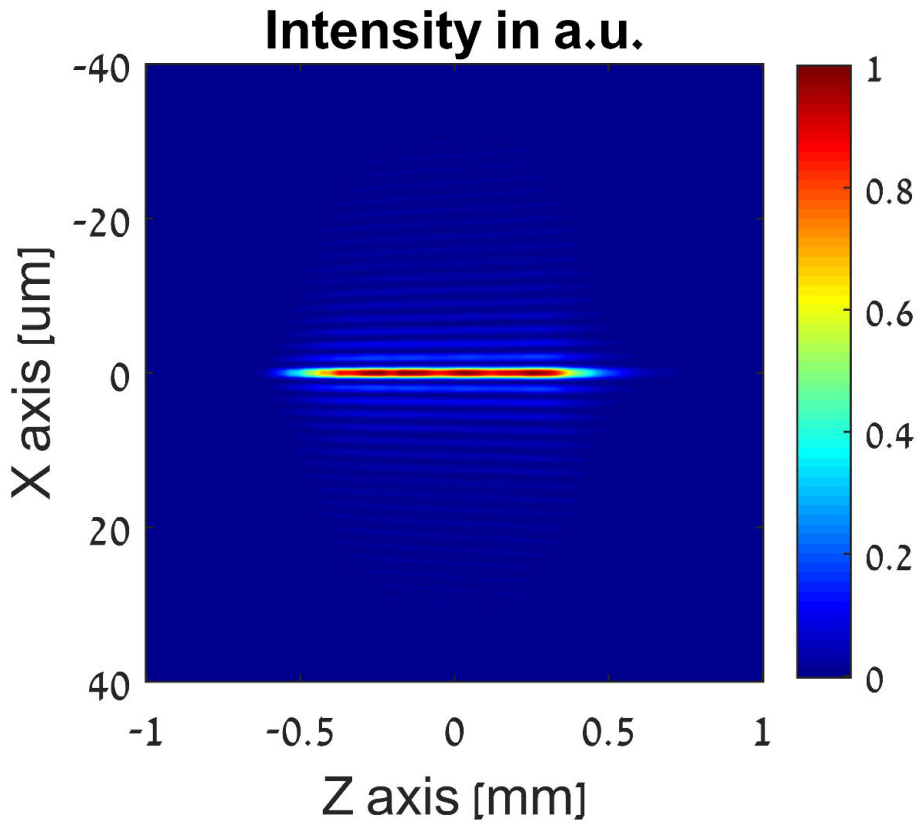
We are proud to announce our participation in a new Horizon 2020 framework European laser surface processing project. This project is called PROMETHEUS, and pushes the boundaries of laser surface texturing technology to a new level! Within this project, we will develop a novel diffractive based M2 transformation module for high power short pulse lasers to enable the precise periodic texturing of functional surfaces with unprecedented processing speeds.
Read more here.

New Products

DeepCleave™

Laser glass cutting with ultra-short IR pulses is fast becoming a key technique for the high throughput glass processing. Cutting of thick glasses (>500um) using this technique possess unique challenges, as the laser energy needs to be both focused to a tight spot and spread evenly in the glass depth. To help our customers overcome this challenge, Holo/Or is proud to present DeepCleave, a glass cutting optical module with tight focusing (<2um spot) over a large

depth of focus (>1mm in air).



Our module is a complete solution for cutting applications with no need for external high NA objectives! This unique elongated focus optical element was developed in order to improve the laser glass cutting efficiency and is SM1 compatible to enable easy integration into your laser machine.

Why should you use Deep Cleave Glass Cutting product?

- Tight, diffraction limited focusing over >1mm range.
- Uniform intensity along the entire focal depth.
- Easy to integrate with existing opto-mechanics.
- >8mm working distance, no need for additional optics.

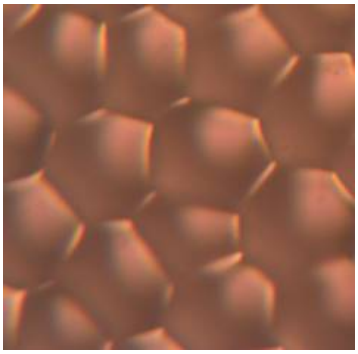
For more information, specs and price quote click here.

Broadband Beam Shaping Diffuser (BD)

Many laser-based systems, especially in the life science and projection fields, require the use of more than a single wavelength high power laser on the same optical path to achieve the desired functionality.
To meet this need, Holo/Or has developed the high-power Broadband Diffuser (BD).

The BD, is a micro-refractive diffuser, specially designed to give an optimal shaping solution to high power applications where more than one wavelength is required.
It converts an incident single or multi-mode beam into a well-defined flat-top Round, Rectangular or Line shape. The BD is fabricated of pure Fused-Silica to endure high LDT, provides the same performance for a wide wavelength spectrum from IR to UV, has high efficiency and no zero-order

BD can ideally be implemented in Multi-Channel systems where there is more than one laser on the same optical path or in Tunable laser systems, and is especially suitable for high efficiency shaping of multi-mode high power lasers such as UV excimer and IR fiber coupled stacks/bars.



Optical Parameters	
Diffusion Angle	Up to 20º for Round Diffuser, Up to 15º for Square/ Line diffusers
Shape	Flat-Top Round, Square or Line
Efficiency	>90%
Input	Single or Multi-Mode
Element physical specs	
Dimensions	15X15mm (can be adjusted)
Central Thickness	1.524mm
Material	UV grade Fused Silica

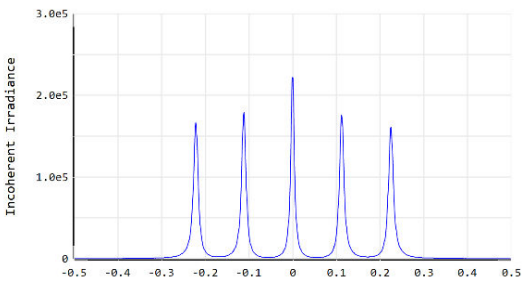
Learn more here.

Technical Tips

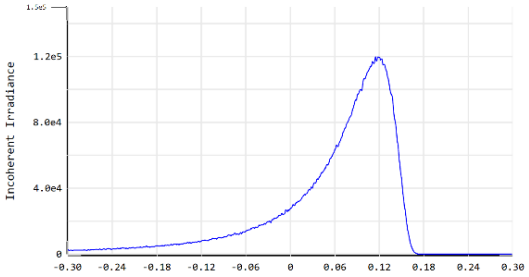
For certain applications the intensity distribution along the focal axis is the most important parameter. Among these applications are glass drilling, glass cutting, cytometry, microscopy, and inspection.

Our Beam Foci elements are used for such applications, to shape or split the energy along the focal axis. To support our customers in integrating our Foci elements, Holo/Or has recently developed internal tools to make full optical system design and analysis of such cases.
These tools including depth of focus region simulation by geometrical rays tracing using ZEMAX™ software both in sequential and non-sequential modes. Contact us with your ZEMAX™ system design and we will be happy to simulate the performance of our Foci elements in your optical system.
Relevant products:

- Diffractive multifocal lenses
- Elongated focus
- DeepCleave module



Example of multifocal element 5 foci

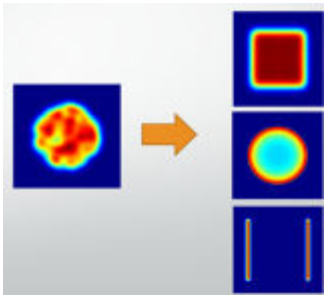


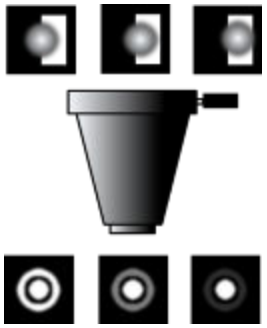
Example of elongated focus

New Technologies

Scanning DOE with adjustable beam shaping function (on glass)

In many laser welding & cutting applications, a specific intensity distribution must be tailored within the process to achieve optimal results. While DOEs provide superior shaping performance compared to variable solutions, they lack shaping flexibility. To deal with this issue, Holo/Or has developed an innovative sub aperture concept, where the same DOE can provide different intensity distributions, by adjusting the DOE relative to the beam.





For more informaton please contact us.

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