Holo/Or develops, designs and manufactures diffractive optical elements (DOEs) and micro-optical elements, used for various applications mainly involving high precision and high-powered lasers in industries such as medical/aesthetical, material processing, metrology and such.

A DOE uses thin micro structure patterns to alter the phase of light propagation projected through it. Those micro-structures, once properly designed, can manipulate the light to almost any desired profile or shape. This technology enables many light manipulation functions not feasible with standard refractive optics. In many applications these functions are highly beneficial and significantly improve system performance.

DOEs are thin optical lenses, easily installed in any system. Diffractive optical solutions have many advantages such as: high efficiency, high precision, small dimensions, low weight, and, most importantly are flexible solutions that meet a variety of different application requirements.

Glass cutting module using Multi-Focal lens

Diffractive Multifocal lenses (MF) are widely used for glass cutting applications. To achieve optimal performance, small separation distances between neighbouring foci and high-power densities are required. This is usually achieved with a high NA objective lens. However, the majority of off-the-shelf high-power objective lenses’ often fail to meet application requirements and result in degraded performance.

To address this issue, Holo/Or have developed a tailored focusing module for glass cutting applications. This module integrates our MF elements with special focusing optics, thus enabling diffraction limited spot size at all foci and offers high NA to further increase power density at the foci.

Custom Multi-Focal lens module for glass cutting

Diffractive Multifocal (MF) lenses are widely used for glass cutting applications. In this process, multiple foci are formed along the cutting path, thus increasing the speed and accuracy of the process.

To achieve optimal performance, small separation distances between neighbour foci and high-power densities are required. This is usually achieved with a high NA objective lens. Holo/Or have developed a tailored module for glass cutting applications, used with a Multifocal lens. The Multifocal Module maintains diffraction limited spot size at all foci.

Advantages of the Multifocal Module:

- A complete solution – all components included
- Enhanced performance - due to very low aberration levels, diffraction limited spot size
- Accepts large input beam diameter (15mm or more) enabling smaller spots
- Can be tailored to customer parameters
- Compact module – 30mm diameter, ~25m length
- Achieves more accurate results and increases process throughput.

Call Raymax for more information on Holo/Or innovative products
Introducing the NEW SLM 280 v2.0

The Selective Laser Melting Machine SLM®280 2.0 provides a 280 x 280 x 365 mm³ build envelope and a patented multi-beam technology. During the build process up to two fiber lasers expose the build field via a 3D scan optic.

The high-performance machine is available in several configurations, providing single optics (1x 400 W or 1x 700 W), dual optics (1x 700 W and 1x 1000 W) and twin optics (2x 400 W or 2x 700 W). An 80 % higher build rate can be achieved depending on how the parts are arranged while the patented bidirectional powder coating helps to reduce manufacturing time of individually manufactured metal parts.

The SLM®280 2.0 has an open system offering many options for optimizing the production processes as required with individually set process parameters and for carrying out material developments. The machine enables the manufacture of individual metal parts based on CAD data for series production and one-off production with individual parameters.

The Lübeck-based SLM Solutions Group AG is a leading provider of metal based additive manufacturing technology. SLM Solutions focuses on the development, assembly and sale of machines and integrated system solutions in the field of selective laser melting.

SLM® technology offers diverse options in the metal based generative manufacturing of build parts, such as a new design and geometric freedom, lightweight construction through the reduction of build part weight, significant advantages in terms of production speed and the manufacturing of internal build parts in low quantities.

SLM technology offers the following advantages:

- Highest productivity using patented multi-laser technology
- Highest material density and build part quality through our innovative gas stream management
- Completely closed powder management in an inert gas atmosphere
- Cutting-edge process monitoring using various quality control modules
- Multilingual open software architecture with customer adaptability
- Ultra-compact modular design
- Long-term and confidential customer relationships
- A technological leader and pioneer in metal based additive manufacturing with decades of market experience

Like to know more? Contact Raymax today for brochures, particulars and advice!

WHAT’S ON?

CAMS 2018: Advanced Materials and Manufacturing – Wollongong University
November 27 – 29

AIP CONGRESS – Perth, WA December 9-13

WHAT’S IN MY INBOX?

As Australia’s national science agency, CSIRO has a long and accomplished history in supporting and developing the space sector. Now, with Australia starting its journey to build a national space agency, we’d like to introduce and congratulate the Director of Strategy, Dr Sarah Pearce. Having worked on some of the world’s largest research infrastructure projects, Sarah Pearce’s attention is now focused on growing Australia’s future in space. It’s been a journey driven by a talent for bringing people together to focus on turning possibilities into realities.