



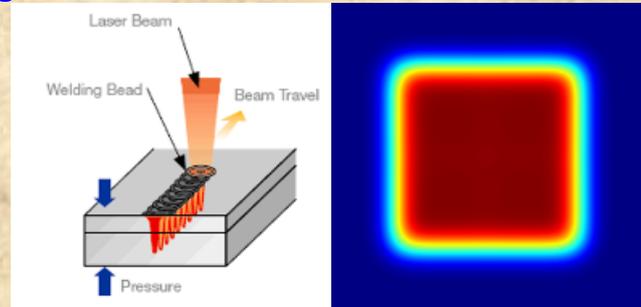
## Quality and Excellence, presented by Sintec Optronics

### \*NEW\* Diffractive Optical Elements (DOE) for laser welding

Laser welding techniques are used to join multiple pieces of metal or plastic with a laser. The beam provides a concentrated heat source, allowing for narrow, deep welds and high welding rates. The process is frequently used in high volume applications using automation, such as the automotive industry. In conjunction with cutting techniques, lasers are ideally suited for many types of welding (spots, line, soldering).

Our DOE Homogenizer elements have uniform, flat intensity profiles regardless of non-homogeneity in the input, and can be designed to give shaped distributions that are tailored for specific welding profiles. Using a trailing spots multi spot profile, one can pre-heat the weld area and then post-treat it.

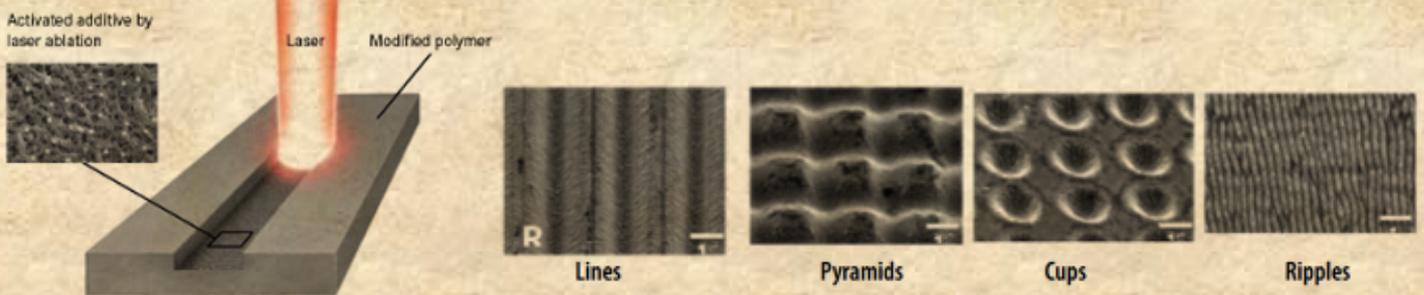
Relevant products: Homogenizer/Diffuser, Multispot



### \*NEW\* Diffractive Optical Elements (DOE) for laser Ablation and Structuring

Laser ablation is the process of removing material from a solid (or occasionally liquid) surface by irradiating it with a laser beam. Ablation is achieved by applying high energy short pulses on a small area.

Laser ablation has been considered and used for many technical applications, including: the production of Nano materials, deposition of thin metallic and dielectric films, fabrication of superconducting materials, routine welding and bonding of metal parts, and micromachining of MEMS structures.



DOE Top-Hat and Vortex-Lens produce shaped spots with sharp, defined edges that will produce a precise material removal in the ablation process. Multi-Spot elements enable parallel processing, thus increasing throughput.

Relevant products: Top Hat, Vortex lens, Multispot

### \*NEW\* High Power Visible Fiber Single Linewidth Lasers for high resolution Microscopy



Developments in biological microscopy which result in the nonlinear response of excitation of fluorophores have provided researchers with greater resolution than previously available from standard microscopy techniques. Stimulated Emission Depletion (STED), Ground State Depletion (GSD), Saturated Structured Illumination (SSIM), Stochastic optical reconstruction microscopy (STORM), photo activated localization microscopy (PALM) and fluorescence photo-activation localization microscopy (fPALM) are among the techniques used in Super Resolution Microscopy to have benefitted from the emergence of high power laser systems.

High Power Visible Fiber Lasers have been developed in partnership with leading research laboratories worldwide which target wavelengths previously unavailable. The flexibility of our technology allows for the development of novel emission wavelengths for use in Super Resolution Microscopy where beam quality (TEM00, M2 < 1.1) and stability is a must. Using these novel wavelengths our research partners have been able to open up areas of investigation which have led to ground breaking developments. Inquire about the list of scientific publications which have included our lasers !



## High performance Beam Profiler for Laser

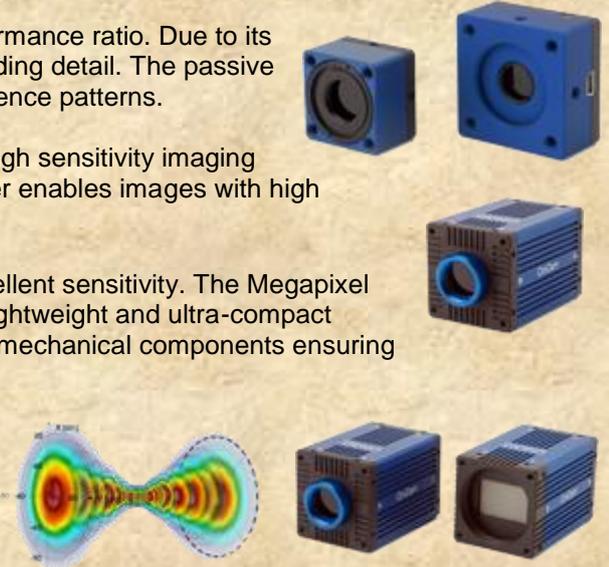
CCD beam profilers enable precise laser beam analysis with best price/performance ratio. Due to its high dynamic range the CCD captures even higher laser modes with outstanding detail. The passive cooled sensor of the CCD is constructed without cover glass to avoid interference patterns.

The InGaAs beam profiler based on the latest InGaAs technology, allowing high sensitivity imaging in the range from 0.9 $\mu$ m to 1.8 $\mu$ m. The 15 $\mu$ m/30 $\mu$ m square pixel beam profiler enables images with high dynamic range and resolution for accurate laser beam analysis.

The particular cost-effective beam profiler CMOS is optimized to provide excellent sensitivity. The Megapixel CMOS sensor provides accurate laser beam analysis with up to 30fps. The lightweight and ultra-compact design enables easy adaption to standard optical imaging systems and opto-mechanical components ensuring highest flexibility.

### Features

- High-resolution passive cooled MPixel sensor without cover glass
- Real-time monitoring by high frame rate and dynamic range
- Industrial standard FireWire 1394 b / GigE interface
- Different software versions available: Lite, Standard, Professional



## STSL series lenses

We offer lenses for various laser applications. Our product portfolio ranges from simple collimation- and focusing optics to beam expanders to telecentric and non-telecentric scan lenses.

We cover thereby the complete wavelength range from 193 nm to 1980 nm. Mainly applications with solid state lasers around 1064 nm and its harmonic generations are covered. Furthermore, we provide lenses designed for disc lasers and fiber lasers in the range of 1030 nm to 1090 nm, as well as diode lasers from 800 nm to 980 nm or 900 nm to 1070nm. Lenses are also offered for very short wavelengths around 193 nm and 248 nm, but also for more long-wave radiation in the near and mid infrared regime (1550nm and 1980nm).

Additionally many of our lenses, beam expanders and lens systems are optimized for the use with short pulse lasers (picosecond range) and ultra-short pulse lasers (femtosecond range). A large selection of multispectral scan lenses allow monitoring through the used optics or use of multiple wavelengths and complete the range of our scan lens product range.



## Sintec wishes everyone Happy New Year 2018!!

Happy New Years to everyone for year 2018! We wish everyone a prosperous year ahead. We look forward to serving our customers and meeting your laser needs!

## Promotional items!

We are currently overstocked on items such as Q-switch drivers, laser lamps, CO2 focusing lens and CO2 f-theta lens, high power fiber cable, ceramic reflectors, Optical galvanometers that supports 12-30mm apertures, and galvo drivers. Inquire about our stock items now and receive large discount! Our LSLC-DIGI self-tuning scanheads are on offer too!

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