



Press Release

TRUMPF to Showcase Latest Laser Technology Advancements & Products at Photonics West 2023

FARMINGTON, Conn., January 16, 2023 – In booth 539 at Photonics West 2023, TRUMPF Inc. will feature a live demonstration of the latest TRUMPF Programmable Focusing Optic (PFO) 33 for high power laser applications with VisionLine OCT Detect 3D feature recognition capability; a new TruMark 7050 laser marker as part of a TruMark Station 7000; the new TruFiber 6000 S fiber laser for fast, deep engraving; the new TruMicro 6020 ultrashort pulse laser and the compact TruMicro 2030 ultrashort pulse laser with LLK- μ industrialized fiber delivery. As part of its exhibit at the Moscone Center in San Francisco, California, TRUMPF will also display toolbars highlighting its programmable focusing optics, including the new and compact PFO SF for beam oscillation in a small working field, as well as other laser technology offerings for additive manufacturing, laser marking, laser welding, and VCSEL and edge limiting laser technologies.

New Programmable Focusing Optics

TRUMPF will present its most advanced vision performance optics and sensors, including the third generation Programmable Focusing Optic (PFO) 33, suitable for the highest laser power applications and large scan fields, as well as the PFO small field scanner. The PFO 33 for high power laser applications comes with new VisionLine OCT Detect, which combines reflected light imaging with optical coherence tomography (OCT) to distinguish three-dimensional features. The OCT sensor scans the component coaxially to the processing laser and works independently of the respective lighting and clamping situation. The 3D information generated can be used for positioning and checking component features, for example the height offset of components. TRUMPF will also be showing the new PFO SF with compact optics for beam oscillation in a small working field.

New Laser Marking System for Fast, Deep Engraving

TRUMPF will demonstrate a TruMark Station 7000 featuring a new TruMark 7050 laser marking system that is ideally suited for high speed marking, fast deep laser engraving, large scale surface structuring, fast ablation, laser cleaning, cutting



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foils, and spot welding of dissimilar metals. The next generation of high-performance multi-function marking lasers, the TruMark 7050 is a turnkey solution, which can be easily integrated into complex processing environments. The TruMark 7050 uses a laser source with an average power of 200 watts and a peak power of more than 10 kW to achieve high processing speeds and short cycle times. New TruTops Mark 3D software for marking and material processing, shows each step in 3D and is now optimized for welding of similar and dissimilar metals.

New Fiber Laser

A new fiber laser, the TruFiber 6000 S fiber laser for demanding industrial welding and cutting applications, will also be introduced to the North American market. The multipurpose TruFiber S pairs a powerful beam source with advanced features such as BrightLine Weld, a technology that boosts process quality and productivity. BrightLine Weld can distribute the full laser power between the core and the surrounding ring in a two-in-one laser light cable. The TruFiber 6000 S's beam delivery system comes with one output, or two outputs which can deliver laser light to two systems. Connecting and disconnecting laser light cables is easy and convenient, making the TruFiber S an excellent choice for large production lines.

Ultrashort Pulse Lasers: the new TruMicro 6020 and compact TruMicro 2030

The new TruMicro 6020 ultrafast industrial laser generates high pulse energy for the modification and cutting of transparent materials, such as glass, and can be used in burst-mode for even higher accumulation of energy. The ultrashort pulse lasers of the TruMicro Series 6000 offer closed-loop feedback control for highest power stability and pulse energy. The TruMicro 6020 is also available in green (515 nm) and UV (343 nm) wavelengths. The compact machine design and small footprint make it easy to fit into production.

Just as easy to integrate is the compact TruMicro 2030 ultrashort pulse laser. The TruMicro has special optics for rapid laser cutting or welding of glass parts with excellent edge quality, as well as LLK- μ industrialized fiber delivery. The versatile laser offers variable pulse width, pulse bursting, and pulse on-demand and features a femtosecond IR fiber amplifier with hollow-core. LLK- μ industrialized fiber delivery allows for controlled beam in-coupling and outcoupling and

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preservation of the beam and pulse properties. TruMicro Series 2000 lasers are tailored for productive, precision micro-processing.

Also on display: Optical components solutions

TRUMPF will present its mini laser highlights in the field of VCSEL and edge-emitting lasers. The VCSEL and photodiode solutions from TRUMPF Photonic Components offer solutions for consumer and industrial sensing but also for laser heat treatment and optical data communication applications. With new features as polarization stable VCSELs the illumination quality is increased. Other features as multi-junction VCSEL technology or integrated optics drive system efficiency and miniaturization. TRUMPF Photonics Inc. is a technology leader and manufacturer of diode lasers and laser pump modules for industrial applications. It presents its newly released temperature-stable diode laser for LiDAR pumping and CATV applications.

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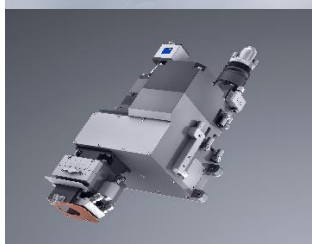
Scanner optics

The PFO33 scanner optics ensure that welds are executed reliably and with repeatable precision in highly productive manufacturing processes.



Sensor System

The TRUMPF sensor system VisionLine OCT Detect unites a camera and optical coherence tomography to form a single unit to verify three dimensional features.

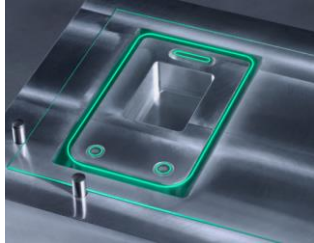


Optics for small field scanning

The compact design of the PFO SF makes it ideal for beam oscillation in a small working area.



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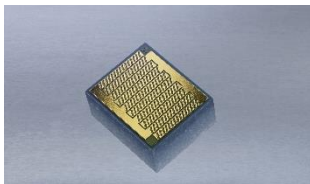
Electronics manufacturing with the TruMicro

TruMicro ultrashort pulsed lasers are often used in electronics manufacturing to produce printed circuit boards, displays and cover glass.



Ultrafast cutting of transparent material

The new TruMicro 6020 ultrafast industrial laser **Ultrafast cutting of transparent material** generates high pulse energy for the modification and cutting of transparent materials, such as glass. generates high pulse energy for the modification and cutting of transparent materials, such as glass.



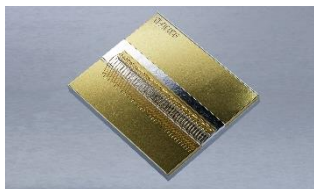
VCSEL with stable polarization

Polarization stable VCSELs improve the illumination quality in demanding 3D illumination applications.



State-of-the-art clean room facility

TRUMPF designs and manufactures its VCSEL and laser diodes solutions in state-of-the-art clean room facilities.



Temperature-stable 940nm diode lasers

Temperature-stable operation from -45 degrees Celsius to +105 degrees Celsius with the high reliability required for demanding automotive LiDAR needs and for CATV applications.



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About TRUMPF

TRUMPF is a high-tech company offering manufacturing solutions in the fields of machine tools and laser technology. The company drives digital connectivity in the manufacturing through consulting, platform products and software. TRUMPF is a technology and market leader in highly versatile machine tools for sheet metal processing and in the field of industrial lasers. In 2021/22, the company employed some 16,500 people and generated sales of about 4.2 billion euros. With more than 80 subsidiaries, the TRUMPF Group is represented in nearly every European country as well as in North America, South America and Asia. The company has production facilities in Germany, France, the United Kingdom, Italy, Austria, Switzerland, Poland, the Czech Republic, the United States, Mexico and China. Find out more about TRUMPF at www.trumpf.com

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