



TRUMPF at ComPaMED
Düsseldorf, Nov. 14–16, 2007 // Hall 08a, Booth L01

Quality in Focus: Innovative Laser Systems for Medical Device Manufacturing

Laser welding and cutting with pulsed solid-state lasers of the TruPulse series

Laser marking of plastics and metals with TruMark marking lasers

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With its broad range of applications and high flexibility in cutting, welding and marking of medical instruments and implants, lasers are the first choice in production tools. At ComPaMED, TRUMPF, the complete supplier of innovative laser systems, will present on-stage demonstrations of precision welding and marking of two stainless steel tubes. The demonstrations will be performed using the TruPulse 21 pulsed solid-state laser with the TruLaser Station 3002 laser workstation and the TruMark 6130 marking laser with the TruMark Station 5000 marking system. Also at the show, the TruMark 3020 compact marking laser will be introduced. The new laser system has a plug-in connection between the laser head and the supply device, making it especially easy to integrate into production.

“The laser has decisive advantages over other production methods with regard to process quality: It works according to clearly defined parameters that one can read out, store, check and reproduce at any time,” says Dr. Alexander Knitsch, Application Manager at TRUMPF. This feature of the laser is becoming more and more important as demands for documentation increase. Laser power can be regulated precisely, making it possible to perfectly control and adjust the heat input on temperature-sensitive materials. A decisive plus is that the the quality of laser-processed surfaces is flawless – no drag lines, grooves, burrs, or furrows to compromise hygiene. Laser welded seams, in pacemakers for example, have a smooth



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surface free of pores and the same biocompatibility as the base material. Laser markings on surgical instruments, when properly parameterized, are resistant to highly alkaline cleaning and high-temperature sterilization.

Welding and cutting with TruPulse

Pulsed solid-state lasers of the TruPulse series are especially suitable for medical device manufacturing. The series, introduced a year ago, now includes twelve different models whose average power ranges from 20 W (TruPulse 21) to more than 500 W (TruPulse 556). All TruPulse devices are water-cooled as standard equipment. Up to 150 W, the lasers are also available with air cooling. With up to six laser light cables on a device, a laser can be used by several systems. Using the TRUMPF TelePresence Portal, it is also possible for service technicians to access the system online for maintenance purposes – securely and regardless of location.

Laser marking systems for almost any material

In the medical device industry, laser marking ensures the traceability of products. There are many advantages over alternative marking methods such as printing or etching. It is an environmentally friendly procedure without paints, acids or solvents. The marking process is very gentle to materials, because it is a non-contact process and no force is applied to the workpiece. The high precision, quality and reproducibility can be achieved at a high marking speed, even at difficult-to-access points.

Press Information



TRUMPF Group
Laser Technology Division
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TRUMPF at Medica

In addition to its presence at ComPaMED, the TRUMPF Group will also be present at the MEDICA trade show occurring at the same time. From November 14–17 in Hall 13, Booth A42, the Medical Technology Division will be introducing a new generation of operating tables, the first HD camera integrated into an operating lamp, and a new room lighting concept that will revolutionize the lighting of intensive care units and operating rooms.



TRUMPF is a high-technology group with focuses in production, laser and medical technology. For further information on the company, go to www.trumpf.com. Detailed information on TRUMPF's MEDICA presence is available at www.medica.trumpf-med.com.

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