

Press Release



TRUMPF Group
Business Field Laser Technology
Press and Public Relations

TRUMPF at LASER 2007. World of Photonics
Munich, June 18 – 21, 2007

Hall B3, Booth 416

For tough cases

The TRUMPF disk laser TruDisk 8002

Powerful and efficient – those are the characteristics of the TRUMPF disk laser TruDisk 8002. With 8 kW of output power and an electrical efficiency of 25 percent on the material it is the most powerful of all TRUMPF solid-state lasers. It also is the first disk laser of this power range.

In spite of its high laser power, the TruDisk 8002 has a beam quality equal to lasers of lower power. Four disks and 16 pump modules generate high laser power. Its application range is almost unlimited due to the combination of high power and high beam quality.

The TruDisk 8002 can process nearly any material and even highly reflecting materials like copper or aluminum are processed without difficulties. The laser is able to weld ten millimeters deep in mild steel with a welding speed of one meter per minute. At the increased welding speed of 20 meters per minute the weld depth still reaches three millimeters in depth. Its high processing speed offers several advantages in productivity such as shorter cycle times or higher throughput. The TruDisk 8002 is especially suited for challenging welding tasks on thick sheet metal. Hybrid welding and cutting of thick sheet metal are also no challenge.

Applications for this high powered laser include welding tasks in heavy industry like construction equipment, heavy machinery, ship building and vehicle manufacturing.

When it comes to industrial material processing, the disk laser is one of the most important developments in laser technology. Its

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special features include high efficiency and beam quality with very high laser powers.

In contrast to the rod laser, the disk laser exhibits no thermal lens effect which is why the beam source is extremely insensitive to adjustments. For industrial uses, beam management with up to six laser light cables that receive laser light from switches or dividers are very important. The modular concept with proven standard components makes it very easy for these components to be exchanged. At the same time, the advantages of flexible laser beam guidance using the laser light cable and the TRUMPF LASERNETWORK are of great benefit. In addition to the beam guidance components, a heat exchanger can be integrated into the laser device, thereby eliminating the need for an external chiller. All necessary components for beam generation and beam guidance are thus compactly housed in one housing unit. The TRUMPF disk lasers have proven their unparalleled robustness and usefulness in numerous installations worldwide.

A particular customer benefit of TRUMPF disk lasers is the “user space.” On the laser machine, the plug-in connector for the laser light cable is separated from the optic area by a sealed wall. This means that when connecting or disconnecting a laser light cable, the laser does not have to be turned off; it continues to function with other laser light cables. Decoupling components such as the pump diodes, resonator system and transport fibers ensure long term cost effectiveness and minimum downtime. Using the TRUMPF TelePresence Portal provides the additional option for service technicians to access the machines remotely and securely for maintenance purposes.

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Dr. Kurt Mann, director of sales for beam sources for the TRUMPF Laser Technology business field, foresees an excellent future for the disk laser. "The disk laser currently has no performance limits for relevant applications." For example, a 25 kW fundamental mode disk laser is currently being tested at an international technology company. Based on the established practice of scaling performance by connecting numerous disks to one resonator, in principle any kind of materials processing can be performed using the disk laser.

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