Panasonic offers a laser welding process based on proven and optimally matched components. The process is easy to program via the integrated laser navigation system.

**LAPRISS. AUTOMATED LASER WELDING**

- **Worldwide Unique Laser Source with a Wave Length of 975 μm**
- **Direct Diode Laser - Instant Wavelength Uniforming**
- **The Only Direct Diode Laser Worldwide Which Allows 2D/3D Cutting and Distance Welding**
- **Deep, Strong & Consistent Weld Beads**
- **New Seam Geometries Possible with Trep-Panning, Without Robot Movement!**
- **Higher Cost Efficiency and Lower Operating Costs!**

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Thanks to this unique and innovative concept, in which all components involved in the process are controlled by the central CPU in the robot controller, a significantly faster communication speed between the subsystems without interfacing problems has been achieved.

**Lasers with Wavelength Beam-Combining (WBC) Technology:** The WBC technology does not require an additional medium for laser beam generation as compared to conventional fiber lasers! The output beam has the same quality as the wavelength of the laser diode. This results in laser wavelengths of 990 ~ 1010μm. Fiber splicing is completely eliminated! LAPRISS offers you the world’s highest beam quality of all direct diode lasers in the kW class.

**Laser Diode Prism**

**Diffraction Grating**

**Lightweight and compact 4.5 kg laser head:** Due to the low weight of the laser head, it is possible to integrate the fast and lightweight robots from our TM series. Trepanning speeds of up to 75m / min can also be achieved! Furthermore, servo-motor-adjustable water-cooled lenses are installed within the laser head, which allow for new weld seam geometries without additional robot movement. (Trepanning) These lenses are protected with a Φ3cm glass, which can be exchanged very easily, inexpensively and without tools. The protective glass as well as the use of a Jet-Nozzle additionally prevent contamination and damage to the lenses caused through welding spatter as well as smoke & dust.

**Reduced cycle times**

**Burn-through prevention**

**Reduced distortion**

The achievable penetration with laser welding in combination with Panasonic’s innovative laser spinning process allows a blind double fillet weld with full penetration in a single pass. The concentrated heat input in combination with the innovative laser spinning process allows an optimum, consistent welding quality and gap bridging for thin plates.

Welding with the laser spinning process from Panasonic allows you to reduce cycle times, prevent undercut at high penetration depths as well as achieve very good gap bridging and very low thermal distortion.