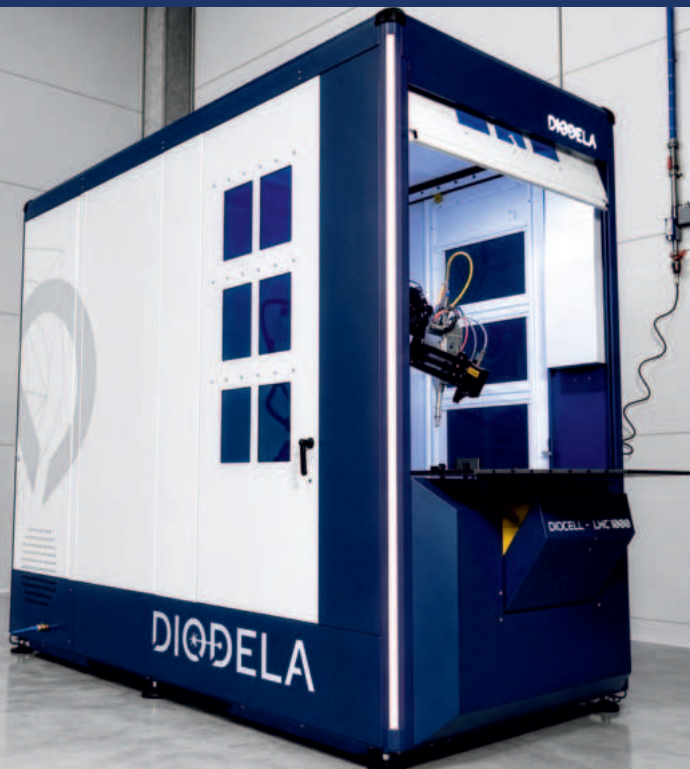


DIOCELL - ENCLOSED ROBOTIC LASER WELDING CELL

A complete welding solution for future-ready manufacturers.

Diodela was founded as a spin-off from Physical and technological Science Center, Vilnius, Lithuania (FTMC). Using technologies developed by FTMC and licensed exclusively to **Diodela**, we manufacture industrial laser welding and cleaning machinery.



DIOCELL LWC



Exceptional welding speed

The DIOCELL LWC achieves welding speeds of 1–5 m/min, making it suitable for high-productivity applications. Laser welding is up to 5 times faster than MIG and up to 10 times faster than TIG welding.



High welding capacity

Powered by Diodela CW fiber laser source, the system enables high-capacity single-pass welding. The 10–100% power adjustment range allows precise parameter control for different applications.



Minimal distortion and low heat input

Precise heat input keeps physical distortion close to zero while minimising thermal impact on the material. This helps reduce post-processing and preserves the material's mechanical properties, especially when welding large or thin sheets.



Precision and process stability

The system provides ± 0.02 mm repeatability in accordance with ISO 9283. A high-precision robot and positioning table, real-time 3-level welding monitoring and a high-precision wire feeder ensure stable process control, consistent wire feeding and repeatable welding results.



Superior weld quality

Laser welding produces narrow, clean and aesthetically refined weld seams with minimal oxidation and full penetration, ensuring consistent and high-quality welding results.

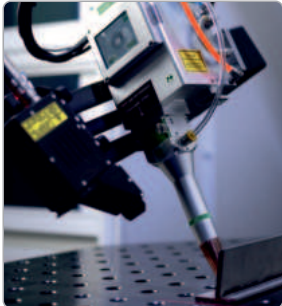


Advanced productivity features

General robotic welding procedures can be launched in less than 1 minute, helping reduce setup time and improve workflow efficiency. Optional weld seam tracking and weld quality control with automatic report generation further enhance process reliability and traceability.

Laser power	1000W	1500W	2000W	2500W	3000W
Steel / stainless steel welding thickness (single pass)	5 mm	6 mm	8 mm	9 mm	10 mm
Aluminium welding thickness (single pass)	4 mm	5 mm	6 mm	7 mm	8 mm

PERFORMANCE



Robotic laser welding torch

Special torch designed for robotic laser welding, equipped with an anti-reflection filter.



Fully cooled system

The laser source and torch are cooled by an integrated closed-loop water cooling system, enabling continuous welding without interruptions. The laser source offers a lifetime of 90,000 hours.



Dual-position shuttle table

The dual-position table allows operators to load and unload parts on one side while welding is performed on the other, reducing downtime and improving productivity.

SAFETY



Distance control

Integrated distance control prevents incorrect activation of the welding process, helping reduce operator error and ensuring welding starts only under proper conditions.



Certified operator safety

A fully enclosed Class 1 laser cell, compliant with CE certification, EN-12254 and EN-60825-1 standards. Interlocked doors and integrated safety sensors help protect the operator and ensure safe production.



Simplified robotic programming

The system can be programmed on site via the Teach Pendant or offline using ROBODK. The DIOCELL digital twin with virtual walls and safety zones enables

DIGITALIZATION

- Integration with Enterprise Resource
- Planning systems (optional)
- Digital Twin (optional)
- Offline / online programming

Distributor

INTEGRATION

ROBOT BRANDS: FANUC (standard), KUKA, YASKAVA, ABB, UR (optional)

APPLICATIONS

- Electronics
- HVAC
- Automotive
- Aerospace
- Medical
- General industry

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