



MANUAL LASER CLEANING AND WELDING – PERFORMANCE AND SAFETY WITHOUT COMPROMISE



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.

LASER WELDING



Exceptional welding speed

Laser welding allows speeds of up to 12 m/min.



Welding without filler metal

For precise cut applications filler metal is not required, making grinding unnecessary.



Minimal thermal distortion

Thanks to high-quality focus components, the heat-affected zone (HAZ) is much smaller than conventional welding methods, due to low HAZ, laser welding is achieving extremely low metal distortion even on thin materials.



Robotic

Fully robotic with any welding angle, 24/7 working time, TCP/IP communication, automatic process selection laser welding torch.



Aesthetic weld

Laser welding produces high quality and aesthetic welding seams. Seams require no to very little grinding after.



Reliability and quality

Well-known European components are used. Lifetime of 90,000 h with proper maintenance.

Power	1000W	1500W	2000W	2500W	3000W
Steel, stainless steel	5 mm	6 mm	8 mm	9 mm	10 mm
Aluminium	4 mm	5 mm	6 mm	7 mm	8 mm

LASER CLEANING



PULSED

Pulsed lasers generate high power light pulses. They cause a sudden impact only on the target material, leaving the main surface unaffected by thermal effects.

ADVANTAGES:

- High peak power : effective removal of complex, strongly adhered or chemically stable coatings.
- Minimal thermal impact. Ideal for thin walled, precise, or heat sensitive parts.
- Excellent selectivity – ensures cleaning accuracy even on uneven or textured surfaces.

DISADVANTAGES:

- Higher equipment costs.
- Slower cleaning speed.

SUITABLE FOR:

- Removal of oxide layers, paints, resins, welding slag, corrosion products.
- Components requiring high cleanliness or geometric precision.

CONTINUOUS WAVE (CW)

CW lasers generate a constant high-average-power beam.

ADVANTAGES:

- High throughput: ideal for fast cleaning of large areas
- Stable operation: suitable for long duration work without interruptions.
- Simpler system architecture, lower equipment cost.

DISADVANTAGES:

- Higher thermal load on the surface: not suitable for sensitive, thin walled or heat sensitive materials.
- Often requires additional surface preparation after cleaning.

SUITABLE FOR:

- Contaminants adhered to the surface, such as paint residues, oil, grease, oxides.
- Rust.
- Large, flat, less sensitive surfaces.

Power	50W	100W	200W	300W	500W	1000W	1500W (CW)
100 µm Powder Paint	1-2 m ² / h	2-3 m ² / h	4-5 m ² / h	5-6 m ² / h	6-7 m ² / h	9-10 m ² / h	10-40 m ² / h
100 µm Rust	1-2 m ² / h	2-3 m ² / h	4-5 m ² / h	5-6 m ² / h	6-7 m ² / h	9-10 m ² / h	10-40 m ² / h

Laser safety

1. Laser operator training with EU accreditation
2. Distance Sensor
3. Full integration with any laser cell
4. Door Sensor included
5. Dual Channel Emergency Stop
6. Magnetic Grounding



Distributor

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