

LASERMACH® PhotonWeld

The Next Generation of Laser
Welding

A-Pro Series

Why Choose PhotonWeld?

- Up to 90% reduction in post-processing costs
- 3× faster welding speed than MIG/TIG processes
- No deformation, clean and aesthetic welds
- High repeatability, consistent quality every time
- Return on investment in under 9 months

Smart & Simple Technology

- A-PRO intuitive interface: 3 dials = power, frequency, amplitude
- Automatic presets by material and thickness
- Bluetooth mobile app for setup, monitoring, and beam alignment
- Air-cooled heat pump system: works from -20 °C to +60 °C, maintenance-free
- EcolEner® 976 nm technology: up to 40% energy savings

Safety & Sustainability

- IPX3 water-resistant, usable outdoors
- –84% CO₂ emissions compared to arc welding
- Less smoke, fewer consumables, more efficiency

Green Innovation

- 84% less CO₂ emissions than arc welding
- Up to 70% energy savings on sheet metal manufacturing
- Zero consumables, minimal waste, long-life components
- Over 100,000 hours laser lifespan

www.photonweld.com



LASERMACH® PhotonClean

Smart and Eco-Friendly Laser
Cleaning

The PhotonCleaner removes rust, paint, graffiti, grease, varnish, soot, and glue, without chemicals, abrasion, or waste. Its high-precision laser restores metal, wood, stone, and plastic surfaces without damaging the original material.



Why Choose PhotonWeld?

- Fast, precise, and eco-friendly cleaning
- Portable and intelligent, with Bluetooth and exclusive Lasermach app
- Professional solution for durable, residue-free maintenance

TriDent Series, Three Functions in One Device

- Combines cleaning, marking, and engraving in one compact unit.
- Reduces equipment costs by up to 60%
- Modular Plug & Play design, each component (laser, head, battery, etc.) can be easily replaced or upgraded.
- No consumables required, ensuring easy maintenance and minimal environmental impact.

Precision and Versatility

- Marking/engraving resolution up to 0.01 mm.
- Compatible with multiple materials: stainless steel, aluminum, plastic, wood, glass, and more.
- Suitable for all industries — manufacturing, restoration, maintenance, and heritage preservation.
- Professional solution for durable, residue-free maintenance

Mobility and Connectivity

- Controlled via mobile app, LCD screen, or tablet.
- Operates wired or battery-powered (up to 50 minutes autonomy).
- Lightweight backpack format, ideal for outdoor and mobile operations.

www.photonclean.eu

LASERMACH® PhotonSafe

Complete Laser Protection
Solutions

PhotonSafe provides certified and reliable protection for all laser environments, industrial, medical, and research. Our mission is to ensure maximum safety and comfort while maintaining full compliance with international laser safety standards.

Our range includes laser safety cabins, curtains, barriers, gloves, aprons, goggles, face shields, and helmets, all designed to protect users from direct and reflected laser radiation.

Laser Safety Goggles, Face Shields & Helmets

- Lenses certified according to EN 207:2017, optical density OD 6+ to 8.
- High visible light transmission for better visibility and comfort.
- Models available for prescription glasses, full-face protection, and laser welding helmets.
- Designed for fiber lasers (1060–1080 nm) and other critical wavelengths.



Personal Protective Equipment (PPE)

- Gloves and aprons made from high-temperature fabrics resistant up to 3000 °C.
- Protect against burns from direct or reflected radiation.
- Certified according to EN ISO 11611 / EN ISO 11612 standards.
- Essential protection for all laser welding and cutting operations.

Laser Curtains & Barriers

- Certified EN 60825-4 curtains blocking direct and scattered laser radiation
- Available in fixed, mobile, foldable, or portable formats (up to 6 kW).
- Patented PhotonSafe Shield 4005™ barriers, tested up to 158 MW/m².
- Flexible, CE-compliant systems ideal for industrial, medical, and defense applications.
- An essential part of every laser safety program.

Laser Safety Cabins / Enclosures

- Modular and flexible cabin concept for easy and fast installation.
- Constructed with laser-tested aluminum panels and opaque wall inserts.
 - Includes:
 - LED lighting (1800 lm, 4000 K)
 - Emergency stop system
 - Code access and interlock control to shut off the laser source
- Laser safety windows and warning signs
- Optional roof and adjustable height (2.5 – 2.8 m)
- Certified according to EN 60825-1.
- Ideal for production, R&D, and automated laser processes.

www.photonsafe.eu

LASERMACH® **PhotonWeld**

The Laser Welding Revolution

Master Pro Series

Thanks to exclusive real-time self-calibration technology, PhotonWeld guarantees consistent welding power without costly annual recalibration. Power stability is maintained within <1% fluctuation, ensuring reliable results even under changing temperature or power supply conditions.

This innovation eliminates downtime, hidden maintenance costs, and ensures full compliance with ISO 9001 and industrial standards in aerospace, automotive, and construction sectors.

Key Benefits:

- Stable power, no recalibration required
- Up to 70% lower operating costs
- Consistent, durable weld quality
- Extended machine and consumable lifespan
- Faster return on investment

Exclusive PhotonWeld Innovations

- Anti-Spatter Design, 80% fewer spatters, 5x longer lens lifetime, up to 80% savings on consumables.
- Porosity Problem Solved, up to 98% reduction in porosity, resulting in stronger, more reliable welds.
- Fixed Nozzle & Optimized Focus, quicker nozzle changes, improved precision, and enhanced stability.
- Fully App-Controlled, intelligent settings and monitoring through mobile control.

Performance and Durability

- Up to 4x faster than TIG welding
- IP54-rated for dust and splash resistance
- Works under extreme temperatures (-30°C to +60°C)
- Compact and mobile, fits any workspace
- Delivers clean, strong welds with no rework



LASERMACH®

For more information



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LASERMACH® **Photon Series** *Simply The Best*

Laser Welding

Laser Cleaning

Laser Protection

