

THEO

TM-300 LASER CLEANER



WWW.THEO.INC



BY **MAX** PHOTONICS

LASER CLEANING 101

STUFF YOU SHOULD KNOW

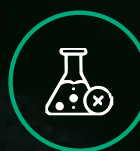
Laser cleaning removes rust, paint, oxides, grease, and other contaminants with short, high-energy pulses of light.

The laser beam hits the surface and is absorbed by the unwanted layer. That layer heats up instantly. A microscopic pressure zone forms between the contamination and the base material, lifting the unwanted material away.

Depending on the job, the contamination either vaporizes or breaks into fine particles that can be extracted safely.

The important part: when the process is set up correctly, the base material stays untouched.

That is what makes laser cleaning so useful. It gives you precise surface preparation without grinding, blasting, chemicals, or unnecessary damage. It works on stainless steel, aluminum, structural steel, copper, stone, and even select woods and plastics.



NO CHEMICALS



ECO-FRIENDLY



NON-ABRASIVE



OPERATOR SAFE



**NO COMPLEX
CLEAN UP**



COST EFFECTIVE

MAKE YESTERDAY LOOK NEW AGAIN

The THEO TM-300 handheld laser cleaners blast away rust, paint, and contaminants in seconds. No abrasives. No solvents. No post clean up. Portable, air-cooled, and built for precision, it restores surfaces to their original glory while keeping your team safe and your business moving fast.

Engineered by Maxphotonics, the world's leading fiber laser expert, the TM-300 delivers the speed, safety, and reliability you need to turn back time on any job.

The TM-300 isn't just a laser cleaner. It's a time machine.



THE LASER CLEANER THAT TURNS BACK TIME

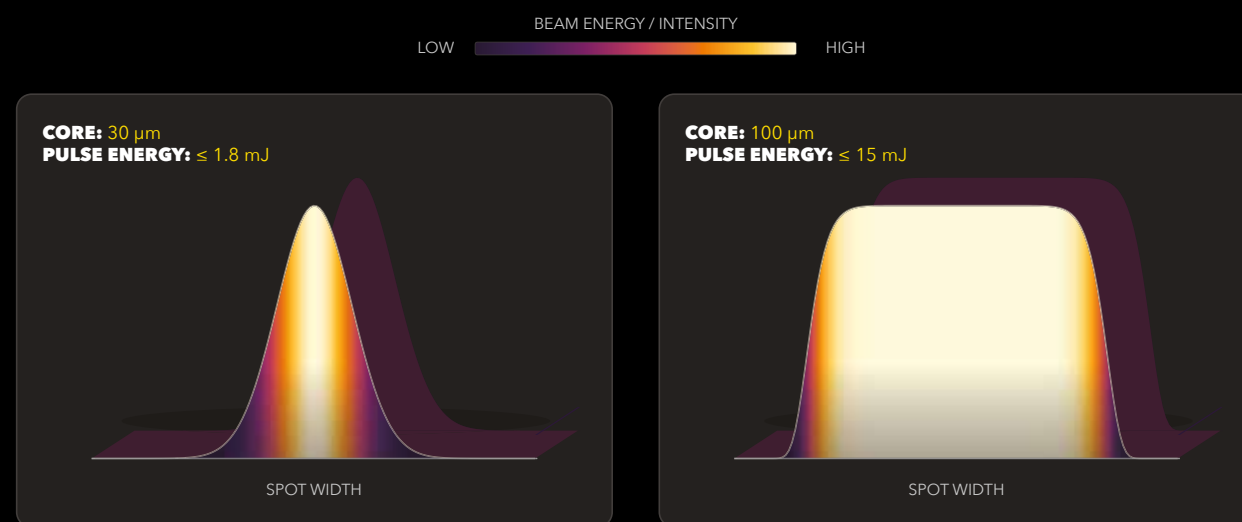
When every second counts, the TM-300 puts hours back on your clock. With scan speeds up to 7500mm/s and ultra-focused laser output, you control every pass with precision. Less downtime. More jobs done in no time.



LET'S TALK BEAMS

The THEO TM-300 is designed in two versions - Gaussian and Flat Top. Both systems are built on the same 300 W platform. The difference is how the laser energy is distributed across the spot, and that changes how the machine behaves in real working conditions.

GAUSSIAN vs FLAT-TOP



A small 30 μm core concentrates the energy into a tight, high-intensity spot. That's what makes it precise.

A larger 100 μm core spreads the energy into a wide, even spot. That's what makes it fast and forgiving.

WHILE BOTH GAUSSIAN AND FLAT-TOP WILL EASILY HANDLE YOUR DAY-TO-DAY CLEANING NEEDS, EACH PROFILE WILL PERFORM SLIGHTLY BETTER IN CERTAIN USE-CASES DUE TO THEIR BEAM PROFILE.

BOTH PROFILES WILL EASILY HANDLE

- Rust, paint and oxide removal
- Pre- and post-weld cleaning
- Surface prep before coating
- Restoration and refinishing

THE GAUSSIAN IS BEST FOR

Deeper contaminations (e.g. oxide removal, rust removal).

THE FLAT-TOP IS BEST FOR

Untouched base materials (e.g. moulding stations, car body, industrial kitchen).



If you aren't sure which beam profile would better suit your needs, contact us at hello@theo.inc and one of our experts will help advise you based on your day-to-day needs.

LESS HEAT. MORE CONTROL.

WHY THE TM-300 USES MOPA

Some laser cleaners use continuous-wave technology. Constant heat input on the surface tends to melt the substrate metal during cleaning, even when the contamination is fully removed. And even though the result can look optically clean, the metal underneath has already changed.

The TM-300 uses MOPA pulsed laser technology instead. MOPA delivers short, controlled bursts of energy, the critical factor in cleaning without damage.

The short pulses hit the contamination hard, then give the material time to cool before the next pulse lands. That's what limits heat spread into the base metal, and substrate damage stays minimal.

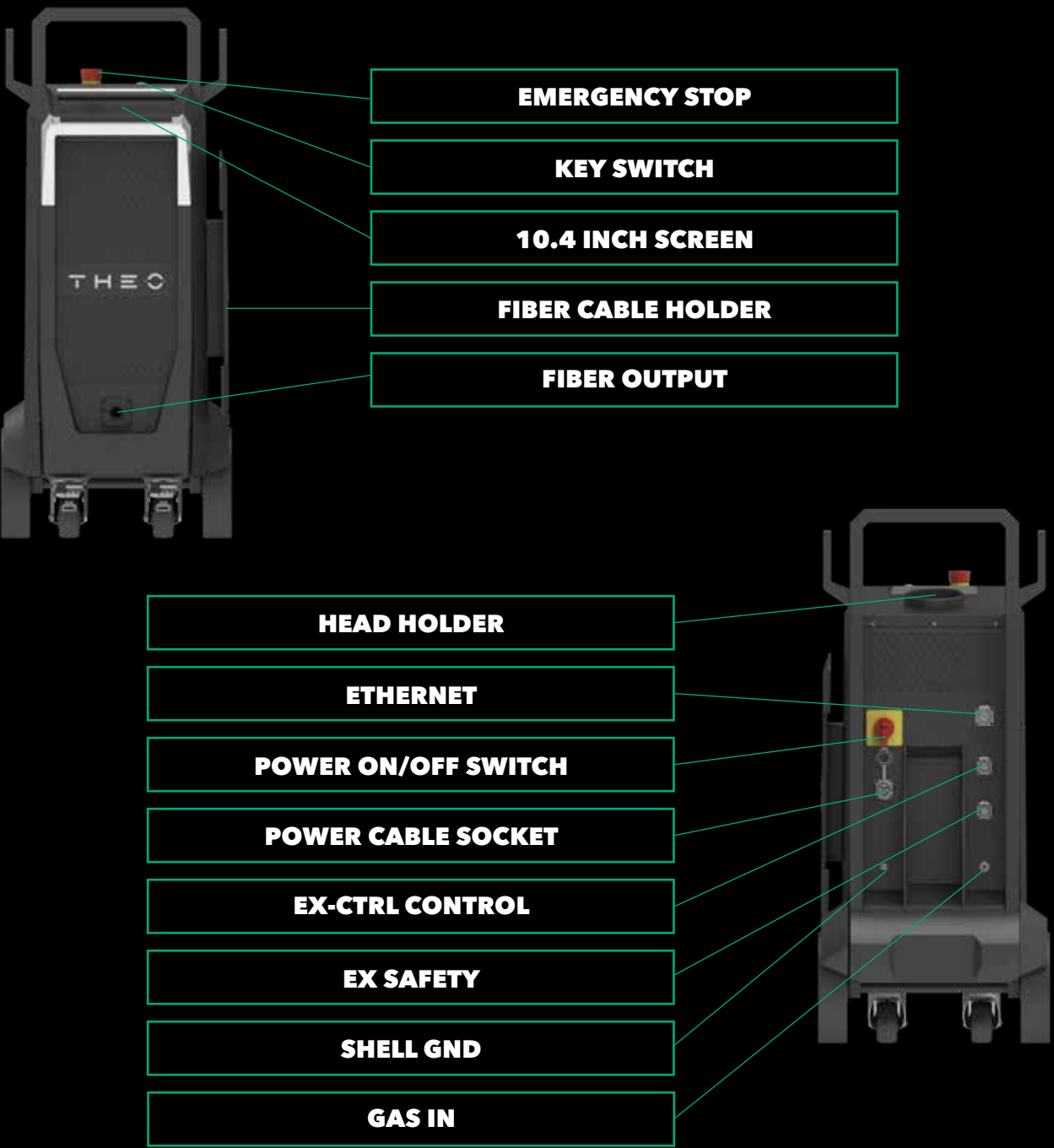
MOPA is the way to go if you want contamination gone and your substrate untouched. THEO uses MOPA because controlled cleaning needs controlled energy.



A SHORT WALK AROUND THE TM-300

The TM-300 is designed for real workshop use. Mobile, air-cooled, and easy to move around the job, it gives operators direct control through a 10.4" touchscreen, handle-side settings, clear safety controls, and dedicated holders for the head and fiber cable.

Everything is built around one idea: make laser cleaning easier to set up, safer to operate, and faster to put to work.



MAXIMUM SAFETY WITHOUT THE RISK

Sandblasting and chemical cleaning demand hazmat-level PPE, create hazardous waste, and put your crew at risk. The TM Series changes that. All you need is a fume extractor and proper PPE. (We recommend wearing a PAT breathing system whenever you clean.) It vaporizes contaminants on contact while the extractor draws airborne particles. No toxic dust clouds. No chemical runoff.

BUILT-IN SAFEGUARDS

- **SMART SHUT DOWN**
Laser fires only when aimed at the workpiece
- **DUAL-CHANNEL INTERLOCKS**
Stops operation unless all safety conditions are met
- **FIBER BREAKAGE DETECTION**
Constant monitoring with instant alerts and pinpoint diagnostics

SET UP. LOCK IN. GO.

Lightweight, mobile and user-friendly. The 10.4" touchscreen comes loaded with intuitive presets and the built-in distance meter locks your focal point instantly. Adjust settings from the handle without walking back to the machine. The ≤ 2 kg (≈ 4.4 lb) cleaning head keeps operators productive all day without fatigue.





IT'S ALL IN THE NUMBERS

	TM-300 GAUSSIAN	TM-300 FLAT-TOP
Nominal Power	300 W	
Laser Type	Pulsed	
Wavelength	1060 – 1070 nm	
Pulse Frequency	165 – 8000 kHz	1 – 4000 kHz
Pulse Width	10 – 500 ns	20 – 500 ns
Single Pulse Energy	≤ 1.8 mJ	≤ 15 mJ
Fiber Length	5 m	
M ²	≤ 1.6	10 – 14
Fiber Core Diameter	30 μm	100 μm
Cooling	Air-cooled	
Input Voltage	100 – 240V 50 / 60Hz	
Operating Temperature	0 – 40 °C / 32 – 104 °F	
Weight	46 ± 3 kg / ~ 101 lb	
Dimensions (W * D * H)	960 × 677 × 417 mm	
Warranty	1 year (2 years once registered)	
Certification	CE, FDA, FCC	
CLEANING HEAD SPECIFICATIONS		
Aperture	10 mm	
Wavelength (Process)	1064 ± 5 nm	
Cleaning Field (L * W)	70 × 70 mm (160 mm lens) / 130 × 130 mm (254 mm) / 150 × 150 mm (330 mm)	
Scan Speed	7500 mm/s	
Field Lens	160 / 254 / 330 mm, interchangeable	
Scan Patterns	Line / Circle / Wave / Dynamic	
Scan Radius (circle)	5-35 mm (160 mm) / 5-65 mm (254 mm) / 5-75 mm (330 mm)	
Fill Spacing (hatch pitch)	0-50, adjustable – A lower value gives a denser fill	
Weight	≤ 2 kg / ~ 4.4 lb	
Dimensions (W * D * H)	373 × 179 × 205 mm	

WEAR PARTS, CONSUMABLES, COMPONENTS, AND ACCESSORIES

When you buy a TM-300, in the box you find everything you need to start cleaning right away. Including 3 different field lenses and 1 protective lens.

When you're in need of wear parts, PPE, laser-safe enclosures, accessories and more, reach out to us, we'll put you in touch with one of our nearest local Partners.



TM-300 F160 FIELD LENS FOR HEAD
PN: 142000229



TM-300 F254 FIELD LENS FOR HEAD
PN: 142000230



TM-300 F330 FIELD LENS FOR HEAD
PN: 142000231



PROTECTIVE LENS FOR FIELD LENSES
PN: 141700819

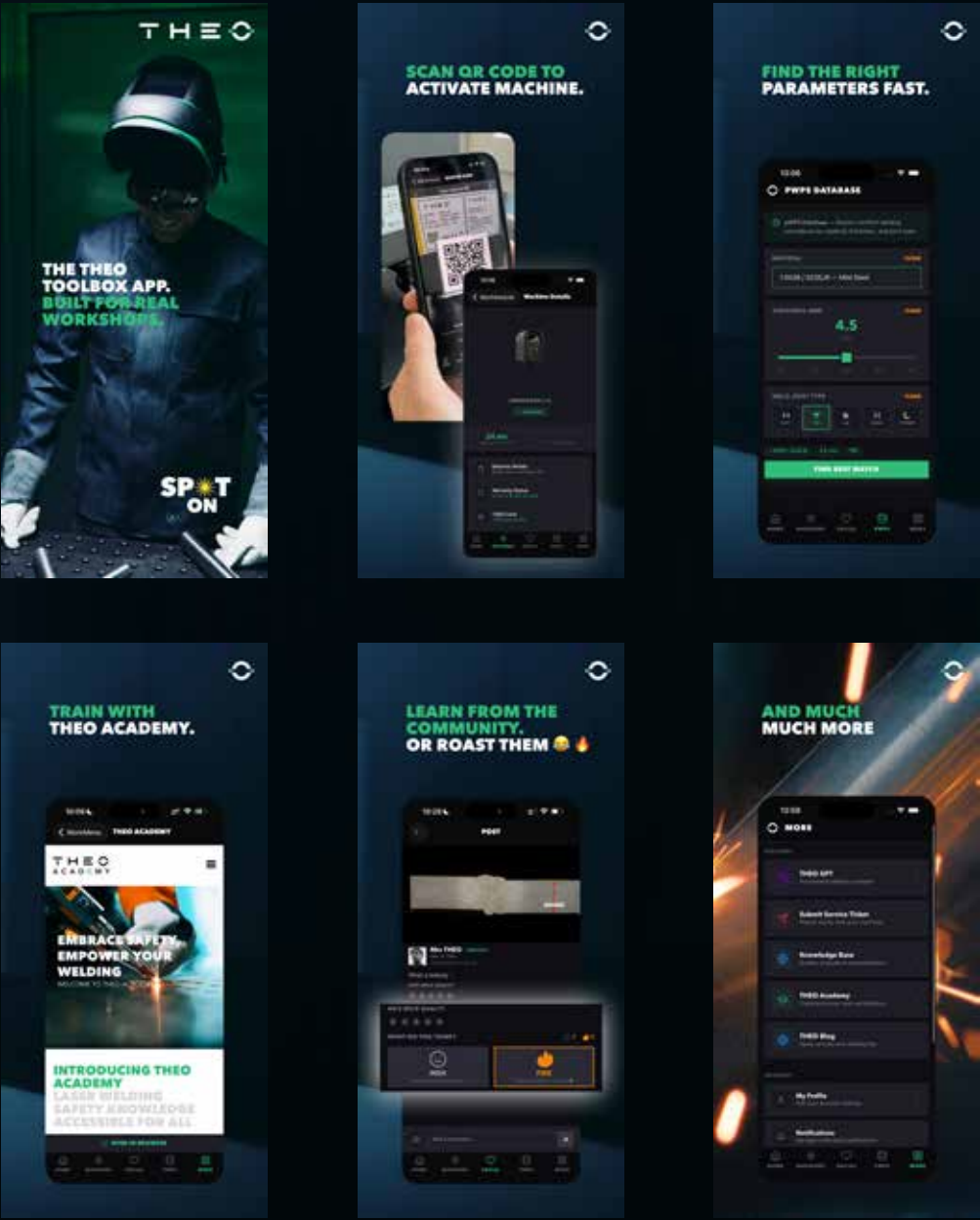
Why we offer different lenses?

Interchangeable field lenses trade coverage for concentration. A smaller field puts the same 300 W into a tighter, more aggressive pass, while a larger field covers more ground per pass.

THEO TOOLBOX

THE ULTIMATE COMPANION APP FOR ALL THINGS THEO.

Register your THEO products for an extended warranty, connect with other global laser professionals, access THEO Academy, and more.



**DOWNLOAD THE
THEO TOOLBOX APP.
BUILT FOR REAL
WORKSHOPS.**



BE PART OF OUR GLOBAL NETWORK

Our worldwide network of trusted Partners means you get the tools you need when you need them. With THEO Service Centers in Westborough US and Munich Germany, you have training, troubleshooting, parts, repairs, and after-sales service at your fingertips. Full support wherever you are. Need help fast? Our online support connects you directly to our workshop.

Welding and cleaning professionals around the world trust THEO to deliver the performance, precision, and reliability their work demands.



THEO
ACADEMY

SHARPEN YOUR SKILLS

THEO ACADEMY gives you expert guidance to sharpen your skills and keep you laser-safe, whether you are just starting out or already a pro.

Scan the code or visit **academy.theo.inc**.
Sign up for free access to our digital courses.

LASER SAFETY OFFICER TRAINING

Laser Safety Officer (LSO) training is for those responsible for laser safety, including safety engineers, occupational safety specialists, and technical personnel. Courses cover safety basics, hazard analysis, risk assessment, and protective measures, certifying operators to manage Class 3B and 4 systems in compliance with regulations.

IN THE US

THEO partners with **Kentek Corporation**, a leader with 40+ years in laser safety. Kentek offers in-person and online training in short, focused modules, including a dedicated LSO Livestream course.

IN GERMANY

TÜV SÜD delivers OStrV and TROS-compliant 2-day courses online or in person for Class 3R, 3B, and 4 applications. In Bavaria, **Bayerisches Laserzentrum GmbH (blz)** offers the same training in German or English, often with partner organizations.

IN THE REST OF EUROPE

We work with a network of European Partners to connect you with the program that fits your needs.

WHEREVER WORK GETS DONE FASTER. THEO IS THERE.

When you walk into your workshop, you know which tools you trust. The ones that never let you down. The ones that are fun to use. THEO is built to be one of them. Your sidekick to save time so you can scale your business smarter and industries move faster.

Behind THEO is Maxphotonics, a global leader in laser solutions since 2004. With over 200,000 units produced annually, Maxphotonics brings decades of engineering excellence to every THEO product.

When we launched THEO in 2023, our focus was clear. Innovation. Tools built for the real-world needs of modern professionals. Rooted in community. Driven by design. Obsessed with productivity. THEO is built for those who...

SAY NO TO SLOW

GET IN TOUCH

THEO Laser Inc. (North America and Canada)

Address: 1900 West Park Dr., Suite #150, Westborough, MA 01581, USA
Phone: +1 (508) 299 5640

THEO Laser Europe (EMEA)

Address: Dornierstraße 11, 82205 Gilching, Germany
Phone: +49 81 0573 038 90

THEO Laser Australia (Asia Pacific)

Address: 3/14 Robbins Circuit, Williamstown North, VICTORIA 3016, Australia
Phone: +61 (493) 191 180

THEO Laser Japan (Asia Pacific)

Address: 1-chome-28-2 Hayabuchi Tsuzuki Ward, Yokohama, Kanagawa, Japan
Phone: +81 8089515074



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300 W MOPA FIBER LASER

30 μm GAUSSIAN | 100 μm FLAT-TOP
ENGINEERED BY MAXPHOTONICS



MODE SELECTION ON HEAD



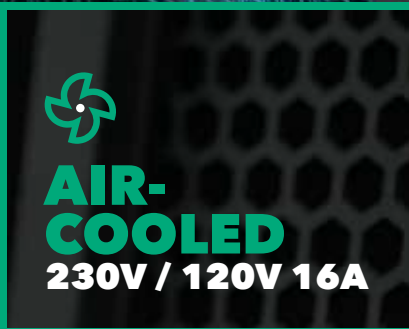
10-500 ns PULSE WIDTH



REAL-TIME VISUAL DISTANCE FEEDBACK



AIR- COOLED 230V / 120V 16A



UP TO 1m² / min CLEANING SPEED



PORTABLE POWER

ROLL IN. CLEAN UP. MOVE ON.



ADVANCED SAFETY FEATURES

DISTANCE CONTROL / SAFETY
TRIGGER / DUAL INTERLOCK



TM-300 LASER CLEANER

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DESIGNED IN

TWO VERSIONS

GAUSSIAN / FLAT-TOP



INTERCHANGEABLE LENSES



LOW HEAT INPUT

LESS DAMAGE TO THE
BASE MATERIAL



UP TO 150 x 150 mm CLEANING FIELD

WIDE COVERAGE FOR
FAST SURFACE CLEANING



PULSE ENERGY

≤ 1.8 mJ
GAUSSIAN

≤ 15 mJ
FLAT-TOP



NO CHEMICALS NO BLAST MEDIA



RUST. PAINT.
CONTAMINANTS.

ONE TOOL



UP TO 8000 kHz PULSE FREQUENCY

FINE TUNE CLEANING POWER



4 BEAM SHAPES

MATCH THE BEAM TO THE JOB

