

xTool MetalFab

The World's First Smart Laser Welding & CNC Cutting Solution for Metalworking.



Metalworking Made Simple, Let's Make It Popular.

Metalworking used to be daunting—complex tools that stifle creativity, unfriendly to beginners, and prohibitively expensive.

With xTool MetalFab, that changes. Industrial power meets garage simplicity. Weld and cut with pro-level precision from Day 1. No jargon. No frustration. Just pure, limitless creativity.

Together, let's turn metalworking into the next woodworking—accessible, inspiring, and completely yours.

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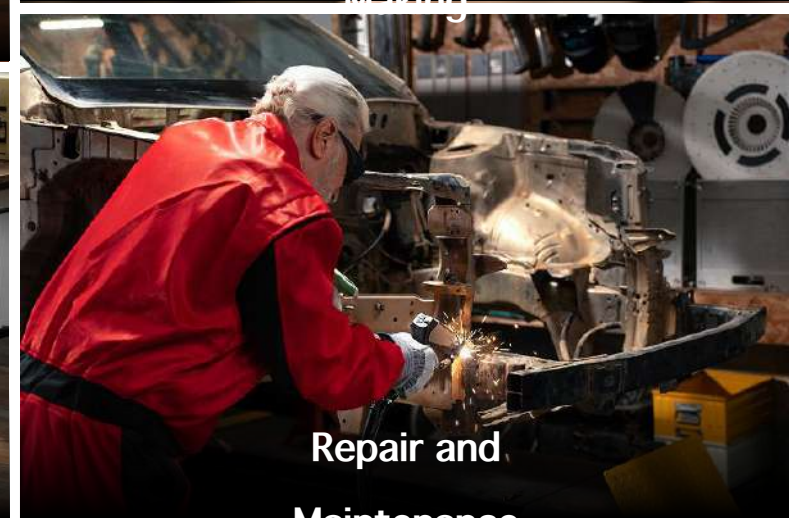
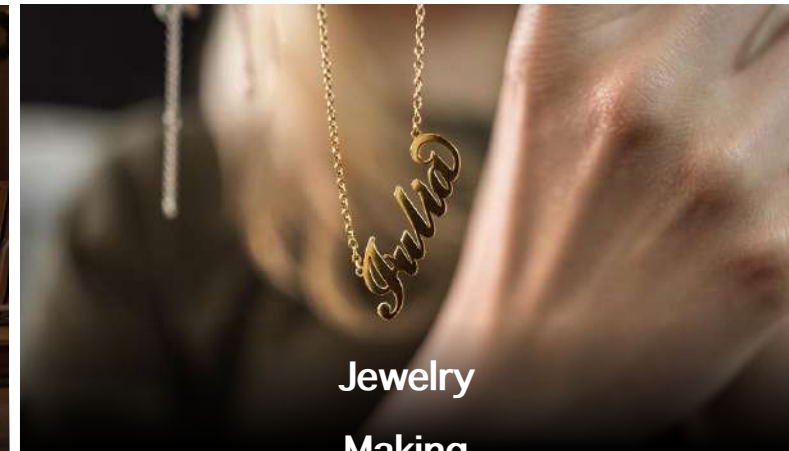
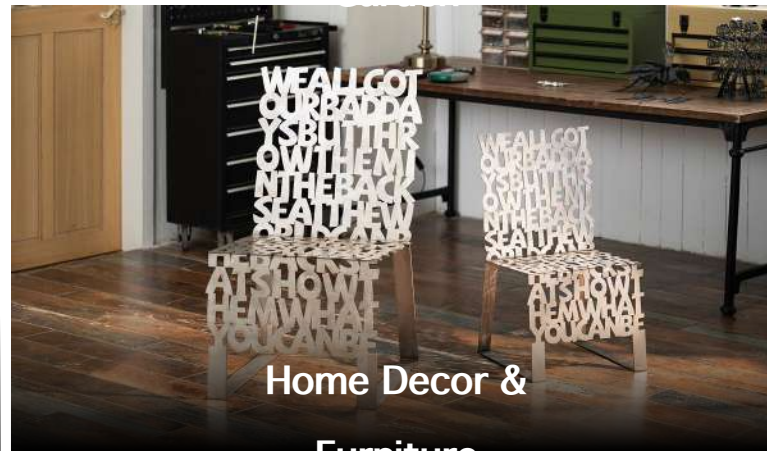
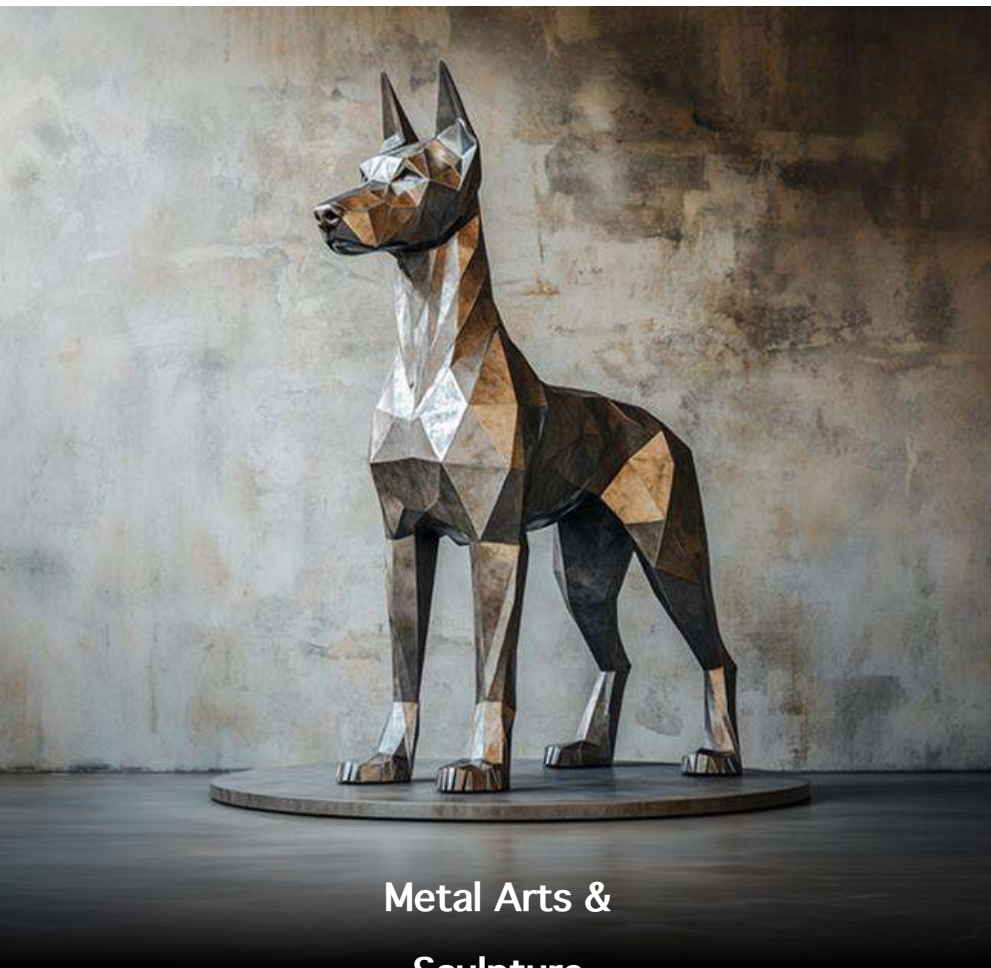
What is xTool MetalFab?

Introducing the world's first smart laser welding and CNC cutting solution that lets anyone create stunning metalwork like a pro. Powered by industrial-grade fiber laser and CNC cutting technology, it guarantees precision and flawless results every time. With dual cameras and beginner-friendly, intuitive software, it's incredibly easy to use—get started in just 5 minutes!

Metalworking is no longer reserved for experts. Now, anyone can craft exquisite creations with ease!



From DIY to Business, xTool Covers All Your Metal Needs





Metal Arts & Sculpture

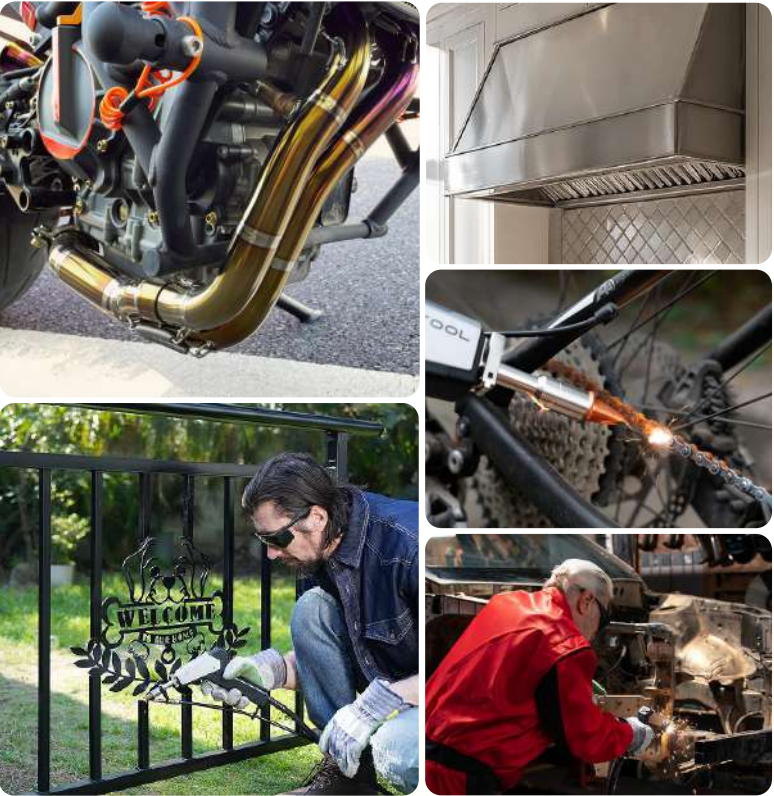
Home Decor & Furniture



Home Decor & Furniture



Jewelry Making



Repair and Maintenance

Key Features

- All-in-One Metal Workshop
- Industrial-Grade Technology Weld Perfectly, Cut Precisely
- Dual-Camera: Smart to See, Accuracy to Cut
- Powerful Software Makes Creating Effortless
- Highest Safety Standards with 10 Features



All-in-One Metal Workshop

The xTool MetalFab Laser Welder combines welding, cutting, and cleaning functions in one device. When paired with the xTool MetalFab CNC Cutter, it offers CNC cutting and cleaning functions. This all-in-one solution is designed to meet all your metal fabrication needs with ease and efficiency.

Laser Welding



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Laser Cutting



CNC Laser Cutting



Mobile Cutting

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Laser Cleaning



CNC Laser Cleaning



Mobile Cleaning

Cut. Weld. Stunning Metalwork in One Seamless Workflow.



Industrial-Grade Technology Weld Perfectly, Cut Precisely

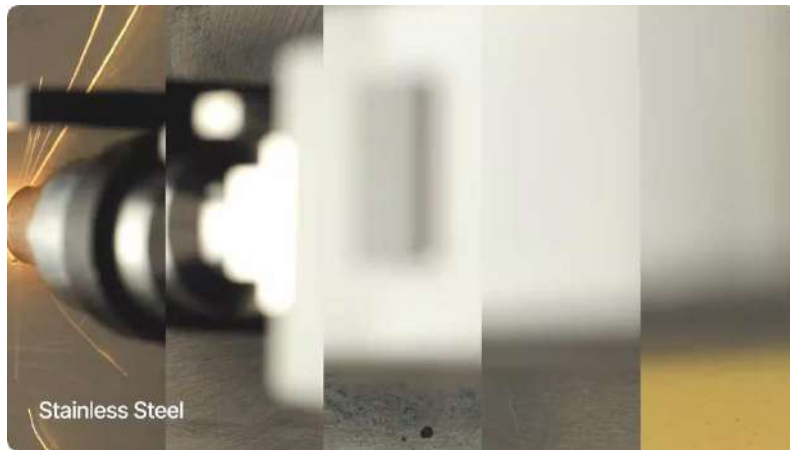
The xTool MetalFab features **industrial-grade Coherent chips** that efficiently convert electrical energy into a powerful 1200W, 1080nm fiber laser beam. With dynamic galvo-mirror oscillation technology, it ensures stable and precise cutting and welding. It is suitable for various metal materials, including stainless steel, carbon steel, brass, aluminum, and more.



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Master Every Weld, No Matter the Metal, Thickness, or Joint Type

Fiber laser technology minimizes heat-affected zones to ≤ 0.002 inches (0.05mm), enabling precise welding of thin metals without distortion. Its high-energy output ensures rapid metal melting, allowing **single-pass welding for materials up to 0.2 inches (5mm) thick**. This technology produces deep and narrow welds, regardless of the metal or joint type, delivering consistent and reliable welding quality.



Various Metal



Thickness



Joint Type

From 0.008" to 0.39" Thickness, Every Cut is Smooth, Clean, and Flawless

The 1200W high-energy fiber laser effortlessly cuts carbon steel up to 0.39 inches (10mm) thick in a single pass. With its minimal heat-affected zone and high laser power, it ensures precise cutting results, delivering smooth, clean surfaces while effectively preventing deformation in thin metals. This significantly reduces the need for post-processing.



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Precision You Can See, Ultra-Fine in **Every Detail**

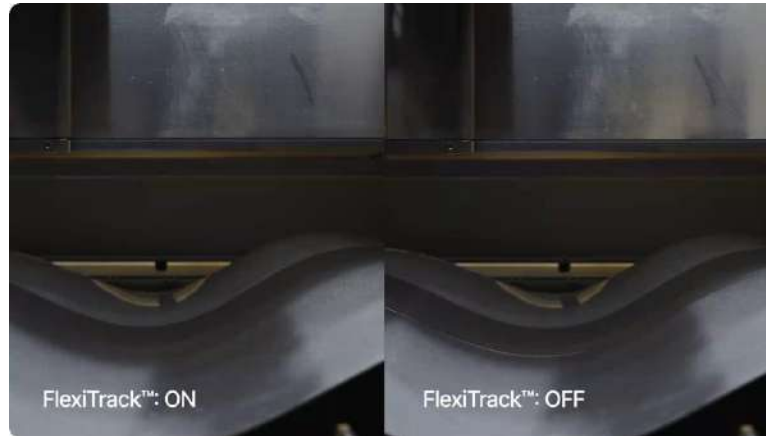


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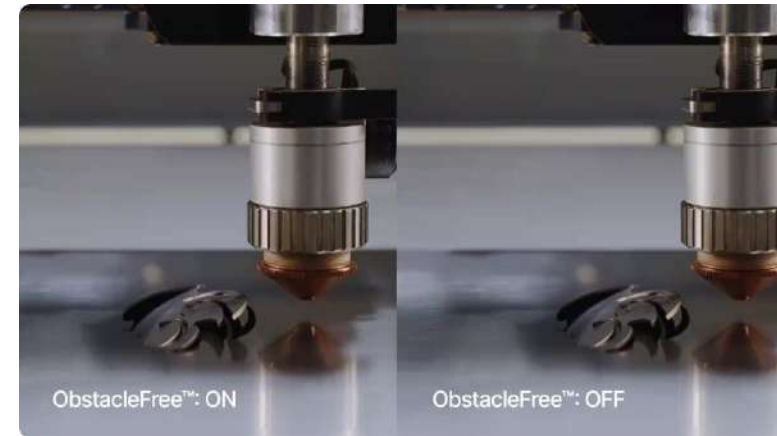
“The secret behind precision cutting lies in the exclusive VibeFreeCut™, FlexiTrack™, and ObstacleFree™ technologies, designed to work together to deliver unmatched precision, making every cut flawlessly accurate and effortlessly smooth.”



VibeFreeCut™ integrates advanced motion control algorithms with system recognition technology to eliminate vibrations in real time, ensuring unparalleled stability and precision.



FlexiTrack™ continuously checks the distance between the laser head and the metal surface in real time, automatically adjusting the Z-axis to maintain accurate focus, ensuring precise cuts and smooth results every time.



ObstacleFree™ features a proprietary path-avoidance algorithm that intelligently bypasses potential obstacles, ensuring continuous operation and equipment safety.

Compressing Project Time from One Week to One Hour—**Super Fast**



Laser technology enables fast, precise cutting and welding with high energy and stability, minimizing defects and reducing rework. Featuring a minimal Heat-Affected Zone (HAZ) of ≤ 0.002 (0.05mm) inches, it prevents overheating and eliminates extended cooling times, significantly improving efficiency.

15.75 ips

Cutting Speed

8X Faster

Welding Speed than TIG

Ultra-Low

Rework Rate

Zero Cooling

Wait Time

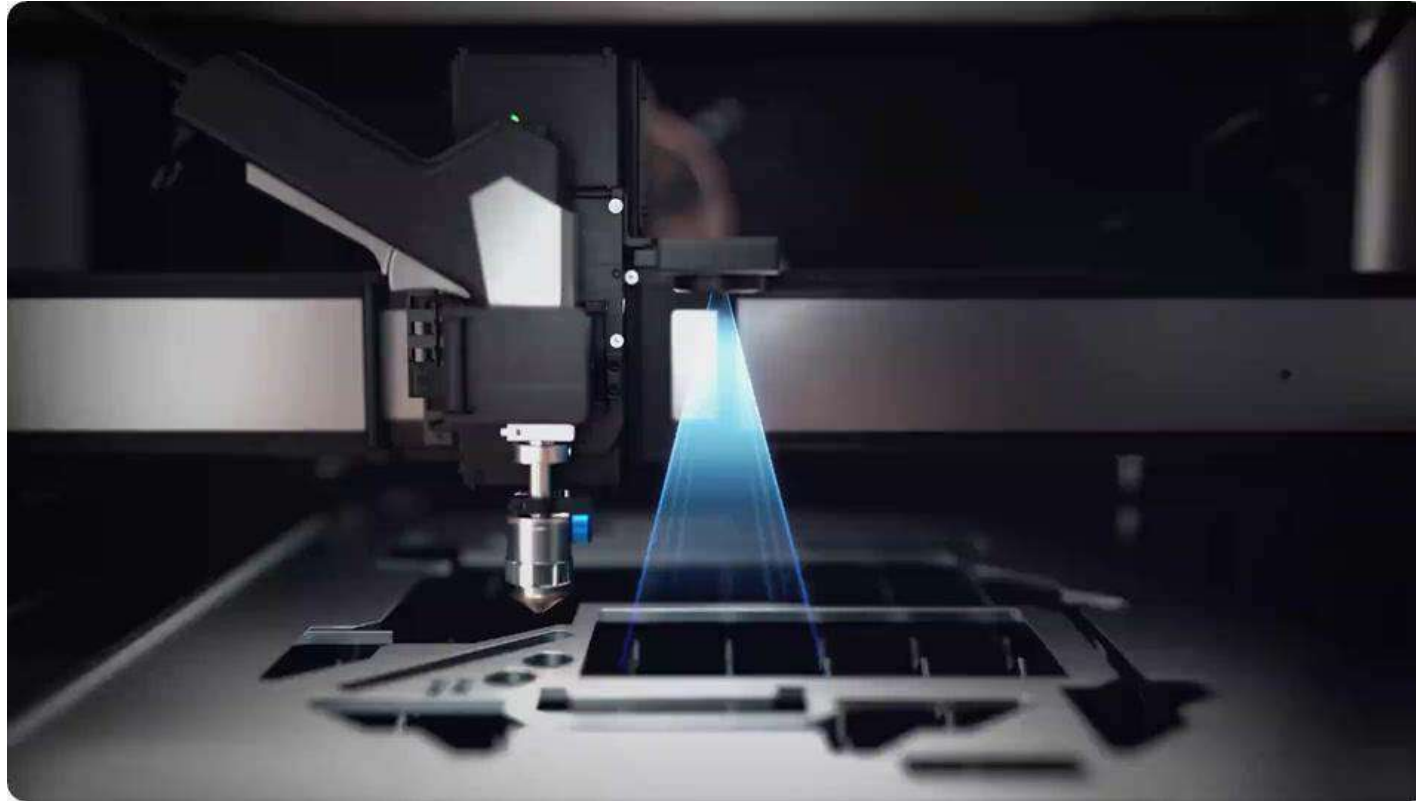
Dual-Camera: Smart to See, Accuracy to Cut



One-Click Smart Layout

Optimization: Save More,
Waste Less

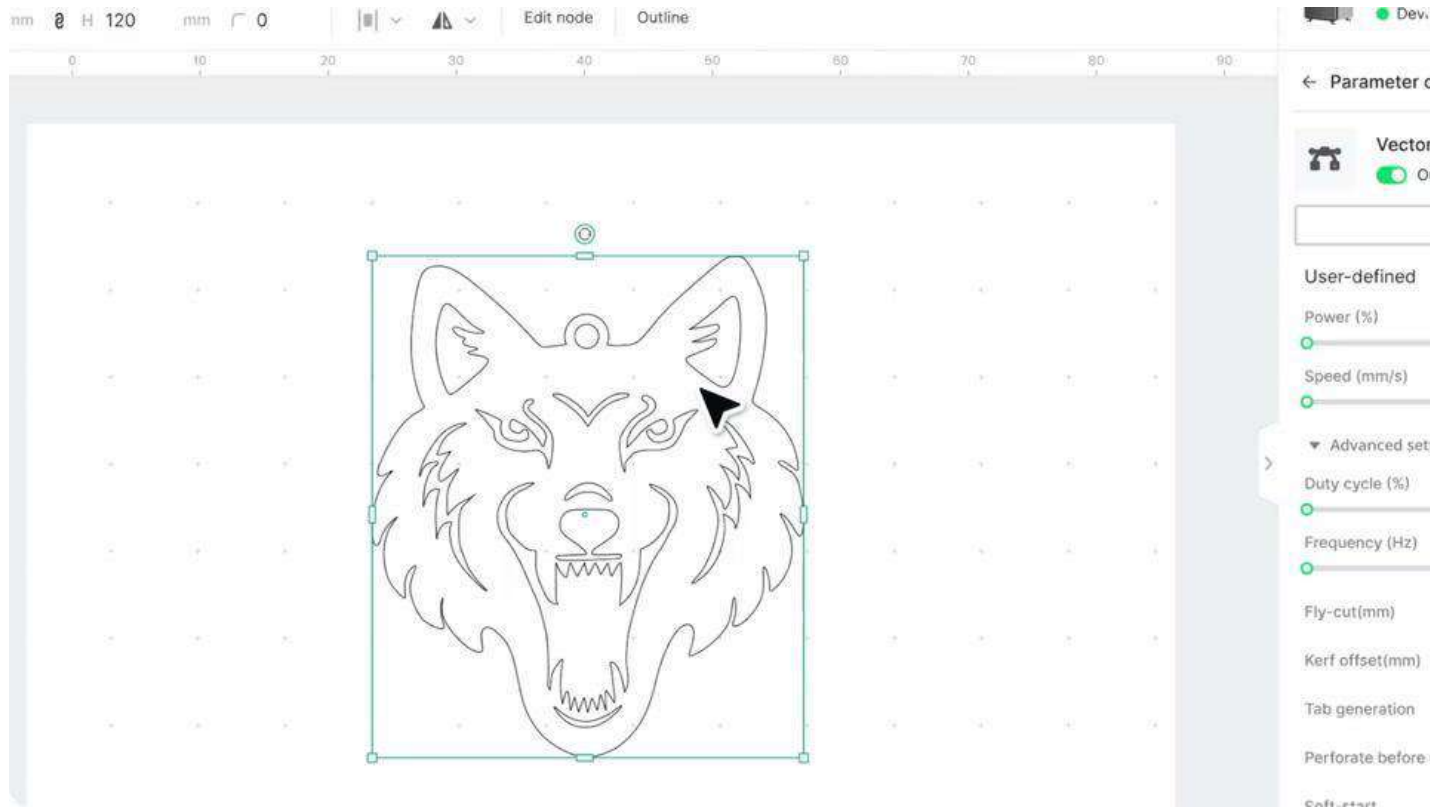
Equipped with a **16MP panoramic camera** and **AI algorithms**, the system analyzes materials and generates optimal cutting layouts with one click, achieving a 98.7% material utilization rate.



Ultra-Accurate Cutting for Small Objects

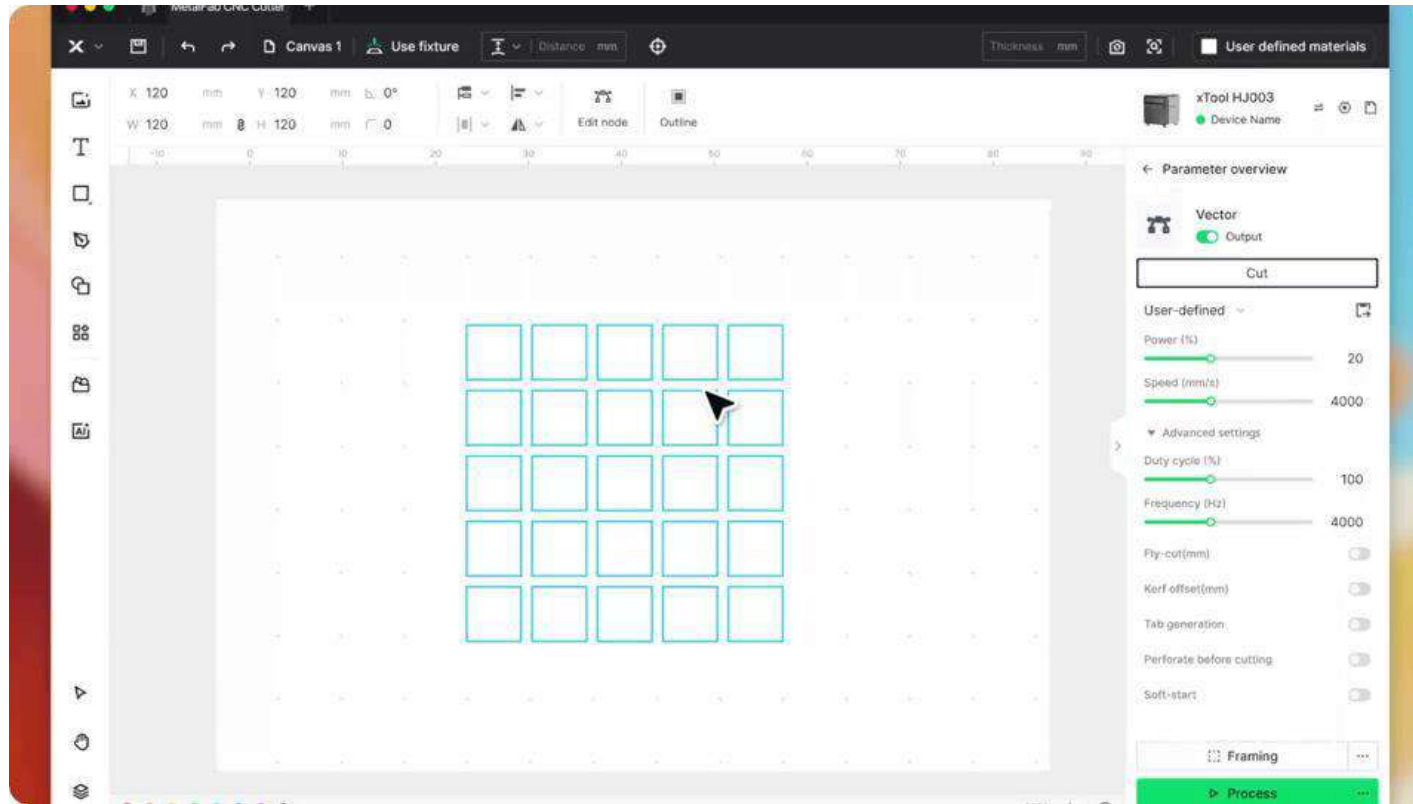
The **close-range camera** ensures precise positioning with a **center deviation of less than 0.008 inches (0.2mm)**, delivering exceptional accuracy and reliability—perfectly suited for even the smallest objects.

Powerful Software Makes Creating Effortless



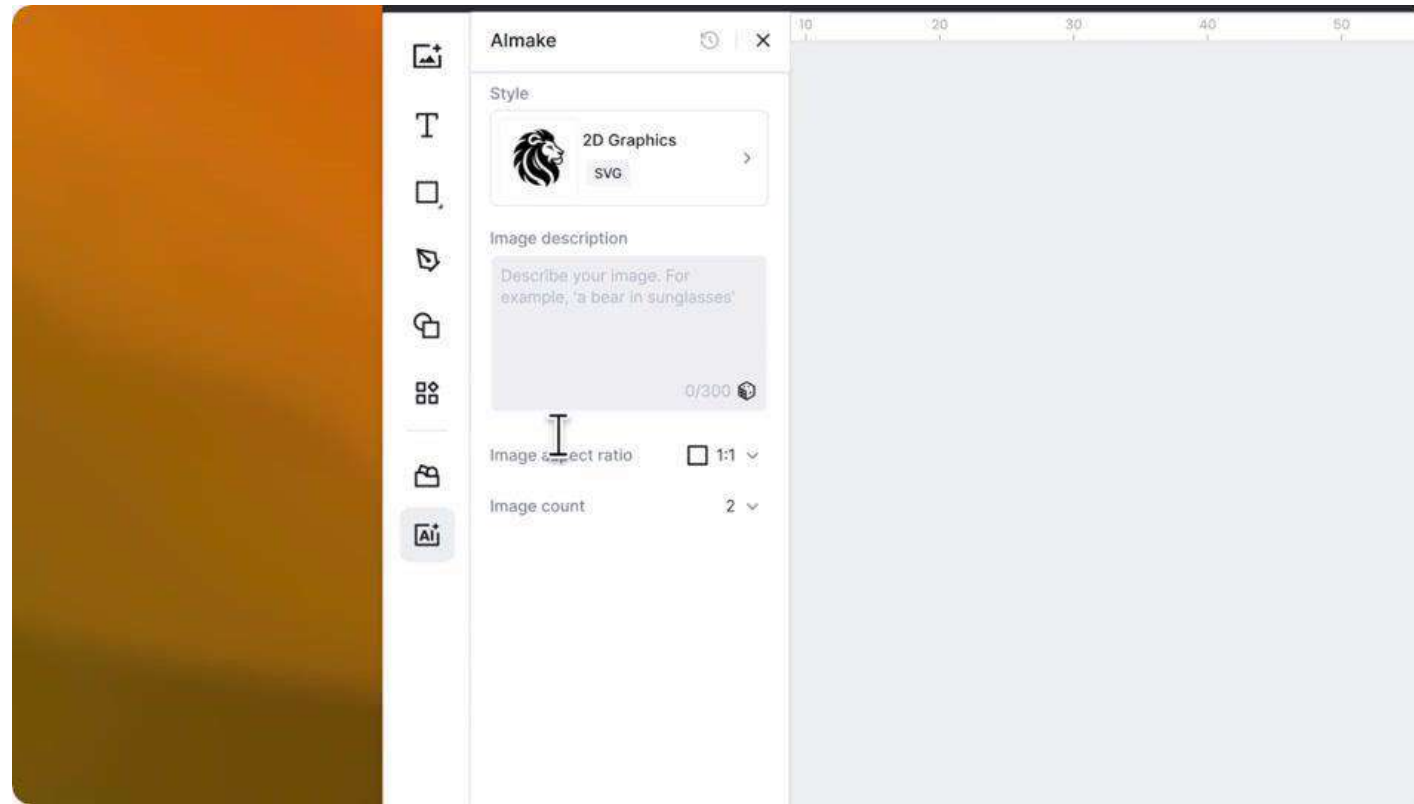
One-Click Parameter Setup, No Material Testing Required

No more wasting time testing parameters or wasting materials! Simply select the corresponding material in the software, and apply it instantly with just one click.



One-Click Smart Flow
Cutting: Up to 50% Faster

When cutting multiple regular shapes (such as rectangles or circles), the Smart Flow Cutting mode connects line segments in the same direction for continuous cutting. By minimizing redundant movements, it increases efficiency by 50% and significantly enhances productivity.



Create Laser-Ready Designs in Just Seconds with **Almake**

No more struggling with AI using complex prompts—just state your needs in one sentence, and Almake generates precise, ready-to-use designs in seconds!



Control Everything With Just **One Touch**. It's That Simple.

8-inch smart touchscreen with an intuitive interface for effortless operation. Preloaded with 108 material parameters, ready to use instantly. Easily switch between three welding modes with a single click, and fine-tune parameters with precision. Save custom settings and access them effortlessly with just one tap.

Highest Safety Standards with 10 Features

The xTool Metalfab are certified with CE, FCC, and FDA approvals, meeting rigorous safety and quality standards. These certifications provide peace of mind, allowing you to tackle your welding tasks with confidence and dependability. Enjoy professional-grade protection that lets you concentrate on creativity and performance, free from safety concerns.

LASER DIODES BY
COHERENT

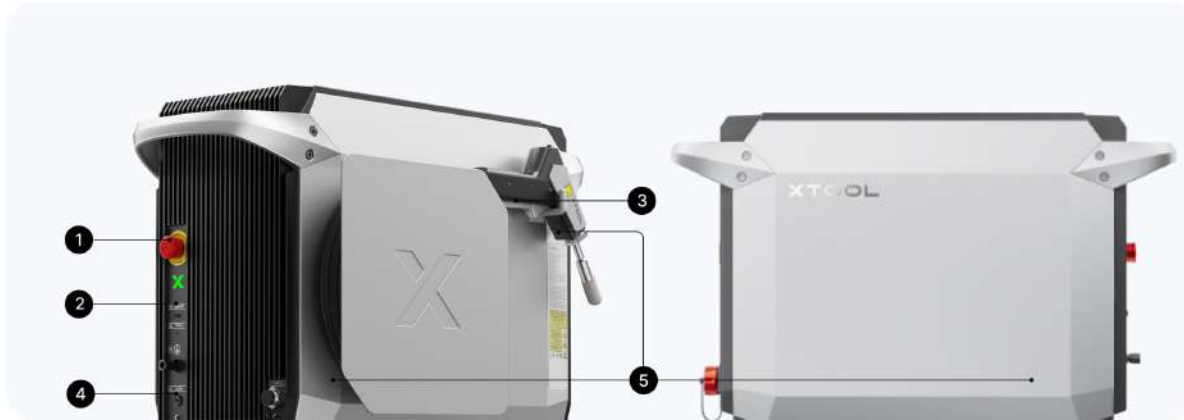
CE

FDA

FCC

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SGS



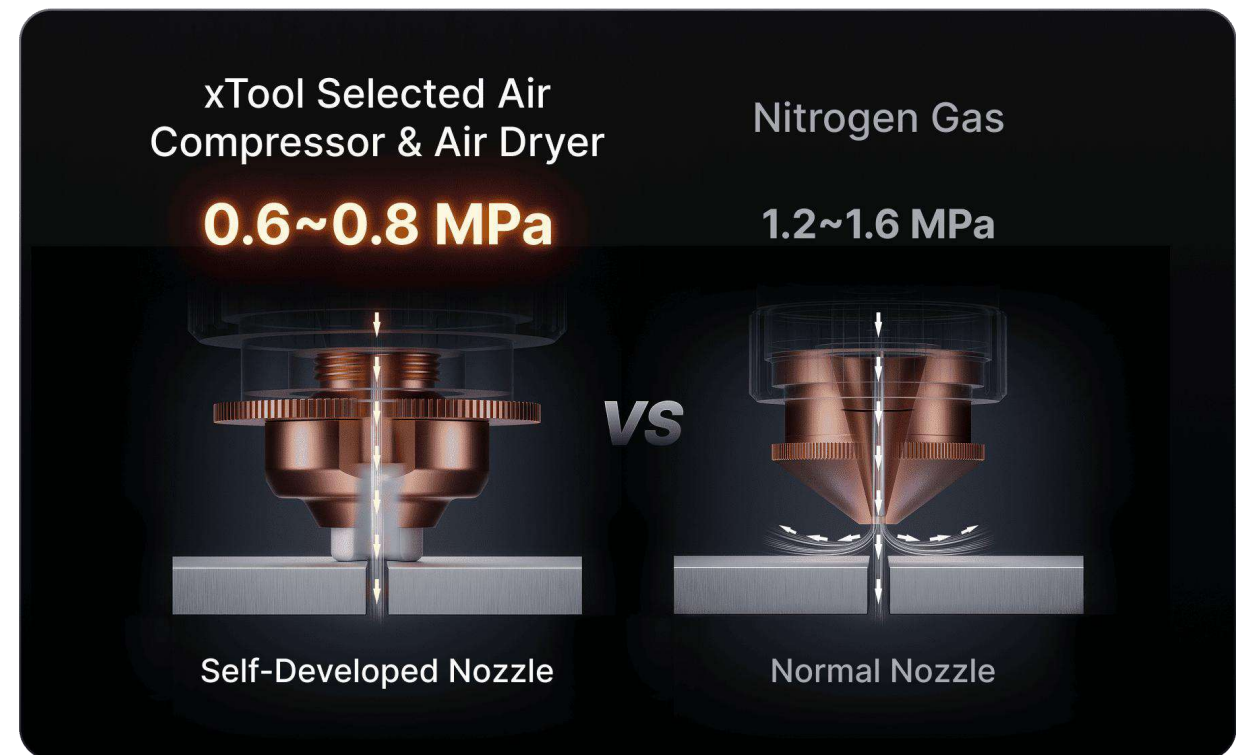
- ① Emergency Stop Switch
- ② USB Safety Key (Supports Safety Door Interlock)
- ③ Grip Detection
- ④ Electrical Safety Design
- ⑤ 3-Zone Real-Time Temperature Monitoring



- ① Lid Closure Detection: The lid must be closed to start.
- ② Drawer Closure Detection: The drawer must be closed to start.
- ③ Exhaust Fan Detection: The exhaust fan must be on to start.
- ④ OD5+ Light-Filtering Cover
- ⑤ Emergency Stop Switch

Save 50% Gas with xTool's Innovative Self-Developed Accessory

Our self-developed xTool Selected Air Compressor & Air Dryer, paired with a savegas cutting nozzle, drastically reduces gas consumption. When cutting 4mm stainless steel to achieve a burr-free effect, the xTool accessory operates at an optimized pressure of 0.6-0.8 MPa. In comparison, nitrogen cutting requires 1.2-1.6 MPa, resulting in up to 50% gas savings.

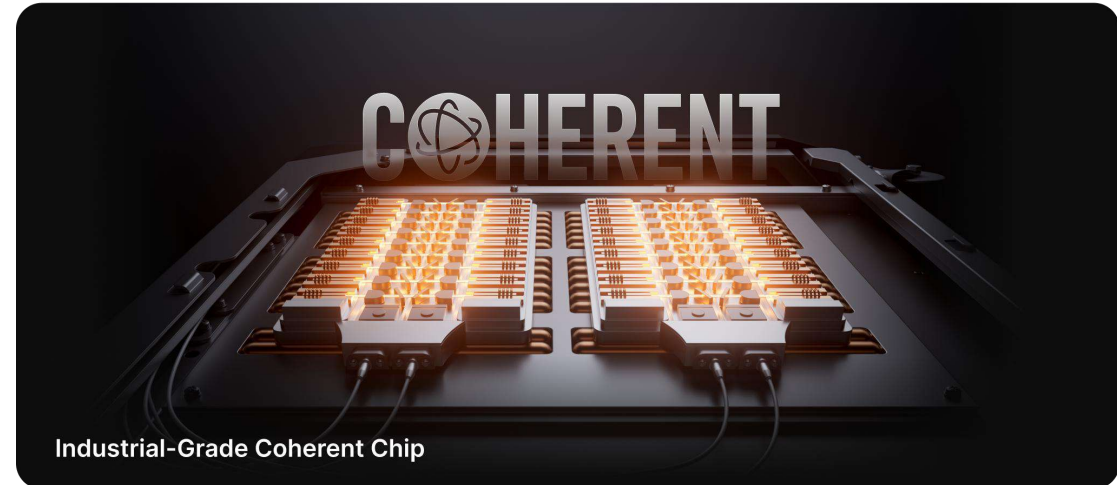


It's Proven to **Last 30% Longer** Than Others

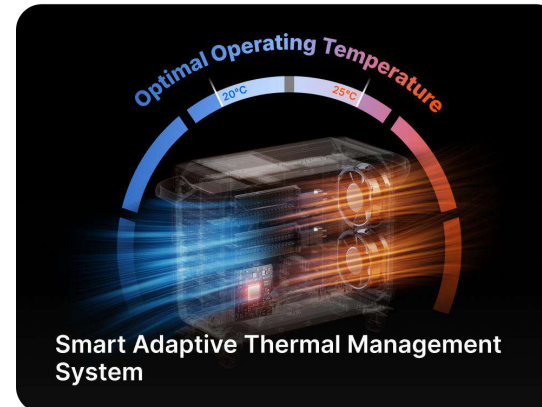
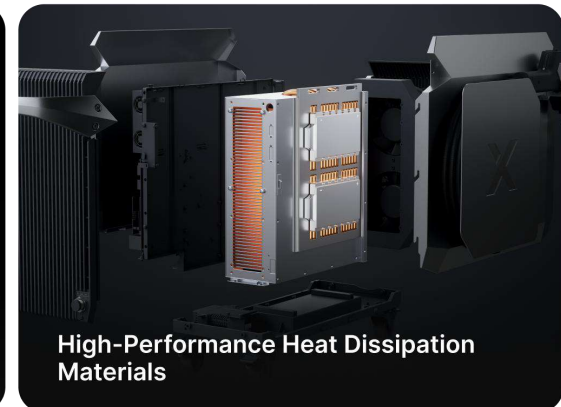
Built with high-quality industrial-grade materials, a Coherent chip, advanced temperature adaptability, intelligent thermal control, and high-performance cooling, the device delivers stable performance even in extreme temperatures (-10°C to 40°C). The design minimizes overheating risks, ensuring long-term reliability and cost-efficiency during high-load and extended operations. With a lifespan exceeding 10,000 hours, it outlasts competitors by 30%.

-10 to 40°CStable Laser
Power Output**7*24 Hrs**Non-Stop
Working**≥ 1,0000 Hrs**

Service Life

2.2%Power Loss After
3336 Hours Working

Industrial-Grade Coherent Chip

Smart Adaptive Thermal Management
SystemHigh-Performance Heat Dissipation
Materials

Specification



Laser Power 1200W	Laser Type Fiber Laser	Processing Mode Welding / Cutting / Rust Removal & Cleaning	Welding Mode Continuous Welding / Spot Welding / Pulse Welding	Supported Materials Stainless steel, aluminum, carbon steel, titanium, nickel alloy, brass, galvanized sheet, magnesium, etc.
Processing Thickness 0.0078 - 0.197 in (0.2 - 5 mm)	Wavelengths 1080 ± 10 nm	Photoelectric Conversion Rate 36%	Recommended Gases Nitrogen and Argon	Cooling System Air-cooling
Safety Certification Class 4 Laser Safety	Rated. Machine Input Power 4500W	Power Adapter Input Voltage 220 - 240V, AC 50/60Hz	Full-load Current MAX 23A	Storage Temperature 14 °F - 140 °F (-10 °C - 60 °C)
Operation Temperature 14 °F - 104 °F (-10 °C - 40 °C)	Machine Dimensions 28.66 × 12.87 × 20.16 in (728 × 327 × 512 mm)	Machine Weight 38.2 kg	Integrated Wire Feeder No (Free Wire Feeder Machine Included)	Cable Length 196.85 in (5 m)

Specification



Laser Power 800W	Laser Type Fiber Laser	Processing Mode Welding / Cutting / Rust Removal & Cleaning	Welding Mode Continuous Welding / Spot Welding / Pulse Welding	Supported Materials Stainless steel, aluminum, carbon steel, titanium, nickel alloy, brass, galvanized sheet, magnesium, etc.
Processing Thickness 0.0078 - 0.157 in (0.2 - 4 mm)	Wavelengths 1080 ± 10 nm	Photoelectric Conversion Rate 36%	Recommended Gases Nitrogen and Argon	Cooling System Air-cooling
Safety Certification Class 4 Laser Safety	Rated. Machine Input Power 3000W	Power Adapter Input Voltage 220 - 240V, AC 50/60Hz	Full-load Current MAX 15A	Storage Temperature 14 °F - 140 °F (-10 °C - 60 °C)
Operation Temperature 14 °F - 104 °F (-10 °C - 40 °C)	Machine Dimensions 24.88 × 11.97 × 18.58 in (632 × 304 × 472 mm)	Machine Weight 35 kg	Integrated Wire Feeder Yes	Cable Length 137.8 in (3.5 m)

Specification

xTool
MetalFab
CNC

Cutter



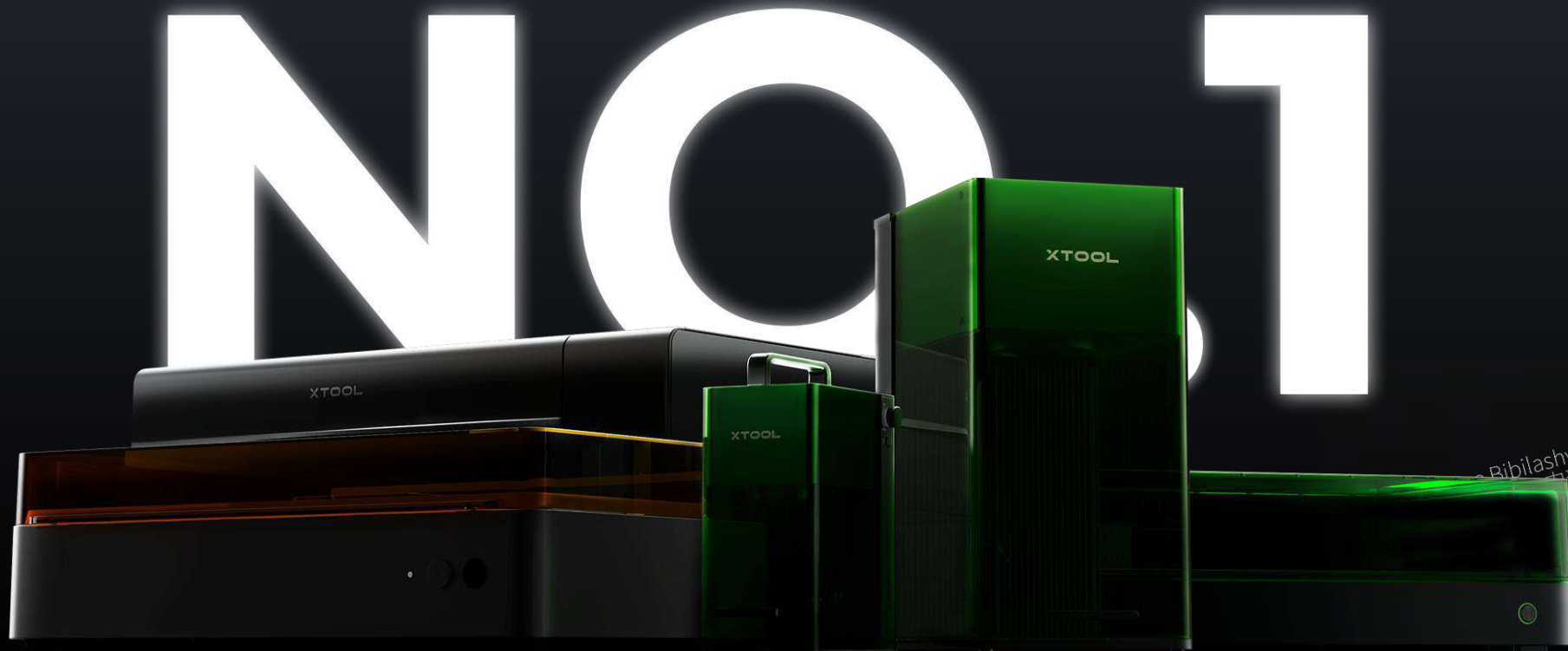
Processing Mode CNC Cutting/CNC Rust Removal & Cleaning	Cutting Thickness Up to 0.39 in (10 mm) with xTool MetalFab Laser Welder 1200W	Cutting Thickness Up to 0.31 in (8 mm) with xTool MetalFab Laser Welder 800W	Working Area 24.02 × 24.02 in (610 × 610 mm)	Pass-Through Size 24.02 × ∞ in (610 × ∞ mm)
Max. Working Speed 15.75 ips (400 mm/s)	Motion Accuracy ± 0.0039 in (± 0.1 mm)	X/Y Axis Max Acceleration 0.1G	X-Axis Travel 24.02 in (610 mm)	Y-Axis Travel 24.02 in (610 mm)
Z-Axis Travel 3.54 in (90 mm)	Exhaust Fan Capacity 2800RPM (± 10%)	Safety Certification Class 4 Laser Safety	Rated. Machine Input Power 250W	Power Adapter Input Voltage 100 - 240V, AC 50/60Hz
Full-load Current MAX 2.5A	Storage Temperature 10 °F - 140 °F (-10 °C - 60°C)	Operation Temperature 0 °F - 104 °F (0 °C - 40 °C)	Machine Dimensions 46.26 × 45.55 × 48.43 in (1175 × 1157 × 1230 mm)	Machine Weight 150kg

About xTool – The NO.1 Laser Brand

We Are #1 in Sales

Amazon's #1 Bestseller. Connecting people in 62 countries with our elegantly designed products, honored with both Red Dot and iF Design Awards.

NO.1 laser engraver & cutter brand on Amazon. Data from Amazon, 2022-2023 GMS history.





We Innovate for Unparalleled User Experience

We introduce 12 world-first inventions. Every xTool product is an industry first, including the world's first 10W, 20W, and 40W diode lasers, dual lasers, and the 4-in-1 crafting machine, etc. We never follow; we lead.



We Empower 500K+ Users to Build Their Dreams

Over 500,000 users have chosen us, and 23.53% have shown their continued trust by purchasing two or more xTool machines. With a 4.7/5 Trustpilot rating we are the highest-rated brand in the desktop laser market.

*User data based on xTool backend, as of September 2024



We Promise Reliable Quality in Every Product

We use advanced technology to ensure reliability. With over 72.4 million uses by real customers, our products are optimized to meet high standards. Backed by ISO 9001 certified. Click to take a factory tour.



We Pioneer Innovations for a Safe, Clean Workspace

Your safety is our priority. Our innovative Fire Safety Set features automatic fire suppression, and the SafetyPro™ AP2 is the best in class for odor and dust removal. Both offer unmatched peace of mind.