

FIBER LASER CLEANING & WELDING MACHINE BY TOUGH CUT



Elevate Your Operations with the Toughcut TCCWC-1500W: Cutting, Welding, and Cleaning in One Powerful Machine

Product Overview

Introducing the Toughcut AKWH-1500W 3-in-1 Fiber Laser Machine, the ultimate solution for modern manufacturing needs. This versatile machine combines laser cutting, welding, and cleaning capabilities in one compact unit, providing unmatched flexibility and efficiency for a wide range of industrial applications.

Key Features

Triple Functionality: Seamlessly switch between laser cutting, welding, and cleaning functions to meet diverse operational needs. Equipped with Ruida system, the conversion of each function is convenient and simple.

High-Power Fiber Laser: Equipped with a robust 1500W fiber laser source (with custom made to order options to increase to 2000W or 3000W), delivering exceptional performance across all three functions.

Precision and Accuracy: Advanced laser technology ensures fine cuts, strong welds, and thorough cleaning, all with minimal material waste.

User-Friendly Interface: Intuitive control panel with an easy-to-use interface for quick setup and operation.

Efficient Cooling System: Integrated cooling system maintains optimal performance and prolongs the machine's lifespan.

Robust Build: Constructed with high-quality materials for durability and long-lasting performance in industrial environments.

Automated Features: Includes automated systems to streamline operations and reduce manual labour.

Portable design: The body has a compact and ergonomic design. The bottom of the fiber welder cleaner has wheels, which can be moved freely and can be taken to any workplace where welding and cleaning are required.

Easy to operate: Fiber welder cleaning machine is easy to operate, and novice welders can master cleaning and welding operations with only a few hours of training. Reduce labour costs while improving quality, consistency, and productivity.

Economical: The fiber welding cleaning machine is an economical and intelligent innovative product. For different application scenarios, the corresponding nozzle nozzles can be easily and quickly replaced, making tedious processing simple and efficient.

Technical Specifications

Laser Power: 1500W

Cutting Speed: 0-120mm/sec

Welding Speed: Adjustable based on material and thickness

Welding Gap Requirements: ≤0.5mm

Welding Depth: 0.1 - 4mm

Cleaning Efficiency: High-efficiency cleaning with adjustable parameters at 12m²/Hr

Repeat Precision: ±0.01mm

Scanning Width: 10-80mm

Pulse Frequency: 30-80KHz

Laser Wavelength: 1080nm

SKU	Option	Part #	Price
8043101	Size: 1500W	TCCWC-1500W	\$22900

Model	
Type	Fiber Pulsed Combination Laser Cleaning, Laser Welding, Laser Cutting Machine
SKU	8043101
Part Number	TCCWC-1500W
Brand	Toughcut
Technical - Main	
Power Source	240V 50Hz Single Phase
Motor Power (Input)	6000W (8HP)
Laser Class	Class 4
Laser Style	Fiber
Laser Technology	Pulse Laser Formation: Q-Switched (Quality Factor)
Laser Function	3 in 1 (Cleaning, Welding, Cutting)
Laser Power	0-1500W Output Power (Adjustable)
Laser Invisible Wavelength (Nm)	1080
Dimensions	
Product Length	1360 mm
Product Width	760 mm
Product Height	1420 mm
Product Weight (Net Weight)	242 kg
Country of Origin	
Manufactured in	China
Features	
Standard Inclusions	Au3tech Hand Held Laser Cleaning Head + Laser Welding Head, Au3tech controller, 1500W power Professional industry water chiller, 10m cable length, 1 x off Pce Focusing mirror for cleaning, 1 x mirror for welding, 5 x off Pce Protection lens Transmittance ≥99.95%, 1 x off Protective glasses, Nozzles, 1 x off Laser and computer cable, Lens wipe paper
Safety	
CE Certified	✓
Workshop (Site) Info	
Workshop Requirements	SAFETY RISK, Class 4 - These lasers are high-power devices capable of producing diffuse reflection the eye. Skin exposure to the direct beam of a Class 4 laser is also hazardous. These lasers must not be used in building or construction tasks., , Class 4 lasers may also be a fire hazard.â, , For more details visit https://www.safeworkaustralia.gov.au/system/files/documents/1702/laser_classification_and_potential_hazards.pdf , The use of appropriate personal protective equipment (PPE), such as laser safety glasses or goggles, must be worn. These PPE must be specifically designed for the wavelength and power of the laser being used. Protective Clothing: Workers must wear protective clothing to prevent skin exposure., , Appropriate workshop signage must be used and safety barriers., , Odour & Fume Extraction + Natural Ventilation (Preferable) Required
Warranty	
Warranty	3 Years (2 Years for Laser Generator)
Packaging + Shipping	
Shipping Length	1360 mm
Shipping Width	740 mm
Shipping Height	1355 mm
Shipping Weight	290.0 kg

Sales Centre for Sales, Advice + Orders

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Supported Materials: Stainless steel, carbon steel, aluminium, brass, copper, and more

Cooling System: Water-cooled

Control System: CNC control panel with touchscreen interface

Expected Focal Distance: 160mm

Cable Length: 10m

Applications

Automotive Manufacturing: Precision cutting, strong welding, and effective cleaning of metal components.

Aerospace Engineering: High-precision cutting and welding for complex aerospace parts, with efficient cleaning.

Metal Fabrication: Versatile cutting, welding, and cleaning for various fabrication needs.

Electronics: Fine cutting and welding for electronic components, with precise cleaning.

Medical Devices: Precision cutting, welding, and cleaning for medical equipment and instruments.

Why Choose Toughcut AKWH-1500W?

Unmatched Versatility: Combines cutting, welding, and cleaning in one machine, offering flexibility for various tasks.

High Efficiency: Speed up your production process with high cutting and welding speeds, and efficient cleaning.

Precision and Quality: Achieve superior cut quality, strong welds, and thorough cleaning with minimal waste.

Durability: Built to withstand rigorous industrial use, ensuring long-term reliability.

Equipment Features

(Gross)	
Packaging	Wooden Box / Crate with Skid
Requires a Forklift / Tail Lift to Unload	✓
Shipping Notes	This product is classified as 'Heavy / Oversized' and generally does not qualify for FREE SHIPPING.



Au3tech Laser Cleaning and Welding Gun

The 3 in 1 handheld laser gun supports welding, cleaning, and cutting. It adopts a handheld design, which is comfortable to hold and can flexibly respond to various objects and angles. Easy to operate and portable to move.

The intelligent cleaning welding gun with temperature monitoring can monitor the protective lens and give early warning of damage. It is easy to use, flexible in processing, small in size, easy to carry, and low in operation and maintenance costs.



Raycus Laser Generator

Raycus has an efficient and professional R&D and production team, which is the top quality in China.

The lasers have higher electro-optical conversion efficiency, higher and more stable optical quality. Low error rate, low power consumption, maintenance-free and compact.



Au3tech Controller

Laser welding machine support a variety of different swing types, automatic wire feeding and other functions.

The system is easy to operate and can display real-time input and output IO status, alarm information and motion status.

The process parameter library is stored in the laser cleaning and welding machine. Each mode corresponds to different parameter settings. After saving, you can directly select the corresponding mode next time without setting the parameters again.



S&A Water Chiller

Specially developed for fiber laser equipment, excellent cooling effect. It has safe, durable, and stable working performance with long service life.

The built-in chiller design can avoid the shackles of wires to fit more sites and has good dustproof effects. A powerful and stable water cooling system will ensure the perfect working of the fiber laser source.



Automatic Wire Feeder

High wire feeding accuracy and good repeatability. The disadvantages of unstable and low efficiency of manual wire feeding are avoided.

Contact Us

For more information or to request a quote, contact us. Upgrade your operational capabilities with the Toughcut AKWH-1500W 3-in-1 Fiber Laser Machine today!

YouTube Videos

1. Watch this short video of the Fiber Laser Cleaning & Welding Machine - Service Tech cleaning off rust.