

# 500W Fiber Laser Metal Cutting Machine

This fiber laser cutting machine is equipped with a 500W laser for precise metal processing. It achieves location precision of 0.08mm and can cut materials up to 5mm thick.



## Overview

### High-Performance Fiber Laser Cutting Solution

This 500W fiber laser cutting machine is engineered for high-speed precision metal processing, offering cutting speeds exceeding 24m/min. It features a high photoelectric conversion rate of 25-30%, significantly reducing energy consumption compared to traditional CO2 lasers. Designed for versatility and low maintenance, it is an ideal solution for cutting reflective materials like copper and aluminum with exceptional beam quality and minimal operating costs.

## Performance Highlights

### Key Performance Metrics

**500 W**

Laser Power

**24 m/min**

Max Cutting Speed

**100000 h**

Laser Source Life

**5 mm**

Max Cutting Thickness

### Power Consumption

20-30% of CO2 lasers • High Conversion Rate

## Technical Specifications

### Model Specifications Comparison

Model	Processing Scale (mm)	X/Y Axis Stroke (mm)	Location Precision
TQL-MFC500-4115	4100 x 1500	4100 / 1500	d±0.08mm/m
TQL-MFC500-3015	3000 x 1500	3000 / 1500	d±0.08mm/m
TQL-MFC500-2513	2500 x 1300	2500 / 1300	d±0.08mm/m

### Laser Source Type

Imported Fiber Laser

## Material Compatibility

### Applicable Materials

Carbon Sheet, Silicon Steel, Aluminium Alloy, Galvanized Sheet, Copper, Stainless Steel

## Application Areas

### Industry Applications

- Medical Microelectronics
- Automotive Spare Parts
- Subway Components
- Hardware and Tools
- Advertising and Signage
- Handicrafts

## Operational Advantages

### Efficiency & Maintenance

- High photoelectric conversion efficiency (3x higher than CO2)
- Low gas cost: uses air for thin stainless steel cutting
- Maintenance-free fiber transmission (no reflect mirrors)
- No optical path adjustment required
- Compact design for flexible manufacturing