

# Automotive Gearbox Gear Laser Welding Machine

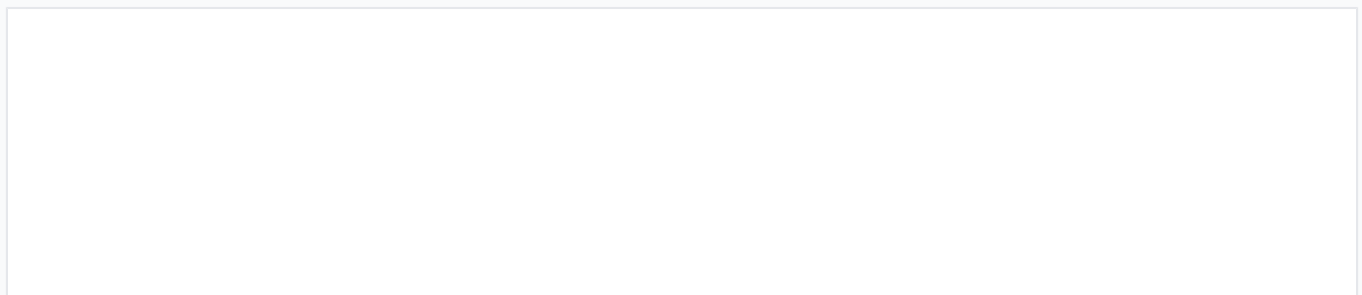
This laser welding machine is designed for welding gears in automotive gearboxes. It utilizes a high-power laser source and automated controls for precise and efficient welding.



## ADDITIONAL IMAGES



## Overview



The complete laser welding system designed for precision gear manufacturing, featuring a robust frame and automated handling.

### High-Precision Gear Laser Welding Solution

This advanced laser welding machine is a specialized solution designed for the automotive gearbox industry, specifically for welding double gears and double gear shafts. It integrates a high-power laser source with a sophisticated CNC system to provide stable, reliable, and durable operation in high-volume production environments. The system features automated loading and unloading via a manipulator, ensuring high efficiency and consistent weld quality for critical automotive components.

## Laser System

### Laser Performance Metrics

**3000 W**

Max Output Power

**10.6  $\mu$ m**

Output Wavelength

**50 KW**

Cooling Capacity

### Laser Technical Details

Parameter	Value
Power Stability	$\pm 2\%$
Laser Beam Diameter	20-25mm
Beam Stability	$\leq 0.15$ rad
Cooling System	LSJR-500BX water-cooled unit

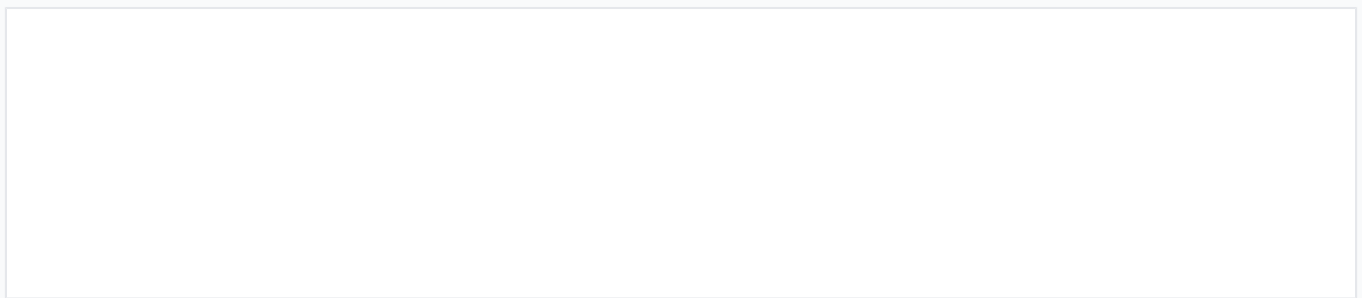
## Motion & Precision

### Axis Travel Range

Axis	Travel Distance
X-axis	300mm
Y-axis	400mm
Z-axis	175mm
W-axis	100mm

Positioning Accuracy	0.02 mm
Repeat Positioning Accuracy	0.01 mm
Maximum Operating Speed	5 m/min
U-axis Rotating Speed	7.5 ~ 37.5rpm

## Control & Automation



Advanced CNC control interface providing centralized management of the welding process, laser parameters, and motion control.

### Key System Components

- High power laser source
- Chiller unit
- Processing machine
- Automatic preheating machine
- Loading and unloading manipulator
- CNC control system

### Control System Capabilities

Integrated Control, Centralized Display, Anti-interference, Servo Motor Drive, Laser Protection