

Automatic Laser Welding Machine for Gear Ring Seams

This welding machine features a four-station tray for feeding, processing, welding, and cutting. It is designed with specific carriages to facilitate product specification changes and automated operations.



ADDITIONAL IMAGES



Overview

High-Efficiency Automated Welding

This automatic laser welding machine is engineered for precision gear ring seam welding and high-volume industrial applications. Featuring a four-station tray system for continuous feeding, processing, welding, and cutting, it ensures seamless automated production. The system integrates advanced temperature detection and segmented welding technology to deliver consistent, high-quality results while minimizing deformation.

Key Features

Automation Features

- Four-station tray system (feeding, processing, welding, cutting)
- Two-dimensional loading and unloading device
- Integrated preheating and conveyor design
- Segmented welding detection for automatic start-point determination
- Weld infrared temperature detection
- Easy manual and automatic welding mode switching

Performance Metrics



Automated welding system demonstrating capabilities for gear rings and saw blades.

Performance Specifications

2500 W

Power Range Min

3500 W

Power Range Max

3 m/min

Welding Speed Min

6 m/min

Welding Speed Max

1 mm

Welding Penetration

Technical Specifications

System Components

| Component | Specification/Model |
|-----------------------|---------------------|
| Host Model | GS-HZ03 |
| Laser Generator | IPG1000W |
| Control System | PLC |
| Linear Guide/Screw | HIWIN |
| Cooling System | HC050M |
| Temp/Humidity Control | 250W |

Servo Motor Configuration

- X-axis: 400KW, 150mm stroke
- Z-axis: 400W with brake, 300mm stroke
- C-axis: 400KW, 360 degree rotation

Applications

Suitable Applications

Gear Ring Seams, Gear Shafts, Woodworking Saw Blades, Automobile Rocker Welding