6. Support and Guarantee

After-Sales Support

Technical Support: Our team is available at any time to assist with any issues.

Training: We offer on-site or remote training for your team to ensure optimal machine operation.

Remote Diagnostics: Machines come with diagnostic software for quick troubleshooting and support.

Software Updates: Free updates to keep your systems current and improve functionality.

Warranty

Standard Warranty: 12 months, covering parts and labor.

Extended Warranty: Available for up to 5 years for long-term peace of mind.

Laser Source Warranty: 2-year warranty, extendable upon request.

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7. Conclusion

Our fiber laser welding machines are designed for optimal performance, efficiency, and precision. Whether you're looking for a compact, air-cooled system for small-scale jobs or a high-power, water-cooled machine for industrial applications, we offer solutions that meet all your welding needs. Our advanced components, superior cooling systems, and comprehensive support will ensure your success in the industry.

Our goal is to provide precise, fast, and reliable services to improve your production process.

For more information, scan the QR code



CLEAN CUT

Fiber Laser
Welding Machines

1. Introduction to Fiber Laser Welding Machines

Fiber laser welding machines are advanced precision tools designed for various industrial applications that require high-speed, high-quality welds. These machines utilize fiber laser technology to deliver excellent results with minimal heat input and distortion, ensuring precise welding for different metal types. Applications include the automotive, aerospace, jewelry, and sheet metal industries.

2. Types of Fiber Laser Welding Machines

Fiber laser welding machines can be divided into two main categories based on their cooling systems: Air Cooling and Water Cooling. Each system has its advantages, depending on the power level required and the scale of the operation.



b) Water Cooling Fiber Laser Welding Machines

Description: These machines use water and a chiller system to cool the components, which is more efficient for high-power and heavy-duty operations.
Applications: High-volume production, thicker materials, and industries such as aerospace and automotive.
Power Range:
Typically from 1000W to 3000W or more.
Features:

- Higher cooling efficiency for continuous operation.
- Ideal for welding thicker materials.
- Requires water chiller units for cooling.
- More suitable for industrial-scale production.

a) Air Cooling Fiber Laser Welding Machines

Description: These machines use air to cool the laser source and components. They are typically compact and are best for lower-power applications.
Applications: Small to medium-scale welding tasks such as welding automotive parts, jewelry, and light sheet metal.
Power Range:
Typically from 800W to 2000W.
Features:

- Compact design
- Lower initial cost and easy to maintain.
- Best for light, thinner materials.
- Suitable for small production volumes.



Summary of Air Cooling vs. Water Cooling Fiber Laser Welding Machines

Feature	Air Cooling	Water Cooling
Cooling Method	Air cooling system.	Water cooling with chiller system.
Power Range	800W to 2000W.	1000W to 3000W or more.
Maintenance	Low maintenance.	Requires maintenance of water cooling system.
Applications	Small to medium-scale welding.	High-volume, heavy-duty welding.
Cooling Efficiency	Less efficient, best for light materials.	Highly efficient, suitable for thick metals.
Cost	Lower initial cost and operational cost.	Higher cost due to chiller and maintenance.
Size and Portability	More compact, easy to transport.	Larger, less portable due to cooling system.

3. Key Components of Fiber Laser Welding Machines

Component	Description	Best Brands Used
Laser Source	The laser source generates the laser beam used for welding.	IPG Photonics, Maxphotonics, Raycus
Welding Head	Focuses the laser beam onto the workpiece for welding.	Precitec, Raytools
Cooling System	Keeps the laser source and other components cool during operation.	S&A, Hanli
Control System	Manages the laser power, welding speed, and path.	Raytools

4. Technical Specifications of Fiber Laser Welding Machines

Specification	Description
Laser Power	Ranges from 1000W to 3000W, with higher power for thicker materials.
Welding Speed	Ranges from 0.5 m/min to 10 m/min, depending on power and material.
Beam Quality	Excellent beam quality with a small focal spot size (≤0.2 mm).
Welding Depth	Welds materials from 0.1 mm to 10 mm in thickness.
Cooling System	Water or air-cooled systems, depending on the power and type of machine.
Control System	CNC control with integrated software for high precision.
Laser Type	Fiber laser, offering high efficiency and consistent quality.

5. Advantages of Our Fiber Laser Welding Machines

- **Precision:** Provides high-precision welding with minimal heat-affected zones (HAZ).
- **Speed:** High welding speed to increase production efficiency.
- **Long Life:** Fiber lasers have a long lifespan, minimizing the need for replacements and repairs.
- **Energy Efficiency:** Low power consumption, making fiber lasers highly energy-efficient.
- **Minimal Maintenance:** With fewer consumables and components that wear out, these machines require minimal maintenance.