



STEVEN SEPVEST CORP

INDUSTRIAL LASER SOLUTIONS PROVIDER

Automobile Cutting & Welding

- **Overview**

Since 2000, with the sustainable development of national macroeconomic, automobile industry has entered the fast development period. As an important part of the world's car industry, China's auto production ranks the fourth in the world currently. In addition, the world's major multinational companies have entered China, and increase investment continually, especially the car markets. Under the country's strong support, many key enterprises enhance cooperation with large foreign companies gradually.

- **Our Solution**

Automobile BIW Roof Cover Automatic Laser Welding Machine

As the domestic first set of equipment automobile BIW (body in white) laser welding machine, the automotive BIW welding system of FARLEY?LASERLAB has high processing precision and stable quality. It has broken the monopoly of foreign companies in the field and filled the domestic blank. After many years' research and innovation, this machine has been successfully used in many monolithic welding production lines. Its welding speed can reach 4.8m/min, 30% faster than the same type equipment in the world. The price decreases more than 40%, and stiffness of BIW promoted 30%. It can meet the demand of online production, so as to improve the welding speed and welding quality, achieve automation and intellectualization. As a national key science and technology project, the automotive BIW welding system has been successfully applied in many automobiles.



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Automobile Airbag Panel Laser Weakening Machine

Equipped with automatic feeding laser processing, the automobile airbag panel laser weakening machine combines robot technology with laser weakening technology perfectly, each technical index and performance of which has reached advanced international level. This machine can control the remaining thickness, the production time of an airbag panel is less than one minute.



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Technology Features

- The pre-position device ensures processing precision;
- Precise weakening device ensures accuracy of weakening depth, stability and repeatability;
- Traceability of production data.

Automobile Airbag Inner Laser Welding Machine

Controlled by a gas generator, the airbag outbreak will cause oxidizing reaction and generate a lot of gas, which would produce a burst. So the requirement for airbag sealing is very strict. The automobile airbag inner laser welding machine of Farley Laserlab has large welding depth (can reach 2~3mm), high welding strength, small heat affected zone and small welding deformation. Without welding rods or filling materials, it can produce pure and non-polluting welding joints.



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Technology Features

- Big welding penetration (can reach 2~3mm), high welding strength, small heat affected zone, small deformation;
- High automation, easy operation, fast speed;
- High precision, good stable, high yield;
- Non-contact processing, without welding auxiliary tools;
- Without electrodes and filling materials, it can achieve pure and unpolluted welding joints.

Automobile Bumper Laser Drilling Machine

Vehicle bumper is irregular in shape. Traditional stamping methods are very complicated and will cause deformation and stress. Laser technology, without complicated fixture system, stress and deformation, is more suitable for post processing and installing.



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Technology Features

- Advanced laser technology improves welding quality and welding strength;
- Stable performance, good repeatability, good reliability, beautiful welding joints;
- Flat welding joints won't damage other parts.

Automobile Tailpipe Laser Welding Machine

Laser welding utilizes focused high-energy laser beam to melt and connect materials, and form a good welding joint.

Laser welding has fast welding speed, small deformation, big penetration ratio of welding joints, simple post-welding treatment and good welding quality. This machine can weld same or dissimilar materials, even refractory materials under all kinds of special circumstances.



Automobile Gear Shifting Set Laser Automatic Cutting Machine



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The automobile gear shifting set laser automatic cutting machine of FARLEY?LASERLAB can replace traditional processing methods.



Technology Features

- Fixed light path design;
- Double-station disc loading system
- High quality of cutting surface;
- High precision;
- Fast speed, high efficiency

Automobile Gear Laser Welding Machine

Automobile gear laser welding is a development trend. At present, the world's automobile manufacturers have used the laser welding gear to replace traditional welding methods, such as ERW (electric resistance welding), induction welding and EBM (electron beam welding). There is no need for laser gear welding to work in a vacuum. Without welding deformation, the gears after welding have no need to be further highly processed. In addition, the welding joints have general mechanical performance that is equivalent or superior to the base metal, which ensures the larger torque transmission of gears.



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Automobile Trunk Laser Welding Machine

Automobile trunk is composed of trunk lid and back panel. Braze welding is the most appropriate method because of the 90-degree angles in shape. Adopted with MIG braze welding, the traditional method is difficult to form a smooth welding joint and will cause pollution. By contrast, laser braze welding has advantages such as fast welding speed, good welding formations, stable quality, etc.

- **Customer Benefit**

With laser technology, customers will benefit much:

- Fast cutting speed can improve efficiency and shorten production cycle;
- Narrow cuts, good cutting quality and good material adaptability improve the quality of products;
- High automation and easy operation reduce the labor intensity;
- No pollution in processing, won't cause harm to human body;
- Without tool wear, long life, the operating and material costs are reduced;
- High reliability and strong stability can meet the demand of mass industrial production.



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- Related Application



Automobile BIW Welding



Automobile Airbag Panel
Laser Weakening



Automobile Bumper
Drilling



Automobile Gear Shifting
Set Cutting