



STEVEN SEPVEST CORP

INDUSTRIAL LASER SOLUTIONS PROVIDER

Electronics Marking

- **Overview**

Electronic products play various roles in people's daily life, such as providing information, offering convenience and inspiring creativity. Being lighter, thinner and more portable have become the goal of designers, which has also brought continuous progress of new materials and new techniques. Laser has become the representative in the manufacturing process of electronics products.

At this stage, the laser processing technology in electronics industries are mainly laser marking, laser anodizing treatment, metal carving, laser drilling, etc. On the premise of precision machining, traditional printing, pressing and CNC have been unable to meet the rapid-growing demands and control the cost of production effectively.

- **Solution**

As the leader of laser industry, HGLASER aims to promote the application of different laser equipment in different industries and provide full range of solutions.

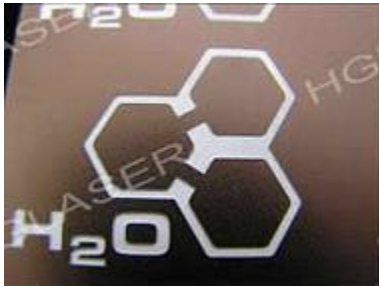
Laser marking

- Laser marking utilizes high energy density laser to partly irradiate to workpieces, which vaporizes the surface layer or changes the color, so as to achieve permanent markers with high accuracy, speed and definition.
- HGLASER can deal with different materials and processing requirements with infrared, green, ultraviolet and whole series CO2 laser light source.



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Laser Anodizing Treatment

Thin and hard aluminum anode is widely used in mobile phones, tablet computers and laptop shells. But the anode coating is not conductive and the inertness is not conducive to welding. So HGLASER provides the laser anodizing equipment to process anodic coating.

Anode Plate Type	Application Area
Sulfuric acid anodizing (Film thickness about 3-15 mu)	Automobile, aluminum, building materials, military, industry, household appliances, furniture, electronics, agricultural machinery, metal products, etc.
Chromic acid anodizing (Film thickness about 3 mu)	Aviation and aerospace products
Oxalic acid anodizing (Film thickness about 6-39 mu)	Precision instruments, aluminum pots, aluminum bowls, aluminum bottles and aluminum lunch box.
Phosphoric acid anodizing (Film thickness about 2-5 mu)	Agglutinating aluminum alloy protecting and plating bottom
Hard anodizing (Film thickness more than 50 mu)	Piston, cylinder, axletree, aircraft cargo board, roll bar and guide, water conservancy facilities, steam impeller, gear, cushion, etc.

HGLASER anodizing equipment utilize fiber laser to deal with anodized surface, the max processing width can reach 500*500mm, and focal depth is 10mm. HGLASER develops 3D equipment to complete the anodizing treatment at one time for height difference beyond 10mm, instead of replacing the fixture and processing repeatedly.

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Laser parameters	Laser type	Fiber Laser	
	Wave length	1064nm	
	Output power	20W	
	Optical quality M2	<1.2	
	Pulse repetition frequency	10kHz~200kHz	
	Laser threat level	Class IV	
	Cooling model	Air cooling	
Processing parameters	Focusing lens	Standard	Optional
	Processing range	140×140×60mm	160×160×70mm
	Focal length	200mm	254mm
	Max Processing speed on x-y axis	6 m/s	6 m/s
	Max Processing speed on -z-axis	4 m/s @45 o	4 m/s @45 o
	Min linewidth	150µm	150µm
	Position accuracy	25µm	25µm
	Registration accuracy	20µm	20µm

Metal Carving

Metal carving is widely used in cell phones, laptops, cameras, etc. The clear outline, flat background and deepness produce various product appearance styles. Laser processing is precise in dimensions and clear in outline. It can control better process depth and process corner parts.



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Laser Drilling

With high energy and good focus, laser drilling technology has been widely used in many processing industries. Compared with traditional drilling technology, the laser drilling machine has many advantages as follows:

- Fast speed, high efficiency and good economic benefits;
- Larger depth ratio;
- Can work on hard, soft and brittle materials;
- No tool loss;
- Suitable for multi-hole processing;
- Can work on inclined plane of difficult-to-machine materials;
- Simple demand for workpiece. Productions online and automatic are available;

• Customer Benefit

With laser technology, customers will benefit much:

- Without tool wear, the operating and material costs are reduced;
- Fast speed working improves production efficiency greatly;
- The permanent markers promote product anti-counterfeiting ability;
- The laser marking machine is a high-tech, environmentally friendly product, won't produce any chemical substances harmful to human body and environment;
- Without ink and chemical solvent, the working environment is clean and non-pollution;
- Brand awareness of products will be increased by classier products and additional value;
- With the traceability system, all aspects of the whole manufacturing process and the operating costs can be



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controlled effectively;

- The good flexibility of laser marking machine increases the diversity of products.

- **Related Application**



- **Recommended Model**



Desktop DPSS Laser Marking Machine



Small Integrated DPSS Laser Marking Machine



Online DPSS Laser Marking Machine



Green Laser Marking Machine