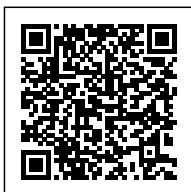


# SOME COMMON SENSE ABOUT LASER ENGRAVING MACHINE

*Posted on 2023-03-13 by redsail*



Category: [Laser Engraver News](#)



First of all, what is laser carving and what is its concept? From the perspective of traditional carving concepts, what we know about carving is that a teacher carved exquisite patterns with a carving knife or electric tool.

So the so-called laser carving is to use laser technology for carving. The principle of the carving machine is to use laser heating or chemical changes on the carving surface to produce carving marks.

Compared with manual tools, laser engraving machine has the advantages of carving characters, controllable patterns, controllable sizes, and more precise carving patterns. The disadvantage is that it is not as solid as manual physical carving. Therefore, laser engraving machine is mainly used for shallow marking.

The concept is clear. Let's talk about the structure, functions and main requirements of the laser engraving machine.

The key is that the software controls several parts of the mechanical transmission laser light source. The software is used as a human-computer interaction page to edit image text, adjust parameters, start, etc.

Of course, because of the characteristics of the laser, most modern machines use mechanical transmission parts to control the laser position by controlling the angle of the micro-motion lens. The traditional engraving machine is driven by a stepper motor or servo motor.

The light source of the laser is the core part of the laser carving. The characteristics of the light source determine the role of the laser function on the carving material. The size of the energy has a significant impact on the depth and speed of the carving.

#### Classification of light sources for laser engraving machines

The common light sources of laser engraving machines on the market today are CO<sub>2</sub> light source, optical fiber light source, purple light source, green light source and diode light source. Its laser wavelength is different, and the carving efficiency is also very different.

Among them, CO2 laser engraving machine is mainly applicable to carving materials such as wood, leather, plastic and other non-metallic materials.

- For optical fiber light source, the main carving material is metal or material with high paint density. Wood is generally not easy to carve, unless it can be carved with high density.

- Purple light source is a relatively high-end light source, with very fine carving and a wide range of carving.

- Green light source, we may have seen many stereo images in the middle of acrylic, which are generally carved with green light source. It can carve transparent materials such as glass.

Diode light source, which should be used as the light source for stage lighting, has achieved a magnificent turn in the laser carving industry. Its carving principle is a bit like a magnifying glass lighting cigarette butts in the sun.

Select laser engraving machine standard.

I think many friends who want to buy laser engraving machines are more concerned about this problem. Everyone must choose a practical and economical laser machine model. Therefore, the advantages and disadvantages of various laser equipment can be understood before selection.

CO2 laser engraving machine: advantages: wide range of carving materials, wood veneer, rubber, etc., fast carving speed, high precision. Disadvantages: The machine is generally bulky and difficult to carry at 40-50kg, and the price is generally moderate, which is suitable for factory use.

Optical fiber laser engraving machine has the advantages of high engraving accuracy and fast speed, suitable for batch operation in the factory, and can be connected to the automatic production line of the factory. Defective machines are generally more expensive, with a larger volume and weight of more than 30 kg.

The utility model purple laser engraving machine has the advantages of wide range of engraving materials, which can be used to carve metal and non-metal. One machine can be used for multiple purposes. Due to the characteristics of purple light source, the price is expensive and the machine burden is heavy. Apply high-end manufacturing.

The green light laser engraving machine has the advantages of three-dimensional carving and three-dimensional positioning carving. The disadvantage of large size is also expensive.

Diode laser engraving machine has the advantages of low price of less than 1000 yuan, and small size can move. The disadvantage is that the carving speed is slow, and it cannot be carved in pure metal. Due to the speed limit, it is generally suitable for individual DIY household or small and medium-sized businesses to customize in small quantities.