

ADVANTAGES AND DISADVANTAGES OF CO2 LASER CUTTING MACHINES AND APPLICATIONS

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A [CO2 laser cutting machine](#) is a CNC laser machine that uses laser technology to cut and engrave materials. As CO2 laser cutting machines can also engrave, CO2 laser cutting machines are also known as CO2 laser engraving machines. It is also referred to as a wood laser cutting machine or an acrylic laser cutting machine, for example.

Sticker laser cutting

The CO2 laser cutting machine uses a focusing lens to focus the CO2 laser beam onto the surface of the material to melt it. At the same time, a coaxial compressed gas blows away the molten material. The laser beam moves along a certain path, forming a slit of a certain shape. The cutting process is then complete.

Advantages of the CO2 laser cutting machine

1. Fast cutting speed
2. High cutting efficiency
3. Small heat affected zone
4. Narrow cutting kerf
5. Suitable for cutting non-metallic materials
6. Independent of workpiece shape
7. Save material and effort Laser engraving

Disadvantages of CO2 laser cutting machine

1. Low photoelectric conversion rate
2. High energy consumption

3. High operating costs

4. Includes a variety of consumables that require frequent maintenance Laser perforation

Cutting materials and applications of CO2 laser cutting machines

The 40W CO2 wood laser cutting machine can mark on steel and the 90W CO2 laser engraver can engrave directly on the steel surface. With oxygen as an auxiliary gas, CO2 CNC laser cutting machines of 150W and above can cut steel plates up to 1mm thick.

In general, the CO2 laser cutting machine is less efficient at cutting low carbon steel, aluminium, titanium and other alloys, although it can process them. However, it is very good at cutting and engraving non-metallic materials. materials that can be cut and engraved by CO2 laser engraving machines include

Non-metals: wood, acrylic, paper, cloth, epoxy resin, plastic, rubber, crystal, etc. CO2 laser cutting machine is widely used in garments, leather, cloth toys, computer embroidery cutting, electronic appliances, models, crafts, advertising and other industries as well as decoration, packaging printing, paper products, etc.