WHAT IS THE DIFFERENCE BETWEEN A LASER MARKING MACHINE AND A LASER ENGRAVING MACHINE?

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Category: Laser Engraver News

The scope of application and price of these two kinds of mechanical equipment are different. They can be called two completely different mechanical equipment. Let me briefly introduce them to you below.

A laser engraving machine is a hand-carving automatic cutting machine, while a laser marking machine uses a laser to standardize the evaporation of raw materials on the exposed surface, exposing deep compounds, or causing physical changes to scratch scratches on the surface raw materials, or igniting Some raw materials are etched, designed, patterned, marked, barcoded, etc. according to the light kinetic energy specification, which is mainly used for laser marking.

One: The depth of manufacturing and printing and packaging is different

Laser engraving machines generally have deeper hand-carved depths and very high power. Laser generator power ranges from 25W to 150W. The depth of hand-carved materials varies from 0.1mm to 80mm, and the depth of hand-carved materials depends on the specific materials. Generally speaking, wood furniture, sponge, styrene-acrylic emulsion and other materials are hand-carved with deeper layers.

Laser marking machines generally print out a depth of less than 5mm, and the laser generator speed is between 5W and 100W. laser engraving machine

Two: the production speed is not the same

The speed of laser engraving machine is generally 200mm/s fiber laser cutting speed and 500mm/s hand carving speed;

Laser marking machines are generally three times faster than laser engraving machines. In terms of speed, laser marking machines are faster than laser engraving machines. Like mineral water producers, the streamlined shape for 1 minute is about 100 meters.

Three: The accuracy and speed of laser marking machines are much higher than engraving

machines

The laser generator of the laser marking machine can use a thin light source to act on the surface of the material, and the width of the thin strip can reach 0.02mm. It provides a spacious application space design for precision equipment processing and anti-counterfeiting labels.

Four: The difference between laser marking format files

Laser marking machines can generally laser mark 200*200mm format files, and engraving machines can hand-carve large format files. The laser marking machine uses a scanner to scan the galvanometer scanner, so the working width is relatively small. Laser engraving machine means that the spindle bearing of the machine tool of the engraving machine is replaced by the laser generator focusing lens, and the laser generator is used to replace the common tools for production and manufacturing. So, as long as the xyz axis is large enough, it is possible to process very large format files with very large format files, but it must be precise and manageable. Equipment has a great impact on efficiency. In addition, since there is no ammeter, the laser optical system such as zoom glasses is more suitable for heat dissipation, so the power output of the laser generator is not limited.

Five: different laser generators

The laser optical path system of the laser engraving machine consists of three vertical spectacle lenses and a condenser lens. The laser generator is generally a carbon dioxide test tube brush. The service life of the test tube brush laser generator is generally within 2000-10000 hours. CO2 tube brush laser generators are disposable.

The laser generator of the laser marking machine is generally a metal bellows laser generator (non-metal marking machine) and a YAG fiber laser generator (metal composite laser marking machine), and the service life is generally more than 5 years. The metal bellows of the laser marking machine can be refueled again.

Six: Differentiate between hand-carving and laser marking raw materials

There are various kinds of raw materials for laser engraving, such as tempered glass, white crystal, acrylic board, wood, marble, cloth, leather, felt, printed pictures, PVC, plastic, mosaic and other non-metallic materials. Hand carved or fiber laser cut.

The laser marking machine industry is mainly used for fabrics, leather goods, wooden furniture, pottery or metal products.

In fact, they are not mechanical devices in the same field, but they have similar names, but they actually do very different jobs.