CO2 Laser marking Machine

A CO2 laser marking machine is a sophisticated tool utilized for precise and efficient marking, engraving, or etching on a variety of materials. It harnesses the power of a carbon dioxide (CO2) laser beam to create highly detailed and permanent markings on surfaces. The focused CO2 laser beam enables extremely precise marking with fine details and sharp edges. They can mark a wide range of materials, including organic and non-metallic materials, making them suitable for various industries such as manufacturing, electronics, automotive, medical devices, and packaging. The marking process is non-contact, which minimizes the risk of damage to delicate materials and eliminates the need for consumables like ink or dyes. CO2 laser marking machines can achieve high marking speeds, allowing for efficient production throughput.

Key Features:

- The CO2 laser source is the system's core, emitting a concentrated infrared beam at approximately 10.6 micrometers. This wavelength is absorbed by organic materials like wood, paper, plastics, glass, leather, and some metals, enabling precise marking and engraving.
- The marking head, housing the focusing lens and mirrors, directs and focuses the laser beam onto the material surface. It integrates a galvanometer scanner system for rapid, controlled movement, ensuring fast and accurate marking.
- The control unit, housing electronics and software, manages the CO2 laser system's operation. Users can adjust parameters like power, speed, and design for various marking applications.
- The workstation provides a platform for the material, featuring a motorized Z-axis for focal distance adjustment, a rotary attachment for cylindrical objects, and a fume extraction system to clear debris.
- Cooling systems, either water or air-based, dissipate heat generated during laser operation, maintaining optimal performance and extending the laser source's lifespan.
- These systems can integrate into production lines or machinery for inline marking and offer connectivity options like Ethernet or USB for data transfer and control.
- CO2 laser marking systems excel in marking various materials with precision, catering to industries like manufacturing, electronics, automotive, medical, and aerospace.

Options:

- Infrared beam positioning, infrared beam focusing, support components, smoke absorption purifier

Recommended Products this machine can engrave:

Such as steel, aluminum, copper, brass, titanium, gold, silver, and various alloys. Including ABS, acrylic, polycarbonate, polypropylene, and PVC. porcelain and tiles. Though it may require specialized laser settings to avoid cracking or shattering. anodized metals, painted surfaces, and certain types of coatings.

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ACCUTEK Packaging Equipment Companies, Inc.

Electric Steam Boiler

Specifications:

Laser type:
10.6um/10.2um/9.3um CO2 laser

Laser power:
30W/40W/50W/60W

Characters per second:
1200-1500*(According to different type printer)

Printing speed:
200 m/min-300m/min*

Character height:
0.8mm ~ maximum printing range

Font:
26 fonts, users can customize the font type

Machine readable code:
Barcode, QR code

Mark/symbol:
BMP/DXF/HPGL/JPEG

Graphic Elements:
Point, line, arc, rectangle, polygon, ellipse, circle

Variable Elements:
Serial number, text, date, time, counter, shift code

Code range:
70*70mm, 110*110mm, 140*140mm, 175*175mm, 210*210mm,300*300mm,400*400mm

Communication interface:
USB, Ethernet, RS232;

The power supply:
AC100-240V (auto-adaptation), 50/60Hz;

Power:
750 W;

Operating environment temperature:
5 ~ 45 ; 41-113ºF

Cooling system:
Air cooling

Relative humidity:
10% ~ 90% (no condensation);

Weight:
Laser head 15.0kg (33 lbs.), user interface 2.0kg (4.4 lbs.)

Overall dimensions:
Laser head: 705mm×176mm×156mm (length × width × height);
User interface: 300mm×200mm×60mm 11.81in×7.87in×2.36in (length × width × height);

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