UV Laser Marking Machine (IPS-UV5W)

Principle and characteristics

UV laser marking machine use the wavelength of 355nm ultraviolet laser, which has very small focus spot and can greatly reduce the mechanical deformation and processing heat effect of the material. UV laser is mainly used for ultra-fine marking, especially suitable for food, pharmaceutical, micropores punching, high-speed cutting of glass materials and the complex graphic cutting of silicon wafers。

UV laser marking is a kind of cold laser technology. The High-energy molecules of ultraviolet photons can directly separate molecules from metal or non-metallic materials which need to be processed, then this separation causes the molecules to be separated from the material so that the way they work does not produce any heat. This is very different from traditional fiber and carbon dioxide laser marking machines.

Differences from other laser marking machine

1. The wavelength of UV laser is only 355 nm, while fiber is 1064 nm and CO2 is 10.64 μm. When the wavelength is shorter, the laser bean is smaller and more precise, and the Heat-affected zone formed during processing is smaller also, which makes the marking accurate and fine.
2. CO2 laser marking machine and fiber laser marking machine are physical marking method, but UV laser marking machine is a chemical processing method, mainly by photochemical reaction. The difference is that the physical processing method is mainly happed on the surface of the material, while by chemical processing method, the laser can proceed deep inside of the material.
3. Fiber laser marking machine is mainly used in metal material. Due to the heat generated by its beam, it is not suitable for marking high-precision special materials. UV laser marking machine is particularly suitable for high-end market which need ultra-fine processing, such as marking of cosmetics, pharmaceuticals

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and other packages by polymers materials.

Applications

Cosmetics, mobile phones , pharmaceuticals, food packaging, metal, glass, plastic, polymer materials, construction materials, special ABS material, flexible PCB boards, plastic buttons, silicon wafer micropores, electronic component, communications equipment, LCD glass.

IPS-UV5W Fly UV Laser Marking Machine Specification

Name	Description	Remark
Laser Gun	Solid-state UV Laser	JPT/GAIN
Scanning Galvanometer	Professional Digital Scanning Galvanometer with high speed moto	High Speed Motor
Focus System	Two Red Light with accurate position	Two Red Light
Indication System	Inner Outline Indication	Red Outline Indication
Cooling System	External Water Cooling	Water cooling
Controller Card	Integrated Industry Touch Screen IPS-F6.0 Fly marking system	10.2 Inch Touch Screen for Fly Marking

IPS-UV5W Fly UV Laser Marking Machine Technical Parameter：

Model	IPS-UV5W F
Laser Power	5W
Laser Wavelength	355nm
Laser Frequency	10K HZ-100KHZ
Linear Speed	8000mm/s max
Marking Size	110*110mm (other size available)
Min Font Height	0.1 MM
Min Linewidth	0.01 MM
Repetition Accuracy	±0.02 MM
Marking Depth	≤5 MM (Depend on the material)
Overall Power	≤1000W

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Overall Dimension	780*600*1450MM
Weight	Around 87 KG
Power Supply	220V/50HZ/5A/1P
Cooling System	External cooling system (water tank)
Operation System	IPS-F6.0 Professional marking software
Control Interface	Standard USB Interface
File Format Support	Support file from CORELDRAW、AUTOCAD、PHOTOSHOP directly. Support AI、PLT、PCX、DXF、BMP file. Support all fonts from windows system. Support automatic coding, serial no, batch no, real time, variable barcode and QR code and databases. Support most language and all type input.
Work Environments	Temperature:10-40℃， Humidity:10%-90% No Condensation

Machine and Sample Show：

IPS-UV5W F Fly UV Laser

cosmetic products.

Toothbrush

GS1 code on pharmaceutical

white PP/PE products

Glass

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