THE DIFFERENCE BETWEEN LASER ENGRAVING MACHINES AND CNC ENGRAVING MACHINES

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When it comes to the difference between laser engraving machines and CNC engraving machines, the most obvious difference is that laser engraving machines use laser melting method for carving, while CNC engraving machines use digital technology to control cutting tools or laser and ultrasonic heads for carving. Laser engraving machines can be CNC engraving machines. CNC engraving machines can also install laser heads for engraving, so these two are intersecting. Below, Keba Laser will tell you the specific differences between laser engraving machines and CNC engraving machines.

Although both use CNC systems, their working methods and mechanical structures are different. In contrast, the structure of CNC engraving machines is relatively simple. Through the control of a computer numerical control system, the engraving machine automatically selects suitable engraving tools and engraves them on the x, y, and z axes of the machine tool.

According to specific usage, laser engraving machines are divided into different specialized machines with roughly the same structure. The laser source emits laser, and the CNC system controls the laser plug stepper motor to move the laser head, reflector, lens, etc. on the optical components, causing the focus to move on the X, Y, and Z axes of the machine tool, resulting in material erosion.

The biggest difference between laser engraving machines and CNC engraving machines is that the tools of laser engraving machines are a complete set of optical components, while the tools of CNC engraving machines are carving knives for various entities.

Other differences:

1: Laser engraving and polishing are completed once, and CNC is completed twice.

2: The laser beam diameter is only 0.01mm, and the CNC tool is 20 times larger, resulting in waste.

3: Laser speed is fast, 2.5 times faster than CNC engraving machines.

4: Laser energy consumption is lower than CNC engraving machines.

5: Laser is noise free, pollution-free, and efficient; CNC machine tools have high noise and pollute

the environment.

6: Laser is non-contact and does not require fixed workpieces. CNC is contact processing and workpieces are fixed.

7: Laser can process soft materials such as fabric, leather, film, etc; CNC cannot process because the workpiece cannot be fixed.

Therefore, the advantages of laser engraving machines are increasingly widely used in industries such as advertising signs, organic glass products, clothing processing, leather processing, and product identification.

Do you know all about laser engraving machines and CNC engraving machines? Keba Laser believes that when choosing a carving machine, it is not necessary to say which is good or bad, but what is suitable for oneself is the best.