

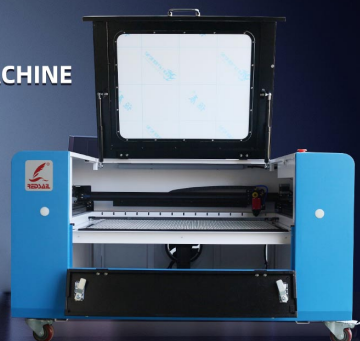
THE DIFFERENCE BETWEEN LASER ENGRAVING MACHINE AND CNC ENGRAVING MACHINE

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When it comes to the difference between a [laser engraving machine](#) and a CNC engraving machine, the most obvious difference is that the laser engraving machine uses the laser melting method to engrave, and the CNC engraving machine uses digital technology to control the tool or laser head and ultrasonic head engraving. Laser engraving machines can be CNC engraving machines. The CNC engraving machine can also be equipped with a laser head for engraving, so the two are intersecting. Below, Keba Laser will tell you the specific difference between laser engraving machine and CNC engraving machine.

Although both use CNC systems, they work differently and have different mechanical structures. In contrast, the structure of the CNC engraving machine is relatively simple. Through the control of the computer numerical control system, the engraving machine automatically selects the appropriate engraving tool and engraves on the x, y, and z axes of the machine tool.

According to the specific usage, the laser engraving machine is divided into different special machines. The structure of the special machines is roughly the same. The laser source emits laser light, and the numerical control system controls the stepper motor of the laser plug to make the laser head, reflector, lens, etc. move on the optical components. Make the focal point move on the X, Y, Z axis of the machine tool, so that the material is ablated.

The biggest difference between a laser engraving machine and a CNC engraving machine is that the tool of the laser engraving machine is a complete set of optical components, while the tool of the CNC engraving machine is a variety of physical engraving knives.

Other differences:

- 1: Laser engraving and polishing is completed once, and CNC is completed twice.
- 2: The diameter of the laser beam is only 0.01mm, the CNC tool is 20 times larger, and the waste is wasted.
- 3: The laser speed is fast, the laser speed is 2.5 times faster than the CNC engraving machine.
- 4: Laser energy consumption is lower than CNC engraving machine.
- 5: Laser has no noise, no pollution, and high efficiency; CNC machine tools are noisy and pollute the environment.

6: The laser is non-contact and does not need to fix the workpiece. CNC is contact processing and the workpiece is fixed.

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

Therefore, in industries such as advertising signs, plexiglass products, clothing processing, leather processing, product identification, etc., the advantages of laser engraving machines have been more and more widely used.