

WHAT ARE THE ADVANTAGES OF HIGH POWER LASER CUTTING MACHINE INSTEAD OF PLASMA CUTTING MACHINE?

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Laser cutting, laser marking and laser welding are relatively mature and extensive applications of laser in the industrial field in recent years. Laser cutting accounts for the largest proportion of industrial laser equipment,

Fifteen years ago, the sales volume of high-power lasers in China was low, and there was a long-term thickness limitation in laser cutting.

Traditionally, flame cutting can cut the widest range of plate thickness, with obvious speed advantages above 50mm, which is suitable for processing thick and ultra-thick plates with low accuracy requirements; Plasma cutting has obvious speed advantages in the range of 30-50mm, which is not suitable for processing extremely thin plates (<2mm); However, laser cutting mostly uses kilowatt laser, which has obvious advantages in speed and accuracy below 10mm; Mechanical punch is between plasma and laser cutting.

In recent years, with the gradual popularization of high-power lasers, laser cutting equipment has gradually penetrated into the plate market. After the laser power is increased to 6 kW, it will continue to replace the mechanical punch with high cost performance.

Although the price of CNC punching machine is lower than that of laser cutting machine, the cutting quality of laser cutting machine is higher, and the fixed cost can be diluted by virtue of high production efficiency, the material and labor costs can be saved by high yield, and no subsequent polishing is required. The post-processing process is reduced, and its investment return period and efficiency are significantly better than that of mechanical punching machine. It also started the substitution of plasma cutting.

Now, the optimal cutting thickness of carbon steel and stainless steel is broken through to 50mm and 40mm respectively by the 20000 watt laser cutting machine.

Steel plates are generally divided into thin plates, medium plates, thick plates and extra thick plates according to their thickness. The 10000 watt level equipment has been able to complete the cutting of medium plates and most of the thick plates. The application scenario of laser cutting equipment continues to extend to the field of medium and thick plates, reaching the thickness range of plasma cutting.

In addition to increasing the upper limit of cutting material thickness, laser cutting has narrower slits,

higher flatness and better cutting quality than plasma cutting. The high-power laser also makes the cutting efficiency continuously improve.

The above is the whole content of high power laser cutting machine, which is the preferred alternative to plasma cutting.