

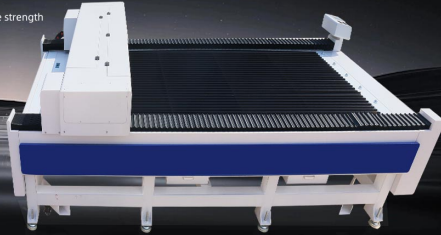
SEVERAL PROBLEMS OF LASER CUTTING MACHINE POWER DROP

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There are many reasons that affect the power drop of the [laser cutting machine](#). The following is an analysis of the reasons for the power drop of the fiber laser cutting machine:

The first is the focus position, which affects the cutting accuracy, especially the focus spot diameter. The diameter of the focal spot should be as small as possible. The diameter of the focal spot is proportional to the depth of focus of the focusing lens. The smaller the depth of focus of the focusing lens, the smaller the diameter of the focal spot.

The second is the distance from the nozzle. The distance between the workpiece and the nozzle also affects the power drop of the fiber laser cutting machine. If the distance is too far, it will cause unnecessary waste of kinetic energy. If the distance is too close, it will affect the ability to disperse the splashed cutting products. The suitable distance is 0.8mm. In addition, the fiber laser cutting machine mainly relies on its follow-up adjustment for cutting workpieces with uneven surfaces. To achieve this, the height of the nozzle and the workpiece should always be consistent during operation.

The third is the cutting speed, which has a great influence on the power of the fiber laser cutting machine, and the cutting speed is directly proportional to the power of the fiber laser cutting machine. At the same time, the cutting quality is related to the quality of the laser beam, and it is also related to the characteristics of the laser beam focusing system, that is, the size of the laser beam after focusing has a great impact on the quality of laser cutting.

Then there is the auxiliary gas. The size of the auxiliary gas and gas pressure also affect the power of the fiber laser cutting machine. It is best to use compressed air or inert gas as the auxiliary gas. If the thickness of the processed material increases or the cutting speed is slow, the gas pressure should be appropriately reduced, and cutting with a lower gas pressure can prevent frosting of the cut edge.

The last is the laser power. After a long time of use of any equipment, some parts will age. The laser is the core and most important part of the metal laser cutting machine, and the power will drop after a long time of use.

In addition to the above points, the performance, size and thickness of the processed material will also affect the power drop of the fiber laser cutting machine.