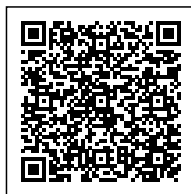


THE MAIN REASONS FOR PROCESSING SHEET METAL BURRS WITH FIBER LASER CUTTING MACHINES

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Fiber laser cutting machine

When laser cutting machines process workpieces, the high energy generated by laser beam irradiation on the surface of the workpiece causes rapid evaporation, achieving the purpose of cutting. There are generally two main reasons for burrs: firstly, when the workpiece is exposed to surface gasification, the auxiliary gas blows off the slag on the workpiece surface. If auxiliary gas is not used, burrs will adhere to the cutting surface after slag cooling. The second is the equipment itself, parameter setting factors, and daily usage skills. Therefore, after purchasing a new fiber laser cutting machine, customers must undergo professional training before starting to use it.

Solution for fiber laser cutting machine cutting burrs:

1. Use auxiliary gas for cutting.

The purity of the gas should be high, and it is best not to use steel cylinder gas because after two rounds of filling, the purity is not good and the gas is wasted. For laser cutting of stainless steel, it is recommended to use nitrogen as an auxiliary gas. Nitrogen is a flame retardant gas, which not only prevents laser cutting explosions, but also prevents immediate oxidation at the heating end, making

the cutting end smoother and brighter. The auxiliary gas should be adjusted to a pressure of 12-15kg. Nitrogen under this pressure will not completely prevent combustion. It can also quickly blow away waste and remove burrs.

2. Find a professional operator to debug the parameters of the metal laser cutting machine until it is normal, and the cutting operation of the fiber laser cutting machine can only be successfully completed.

Some parameter setting factors of the laser cutting machine can also affect the appearance of slag, leading to burrs in the fiber laser cutting machine. Therefore, it is best to adjust the cutting parameters.

The gas parameters are adjusted to the best, and the cutting workpiece is free of burrs, making the cutting quality of the fiber laser cutting machine higher.

2. Based on the working principle of laser cutting machines, the reasons for burrs and solutions were analyzed

1. Deviation in the upper and lower positions of the beam focus.

Solution: Adjust the position of the focus based on the generated offset position.

2. The machine output power is insufficient.

Solution: Check if the laser cutting machine is working properly. If there are any abnormalities, they need to be repaired in a timely manner. If normal, check if the output value is correct.

3. The wire cutting speed of the fiber laser cutting machine is too slow.

Solution: Timely adjust and improve wire cutting speed.

4. The auxiliary gas purity of the fiber laser cutting machine is insufficient.

Solution: Explain to improve the purity of the auxiliary gas.

5. Fiber laser cutting machine laser beam plus point offset.

Solution: Debug the focus and make timely adjustments.

6. The fiber laser cutting machine runs for too long, resulting in instability.

Solution: Turn off the machine and restart it, allowing it to rest.