

COMMON PROBLEMS IN THE CUTTING PROCESS OF LASER CUTTING MACHINES

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The laser cutting machine is welcomed by all walks of life because of its advantages such as high cutting speed, narrow cutting seam, high cutting quality, small Heat-affected zone and wide application range. The laser cutting process may be affected by various factors, so many problems may arise during the cutting process of the laser cutting machine. Let's take a look together!



Laser cutting machine

1. Laser cutting cannot cut through thoroughly

Laser power decrease or lamp tube aging

Laser cutting speed too fast

The focusing mirror or reflector is contaminated

Cracking of the focusing mirror and deterioration of the focusing effect

Inappropriate focus adjustment

Incorrect laser path

Voltage instability and low laser current

The cut material has a high reflectivity

The nozzle light outlet is blocked

Auxiliary gas pressure too low

Poor cooling system heat dissipation effect 6

2. The starting point and key point of the cutting closed line do not coincide

Looseness between gears and shafts in the workbench

The X-axis and Y-axis guide rails are not perpendicular

X. The conveyor belt of the Y-axis is loose

Excessive gap between slider and guide rail

The tape is too loose, resulting in reverse clearance

3. The laser head does not produce a light source

Laser power decrease or lamp tube aging

Laser output energy too low

Loose screws inside the laser cutting head cause optical path deflection

There is a lot of dust in the laser cavity, which contaminates the diaphragm frame

The cooling system is turned on for a long time without turning on the laser power, resulting in icing and no light output

4. There is a large deviation in the cutting shape of geometric shapes (circular shapes are cut into ellipses, square shapes are cut into parallelograms)

The parameter settings of the machine tool are not accurate

X. Y-axis guide rail not perpendicular

5. The workbench jumps during the cutting process

Permanent deformation of the drive belt

Dirt and incorrect meshing in the transmission gear groove

There is dirt in the grooves of the small and large reduction gears

6. Cutting size is too large

Incorrect pulse count setting

The radius compensation is not set

Incorrect factory parameter settings for the bed

7. Severe edge melting on the cutting surface

Excessive laser output power

Laser cutting speed too slow

Auxiliary air pressure is too low

Unreasonable nozzle design

8. An alarm occurs during cutting

The software is not working and the host is loose

Failure to turn on the cooling system resulted in excessively high temperature in the laser cavity

The water pressure in the cooling system is too low, and the water level is not enough

9. The laser power cannot be turned on

Emergency stop switch closed

Damaged laser power supply