HOW TO CORRECTLY INSTALL AND USE THE LASER CUTTING MACHINE FOCUSING MIRROR

Posted on 2023-08-22 by redsail

Category: Laser Cutter News

After long-term use of the laser cutting machine focusing mirror, if there are film peeling, dents, scratches, etc., the function of the laser equipment will be greatly reduced. If you want to play the role of the laser cutting machine normally, you need to replace the new lens in time. So, how should we install the focusing lens correctly.

1.Laser cutting machine focusing mirror

There are spherical focusing lens and aspheric focusing lens

1. Spherical focusing lens:

The focusing mirror used in the fiber laser optical system, the base material is fused silica material, coated with anti-reflection coating on both sides. In order to reduce spherical aberration as much as possible, the editor recommends using a double-piece spherical lens.

2. Aspherical focusing lens:

Focusing mirror used in fiber laser optical system, the base material is fused silica material, coated with anti-reflection coating on both sides, based on aspheric application, it will not introduce spherical aberration in the transmission wavefront and can achieve the limit diffraction performance, single-chip non- The spherical lens can completely replace the traditional multi-piece spherical combination lens.

2. How to install the focusing mirror of the laser cutting machine:

1. Put the protective film of the focusing lens of the laser cutting machine in the palm of your hand, with the convex side of the lens facing up;

2. Pick up the focusing tube, carefully place it in the hand where the lens is located, and cover the entire lens;

3. The left and right hands rotate 180 degrees clockwise at the same time;

4. After releasing the pressure lens, tighten the lens pressure nut with a small steel ruler;

5. Install the jet cup on the focusing cylinder of the laser cutting machine;

3. Matters needing attention for focusing mirror of laser cutting machine:

1. The convex surface of the lens of the laser cutting machine is upward and cannot be reversed;

2. Smudges or fingerprints are not allowed on the mirror surface;

3. Insert the steel ruler into the card slot, and lightly rotate and tighten it, and the edge of the steel ruler cannot touch the part of the lens;

4. Shake lightly, the lens will not loosen.

4. Laser cutting machine focusing mirror

The working environment can also be said to be very harsh. During cutting, it is affected by smoke, dust and slag, and dust is easy to adhere to the focusing lens. When the mirror surface is dirty, the light transmittance of the focusing lens becomes lower and the heat absorption becomes higher. If the cleaning work is not done well, the lens will become easy to burst. How to prolong the service life of the focusing lens?

1. Generally, in the laser-sealed optical path, dry, oil-free, and dust-free positive pressure air is used to ensure that dust and impurities in the atmosphere cannot enter the optical path, so as to prevent the pollution of optical lenses;

2. For ultra-high-speed piercing, you can spray piercing oil before piercing, so that the slag will not fall vertically to the cutting torch, but fall sideways. Thereby reducing the damage to the lens;

3. When the laser cutting machine is working, the generated waste slag makes the auxiliary air blow

down from the cutting nozzle, thus reducing the damage of the waste slag to the lower part of the focusing mirror to a large extent;

4. Minimize the use of ultra-high-speed perforation and use conventional perforation, which can prolong the service life of the focusing lens.

Generally, the focusing lens should be cleaned and maintained before each start-up. When cleaning a fiber laser cutting machine focusing lens, always use a clean wipe and optical grade solvent to prevent damage from other contaminants. The wiping must be wetted with a suitable solvent and must not be used dry. In consideration of softness, available wipes are pure cotton Webril wipes or applicators such as cotton balls, lens tissue, and cotton swabs.

In addition to the nozzle, the focusing mirror is an accessory close to the processing surface when the laser cutting machine is working. Although the focusing mirror is a very small spare part, it is one of the core components of the laser cutting machine, which affects the laser cutting machine. efficiency and quality.